

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT

SUPPLEMENTAL INFORMATION

FACILITY: H. B. ROBINSON

LICENSE: DPR-23

1. REGULATORY LIMITS

- A. Fission 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 CONCENTRATIONS

- A. Gaseous Effluent: The average annual release rates of gaseous wastes is limited to  $\sum \frac{Q_i}{MPC_i} \leq 5.0E+04 \text{ m}^3/\text{sec.}$   
 $Q_i$  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: .260 MEV  
Second Quarter: .419 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: 229
2. Total Time Period for Batch Releases: 6.82E04 Min.
3. Maximum Time Period for a Batch Release: 3.41E03 Min.
4. Average Time Period for Batch Releases: 2.98E02 Min.
5. Minimum Time Period for a Batch Release: 2.40E01 Min.
6. Average Stream Flow during Periods of Release of Effluent into a Flowing Stream: 4.73E05 GPM

B. Gaseous

1. Number of Batch Releases: 76
2. Total Time Period for Batch Releases: 5.11E04 Min.
3. Maximum Time Period for a Batch Release: 4.32E03 Min.
4. Average Time Period for a Batch Release: 6.72E02 Min.
5. Minimum Time Period for a Batch Release: 6.20E01 Min.

6. ABNORMAL RELEASES

A. Liquid

1. Number of releases - one
2. Total activity released - <.016 Curies - Tritium

B. Gaseous

1. Number of releases - one
2. Total activity released - <.148 Curies

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GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	UNITS	1st QUARTER	2nd QUARTER	% ERROR
<b>A. FISSION AND ACTIVATION GASES</b>				
1. Total Release	Ci	1.75E00	1.44E02	1.00E01
2. Average Release Rate	uCi/sec	2.23E-01	1.83E01	
3. % of Tech. Spec. Limit	%	2.21E-03	2.70E-1	
4. Maximum Release Rate/hour	uCi/sec	4.81E01	2.00E02	
<b>B. IODINES</b>				
1. Total Iodine-131	Ci	0.00E00	0.00E00	1.00E01
2. Average Release Rate	uCi/sec	0.00E00	0.00E00	
3. % of Tech. Spec. Limit	%	0.00E00	0.00E00	
4. Total Iodine	Ci	0.00E00	0.00E00	
<b>C. PARTICULATES</b>				
1. Particulates $T_{1/2} > 8$ days	Ci	1.84E-04	4.58E-04	1.00E01
2. Average Release Rate	uCi/sec	2.34E-05	5.83E-05	
3. % of Tech. Spec. Limit	%	1.03E-01	7.24E-02	
4. Gross Alpha Radioactivity	Ci	0.00E00	0.00E00	
5. Total Gross Radioactivity	Ci	1.84E-04	4.58E-04	
<b>D. TRITIUM</b>				
1. Total Release	Ci	2.53E00	1.74E00	1.00E01
2. Average Release Rate	uCi/sec	3.22E-01	2.22E-01	
3. % of Tech. Spec. Limit	%	3.22E-03	2.22E-03	

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GASEOUS EFFLUENTS<sup>1</sup> -GROUND LEVEL RELEASES

	UNITS	CONTINUOUS MODE		BATCH MODE	
		1st QUARTER	2nd QUARTER	1st QUARTER	2nd QUARTER
<b>1. FISSION GASES</b>					
Xe-133	Ci	1.55E00	9.90E01	7.42E00	2.20E00
Xe-135	Ci	9.00E-02	2.53E01	2.89E-01	6.32E-01
Ar-41	Ci	1.09E-01	1.90E01	1.23E-01	8.69E-02
Kr-85m	Ci	0.00E00	3.62E-01	0.00E00	7.58E-03
Total for Period	Ci	1.75E00	1.44E02	7.83E00	2.93E00
<b>2. IODINES</b>					
I-131	Ci	0.00E00	0.00E00	1.25E-05	7.95E-07
I-133	Ci	0.00E00	0.00E00	1.65E-05	2.50E-05
I-135	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Total for Period	Ci	0.00E00	0.00E00	2.90E-05	2.58E-05
<b>3. PARTICULATES</b>					
Co-58	Ci	3.08E-05	3.11E-04	1.48E-06	3.11E-05
Co-60	Ci	1.44E-04	7.17E-05	2.71E-06	6.32E-06
Mn-54	Ci	0.00E00	0.00E00	1.05E-08	6.45E-08
Ce-144	Ci	0.00E00	0.00E00	0.00E00	3.13E-08
Be-7	Ci	0.00E00	0.00E00	9.37E-08	2.12E-08
Ce-141	Ci	0.00E00	0.00E00	0.00E00	0.00E00
Co-57	Ci	3.37E-08	0.00E00	1.20E-07	1.27E-07
Ce-139	Ci	8.17E-06	0.00E00	0.00E00	4.55E-09
Hg-203	Ci	0.00E00	0.00E00	0.00E00	3.81E-07
Cs-137	Ci	7.77E-07	0.00E00	9.28E-09	6.22E-06
Cd-109	Ci	0.00E00	3.02E-05	2.11E-08	7.78E-09
Cr-51	Ci	0.00E00	4.54E-05	0.00E00	8.13E-09
Tc-99m	Ci	0.00E00	0.00E00	0.00E00	1.06E-07
Na-24	Ci	0.00E00	0.00E00	0.00E00	1.05E-07
Total for Period	Ci	1.84E-04	4.58E-04	4.44E-06	4.45E-05

1. Continuous Accountability includes Batch Accountability.

TABLE 1B

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GASEOUS EFFLUENTS - ELEVATED RELEASES

No elevated releases made at H. B. Robinson

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LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	UNITS	1st QUARTER	2nd QUARTER	% ERROR
<b>A. FISSION AND ACTIVATION PRODUCTS</b>				
1. Total Release	Ci	6.45E-02	5.74E-02	1.00E01
2. Average Diluted Concentration	uCi/ml	2.77E-10	2.43E-10	
3. % of Applicable Limit	%	2.77E-01	2.43E-01	
<b>B. TRITIUM</b>				
1. Total Release	Ci	8.73E01	4.58E01	1.00E01
2. Average Diluted Concentration	uCi/ml	3.75E-07	1.94E-07	
3. % of Applicable Limit	%	1.25E-02	6.47E-03	
<b>C. DISSOLVED AND ENTRAINED GASES</b>				
1. Total Release	Ci	5.61E-03	1.97E-03	1.00E01
2. Average Diluted Concentration	uCi/ml	2.41E-11	8.35E-12	
3. % of Applicable Limit	%	8.03E-04	2.78E-04	
<b>D. GROSS ALPHA RADIOACTIVITY</b>				
1. Total Release	Ci	0.00E00	0.00E00	1.00E00
<b>E. VOLUME OF WASTE RELEASED</b>				
	Liters	3.16E07	1.42E07	1.00E01
<b>F. VOLUME OF DILUTION WATER</b>				
	Liters	2.33E11	2.36E11	1.00E01
<b>G. MAXIMUM CONCENTRATION OF GROSS RADIOACTIVITY RELEASED</b>				
	uCi/ml	1.50E-08	2.67E-08	1.00E01

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## LIQUID EFFLUENTS

Nuclides Released	Units	Continuous Mode		Batch Mode	
		1st Quarter	2nd Quarter	1st Quarter	2nd Quarter
Co-58	Ci	5.88E-04	8.66E-03	1.05E-02	1.06E-02
Co-60	Ci	6.97E-03	2.61E-03	1.63E-02	8.06E-03
Cs-137	Ci	0.00E00	1.46E-03	1.16E-02	7.03E-03
Cs-134	Ci	0.00E00	2.48E-04	2.91E-03	1.56E-04
Mn-54	Ci	1.82E-03	0.00E00	7.12E-03	0.00E00
Sb-124	Ci	0.00E00	0.00E00	0.00E00	0.00E00
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	2.72E-04	0.00E00	0.00E00	0.00E00
Co-57	Ci	1.76E-05	3.55E-05	0.00E00	1.55E-06
Ce-144	Ci	0.00E00	0.00E00	5.28E-05	5.20E-05
Cs-136	Ci	0.00E00	0.00E00	4.07E-05	0.00E00
I-131	Ci	1.98E-03	1.31E-03	0.00E00	0.00E00
Cd-109	Ci	2.02E-03	4.15E-03	0.00E00	3.12E-03
Ba-140	Ci	0.00E00	0.00E00	5.34E-05	0.00E00
Sn-113	Ci	0.00E00	0.00E00	1.26E-05	0.00E00
Ce-139	Ci	0.00E00	2.01E-04	0.00E00	0.00E00
Hg-203	Ci	0.00E00	0.00E00	0.00E00	1.24E-05
Sr-89	Ci	0.00E00	0.00E00	0.00E00	8.46E-03
Sr-90	Ci	0.00E00	0.00E00	2.22E-03	1.23E-03
Total	Ci	1.37E-02	1.87E-02	5.08E-02	3.87E-02
Xe-133	Ci	0.00E00	6.53E-04	1.82E-03	1.98E-05
Xe-135	Ci	3.19E-03	1.30E-03	5.99E-04	0.00E00
Total	Ci	3.19E-03	1.95E-03	2.42E-03	1.98E-05

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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 evaporator bottoms, etc.	M <sup>3</sup> Ci	1.13E02 9.03E01	1.00E01
B. Dry compressible waste, contaminated equipment, etc.	M <sup>3</sup> Ci	1.62E02 4.85E01	1.00E01
C. Irradiated components, control rods, etc.	M <sup>3</sup> Ci	0 0	0.00E00
D. Other	M <sup>3</sup> Ci	0 0	0.00E00

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

	%	Ci
A. Cs-137	9	8.1
Co-58	43	38.8
Mn-54	5	4.5
Co-60	42	37.9
Others*	1	1.0
B. Co-58	29	14.0
Mn-54	3	1.4
Co-60	67	32.5
Others*	1	.6

3. SOLID WASTE DISPOSITION

Number of Shipments: 32  
 Mode of Transportation: Truck  
 Destination: (31) Barnwell, South Carolina and (1) Richland,  
 Washington

B. IRRADIATED FUEL SHIPMENT (FOR STORAGE)

Number of Shipments: 0  
 Mode of Transportation: NA  
 Destination: NA  
 Number of Bundles: 0

\*Others include (Co-57, Sb-124, Nb-95, Cs-134, Zn-65, Cr-51, Cs-137)



RADIOLOGICAL IMPACT ON MAN

The following dose commitment estimates were calculated in accordance with the methodology presented in Regulatory Guide 1.109, "Calculation of Annual Doses to Man From Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10CFR50, Appendix I." The dose commitments in this report are for the maximum exposed individual in the most critical pathway. Eight day depleted X/Q's were utilized for all airborne pathway calculations.

DOSE FROM SHORELINE SEDIMENT ALONG DISCHARGE CANAL  
AREA/6 MOS.

	CHILD	TEEN	ADULT
WHOLE BODY	6.29E-08	3.01E-07	5.39E-08
SKIN	7.33E-08	3.53E-07	6.32E-08

DOSE FROM EATING FISH CAUGHT IN DISCHARGE CANAL  
AREA/6 MOS.

	CHILD	TEEN	ADULT
BONE	3.05E-07	2.71E-07	2.75E-07
LIVER	2.24E-07	3.27E-07	3.36E-07
WHOLE BODY	1.31E-07	1.36E-07	2.67E-07
THYROID	1.39E-07	1.39E-07	1.63E-07
KIDNEY	9.69E-08	1.16E-07	1.19E-07
LUNG	4.11E-08	5.13E-08	5.27E-08
GI-LLI	1.11E-07	3.94E-07	5.73E-07

DOSE FROM EATING GREEN LEAFY VEG. FROM CRITICAL GARDEN  
AREA/6 MOS.

	CHILD	TEEN	ADULT
BONE	7.55E-07	4.13E-07	4.53E-07
LIVER	1.69E-04	1.43E-04	2.14E-04
WHOLE BODY	1.78E-04	1.46E-04	2.16E-04
THYROID	1.65E-04	1.39E-04	2.10E-04
KIDNEY	1.65E-04	1.39E-04	2.10E-04
LUNG	1.65E-04	1.39E-04	2.10E-04
GI-LLI	1.36E-04	1.32E-04	2.63E-04

DOSE FROM EATING PRODUCE FROM CRITICAL GARDEN  
AREA/6 MOS.

	CHILD	TEEN	ADULT
BONE	1.14E-03	4.74E-03	2.79E-03
LIVER	2.56E-03	1.62E-03	1.32E-03
WHOLE BODY	2.66E-03	1.66E-03	1.34E-03
THYROID	2.50E-03	1.53E-03	1.29E-03
KIDNEY	2.51E-03	1.53E-03	1.30E-03
LUNG	2.50E-03	1.53E-03	1.29E-03
GI-LLI	2.79E-03	2.00E-03	1.63E-03

I-131 DOSE FROM DRINKING MILK FROM CRITICAL CORNER  
AREA/6 MOS.

	INFANT	CHILD	TEEN	ADULT
BONE	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LIVER	0.00E+00	0.00E+00	0.00E+00	0.00E+00
WHOLE BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00
THYROID	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KIDNEY	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LUNG	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GI-LLI	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL DOSE FROM DRINKING MILK FROM CRITICAL CORNER  
AREA/6 MOS.

	INFANT	CHILD	TEEN	ADULT
BONE	3.55E-05	5.36E-05	2.22E-05	1.23E-05
LIVER	2.11E-03	1.08E-03	7.00E-04	4.28E-04
WHOLE BODY	4.71E-03	2.30E-03	1.45E-03	8.58E-04
THYROID	1.86E-01	1.22E-01	7.73E-05	5.33E-05
KIDNEY	2.12E-04	1.38E-04	8.72E-05	6.48E-05
LUNG	1.98E-04	1.29E-04	8.19E-05	6.15E-05
GI-LLI	4.77E-03	5.47E-03	3.33E-03	7.26E-03

I-131 INHALATION DOSE FOR CRITICAL SECTOR AT SITE BOUNDARY  
AREA/6 MOS.

	INFANT	CHILD	TEEN	ADULT
BONE	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LIVER	0.00E+00	0.00E+00	0.00E+00	0.00E+00
WHOLE BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00
THYROID	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KIDNEY	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LUNG	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GI-LLI	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL INHALATION DOSE FOR CRITICAL SECTOR AT SITE BOUNDARY  
AREA/6 MOS.

	INFANT	CHILD	TEEN	ADULT
BONE	3.85E-07	0.03E-07	4.40E-07	3.11E-07
LIVER	2.37E-03	4.11E-03	4.10E-03	4.52E-03
WHOLE BODY	2.37E-03	4.12E-03	4.38E-03	4.82E-03
THYROID	2.35E-03	4.11E-03	4.05E-03	4.82E-03
KIDNEY	2.35E-03	4.11E-03	4.68E-03	4.82E-03
LUNG	3.43E-03	5.42E-03	6.08E-03	7.00E-03
GI-LLI	2.37E-03	4.14E-03	4.72E-03	4.70E-03

SKIN DOSES FROM AIR SUBMERSION IN RADIOACTIVE GASES  
 AREA/3 HRS.

DOSE FOR CRITICAL SECTOR AT SITE BOUNDARY = 3.94E-01 AREA/3 HRS.

	RADIAL DISTANCE, MILES				
	0.5	1.5	2.5	3.5	4.5
S	3.14E-02	1.02E-02	4.30E-03	2.39E-03	2.10E-03
SSW	2.09E-02	7.00E-03	3.15E-03	1.83E-03	1.35E-03
SW	1.66E-02	5.70E-03	2.52E-03	1.47E-03	9.50E-04
WSW	1.01E-02	3.34E-03	1.45E-03	6.56E-04	5.78E-04
W	6.75E-03	2.25E-03	9.30E-04	5.72E-04	3.32E-04
WNW	7.30E-03	2.57E-03	1.14E-03	6.33E-04	4.55E-04
NW	3.25E-03	2.75E-03	1.22E-03	7.23E-04	4.59E-04
NNW	1.81E-02	6.14E-03	2.90E-03	1.71E-03	1.17E-03
N	3.63E-02	1.25E-02	5.86E-03	3.00E-03	2.49E-03
NNE	4.30E-02	1.65E-02	7.65E-03	4.70E-03	3.24E-03
NE	2.52E-02	8.66E-03	3.93E-03	2.41E-03	1.55E-03
ENE	2.01E-02	6.94E-03	3.22E-03	1.97E-03	1.35E-03
E	2.05E-02	7.10E-03	3.30E-03	2.01E-03	1.35E-03
ESE	2.13E-02	7.23E-03	3.37E-03	2.07E-03	1.72E-03
SE	2.57E-02	8.72E-03	4.05E-03	2.43E-03	1.72E-03
SSE	6.23E-02	7.03E-02	9.63E-03	6.07E-03	4.27E-03

	RADIAL DISTANCE, MILES				
	7.5	15.0	25.0	35.0	45.0
S	1.04E-03	3.79E-04	1.72E-04	1.02E-04	6.74E-05
SSW	6.04E-04	2.07E-04	9.01E-05	5.15E-05	3.40E-05
SW	4.55E-04	1.50E-04	6.33E-05	3.57E-05	2.30E-05
WSW	2.67E-04	8.90E-05	3.54E-05	2.19E-05	1.43E-05
W	1.75E-04	5.73E-05	2.45E-05	1.33E-05	8.04E-06
WNW	2.20E-04	7.64E-05	3.37E-05	1.95E-05	1.29E-05
NW	2.23E-04	7.33E-05	3.33E-05	1.91E-05	1.24E-05
NNW	5.60E-04	1.97E-04	3.71E-05	5.08E-05	3.31E-05
N	1.21E-03	4.33E-04	1.93E-04	1.12E-04	7.33E-05
NNE	1.53E-03	5.64E-04	2.46E-04	1.42E-04	9.33E-05
NE	7.85E-04	2.74E-04	1.22E-04	7.05E-05	4.65E-05
ENE	6.50E-04	2.29E-04	1.03E-04	5.32E-05	3.51E-05
E	6.65E-04	2.35E-04	1.04E-04	5.04E-05	3.35E-05
ESE	7.02E-04	2.51E-04	1.12E-04	5.52E-05	3.66E-05
SE	8.30E-04	2.95E-04	1.31E-04	7.53E-05	5.00E-05
SSE	2.13E-03	7.93E-04	3.62E-04	2.13E-04	1.43E-04

WHOLE BODY DOSES FROM AIR SUBMERSION IN RADIOACTIVE GASES  
 AREA/8 LOS.

DOSE FOR CRITICAL SECTOR AT SITE BOUNDARY = 1.82E-01 AREA/8 LOS.

	RADIAL DISTANCE, MILES				
	0.5	1.5	2.5	3.5	4.5
S	1.28E-02	4.21E-03	1.97E-03	1.23E-03	8.84E-04
SSW	3.58E-03	2.88E-03	1.30E-03	7.74E-04	5.27E-04
SW	6.34E-03	2.35E-03	1.04E-03	6.08E-04	4.07E-04
WSW	4.14E-03	1.37E-03	6.00E-04	3.52E-04	2.37E-04
W	2.79E-03	9.30E-04	4.03E-04	2.38E-04	1.57E-04
WNW	3.21E-03	1.06E-03	4.70E-04	2.81E-04	1.81E-04
NW	3.39E-03	1.13E-03	5.03E-04	2.97E-04	2.01E-04
WNW	7.44E-03	2.53E-03	1.15E-03	7.02E-04	4.30E-04
W	1.49E-02	5.13E-03	2.41E-03	1.45E-03	1.03E-03
NNE	1.97E-02	6.78E-03	3.15E-03	1.93E-03	1.32E-03
NE	1.04E-02	3.55E-03	1.64E-03	9.90E-04	6.73E-04
ENE	6.23E-03	2.85E-03	1.33E-03	8.10E-04	5.35E-04
E	8.46E-03	2.92E-03	1.38E-03	8.20E-04	5.69E-04
ESE	8.76E-03	2.97E-03	1.39E-03	8.52E-04	7.02E-04
SE	1.05E-02	3.59E-03	1.67E-03	1.02E-03	7.03E-04
SSE	2.56E-02	3.34E-03	3.36E-03	2.50E-03	1.75E-03

	RADIAL DISTANCE, MILES				
	7.5	15.0	25.0	35.0	45.0
S	4.26E-04	1.56E-04	7.08E-05	4.17E-05	2.77E-05
SSW	2.48E-04	3.52E-05	3.71E-05	2.14E-05	1.40E-05
SW	1.37E-04	8.18E-05	2.60E-05	1.47E-05	9.43E-06
WSW	1.10E-04	3.56E-05	1.56E-05	9.00E-06	5.37E-06
W	7.20E-05	2.38E-05	1.01E-05	6.72E-06	3.72E-06
WNW	9.06E-05	3.14E-05	1.39E-05	8.04E-06	5.30E-06
NW	9.19E-05	3.16E-05	1.37E-05	7.88E-06	5.12E-06
WNW	2.30E-04	8.10E-05	3.58E-05	2.08E-05	1.37E-05
W	5.00E-04	1.79E-04	7.92E-05	4.81E-05	3.03E-05
NNE	6.48E-04	2.28E-04	1.01E-04	6.34E-05	4.13E-05
NE	3.24E-04	1.13E-04	5.00E-05	3.30E-05	1.91E-05
ENE	2.67E-04	9.43E-05	4.18E-05	2.44E-05	1.61E-05
E	2.74E-04	9.68E-05	4.23E-05	2.49E-05	1.61E-05
ESE	2.86E-04	1.07E-04	4.61E-05	2.63E-05	2.06E-05
SE	3.41E-04	1.21E-04	5.39E-05	3.12E-05	2.03E-05
SSE	8.76E-04	3.24E-04	1.49E-04	8.76E-05	5.31E-05

POPULATION INTEGRATED WHOLE BODY DOSES  
PERSON-REM/6 MOS.

	RADIAL DISTANCE, MILES				
	0.5	1.5	2.5	3.5	4.5
S	2.068-04	6.742-05	1.421-04	1.232-04	1.132-04
SSW	6.382-04	2.302-05	3.292-05	4.932-05	1.012-04
SW	6.332-04	4.752-04	1.012-04	6.872-05	3.412-05
WSW	6.452-04	1.752-04	2.552-05	3.872-05	3.292-05
W	2.092-04	3.072-05	3.472-05	2.402-05	3.822-05
WNW	3.342-05	6.752-05	1.222-05	2.912-05	1.282-05
NW	1.702-05	6.892-05	4.222-05	1.432-05	1.352-05
WN	0.002+00	1.222-05	2.992-05	7.622-05	0.002+00
N	0.002+00	5.132-05	1.042-04	1.442-04	2.832-04
ENE	0.002+00	6.572-04	1.052-04	3.422-04	3.932-05
NE	0.002+00	4.202-04	1.392-04	9.102-05	6.222-05
ENE	2.152-04	1.432-05	3.522-04	0.552-05	3.342-05
E	4.232-05	0.002+00	2.172-05	4.072-04	7.712-04
ESE	2.392-04	3.032-04	4.572-05	6.312-05	1.012-05
SE	5.232-05	4.232-04	3.122-04	6.802-04	1.012-05
SSE	2.562-04	2.172-04	1.142-03	1.452-03	4.412-04

	RADIAL DISTANCE, MILES				
	7.5	15.0	25.0	35.0	45.0
S	7.652-04	4.002-04	3.622-04	6.042-04	2.592-04
SSW	1.622-04	4.912-04	4.332-04	1.332-05	1.552-04
SW	3.202-04	1.242-04	1.492-04	2.622-04	2.322-04
WSW	1.932-04	3.452-05	3.112-04	6.102-05	2.382-04
W	2.412-05	6.132-05	4.772-05	2.702-05	1.312-05
WNW	2.352-05	4.532-05	3.092-05	5.442-05	1.312-04
NW	7.162-05	3.852-05	6.922-05	5.642-05	6.392-05
WN	5.372-05	7.312-05	1.352-04	1.062-04	3.682-04
N	2.592-04	2.902-04	4.542-04	4.042-04	1.732-04
ENE	3.362-04	3.272-04	9.352-04	5.202-04	3.122-04
NE	4.102-04	3.162-04	4.402-04	3.122-04	2.592-04
ENE	3.392-04	2.542-04	6.102-04	2.622-04	2.772-04
E	6.322-04	2.522-04	1.702-04	1.992-04	4.372-04
ESE	3.832-04	1.432-03	1.622-03	1.962-04	2.162-04
SE	6.122-04	3.092-04	1.732-03	2.462-04	2.162-04
SSE	1.502-03	2.032-03	1.662-03	8.332-04	1.192-03

TOTAL POPULATION INTEGRATED WHOLE BODY DOSE = 5.212-02 PERSON-REM.

POPULATION INTEGRATED INHALATION DOSE  
PERSON-REM/6 MOS. OR THYROID-REM/6 MOS.

	INFANT	CHILD	TEEN	ADULT
WHOLE BODY	1.452-05	3.532-04	2.222-04	2.502-04
THYROID	1.442-05	3.532-04	2.222-04	2.502-04

ENCLOSURE 1

JOINT FREQUENCY OF WIND DIRECTION AND SPEED  
FIRST QUARTER 1980  
H. B. ROBINSON STEAM ELECTRIC PLANT

The attached tables present the 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, 1980.

The frequencies are presented as a percent of total occurrences for each stability class as well as a summary for all classes for 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 categories:

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>
4.2	4.4	4.9	43.7	25.3	8.8	8.8

2. Wind Speed

	<u>10 Meter</u>	<u>60 Meter</u>
Average Speed (mph)	6.1	10.2
Percent Calm	0.2	0.0
Percent Less than 3.5 mph	26.1	5.3

3. Wind Direction

	<u>10 Meter</u>	<u>60 Meter</u>
Prevailing Direction	NNW	NE
Percent Occurrence	12.5	12.4

4. Data Recovery

	<u>10 Meter</u>	<u>60 Meter</u>
Percent Good Hours	99.0	99.2

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS A  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)										TOTAL	AVG. WIND SPEED
	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0						
N	0.0	0.0	0.09	0.33	0.0	0.0	0.0	0.0	0.0	0.0	0.42	14.68
NNE	0.0	0.09	0.19	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.37	10.07
NE	0.0	0.0	0.14	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.28	12.18
NNE	0.0	0.09	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.33	9.44
E	0.0	0.09	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	8.56
ESE	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	3.73
SE	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	3.52
SSE	0.0	0.0	0.05	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.14	14.44
S	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	10.67
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.19	0.09	0.0	0.0	0.0	0.0	0.0	0.28	15.99
WSW	0.0	0.0	0.0	0.23	0.0	0.0	0.0	0.05	0.0	0.0	0.28	16.14
W	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.05	24.18
WNW	0.0	0.0	0.0	0.51	0.0	0.0	0.0	0.0	0.0	0.0	0.65	18.27
NW	0.0	0.0	0.05	0.42	0.09	0.0	0.0	0.0	0.0	0.0	0.56	16.13
NNW	0.0	0.0	0.0	0.33	0.09	0.0	0.0	0.0	0.0	0.0	0.42	17.52
TOTAL	0.0	0.37	0.93	2.33	0.33	0.0	0.0	0.0	0.0	0.19	4.20	13.10

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 6



JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS B  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.0	0.19	0.37	0.05	0.0	0.0	0.61	9.20
NNE	0.0	0.0	0.28	0.05	0.14	0.0	0.0	0.47	9.68
NE	0.0	0.0	0.05	0.09	0.05	0.05	0.0	0.23	13.27
NNE	0.0	0.0	0.23	0.28	0.05	0.0	0.0	0.56	8.30
E	0.0	0.0	0.14	0.14	0.0	0.0	0.0	0.28	6.71
ESE	0.0	0.09	0.14	0.0	0.0	0.0	0.0	0.23	4.94
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.14	0.0	0.05	0.0	0.0	0.19	8.39
S	0.0	0.0	0.09	0.09	0.09	0.0	0.05	0.33	11.69
SSW	0.0	0.0	0.05	0.09	0.05	0.0	0.0	0.19	9.84
SW	0.0	0.0	0.05	0.0	0.14	0.05	0.0	0.23	13.64
WSW	0.0	0.0	0.0	0.0	0.09	0.0	0.0	0.09	15.22
W	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.05	17.53
WNW	0.0	0.0	0.0	0.19	0.09	0.0	0.0	0.28	12.19
NW	0.0	0.0	0.09	0.09	0.14	0.0	0.0	0.33	11.13
NNW	0.0	0.0	0.0	0.19	0.05	0.05	0.0	0.28	13.01
TOTAL	0.0	0.09	1.45	1.59	1.03	0.14	0.05	4.34	10.99

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS C  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

WIND DIRECTION	SPEED CLASS (MPH)										TOTAL	AVG. WIND SPEED	
	0.0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5	3.5-4.0	4.0-4.5	4.5-5.0			
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.61	10.12
NNE	0.0	0.0	0.09	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.23	8.55
NE	0.0	0.05	0.0	0.19	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.37	11.34
ENE	0.0	0.0	0.23	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.37	6.74
E	0.0	0.05	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	4.10
ESE	0.0	0.14	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	3.48
SE	0.0	0.05	0.28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.33	4.37
SSE	0.0	0.0	0.14	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.19	7.94
S	0.0	0.0	0.14	0.05	0.05	0.0	0.0	0.0	0.0	0.05	0.0	0.28	11.11
SSW	0.0	0.0	0.0	0.14	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.23	10.85
SW	0.0	0.0	0.05	0.0	0.09	0.14	0.0	0.0	0.05	0.05	0.0	0.33	19.32
WSW	0.0	0.0	0.05	0.14	0.05	0.0	0.0	0.0	0.05	0.05	0.0	0.28	14.10
W	0.0	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	5.55
WAW	0.0	0.0	0.05	0.09	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.19	13.43
NW	0.0	0.0	0.19	0.23	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.51	9.56
NNW	0.0	0.0	0.05	0.23	0.05	0.05	0.0	0.0	0.05	0.0	0.0	0.37	11.41
TOTAL	0.0	0.28	1.91	1.54	0.79	0.19	0.19	0.19	0.19	0.19	0.19	4.90	9.52

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/1/80 TO 11:00 PM 3/31/80STABILITY CLASS D  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

## ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.09	0.70	0.56	0.89	0.51	0.28	3.03	13.43
NNE	0.0	0.14	0.79	2.38	2.29	0.33	0.0	5.93	11.72
NE	0.0	0.23	1.63	3.69	3.17	0.42	0.0	9.15	11.14
ENE	0.0	0.23	1.35	1.45	0.37	0.0	0.0	3.41	8.20
E	0.0	0.09	0.84	0.65	0.19	0.0	0.0	1.77	7.67
ESE	0.0	0.09	0.98	0.61	0.09	0.0	0.0	1.77	7.29
SE	0.0	0.19	0.56	0.61	0.09	0.0	0.0	1.45	7.66
SSE	0.0	0.09	0.33	0.84	0.42	0.0	0.0	1.68	10.05
S	0.0	0.05	0.37	0.51	0.28	0.37	0.0	1.59	12.77
SSW	0.0	0.28	0.19	0.56	0.93	0.09	0.0	2.05	11.52
SW	0.0	0.09	0.42	0.79	1.45	0.19	0.0	2.94	12.49
WSW	0.0	0.09	0.37	0.42	0.14	0.09	0.05	1.17	9.71
W	0.0	0.09	0.37	0.28	0.28	0.09	0.0	1.12	10.10
WNW	0.0	0.0	0.65	0.51	0.19	0.28	0.23	1.87	12.69
NW	0.0	0.09	0.56	0.70	0.42	0.05	0.0	1.82	9.87
NNW	0.0	0.0	0.56	1.54	0.65	0.05	0.0	2.80	10.30
TOTAL	0.0	1.87	10.69	16.11	11.86	2.47	0.56	43.56	10.42

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 12

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS E  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.05	0.42	0.79	0.47	0.0	0.0	1.73	10.06
NNE	0.0	0.05	0.47	1.31	0.19	0.0	0.0	2.01	8.99
NE	0.0	0.09	0.42	0.47	0.05	0.0	0.0	1.03	7.47
ENE	0.0	0.05	0.33	0.47	0.0	0.0	0.0	0.84	7.33
E	0.0	0.09	0.19	0.28	0.19	0.0	0.0	0.75	8.99
ESE	0.0	0.23	0.14	0.0	0.0	0.0	0.0	0.37	3.55
SE	0.0	0.05	0.42	0.42	0.0	0.0	0.0	0.89	6.71
SSE	0.0	0.14	0.23	0.56	0.33	0.0	0.0	1.26	9.21
S	0.0	0.14	0.51	0.65	0.65	0.05	0.05	2.05	10.75
SSW	0.0	0.05	0.47	0.79	1.31	0.05	0.05	2.71	11.79
SW	0.0	0.14	0.37	0.56	1.21	0.33	0.0	2.61	12.43
WSW	0.0	0.0	0.79	0.89	0.33	0.14	0.0	1.54	11.68
W	0.0	0.0	0.75	0.65	0.61	0.09	0.0	2.10	10.36
WNW	0.0	0.14	0.42	0.70	0.61	0.0	0.0	1.87	10.17
NW	0.0	0.14	0.19	1.21	0.33	0.05	0.0	1.91	10.17
NNW	0.0	0.05	0.09	0.61	1.03	0.0	0.0	1.77	12.18
TOTAL	0.0	1.40	5.60	10.36	7.28	0.70	0.09	25.44	9.49

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

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JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS F

STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)										TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0					
N	0.0	0.09	0.09	0.33	0.09	0.0	0.0	0.0	0.0	0.0	0.61	8.29
NNE	0.0	0.09	0.33	0.33	0.0	0.0	0.0	0.0	0.0	0.0	0.75	6.41
NE	0.0	0.05	0.37	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.65	6.59
ENE	0.0	0.14	0.19	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.42	5.71
E	0.0	0.05	0.14	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.23	5.58
ESE	0.0	0.0	0.19	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.23	6.50
SE	0.0	0.05	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	5.17
SSE	0.0	0.0	0.14	0.14	0.09	0.0	0.0	0.0	0.0	0.0	0.37	8.92
S	0.0	0.05	0.05	0.14	0.05	0.0	0.0	0.0	0.0	0.0	0.28	8.87
SSW	0.0	0.05	0.19	0.33	0.19	0.0	0.0	0.0	0.0	0.0	0.75	9.30
SW	0.0	0.05	0.09	0.47	0.09	0.0	0.0	0.0	0.0	0.0	0.70	9.75
WSW	0.0	0.0	0.14	0.19	0.51	0.0	0.0	0.0	0.0	0.0	0.84	11.46
W	0.0	0.0	0.14	0.28	0.19	0.0	0.0	0.0	0.0	0.0	0.61	10.44
WNW	0.0	0.05	0.09	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.19	6.35
WW	0.0	0.0	0.09	0.56	0.14	0.0	0.0	0.0	0.0	0.0	0.79	10.02
NW	0.0	0.0	0.09	0.75	0.14	0.0	0.0	0.0	0.0	0.0	1.17	9.27
NNW	0.0	0.14	0.14	0.75	0.14	0.0	0.0	0.0	0.0	0.0	8.78	8.04
TOTAL	0.0	0.71	2.52	3.97	1.49	0.0	0.0	0.0	0.0	0.0		

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS G  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

WIND DIRECTION	CALM	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
		0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0			
N	0.0	0.05	0.37	0.56	0.0	0.0	0.0	0.0	0.98	8.05
NNE	0.0	0.0	0.05	0.37	0.0	0.0	0.0	0.0	0.42	9.50
NE	0.0	0.09	0.09	0.51	0.0	0.0	0.0	0.0	0.70	7.65
ENE	0.0	0.09	0.42	0.0	0.0	0.0	0.0	0.0	0.51	5.03
E	0.0	0.05	0.14	0.05	0.0	0.0	0.0	0.0	0.23	5.58
ESE	0.0	0.14	0.23	0.05	0.0	0.0	0.0	0.0	0.51	5.11
SE	0.0	0.09	0.23	0.05	0.0	0.0	0.0	0.0	0.37	4.70
SSE	0.0	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.09	8.69
S	0.0	0.0	0.23	0.28	0.0	0.0	0.0	0.0	0.51	7.55
SSW	0.0	0.0	0.28	0.28	0.05	0.0	0.0	0.0	0.61	8.02
SW	0.0	0.09	0.19	0.75	0.14	0.0	0.0	0.0	1.17	9.37
WSW	0.0	0.0	0.09	0.23	0.09	0.0	0.0	0.0	0.42	9.29
W	0.0	0.0	0.37	0.14	0.0	0.0	0.0	0.0	0.51	6.67
WNW	0.0	0.14	0.42	0.09	0.0	0.0	0.0	0.0	0.65	5.04
NW	0.0	0.05	0.14	0.28	0.0	0.0	0.0	0.0	0.47	7.73
NNW	0.0	0.0	0.19	0.33	0.09	0.0	0.0	0.0	0.61	9.37
TOTAL	0.0	0.79	3.55	4.05	0.37	0.0	0.0	0.0	8.78	7.33

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

SUMMARY

STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER

DIRECTION	CALM	0.75-3.5	3.5-7.5	7.5-12.5	SPEED CLASS (MPH) 12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.0	0.28	2.01	2.89	2.01	0.51	0.28	7.98	11.14
NNE	0.0	0.28	2.10	4.76	2.71	0.33	0.0	10.18	10.47
NE	0.0	0.51	2.57	5.32	3.55	0.47	0.0	12.42	10.47
NNE	0.0	0.51	2.85	2.66	0.42	0.0	0.0	6.44	7.66
E	0.0	0.33	1.77	1.26	0.37	0.0	0.0	3.73	7.38
ESE	0.0	0.70	1.87	0.70	0.09	0.0	0.0	3.36	6.06
SE	0.0	0.47	1.68	1.07	0.09	0.0	0.0	3.31	6.49
SSE	0.0	0.23	0.98	1.68	1.03	0.0	0.0	3.92	9.62
S	0.0	0.23	1.40	1.82	1.12	0.42	0.14	5.14	11.03
SSW	0.0	0.37	1.17	2.19	2.61	0.14	0.05	6.54	10.98
SW	0.0	0.37	1.17	2.57	3.31	0.79	0.05	8.26	12.22
WSW	0.0	0.09	0.84	1.87	1.45	0.23	0.14	4.62	11.44
W	0.0	0.09	1.77	1.35	1.12	0.23	0.0	4.58	9.99
WNW	0.0	0.33	1.63	1.63	1.40	0.28	0.42	5.70	11.42
W	0.0	0.28	1.26	3.13	1.54	0.19	0.0	6.40	10.41
WNW	0.0	0.19	1.03	3.64	2.33	0.23	0.0	7.42	11.08
TOTAL	0.0	5.28	26.10	38.56	25.16	3.83	1.07	100.00	10.24

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 18

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS A  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	CALM	SPEED CLASS(SMPH)							TOTAL	AVG. WIND SPEED
		0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0			
N	0.0	0.0	0.0	0.33	0.0	0.0	0.0	0.33	0.52	
NNE	0.0	0.0	0.14	0.28	0.0	0.0	0.0	0.42	8.74	
NE	0.0	0.0	0.09	0.19	0.0	0.0	0.0	0.28	8.47	
NNE	0.0	0.0	0.09	0.23	0.0	0.0	0.0	0.33	8.13	
E	0.0	0.0	0.09	0.09	0.0	0.0	0.0	0.19	6.87	
ESE	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.05	4.90	
SE	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.09	3.76	
SSE	0.0	0.05	0.0	0.14	0.05	0.0	0.0	0.23	9.67	
S	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.05	7.95	
SSW	0.0	0.0	0.0	0.05	0.05	0.0	0.0	0.09	12.21	
SW	0.0	0.0	0.0	0.23	0.09	0.0	0.0	0.33	11.81	
WSW	0.0	0.0	0.0	0.09	0.05	0.0	0.0	0.14	12.43	
W	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.05	15.38	
WNW	0.0	0.0	0.0	0.47	0.09	0.05	0.0	0.61	12.06	
NW	0.0	0.0	0.05	0.33	0.14	0.0	0.0	0.51	11.03	
NNW	0.0	0.0	0.0	0.37	0.14	0.0	0.0	0.51	11.93	
TOTAL	0.0	0.05	0.61	2.85	0.65	0.05	0.0	4.21	9.74	

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 6



JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS B  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	CALM	SPEED CLASS(MPH)					GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
		0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0			
N	0.0	0.0	0.28	0.0	0.0	0.0	0.0	0.56	7.45
NNE	0.0	0.0	0.33	0.0	0.0	0.0	0.0	0.51	7.63
NE	0.0	0.0	0.09	0.0	0.05	0.0	0.0	0.33	9.20
NNE	0.0	0.0	0.47	0.0	0.0	0.0	0.0	0.56	6.53
E	0.0	0.0	0.19	0.0	0.0	0.0	0.0	0.19	5.54
ESE	0.0	0.05	0.14	0.0	0.0	0.0	0.0	0.19	4.86
SE	0.0	0.05	0.09	0.0	0.0	0.0	0.0	0.14	4.28
SSE	0.0	0.0	0.09	0.0	0.05	0.0	0.0	0.14	7.99
S	0.0	0.0	0.23	0.09	0.0	0.05	0.0	0.37	9.29
SSW	0.0	0.0	0.05	0.14	0.05	0.0	0.0	0.23	9.08
SW	0.0	0.0	0.0	0.14	0.05	0.0	0.0	0.19	11.74
WSW	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.05	11.20
W	0.0	0.0	0.05	0.05	0.0	0.0	0.0	0.09	9.16
WNW	0.0	0.0	0.05	0.09	0.0	0.0	0.0	0.14	8.99
NW	0.0	0.0	0.14	0.23	0.0	0.0	0.0	0.37	7.57
NNW	0.0	0.0	0.0	0.28	0.0	0.0	0.0	0.28	9.41
TOTAL	0.0	0.09	2.20	1.82	0.19	0.05	0.0	4.35	8.12

NUMBER OF CALMS - 0  
NUMBER OF CALM HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS C  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS (MPH)										TOTAL	AVG. WIND SPEED	
	0.0-0.75	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	25.0-30.0	30.0-35.0	35.0-40.0	40.0-45.0			GREATER THAN 25.0
N	0.0	0.0	0.37	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.61	7.43
NNE	0.0	0.0	0.09	0.09	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.28	9.61
NE	0.0	0.0	0.05	0.19	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.28	8.68
ENE	0.0	0.05	0.28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.33	4.92
E	0.0	0.05	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	4.53
ESE	0.0	0.05	0.28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.33	4.03
SE	0.0	0.09	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.33	3.88
SSE	0.0	0.0	0.14	0.0	0.05	0.0	0.05	0.0	0.0	0.0	0.0	0.19	6.98
S	0.0	0.0	0.14	0.09	0.0	0.0	0.05	0.0	0.05	0.0	0.0	0.28	9.62
SSW	0.0	0.0	0.09	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	9.09
SW	0.0	0.0	0.05	0.14	0.28	0.0	0.28	0.0	0.0	0.0	0.0	0.47	12.60
WSW	0.0	0.0	0.05	0.05	0.05	0.0	0.05	0.0	0.0	0.0	0.0	0.14	10.64
W	0.0	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	5.23
WNW	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	6.35
NW	0.0	0.05	0.28	0.19	0.05	0.0	0.05	0.0	0.0	0.0	0.0	0.56	7.20
NNW	0.0	0.0	0.19	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.42	8.05
TOTAL	0.0	0.28	2.71	1.31	0.56	0.05	0.05	0.0	0.05	0.0	0.0	4.91	7.43
NUMBER OF CALMS - 0													
NUMBER OF BAD HOURS - 0													

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS-D

ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS (MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.19	1.12	1.22	0.47	0.0	0.0	2.99	8.48
NNE	0.0	0.47	2.66	4.16	0.56	0.0	0.0	7.85	8.23
NE	0.0	0.37	3.32	3.09	0.19	0.0	0.0	6.97	7.47
ENE	0.0	0.51	2.38	0.37	0.09	0.0	0.0	3.37	5.58
E	0.0	0.37	0.75	0.23	0.0	0.0	0.0	1.36	5.22
ESE	0.0	0.28	0.94	0.19	0.0	0.0	0.0	1.40	4.97
SE	0.0	0.23	0.94	0.14	0.0	0.0	0.0	1.31	5.18
SSE	0.0	0.14	1.31	0.79	0.0	0.0	0.0	2.24	6.80
S	0.0	0.14	0.65	0.61	0.47	0.0	0.0	1.87	9.47
SSW	0.0	0.42	0.51	1.45	0.33	0.0	0.0	2.71	8.35
SW	0.0	0.09	1.17	1.03	0.23	0.0	0.0	2.52	7.94
WSW	0.0	0.23	0.33	0.09	0.05	0.0	0.0	0.70	5.41
W	0.0	0.23	0.37	0.37	0.05	0.0	0.0	1.03	6.60
WNW	0.0	0.14	0.84	0.28	0.33	0.0	0.0	1.59	7.88
NW	0.0	0.37	1.22	0.37	0.09	0.0	0.0	2.06	6.01
NNW	0.0	0.14	2.01	1.50	0.05	0.0	0.0	3.69	7.13
TOTAL	0.0	4.35	20.52	15.90	2.90	0.0	0.0	43.67	6.92

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 11

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS E  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	CALM	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
		0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0			
N	0.0	0.70	0.79	0.09	0.0	0.0	0.0	0.0	1.59	4.16
NNE	0.0	0.42	0.61	0.05	0.0	0.0	0.0	0.0	1.06	4.11
NE	0.0	0.42	0.42	0.0	0.0	0.0	0.0	0.0	0.84	3.54
ENE	0.0	0.28	0.33	0.05	0.0	0.0	0.0	0.0	0.65	3.82
E	0.0	0.14	0.28	0.0	0.0	0.0	0.0	0.0	0.42	4.03
ESE	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.14	2.11
SE	0.0	0.05	0.28	0.0	0.0	0.0	0.0	0.0	0.33	4.07
SSE	0.0	0.23	0.79	0.23	0.0	0.0	0.0	0.0	1.26	5.62
S	0.0	0.56	1.36	0.79	0.05	0.05	0.0	0.0	2.61	6.27
SSW	0.0	0.75	1.03	1.40	0.14	0.0	0.0	0.0	3.32	6.66
SW	0.0	0.65	1.22	0.70	0.19	0.0	0.0	0.0	2.76	6.27
WSW	0.0	0.42	0.51	0.14	0.05	0.0	0.0	0.0	1.12	4.78
W	0.0	0.75	0.89	0.09	0.09	0.0	0.0	0.0	1.82	4.19
WNW	0.0	0.65	0.89	0.05	0.0	0.0	0.0	0.0	1.59	4.22
W	0.05	0.89	1.64	0.14	0.0	0.0	0.0	0.0	2.71	4.42
TNW	0.0	0.42	2.24	0.19	0.0	0.0	0.0	0.0	2.85	5.11
TOTAL	0.05	7.48	13.28	3.93	0.51	0.05	0.0	0.0	25.29	4.59

NUMBER OF CALMS - 1  
NUMBER OF BAD HOURS - 4

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS F  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON DN-SIT. METEOROLOGICAL FACILITY

WIND DIRECTION	CALM	SPEED CLASS(MPH)					GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
		0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0			
N	0.0	0.65	0.05	0.0	0.0	0.0	0.0	0.70	2.20
NNE	0.0	0.42	0.0	0.0	0.0	0.0	0.0	0.42	2.46
NE	0.0	0.23	0.0	0.0	0.0	0.0	0.0	0.23	1.85
ENE	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.09	1.66
E	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.05	1.40
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.05	2.50
SSE	0.0	0.28	0.14	0.0	0.0	0.0	0.0	0.42	3.20
S	0.0	0.51	0.23	0.0	0.0	0.0	0.0	0.75	3.05
SSW	0.0	0.51	0.42	0.0	0.0	0.0	0.0	0.93	3.40
SW	0.0	0.19	0.23	0.0	0.0	0.0	0.0	0.42	3.27
WSW	0.0	0.28	0.23	0.05	0.0	0.0	0.0	0.56	3.76
W	0.0	0.56	0.09	0.0	0.0	0.0	0.0	0.65	2.52
WNW	0.0	0.61	0.19	0.0	0.0	0.0	0.0	0.79	2.69
Nd	0.0	0.94	0.19	0.0	0.0	0.0	0.0	1.12	2.78
NNW	0.0	0.89	0.70	0.0	0.0	0.0	0.0	1.59	3.35
TOTAL	0.0	6.26	2.48	0.05	0.0	0.0	0.0	8.79	2.67

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80

STABILITY CLASS G  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.05	1.17	0.09	0.0	0.0	0.0	0.0	1.31	1.82
NNE	0.0	0.33	0.0	0.0	0.0	0.0	0.0	0.33	1.42
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.05	2.95
E	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.05	1.55
ESE	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.14	1.23
SE	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.09	1.27
SSE	0.0	0.23	0.0	0.0	0.0	0.0	0.0	0.23	1.99
S	0.0	0.56	0.09	0.0	0.0	0.0	0.0	0.65	2.25
SSW	0.05	0.75	0.19	0.0	0.0	0.0	0.0	0.98	2.74
SW	0.0	0.23	0.05	0.0	0.0	0.0	0.0	0.28	2.42
WSW	0.0	0.19	0.0	0.0	0.0	0.0	0.0	0.19	1.85
W	0.0	0.23	0.0	0.0	0.0	0.0	0.0	0.23	2.06
WNW	0.0	0.51	0.0	0.0	0.0	0.0	0.0	0.51	1.69
NW	0.0	0.51	0.09	0.0	0.0	0.0	0.0	0.61	2.32
NNW	0.05	2.38	0.70	0.0	0.0	0.0	0.0	3.13	2.79
TOTAL	0.14	7.43	1.22	0.0	0.0	0.0	0.0	8.79	2.02

NUMBER OF CALMS -- 3  
NUMBER OF BAD HOURS -- 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 3/31/80SUMMARY  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.05	2.71	2.71	2.15	0.47	0.0	0.0	8.09	5.97
NNE	0.0	1.64	3.83	4.77	0.65	0.0	0.0	10.89	7.43
NE	0.0	1.03	3.97	3.65	0.28	0.0	0.0	8.93	7.08
ENE	0.0	0.98	3.55	0.75	0.09	0.0	0.0	5.38	5.49
E	0.0	0.65	1.54	0.33	0.0	0.0	0.0	2.52	4.95
ESE	0.0	0.65	1.40	0.19	0.0	0.0	0.0	2.24	4.41
SE	0.0	0.56	1.64	0.14	0.0	0.0	0.0	2.34	4.52
SSE	0.0	0.94	2.48	1.17	0.14	0.0	0.0	4.72	6.11
S	0.0	1.78	2.71	1.64	0.51	0.14	0.0	6.78	6.73
SSW	0.05	2.43	2.29	3.13	0.56	0.0	0.0	8.46	6.59
SW	0.0	1.17	2.71	2.24	0.84	0.0	0.0	6.97	7.37
WSW	0.0	1.12	1.12	0.47	0.19	0.0	0.0	2.90	5.30
W	0.0	1.78	1.54	0.51	0.19	0.0	0.0	4.02	4.69
WNW	0.0	1.92	2.06	0.89	0.42	0.05	0.0	5.33	5.90
NW	0.05	2.76	3.60	1.26	0.28	0.0	0.0	7.95	5.22
NNW	0.05	3.83	5.84	2.57	0.19	0.0	0.0	12.48	5.38
TOTAL	0.19	25.95	43.01	25.85	4.82	0.19	0.0	100.00	6.11

NUMBER OF CALMS - 4  
NUMBER OF BAD HOURS - 21

ENCLOSURE 2

JOINT FREQUENCY OF WIND DIRECTION AND SPEED  
SECOND QUARTER 1980  
H. B. ROBINSON STEAM ELECTRIC PLANT

The attached tables present the 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, 1980.

The frequencies are presented as a percent of total occurrences for each stability class as well as a summary for all classes for 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 categories:

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>
17.1	6.8	6.2	25.1	25.5	11.7	7.6

2. Wind Speed

	<u>10 Meter</u>	<u>60 Meter</u>
Average Speed (mph)	6.3	10.5
Percent Calm	0.5	0.0
Percent Less than 3.5 mph	21.4	2.4

3. Wind Direction

	<u>10 Meter</u>	<u>60 Meter</u>
Prevailing Direction	SSW	SW
Percent Occurrence	13.9	15.1

4. Data Recovery

	<u>10 Meter</u>	<u>60 Meter</u>
Percent Good Hours	99.5	99.5



JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80STABILITY CLASS A  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)								TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0			
N	0.0	0.0	0.09	0.51	0.55	0.05	0.0	1.20	12.26	
NNE	0.0	0.0	0.28	0.23	0.23	0.0	0.0	0.74	9.96	
NE	0.0	0.0	0.14	0.46	0.18	0.0	0.0	0.78	10.25	
ENE	0.0	0.0	0.32	0.55	0.28	0.0	0.0	1.15	9.78	
E	0.0	0.0	0.18	0.41	0.18	0.0	0.0	0.78	10.74	
ESE	0.0	0.0	0.74	0.09	0.05	0.0	0.0	0.87	6.33	
SE	0.0	0.0	0.23	0.23	0.05	0.0	0.0	0.51	8.97	
SSE	0.0	0.0	0.28	0.14	0.05	0.0	0.0	0.46	8.24	
S	0.0	0.0	0.09	0.28	0.0	0.0	0.05	0.41	11.05	
SSW	0.0	0.0	0.05	0.28	0.46	0.05	0.0	0.83	13.46	
SW	0.0	0.0	0.09	2.21	2.03	0.46	0.0	4.79	13.21	
WSW	0.0	0.0	0.05	0.97	0.51	0.23	0.09	1.84	13.53	
W	0.0	0.0	0.05	0.51	0.64	0.0	0.0	1.20	13.05	
WNW	0.0	0.0	0.0	0.05	0.32	0.05	0.0	0.41	15.18	
NW	0.0	0.0	0.0	0.28	0.28	0.0	0.0	0.55	11.86	
NNW	0.0	0.0	0.0	0.0	0.46	0.09	0.0	0.55	15.93	
TOTAL	0.0	0.0	2.58	7.18	6.26	0.92	0.14	17.08	11.49	

NUMBER OF CALMS - 0

NUMBER OF BAD HOURS - 12

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS B  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

WIND DIRECTION	CALM	SPEED CLASS(MPH)						TOTAL	AVG. WIND SPEED
		0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.0	0.09	0.09	0.09	0.0	0.0	0.28	10.41
NNE	0.0	0.0	0.14	0.05	0.09	0.0	0.0	0.28	10.18
NE	0.0	0.0	0.14	0.18	0.0	0.0	0.0	0.32	8.10
NNE	0.0	0.0	0.09	0.05	0.05	0.0	0.0	0.18	7.83
E	0.0	0.05	0.05	0.09	0.05	0.0	0.0	0.23	8.34
ESE	0.0	0.0	0.05	0.0	0.09	0.0	0.0	0.14	12.87
SE	0.0	0.0	0.18	0.09	0.28	0.05	0.0	0.60	11.41
SSE	0.0	0.0	0.14	0.0	0.0	0.09	0.0	0.23	11.95
S	0.0	0.0	0.05	0.05	0.05	0.05	0.05	0.23	15.13
SSW	0.0	0.0	0.09	0.23	0.14	0.05	0.0	0.51	12.13
SW	0.0	0.0	0.09	0.74	0.32	0.09	0.05	1.29	12.15
WSW	0.0	0.0	0.60	0.37	0.28	0.0	0.05	1.29	9.97
W	0.0	0.0	0.18	0.15	0.09	0.05	0.0	0.51	9.78
WNW	0.0	0.0	0.14	0.05	0.09	0.05	0.0	0.32	11.53
NW	0.0	0.0	0.05	0.14	0.14	0.0	0.0	0.32	11.17
NNW	0.0	0.0	0.05	0.0	0.05	0.0	0.0	0.09	10.41
TOTAL	0.0	0.05	2.12	2.30	1.80	0.41	0.14	6.81	10.83

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80STABILITY CLASS C  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)								TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0			
N	0.0	0.0	0.05	0.14	0.09	0.0	0.0	0.28	10.01	
NNE	0.0	0.0	0.14	0.09	0.18	0.0	0.0	0.41	11.32	
NE	0.0	0.0	0.0	0.14	0.09	0.0	0.0	0.23	11.52	
ENE	0.0	0.05	0.05	0.09	0.09	0.0	0.0	0.28	9.43	
E	0.0	0.0	0.18	0.14	0.05	0.0	0.0	0.37	8.27	
ESE	0.0	0.0	0.05	0.05	0.05	0.0	0.0	0.14	9.69	
SE	0.0	0.0	0.14	0.0	0.18	0.0	0.0	0.32	11.43	
SSE	0.0	0.0	0.09	0.14	0.05	0.0	0.0	0.28	9.69	
S	0.0	0.0	0.05	0.14	0.0	0.09	0.0	0.28	12.67	
SSW	0.0	0.0	0.09	0.05	0.18	0.09	0.0	0.41	13.98	
SW	0.0	0.0	0.18	0.55	0.41	0.05	0.0	1.20	12.29	
WSW	0.0	0.0	0.14	0.32	0.09	0.05	0.05	0.64	12.07	
W	0.0	0.0	0.37	0.32	0.09	0.0	0.0	0.78	8.58	
WNW	0.0	0.0	0.14	0.09	0.09	0.0	0.0	0.32	9.25	
NW	0.0	0.0	0.09	0.05	0.05	0.05	0.0	0.23	11.59	
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOTAL	0.0	0.05	1.75	2.30	1.70	0.32	0.05	6.17	10.79	

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS D  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

## ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS (MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.05	0.23	0.51	0.41	0.0	0.0	1.20	10.93
NNE	0.0	0.0	0.32	0.60	1.20	0.05	0.0	2.16	12.18
NE	0.0	0.05	0.69	1.01	0.28	0.0	0.0	2.03	8.81
ENE	0.0	0.05	0.28	0.46	0.09	0.0	0.0	0.87	8.60
E	0.0	0.0	0.32	0.60	0.09	0.0	0.0	1.01	9.30
ESE	0.0	0.0	0.28	0.87	0.32	0.0	0.0	1.47	10.35
SE	0.0	0.05	0.51	0.74	0.83	0.23	0.05	2.39	12.16
SSE	0.0	0.09	0.37	0.60	0.46	0.32	0.05	1.89	12.46
S	0.0	0.0	0.37	0.41	0.55	0.0	0.05	1.38	11.20
SSW	0.0	0.05	0.23	1.15	1.01	0.0	0.0	2.44	11.68
SW	0.0	0.0	0.41	1.20	0.87	0.14	0.0	2.62	11.91
WSW	0.0	0.0	0.28	0.78	0.37	0.14	0.0	1.57	11.13
W	0.0	0.0	0.41	0.74	0.14	0.05	0.0	1.34	9.38
WNW	0.0	0.09	0.23	0.28	0.05	0.0	0.0	0.64	7.30
NW	0.0	0.0	0.28	0.28	0.18	0.09	0.0	0.83	11.50
NNW	0.0	0.0	0.37	0.37	0.51	0.05	0.0	1.29	10.67
TOTAL	0.0	0.41	5.57	10.59	7.37	1.06	0.14	25.14	10.60

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 5/30/80

STABILITY CLASS E  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	SPEED CLASS(MPH) 12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.0	0.0	0.14	0.37	0.37	0.0	0.0	0.87	11.41
NNE	0.0	0.0	0.32	0.46	0.41	0.0	0.0	1.20	10.20
NE	0.0	0.0	0.37	0.64	0.28	0.0	0.0	1.29	10.02
ENE	0.0	0.0	0.05	0.41	0.0	0.0	0.0	0.46	9.78
E	0.0	0.0	0.14	0.32	0.28	0.0	0.0	0.74	10.68
ESE	0.0	0.0	0.55	0.37	0.0	0.0	0.0	0.92	7.02
SE	0.0	0.23	0.32	0.60	0.0	0.0	0.0	1.15	7.25
SSE	0.0	0.0	0.32	0.51	0.46	0.18	0.0	1.47	12.00
S	0.0	0.0	0.37	1.43	0.37	0.23	0.0	2.39	11.03
SSW	0.0	0.09	0.55	3.22	0.69	0.0	0.0	4.56	10.27
SW	0.0	0.05	0.37	1.80	0.55	0.05	0.0	2.81	10.40
WSW	0.0	0.0	0.23	1.15	0.55	0.05	0.0	1.98	11.00
W	0.0	0.09	0.37	0.87	0.32	0.05	0.0	1.70	9.64
WNW	0.0	0.05	0.51	0.37	0.14	0.0	0.0	1.03	8.10
NW	0.0	0.0	0.32	0.46	0.41	0.0	0.0	1.20	10.73
NNW	0.0	0.0	0.28	0.83	0.46	0.09	0.0	1.66	11.52
TOTAL	0.0	0.51	5.20	13.81	5.29	0.64	0.0	25.46	10.08

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 5/30/80

STABILITY CLASS F  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	SPEED CLASS(MPH) 12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.0	0.14	0.18	0.46	0.0	0.0	0.0	0.78	7.51
NNE	0.0	0.0	0.0	0.18	0.0	0.0	0.0	0.18	8.65
NE	0.0	0.0	0.09	0.09	0.09	0.0	0.0	0.28	8.95
NNE	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.05	4.05
E	0.0	0.05	0.18	0.09	0.0	0.0	0.0	0.32	5.91
ESE	0.0	0.0	0.05	0.05	0.0	0.0	0.0	0.09	7.09
SE	0.0	0.05	0.14	0.23	0.0	0.0	0.0	0.41	7.59
SSE	0.0	0.0	0.14	0.09	0.09	0.0	0.0	0.32	8.98
S	0.0	0.14	0.23	1.20	0.18	0.0	0.0	1.75	8.73
SSW	0.0	0.0	0.23	0.92	0.05	0.0	0.0	1.20	8.96
SW	0.0	0.0	0.09	0.92	0.46	0.0	0.0	1.47	11.21
WSW	0.0	0.0	0.23	1.29	0.87	0.0	0.0	2.39	11.39
W	0.0	0.0	0.23	0.60	0.32	0.0	0.0	1.15	10.25
WNW	0.0	0.0	0.0	0.23	0.0	0.0	0.0	0.46	7.25
NW	0.0	0.0	0.37	0.14	0.0	0.0	0.0	0.51	6.94
NNW	0.0	0.0	0.14	0.18	0.0	0.0	0.0	0.32	7.42
TOTAL	0.0	0.37	2.58	6.68	2.07	0.0	0.0	11.69	8.18

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
 FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

 STABILITY CLASS G  
 STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.0	0.14	0.37	0.0	0.0	0.0	0.51	9.12
NNE	0.0	0.14	0.23	0.14	0.05	0.0	0.0	0.55	6.52
NE	0.0	0.0	0.18	0.05	0.0	0.0	0.0	0.23	5.97
ENE	0.0	0.0	0.18	0.0	0.05	0.0	0.0	0.23	5.84
E	0.0	0.0	0.14	0.0	0.0	0.0	0.0	0.14	5.59
ESE	0.0	0.09	0.14	0.0	0.0	0.0	0.0	0.23	3.81
SE	0.0	0.05	0.18	0.09	0.0	0.0	0.0	0.32	6.34
SSE	0.0	0.14	0.05	0.28	0.0	0.0	0.0	0.46	7.16
S	0.0	0.18	0.14	0.09	0.0	0.0	0.0	0.41	4.47
SSW	0.0	0.05	0.28	0.69	0.05	0.0	0.0	1.06	8.61
SW	0.0	0.0	0.18	0.46	0.23	0.0	0.0	0.87	9.76
WSW	0.0	0.0	0.32	0.37	0.28	0.0	0.0	0.97	10.27
W	0.0	0.18	0.37	0.09	0.0	0.0	0.0	0.64	5.04
WNW	0.0	0.09	0.14	0.05	0.0	0.0	0.0	0.28	5.16
NW	0.0	0.0	0.18	0.14	0.0	0.0	0.0	0.32	7.02
NNW	0.0	0.05	0.05	0.32	0.0	0.0	0.0	0.41	8.12
TOTAL	0.0	0.97	2.90	3.13	0.64	0.0	0.0	7.64	6.80

 NUMBER OF CALMS - 0  
 NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
 FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 5/30/80

 SUMMARY  
 STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.18	0.92	2.44	1.52	0.05	0.0	5.11	10.54
NNE	0.0	0.14	1.43	1.75	2.16	0.05	0.0	5.52	10.61
NE	0.0	0.05	1.61	2.58	0.92	0.0	0.0	5.16	9.29
ENE	0.0	0.09	1.01	1.57	0.55	0.0	0.0	3.22	8.96
E	0.0	0.09	1.20	1.66	0.64	0.0	0.0	3.59	9.28
ESE	0.0	0.09	1.84	1.43	0.51	0.0	0.0	3.87	8.25
SE	0.0	0.37	1.70	1.98	1.34	0.28	0.05	5.71	10.11
SSE	0.0	0.23	1.38	1.75	1.10	0.60	0.05	5.11	11.08
S	0.0	0.32	1.29	3.59	1.15	0.37	0.14	6.86	10.29
SSW	0.0	0.18	1.52	6.54	2.58	0.18	0.0	11.00	10.75
SW	0.0	0.05	1.43	7.87	4.88	0.78	0.05	15.06	11.90
WSW	0.0	0.0	1.84	5.25	2.95	0.46	0.18	10.68	11.42
W	0.0	0.28	1.98	3.31	1.61	0.14	0.0	7.32	9.79
WNW	0.0	0.23	1.38	1.10	0.69	0.09	0.0	3.50	8.87
NW	0.0	0.0	1.29	1.47	1.06	0.14	0.0	3.96	10.35
NNW	0.0	0.05	0.87	1.70	1.47	0.23	0.0	4.33	11.18
TOTAL	0.0	2.35	22.70	45.99	25.14	3.36	0.46	100.00	10.51

 NUMBER OF CALMS - 0  
 NUMBER OF BAD HOURS - 12



JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
 FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

 STABILITY CLASS A  
 STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.0	0.23	0.60	0.0	0.0	0.0	0.83	9.19
NNE	0.0	0.0	0.46	0.55	9.0	0.0	0.0	1.01	7.91
NE	0.0	0.0	0.32	0.41	0.0	0.0	0.0	0.74	8.10
ENE	0.0	0.0	0.69	0.51	0.0	0.0	0.0	1.20	7.51
E	0.0	0.0	0.32	0.55	0.0	0.0	0.0	0.87	8.24
ESE	0.0	0.0	0.74	0.09	0.0	0.0	0.0	0.83	5.52
SE	0.0	0.0	0.37	0.23	0.0	0.0	0.0	0.60	7.09
SSE	0.0	0.0	0.41	0.09	0.05	0.0	0.0	0.55	7.36
S	0.0	0.0	0.05	0.23	0.0	0.05	0.0	0.32	10.27
SSW	0.0	0.0	0.23	0.83	0.28	0.0	0.0	1.34	10.04
SW	0.0	0.0	0.64	3.18	0.69	0.0	0.0	4.51	9.95
WSW	0.0	0.0	0.37	1.06	0.23	0.0	0.0	1.66	9.96
W	0.0	0.0	0.14	0.78	0.0	0.0	0.0	0.92	9.69
WNW	0.0	0.0	0.0	0.46	0.0	0.0	0.0	0.46	9.50
NW	0.0	0.0	0.23	0.46	0.0	0.0	0.0	0.69	8.94
NNW	0.0	0.0	0.0	0.46	0.09	0.0	0.0	0.55	10.75
TOTAL	0.0	0.0	5.20	10.50	1.34	0.05	0.0	17.08	8.75

 NUMBER OF CALMS - 0  
 NUMBER OF BAD HOURS - 12

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS B  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS(MPH)						TOTAL	AVG. WIND SPEED	
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0			GREATER THAN 25.0
N	0.0	0.0	0.18	0.09	0.0	0.0	0.0	0.28	6.93
NNE	0.0	0.0	0.14	0.14	0.0	0.0	0.0	0.28	8.09
NE	0.0	0.0	0.18	0.05	0.0	0.0	0.0	0.23	6.48
ENE	0.0	0.0	0.23	0.09	0.0	0.0	0.0	0.32	6.07
E	0.0	0.05	0.14	0.09	0.0	0.0	0.0	0.28	6.32
ESE	0.0	0.0	0.05	0.09	0.0	0.0	0.0	0.14	9.65
SE	0.0	0.0	0.32	0.18	0.05	0.0	0.0	0.55	7.78
SSE	0.0	0.0	0.09	0.09	0.14	0.0	0.0	0.32	11.27
S	0.0	0.0	0.09	0.05	0.05	0.05	0.0	0.23	11.99
SSW	0.0	0.0	0.14	0.28	0.09	0.0	0.0	0.51	9.54
SW	0.0	0.0	0.41	0.83	0.14	0.0	0.0	1.38	8.71
WSW	0.0	0.0	0.60	0.46	0.05	0.0	0.0	1.10	7.73
W	0.0	0.0	0.37	0.09	0.05	0.0	0.0	0.51	7.37
WNW	0.0	0.0	0.23	0.09	0.05	0.0	0.0	0.37	7.47
NW	0.0	0.0	0.0	0.23	0.0	0.0	0.0	0.23	8.43
NNW	0.0	0.0	0.0	0.09	0.0	0.0	0.0	0.09	9.21
TOTAL	0.0	0.05	3.18	2.95	0.60	0.05	0.0	6.81	8.32

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS C  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.0	0.14	0.05	0.0	0.0	0.0	0.18	7.36
NNE	0.0	0.0	0.23	0.18	0.0	0.0	0.0	0.41	7.63
NE	0.0	0.0	0.09	0.23	0.0	0.0	0.0	0.32	9.04
ENE	0.0	0.05	0.14	0.09	0.0	0.0	0.0	0.28	7.05
E	0.0	0.0	0.18	0.18	0.0	0.0	0.0	0.37	6.55
ESE	0.0	0.0	0.09	0.05	0.0	0.0	0.0	0.14	6.65
SE	0.0	0.0	0.14	0.05	0.09	0.0	0.0	0.28	9.16
SSE	0.0	0.0	0.09	0.23	0.0	0.0	0.0	0.32	8.02
S	0.0	0.0	0.09	0.09	0.09	0.0	0.0	0.28	9.88
SSW	0.0	0.0	0.09	0.23	0.14	0.0	0.0	0.46	10.21
SW	0.0	0.0	0.37	0.74	0.09	0.0	0.0	1.20	8.86
WSW	0.0	0.0	0.37	0.28	0.09	0.0	0.0	0.74	8.25
W	0.0	0.0	0.37	0.23	0.0	0.0	0.0	0.60	6.60
WNW	0.0	0.0	0.23	0.09	0.0	0.0	0.0	0.32	6.83
NW	0.0	0.0	0.14	0.09	0.0	0.0	0.0	0.23	7.77
NNW	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.05	5.10
TOTAL	0.0	0.05	2.81	2.81	0.51	0.0	0.0	6.17	7.81

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS D  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.09	0.46	0.55	0.0	0.0	0.0	1.10	6.81
NNE	0.0	0.0	1.20	1.24	0.0	0.0	0.0	2.44	7.69
NE	0.0	0.05	1.66	0.37	0.0	0.0	0.0	2.07	6.24
NNE	0.0	0.05	0.60	0.28	0.0	0.0	0.0	0.92	6.22
E	0.0	0.18	0.78	0.14	0.0	0.0	0.0	1.10	5.41
ESE	0.0	0.09	0.69	0.37	0.0	0.0	0.0	1.15	6.57
SE	0.0	0.09	0.74	0.87	0.23	0.0	0.0	1.93	6.25
SSE	0.0	0.23	0.83	0.92	0.60	0.05	0.0	2.62	9.20
S	0.0	0.14	0.46	0.64	0.0	0.05	0.0	1.29	7.95
SSW	0.0	0.0	1.34	1.80	0.0	0.0	0.0	3.13	7.85
SW	0.0	0.05	1.29	0.97	0.14	0.0	0.0	2.44	7.74
WSW	0.0	0.14	0.80	0.37	0.05	0.0	0.0	1.15	7.09
W	0.0	0.09	0.83	0.18	0.0	0.0	0.0	1.10	6.04
WNW	0.0	0.09	0.46	0.05	0.0	0.0	0.0	0.60	5.03
NW	0.0	0.09	0.32	0.32	0.05	0.0	0.0	0.78	7.05
NNW	0.0	0.0	0.74	0.55	0.0	0.0	0.0	1.29	6.97
TOTAL	0.0	1.38	12.98	9.62	1.06	0.09	0.0	25.14	7.01

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS E  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	SPEED CLASS(MPH) 12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.0	0.18	0.41	0.14	0.0	0.0	0.0	0.74	5.01
NNE	0.0	0.09	0.46	0.32	0.0	0.0	0.0	0.87	6.25
NNE	0.0	0.09	1.52	0.14	0.0	0.0	0.0	1.75	5.54
ENE	0.0	0.0	0.28	0.0	0.0	0.0	0.0	0.28	5.60
E	0.0	0.05	0.41	0.18	0.0	0.0	0.0	0.64	5.67
ESE	0.0	0.14	0.41	0.0	0.0	0.0	0.0	0.55	4.46
SE	0.0	0.23	0.28	0.0	0.0	0.0	0.0	0.51	3.42
SSE	0.0	0.41	0.97	0.28	0.18	0.0	0.0	1.84	6.28
S	0.0	0.87	1.84	0.32	0.23	0.0	0.0	3.27	5.45
SSW	0.0	1.29	4.10	0.37	0.0	0.0	0.0	5.76	4.93
SW	0.0	0.64	1.01	0.14	0.0	0.0	0.0	2.39	4.56
WSW	0.0	0.74	0.83	0.28	0.0	0.0	0.0	1.84	4.79
W	0.0	0.51	0.52	0.18	0.0	0.0	0.0	1.01	4.43
WNW	0.0	0.37	0.64	0.0	0.0	0.0	0.0	1.01	4.13
NW	0.0	0.23	0.50	0.14	0.0	0.0	0.0	0.97	4.63
NNW	0.0	0.14	1.52	0.37	0.0	0.0	0.0	2.03	5.51
TOTAL	0.0	5.99	16.21	2.85	0.41	0.0	0.0	25.46	5.05

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS F  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

DIRECTION	CALM	SPEED CLASS(MPH)						TOTAL	AVG. WIND SPEED
		0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.0	0.18	0.0	0.0	0.0	0.0	0.18	2.44	
NNE	0.0	0.32	0.05	0.0	0.0	0.0	0.37	2.12	
NE	0.0	0.14	0.05	0.0	0.0	0.0	0.18	3.30	
ENE	0.0	0.05	0.0	0.0	0.0	0.0	0.05	1.30	
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
ESE	0.0	0.05	0.0	0.0	0.0	0.0	0.05	1.53	
SE	0.0	0.23	0.0	0.0	0.0	0.0	0.23	1.33	
SSE	0.0	0.18	0.23	0.0	0.0	0.0	0.41	3.75	
S	0.05	1.43	0.64	0.0	0.0	0.0	2.12	3.14	
SSW	0.05	1.20	0.64	0.0	0.0	0.0	1.89	3.21	
SW	0.0	0.74	0.69	0.0	0.0	0.0	1.43	3.49	
WSW	0.0	0.87	0.78	0.0	0.0	0.0	1.66	3.52	
W	0.05	0.92	0.09	0.0	0.0	0.0	1.06	2.80	
WNW	0.0	0.41	0.05	0.0	0.0	0.0	0.46	2.33	
NW	0.0	0.37	0.14	0.0	0.0	0.0	0.51	2.50	
NNW	0.0	0.64	0.46	0.0	0.0	0.0	1.10	3.05	
TOTAL	0.14	7.73	3.82	0.0	0.0	0.0	11.69	2.65	

NUMBER OF CALMS - 3  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS G  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.09	0.74	0.09	0.0	0.0	0.0	0.0	0.92	1.98
NNE	0.0	0.23	0.0	0.0	0.0	0.0	0.0	0.23	1.61
NE	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.14	1.19
ENE	0.0	0.14	0.05	0.0	0.0	0.0	0.0	0.18	1.89
E	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.05	0.75
ESE	0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.18	0.83
SE	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.05	2.20
SSE	0.05	0.41	0.09	0.0	0.0	0.0	0.0	0.55	2.47
S	0.05	0.55	0.05	0.0	0.0	0.0	0.0	0.64	2.33
SSW	0.05	0.55	0.18	0.0	0.0	0.0	0.0	0.78	2.54
SW	0.0	0.23	0.23	0.0	0.0	0.0	0.0	0.46	3.55
WSW	0.0	0.18	0.14	0.0	0.0	0.0	0.0	0.32	3.06
W	0.0	0.23	0.05	0.0	0.0	0.0	0.0	0.28	1.72
WNW	0.0	0.23	0.09	0.0	0.0	0.0	0.0	0.32	2.40
NW	0.0	0.23	0.0	0.0	0.0	0.0	0.0	0.23	2.02
NNW	0.14	1.52	0.64	0.0	0.0	0.0	0.0	2.30	2.83
TOTAL	0.37	5.66	1.61	0.0	0.0	0.0	0.0	7.64	2.09

NUMBER OF CALMS - 8  
NUMBER OF BAD HOURS - 0

JOINT PERCENTAGE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 4/ 1/80 TO 11:00 PM 6/30/80SUMMARY  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

## ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.09	1.20	1.52	1.43	0.0	0.0	0.0	4.24	5.84
NNE	0.0	0.54	2.53	2.44	0.0	0.0	0.0	5.62	5.91
NE	0.0	0.41	3.82	1.20	0.0	0.0	0.0	5.43	6.21
ENE	0.0	0.28	1.98	0.97	0.0	0.0	0.0	3.22	6.39
E	0.0	0.32	1.84	1.15	0.0	0.0	0.0	3.31	6.34
ESE	0.0	0.46	1.98	0.60	0.0	0.0	0.0	3.04	5.62
SE	0.0	0.60	1.84	1.34	0.37	0.0	0.0	4.14	7.04
SSE	0.05	1.24	2.72	1.61	0.97	0.05	0.0	6.63	7.41
S	0.09	2.99	3.22	1.34	0.37	0.14	0.0	8.15	5.56
SSW	0.09	3.04	6.72	3.50	0.51	0.0	0.0	13.86	6.08
SW	0.0	1.66	5.25	5.85	1.06	0.0	0.0	13.81	7.53
WSW	0.0	1.95	3.68	2.44	0.41	0.0	0.0	8.47	6.46
W	0.05	1.75	2.16	1.47	0.05	0.0	0.0	5.48	5.72
WNW	0.0	1.10	1.70	0.69	0.05	0.0	0.0	3.55	5.18
NW	0.0	0.92	1.43	1.24	0.05	0.0	0.0	3.64	5.00
NNW	0.14	2.30	3.41	1.47	0.09	0.0	0.0	7.41	5.04
TOTAL	0.51	20.86	45.81	28.73	3.91	0.18	0.0	100.00	6.32

NUMBER OF CALMS - 11  
NUMBER OF BAD HOURS - 12



### ENCLOSURE 3

DIFFUSION ANALYSIS  
GROUND LEVEL RELEASE  
JANUARY 1 - JUNE 30, 1980  
H. B. ROBINSON STEAM ELECTRIC PLANT

#### Description of Attachments

The attached tables provide estimates of relative ground-level concentration (X/Q) and deposition (D/Q) for the period January 1 through June 30, 1980 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 building. 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 1,000 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 calculations 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 2.8E-05 in the SSE sector. This value is compared with values for other semiannual periods as follows:

JUL - DEC 1978	3.3E-05	SSE Sector
JAN - JUN 1979	2.5E-05	SSE Sector
JUL - DEC 1979	3.1E-05	SSE Sector

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



10	451.	805.	579.	579.	805.	885.	418.	418.	418.	1207.	1207.	1207.	418.	805.	418.	418.
10	1207.	1207.	805.	960.	960.	1207.	1207.	1207.	1207.	2012.	1625.	1448.	1207.	960.	405.	405.
11	72.	76.	77.	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.	77.	73.	75.	84.	91.	79.	74.	83.	74.	104.	89.	80.	69.	69.
10	2816.	2816.	2012.	2012.	2012.	2816.	2816.	2816.	2816.	2655.	2816.	2816.	2012.	2012.	2012.	2012.
11	76.	87.	77.	77.	80.	88.	93.	83.	77.	86.	76.	119.	98.	88.	69.	69.
10	3621.	3547.	2816.	2816.	2816.	3621.	3042.	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.	4426.	3621.	3621.	3621.	3621.	3621.	3621.
11	81.	92.	86.	87.	86.	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.	127.	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.	88.	122.	133.	90.	91.	118.	101.	122.	120.	91.	69.
12	16	14	16	16												

13 SITE BOUNDARY

14	1 0.26	2 0.29	3 0.36	4 0.36	5 0.50	6 0.55	7 1.23	8 1.69
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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 1.36	13 4.20						
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13 MEAT ANIMAL

14	1 2.37	2 2.06	3 2.27	4 2.69	5 3.97	6 4.07	7 1.60	8 2.84
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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
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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 0.56	4 0.60	5 0.60	6 0.90	7 1.30	8 3.00
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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 1/1/80-6/30/80

16	0.0	0.0	0.0	59.000	1370.0	10.0	0.0	
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15 EXIT TWO MIXED-MODE RELEASE 1/1/80-6/30/80

16	29.100	1.400	60.700	59.000	1370.0	11.0	0.0	
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17 B 0 0 0



DISTANCES AND TERRAIN HEIGHTS IN METERS AS FUNCTIONS OF DIRECTION FROM THE SITE

DIRECTION =	S	SSW	SW	WSW	W	WNW	NW	N	NNE	NE	ENE	E	ESE	SE	SSE
DISTANCE	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.
DISTANCE	451.	605.	579.	579.	605.	605.	418.	418.	1207.	1207.	1207.	1207.	418.	805.	418.
ELEVATION	70.	73.	69.	69.	73.	70.	73.	70.	70.	72.	69.	74.	70.	69.	69.
DISTANCE	1207.	1207.	805.	955.	955.	1207.	1207.	1207.	1207.	1625.	1448.	1207.	968.	403.	483.
ELEVATION	72.	75.	70.	71.	74.	81.	82.	75.	77.	82.	75.	87.	80.	78.	69.
DISTANCE	2012.	2012.	1207.	1448.	2012.	2012.	2012.	2012.	2253.	2012.	2012.	1448.	1207.	1207.	1207.
ELEVATION	74.	81.	72.	73.	75.	69.	71.	74.	83.	74.	104.	69.	60.	69.	69.
DISTANCE	2816.	2816.	2012.	2012.	2012.	2816.	2816.	2816.	2816.	2816.	2816.	2012.	2012.	2012.	2012.
ELEVATION	75.	87.	77.	77.	80.	80.	82.	77.	88.	75.	114.	70.	69.	69.	69.
DISTANCE	3021.	3347.	2816.	2816.	2816.	3021.	3021.	3021.	3021.	3021.	3541.	2816.	2816.	2816.	2816.
ELEVATION	79.	90.	81.	82.	85.	69.	102.	84.	78.	87.	78.	109.	91.	69.	69.
DISTANCE	4426.	3021.	3021.	3021.	3021.	3021.	4426.	3021.	3021.	4426.	3021.	3021.	3021.	3021.	3021.
ELEVATION	81.	84.	80.	87.	88.	90.	111.	87.	79.	81.	122.	120.	91.	69.	69.
DISTANCE	5035.	4426.	4426.	4426.	4426.	4426.	4426.	4426.	4426.	4426.	4426.	4426.	4426.	4426.	4426.
ELEVATION	83.	95.	91.	91.	88.	90.	121.	91.	82.	93.	63.	122.	91.	69.	69.
DISTANCE	6035.	5230.	5230.	5230.	5230.	5230.	6035.	5230.	5230.	6035.	5230.	5230.	5230.	5230.	5230.
ELEVATION	85.	95.	95.	91.	88.	91.	127.	90.	84.	109.	85.	122.	120.	91.	69.
DISTANCE	7044.	7044.	7044.	7044.	7044.	7044.	7044.	7044.	7044.	7044.	7044.	7044.	7044.	7044.	7044.
ELEVATION	87.	92.	91.	88.	122.	133.	90.	91.	115.	101.	122.	120.	91.	69.	69.



ENG	1.537E-06	5.594E-07	2.736E-07	1.730E-07	1.232E-07	1.002E-07	5.341E-08	2.548E-08	1.500E-08	7.492E-09	6.108E-09
	1.571E-06	5.715E-07	2.801E-07	1.773E-07	1.232E-07	1.002E-07	5.341E-08	2.548E-08	1.500E-08	7.492E-09	6.108E-09
ESE	1.637E-06	5.830E-07	2.867E-07	1.835E-07	1.319E-07	1.099E-07	5.899E-08	2.829E-08	1.533E-08	8.045E-09	6.261E-09
SE	1.703E-06	7.030E-07	3.492E-07	2.192E-07	1.569E-07	1.259E-07	6.143E-08	3.313E-08	1.708E-08	9.610E-09	7.022E-09
SSE	1.768E-06	1.640E-06	8.198E-07	5.389E-07	3.920E-07	3.313E-08	2.102E-07	8.958E-08	4.774E-08	1.113E-08	2.347E-08

VENT AND BUILDING PARAMETERS:  
 RELEASE HEIGHT (METERS) 0.0  
 DIAMETER (METERS) 0.0  
 EXIT VELOCITY (METERS) 0.0

REP. WIND HEIGHT (METERS) 10.0  
 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) | AT THE MEASURED WIND HEIGHT (11.0 METERS):  
 VENT RELEASE MODE WIND SPEED (METERS/SEC)

ELEVATED LESS THAN 0.0 AND 0.0 AND 0.0  
 MIXED BETWEEN 0.0 AND 0.0 AND 0.0  
 GROUND LEVEL ABOVE 0.0 AND 0.0 AND 0.0

WIND SPEED (METERS/SEC)  
 UNSTABLE/NEUTRAL CONDITIONS  
 LESS THAN 0.0  
 BETWEEN 0.0 AND 0.0  
 ABOVE ASUVE 0.0



EXIT ONE GROUND LEVEL RELEASE 1/17/80-6/30/80

2-260 DAY DECAY, UNDEPLETED

ANNUAL AVERAGE CH1/4 (SEC/METER CUBED)

DISTANCE IN MILES

4.500

SECTOR	0.250	0.500	0.750	1.000	1.500	2.000	3.000	4.000	5.000
S	1.502E-05	4.998E-06	2.490E-06	1.430E-06	7.630E-07	3.905E-07	1.127E-07	2.557E-07	2.147E-07
SSW	8.935E-06	2.693E-06	1.519E-06	9.874E-07	5.427E-07	2.619E-07	2.023E-07	1.827E-07	1.347E-07
SW	6.746E-06	2.272E-06	1.235E-06	8.074E-07	4.455E-07	2.904E-07	1.602E-07	1.279E-07	1.051E-07
WSW	4.253E-06	1.398E-06	7.403E-07	4.766E-07	2.517E-07	1.682E-07	9.274E-08	7.402E-08	6.095E-08
W	4.801E-06	1.502E-06	8.010E-07	4.631E-07	2.501E-07	1.139E-07	6.203E-08	4.935E-08	3.402E-08
WNW	3.471E-06	1.093E-06	5.713E-07	3.257E-07	1.873E-07	9.463E-08	5.895E-08	4.886E-08	4.140E-08
NW	3.530E-06	1.142E-06	6.040E-07	3.416E-07	1.903E-07	1.000E-07	7.301E-08	6.242E-08	5.198E-08
NNW	6.022E-06	2.519E-06	1.352E-06	8.603E-07	4.752E-07	2.335E-07	1.617E-07	1.470E-07	1.041E-07
N	1.082E-05	3.090E-06	2.647E-06	1.720E-06	9.674E-07	5.855E-07	3.802E-07	2.583E-07	2.058E-07
NNE	2.189E-05	6.608E-06	3.635E-06	2.260E-06	1.273E-06	6.571E-07	4.951E-07	4.016E-07	3.350E-07
NE	4.130E-05	1.199E-05	1.094E-05	1.007E-05	8.745E-06	7.508E-06	6.308E-06	5.101E-06	4.720E-06
ENE	9.179E-06	2.793E-06	1.452E-06	8.297E-07	4.441E-07	2.694E-07	1.609E-07	1.111E-07	1.262E-07
E	9.310E-06	2.820E-06	1.484E-06	8.404E-07	4.525E-07	2.722E-07	1.639E-07	1.133E-07	1.239E-07
ESE	9.917E-06	3.002E-06	1.551E-06	1.003E-06	5.586E-07	3.769E-07	2.195E-07	1.760E-07	1.488E-07
SE	1.475E-05	3.589E-06	1.622E-06	1.210E-06	6.748E-07	3.359E-07	2.025E-07	1.130E-07	1.777E-07
SSE	3.027E-05	6.993E-06	4.441E-06	2.835E-06	1.554E-06	1.000E-06	6.318E-07	5.185E-07	3.793E-07

ANNUAL AVERAGE CH1/4 (SEC/METER CUBED)

DISTANCE IN MILES

50.000

BEARING	5.000	7.500	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000
S	1.003E-07	9.390E-08	6.408E-08	3.706E-08	2.492E-08	1.829E-08	1.400E-08	1.117E-08	9.215E-09	7.659E-09	6.510E-09
SSW	7.039E-08	5.500E-08	3.716E-08	2.499E-08	1.599E-08	1.013E-08	7.170E-09	6.190E-09	5.179E-09	4.250E-09	3.616E-09
SW	7.202E-08	5.197E-08	3.401E-08	2.276E-08	1.502E-08	9.201E-09	6.405E-09	5.377E-09	4.546E-09	3.858E-09	3.366E-09
WSW	4.403E-08	2.492E-08	1.641E-08	9.900E-09	5.951E-09	3.428E-09	2.035E-09	1.259E-09	8.055E-09	5.103E-09	3.366E-09
W	4.914E-08	1.609E-08	1.057E-08	5.851E-09	3.099E-09	1.775E-09	1.082E-09	6.375E-09	3.755E-09	2.149E-09	1.265E-09
WNW	3.572E-08	2.029E-08	1.359E-08	7.622E-09	4.164E-09	2.897E-09	2.315E-09	1.901E-09	1.594E-09	1.359E-09	1.159E-09
NW	3.754E-08	2.093E-08	1.366E-08	7.600E-09	4.155E-09	2.832E-09	2.275E-09	1.862E-09	1.566E-09	1.323E-09	1.133E-09
WN	9.007E-08	5.170E-08	3.400E-08	1.976E-08	1.196E-08	7.190E-09	4.097E-09	2.474E-09	1.477E-09	8.774E-09	5.365E-09
N	1.814E-07	1.100E-07	7.460E-08	4.675E-08	2.877E-08	1.594E-08	1.269E-08	1.039E-08	8.683E-09	7.378E-09	6.384E-09
NNE	4.473E-07	1.441E-07	9.505E-08	5.922E-08	3.610E-08	2.091E-08	1.268E-08	8.297E-08	4.825E-08	2.898E-08	1.784E-08
NE	4.269E-07	1.269E-07	8.695E-08	4.759E-08	2.878E-08	1.675E-08	1.001E-08	6.502E-09	3.700E-09	2.088E-09	1.153E-09
E	1.041E-07	5.994E-08	4.047E-08	2.320E-08	1.357E-08	8.139E-09	4.703E-09	2.831E-09	1.702E-09	9.888E-09	5.032E-09
ESE	1.005E-07	6.144E-08	4.130E-08	2.301E-08	1.352E-08	8.139E-09	4.703E-09	2.831E-09	1.702E-09	9.888E-09	5.032E-09
SE	1.102E-07	6.330E-08	4.212E-08	2.400E-08	1.409E-08	8.799E-09	5.191E-09	3.191E-09	1.994E-09	1.153E-09	6.400E-09
S	4.214E-07	1.309E-07	8.162E-08	4.910E-08	2.910E-08	1.942E-08	1.411E-08	1.082E-08	8.007E-09	6.077E-09	4.992E-09
SSE	3.270E-07	1.439E-07	1.366E-07	7.717E-08	4.210E-08	2.351E-08	1.375E-08	8.257E-08	4.937E-08	2.898E-08	1.695E-08

CH1/4 (SEC/METER CUBED) FOR EACH SEGMENT

SEGMENT BOUNDARIES IN MILES

40-50

DIRECTION FROM FILE	0-1	1-2	2-3	3-4	4-5	5-10	10-20	20-30	30-40	40-50
SSW	4.300E-06	6.157E-07	3.968E-07	2.504E-07	1.643E-07	9.541E-08	3.767E-08	1.831E-08	1.121E-08	7.676E-09
SW	1.558E-06	5.602E-07	2.640E-07	1.633E-07	1.144E-07	5.693E-08	2.146E-08	1.021E-08	6.222E-09	4.261E-09
WSW	1.275E-06	4.263E-07	2.113E-07	1.284E-07	8.869E-08	4.311E-08	1.265E-08	7.265E-09	4.307E-09	2.966E-09
W	7.692E-07	2.666E-07	1.243E-07	7.437E-08	3.195E-08	2.517E-08	9.277E-09	4.362E-09	2.647E-09	1.810E-09
WNW	5.170E-07	1.804E-07	8.217E-08	4.990E-08	3.742E-08	1.629E-08	9.019E-09	4.799E-09	1.690E-09	1.134E-09
NW	5.957E-07	2.049E-07	9.506E-08	5.920E-08	4.551E-08	2.074E-08	7.888E-09	3.790E-09	2.344E-09	1.590E-09
NNW	6.299E-07	2.208E-07	1.045E-07	6.471E-08	4.356E-08	2.151E-08	7.970E-09	2.284E-09	1.500E-09	1.000E-09
N	1.303E-06	4.907E-07	2.352E-07	1.475E-07	1.043E-07	5.274E-08	2.035E-08	9.854E-09	6.088E-09	4.180E-09
NE	2.765E-06	9.555E-07	4.884E-07	2.401E-07	1.126E-07	5.358E-08	2.091E-08	1.274E-08	1.274E-08	6.705E-09
NNE	3.660E-06	1.312E-06	6.378E-07	4.030E-07	2.869E-07	1.449E-07	5.541E-08	1.595E-08	1.083E-08	7.052E-09
NE	1.927E-06	6.934E-07	3.503E-07	2.004E-07	1.471E-07	7.943E-08	4.032E-08	1.933E-08	8.532E-09	5.901E-09
E	1.532E-06	5.253E-07	2.702E-07	1.700E-07	1.200E-07	6.109E-08	2.362E-08	1.140E-08	7.055E-09	4.864E-09
ESE	1.627E-06	5.769E-07	2.818E-07	1.786E-07	1.332E-07	6.454E-08	2.407E-08	1.100E-08	7.102E-09	4.867E-09
SE	1.675E-06	6.958E-07	3.361E-07	1.786E-07	1.273E-07	6.994E-08	2.519E-08	1.207E-08	7.343E-09	5.007E-09
SSE	4.737E-06	1.618E-06	8.012E-07	5.197E-07	3.759E-07	1.902E-07	7.835E-08	1.441E-08	6.691E-09	3.894E-09
										2.300E-08

VENT-AND-BUETING-PARAMETERS

1.572E-06 1.342E-02 9.378E-01 7.030E-01 2.000E-01 1.415E-01 2.591E-08 2.835E-08 1.595E-08 1.085E-08  
 0.939E-01 2.223E-01 2.004E-01 1.871E-01 2.495E-08 2.895E-08 1.203E-08 1.203E-08 8.532E-09 5.901E-09  
 5.553E-01 2.702E-01 1.700E-01 1.209E-01 2.365E-08 2.365E-08 1.466E-08 1.466E-08 7.055E-09 4.864E-09  
 5.671E-01 2.763E-01 1.739E-01 1.232E-01 6.249E-08 2.407E-08 1.602E-08 1.602E-08 7.102E-09 4.867E-09  
 5.766E-01 2.813E-01 1.786E-01 1.233E-01 6.494E-08 2.515E-08 1.607E-08 1.607E-08 7.343E-09 5.007E-09  
 6.956E-01 2.811E-01 2.157E-01 1.518E-01 2.907E-08 2.907E-08 1.921E-08 1.921E-08 6.941E-09 5.894E-09  
 1.640E-06 1.640E-06 8.012E-01 5.197E-01 3.759E-01 1.962E-01 7.835E-08 3.840E-08 2.366E-08 1.628E-08

VENT AND BUILDING PARAMETERS

RELEASE HEIGHT (METERS) 0.0  
 DIAMETER (METERS) 0.0  
 EXIT VELOCITY (METERS) 0.0  
 REP. WIND HEIGHT (METERS) 10.0  
 BUILDING HEIGHT (METERS) 59.0  
 BLOW-MIN. CR3-SEC. AREA (SQ. METERS) 1370.0  
 HEAT EMISSION RATE (CAL/SEC) 0.0

AT THE RELEASE HEIGHT | AT THE MEASURED WIND HEIGHT (11.0 METERS):  
 VENT RELEASE MODE WIND SPEED (METERS/SEC) | VENT RELEASE MODE WIND SPEED (METERS/SEC)

ELEVATED | STABLE CONDITIONS | UNSTABLE/NEUTRAL CONDITIONS  
 MIXED | LESS THAN 0.0 | LESS THAN 0.0  
 GROUND LEVEL | ABOVE 0.0 AND 0.0 | BETWEEN 0.0 AND 0.0

X

EXIT ONE GROUND LEVEL RELEASE 1/17/80-6/30/80

5,000 DAY DECAY, DEPLETED

ANNUAL AVERAGE CH1/4 (SEC/METER CUBED)

SECTOR 0.250 0.500 0.750 1.000 1.250 1.500 2.000 2.500 3.000 3.500 4.000 4.500

S	1.424E-05	7.121E-06	2.012E-06	1.602E-06	6.707E-07	7.440E-07	3.262E-07	2.532E-07	2.040E-07	1.601E-07	1.047E-07	1.432E-07
SSW	6.461E-06	2.646E-06	1.357E-06	8.669E-07	4.630E-07	2.993E-07	1.623E-07	1.023E-07	1.263E-07	1.047E-07	8.751E-08	6.391E-08
SW	6.391E-06	2.077E-06	1.102E-06	7.086E-07	3.781E-07	2.417E-07	1.707E-07	1.262E-07	1.006E-07	8.153E-08	6.769E-08	4.028E-08
WSW	4.028E-06	1.273E-06	6.811E-07	4.184E-07	2.179E-07	1.401E-07	9.889E-08	7.434E-08	5.838E-08	4.733E-08	3.933E-08	2.604E-08
W	3.638E-06	9.799E-07	5.104E-07	3.222E-07	1.804E-07	1.005E-07	5.881E-08	4.657E-08	3.800E-08	3.100E-08	2.605E-08	1.943E-08
NW	3.550E-06	1.040E-06	5.392E-07	3.499E-07	1.817E-07	8.247E-08	6.272E-08	4.927E-08	3.904E-08	3.333E-08	2.805E-08	2.159E-08
N	1.594E-05	4.601E-06	2.342E-06	7.555E-07	4.055E-07	2.046E-07	1.190E-07	6.570E-07	4.510E-07	3.210E-07	2.293E-07	1.709E-07
NNE	2.075E-05	6.123E-06	3.110E-06	2.008E-06	1.091E-06	5.752E-07	3.155E-07	1.759E-07	1.004E-07	5.201E-07	2.818E-07	1.605E-07
NE	4.070E-05	3.200E-06	1.094E-06	1.094E-06	5.752E-07	3.155E-07	1.759E-07	1.004E-07	5.201E-07	2.818E-07	1.605E-07	9.695E-08
E	6.624E-06	2.613E-06	1.327E-06	8.613E-07	4.622E-07	2.942E-07	1.819E-07	1.119E-07	6.570E-07	4.510E-07	3.210E-07	2.293E-08
ESE	9.400E-06	2.752E-06	1.379E-06	8.832E-07	4.780E-07	3.155E-07	2.290E-07	1.769E-07	1.417E-07	1.189E-07	9.404E-08	7.144E-08
SE	1.144E-05	3.200E-06	1.094E-06	5.752E-07	3.155E-07	1.759E-07	1.004E-07	5.201E-07	2.818E-07	1.605E-07	9.695E-08	7.144E-08
SSE	2.007E-05	6.634E-06	3.577E-06	2.498E-06	1.331E-06	6.892E-07	3.119E-07	1.719E-07	1.047E-07	6.443E-07	3.430E-07	2.924E-07

ANNUAL AVERAGE CH1/4 (SEC/METER CUBED)

BEARING 5.000 7.500 10.000 15.000 20.000 25.000 30.000 35.000 40.000 45.000 50.000

S	1.234E-07	6.923E-06	4.593E-06	2.535E-06	1.049E-06	1.173E-06	8.632E-07	6.919E-07	5.260E-07	4.600E-07	3.860E-07	3.860E-07
SSW	7.021E-06	4.581E-06	2.581E-06	1.352E-06	6.720E-07	4.110E-07	2.532E-07	1.630E-07	1.023E-07	6.321E-07	1.940E-07	1.507E-07
SW	5.729E-06	3.022E-06	1.907E-06	9.910E-07	6.193E-07	3.153E-07	1.928E-07	1.250E-07	8.350E-07	1.573E-07	1.507E-07	1.352E-07
WSW	3.233E-06	1.771E-06	1.145E-06	5.903E-07	3.729E-07	2.592E-07	1.924E-07	1.470E-07	1.191E-07	9.750E-07	8.135E-07	7.191E-07
W	2.403E-06	1.161E-06	6.325E-07	3.122E-07	2.592E-07	1.660E-07	1.222E-07	9.472E-07	6.189E-07	5.138E-07	4.138E-07	3.138E-07
NW	2.710E-06	1.409E-06	7.460E-07	5.071E-07	3.244E-07	1.707E-07	1.331E-07	1.069E-07	8.798E-07	7.372E-07	6.372E-07	5.372E-07
N	2.633E-06	1.513E-06	7.640E-07	5.073E-07	3.220E-07	1.673E-07	1.287E-07	1.038E-07	8.502E-07	7.097E-07	6.097E-07	5.097E-07
NNE	1.460E-07	8.128E-06	5.307E-06	2.889E-06	1.307E-06	6.733E-07	3.715E-07	2.075E-07	1.138E-07	6.284E-07	3.419E-07	1.919E-07
NE	1.970E-07	1.049E-07	6.829E-08	3.594E-08	2.368E-08	1.667E-08	1.244E-08	9.680E-09	7.760E-09	6.365E-09	5.365E-09	4.365E-09
NNE	9.611E-08	5.250E-08	3.596E-08	1.627E-08	1.170E-08	8.245E-09	4.860E-09	2.866E-09	1.818E-09	1.065E-09	6.065E-09	3.065E-09
E	7.901E-08	4.342E-08	2.820E-08	1.524E-08	9.784E-09	6.702E-09	4.686E-09	3.242E-09	2.668E-09	2.286E-09	1.904E-09	1.522E-09
ESE	8.097E-08	4.448E-08	2.860E-08	1.559E-08	1.000E-08	7.051E-09	5.275E-09	4.112E-09	3.304E-09	2.717E-09	2.252E-09	1.887E-09
SE	1.405E-07	5.524E-06	3.617E-06	1.900E-06	1.260E-06	8.080E-07	6.048E-07	4.159E-07	3.417E-07	2.858E-07	2.408E-07	2.058E-07
SSE	2.522E-07	1.438E-07	9.513E-08	5.262E-08	3.474E-08	2.458E-08	1.655E-08	1.175E-08	8.033E-08	5.703E-08	4.151E-08	3.031E-08

CH1/4 (SEC/METER CUBED) FOR EACH SEGMENT

DIRECTION FROM SITE 3-1 3-2 3-3 3-4 3-5 3-6 3-7 3-8 3-9 3-10 3-11 3-12

S	2.174E-06	7.024E-07	3.267E-07	2.048E-07	1.430E-07	7.402E-08	2.599E-08	1.184E-08	6.956E-09	4.610E-09	4.610E-09
SSW	1.725E-06	4.800E-07	2.159E-07	1.290E-07	8.780E-08	4.143E-08	1.419E-08	6.183E-09	3.555E-09	2.331E-09	2.331E-09
SW	1.444E-06	3.909E-07	1.726E-07	1.012E-07	6.794E-08	3.128E-08	1.029E-08	4.344E-09	2.480E-09	1.580E-09	1.580E-09
WSW	6.904E-07	2.265E-07	1.091E-07	5.873E-08	3.946E-08	1.835E-08	6.122E-09	2.628E-09	1.500E-09	9.791E-10	9.791E-10
W	4.070E-07	1.571E-07	9.721E-08	5.917E-08	2.617E-08	1.203E-08	3.962E-09	1.672E-09	9.539E-10	6.197E-10	6.197E-10
NW	3.550E-07	1.757E-07	7.820E-08	4.601E-08	3.191E-08	1.512E-08	5.236E-09	2.395E-09	1.339E-09	8.034E-10	8.034E-10
N	1.241E-06	4.207E-07	1.924E-07	1.160E-07	6.010E-08	3.840E-08	1.534E-08	5.974E-09	3.471E-09	2.293E-09	2.293E-09
NNE	2.589E-06	8.559E-07	4.016E-07	2.469E-07	1.715E-07	8.326E-08	4.966E-08	1.324E-08	7.087E-09	5.063E-09	5.063E-09
NE	3.293E-06	1.124E-06	5.215E-07	3.215E-07	2.244E-07	1.076E-07	5.801E-08	1.665E-08	9.759E-09	6.590E-09	6.590E-09
E	1.370E-06	5.743E-07	2.620E-07	1.696E-07	1.124E-07	2.392E-08	1.004E-08	6.350E-09	4.838E-09	3.193E-09	3.193E-09
ESE	1.900E-06	4.870E-07	2.264E-07	1.345E-07	9.262E-08	4.457E-08	2.577E-08	9.777E-09	4.052E-09	2.576E-09	2.576E-09
SE	1.464E-06	4.958E-07	2.314E-07	1.423E-07	9.819E-08	4.809E-08	2.718E-08	1.000E-08	4.137E-09	2.727E-09	2.727E-09
SSE	1.756E-06	5.980E-07	2.772E-07	1.623E-07	1.110E-07	5.692E-08	3.017E-08	1.171E-08	4.473E-09	2.949E-09	2.949E-09
S	4.265E-06	1.344E-06	6.606E-07	4.155E-07	2.740E-07	1.462E-07	5.407E-08	2.880E-08	1.463E-08	7.330E-09	7.330E-09

VENT-AND MIXING-PARAMETERS

ENE	1.370E-06	4.762E-07	2.212E-07	1.345E-07	9.262E-08	4.457E-08	1.589E-08	6.977E-09	4.055E-09	2.570E-09
E	1.406E-06	4.876E-07	2.264E-07	1.377E-07	9.491E-08	4.566E-08	1.606E-08	7.128E-09	4.157E-09	2.727E-09
ESE	1.464E-06	4.958E-07	2.314E-07	1.423E-07	9.679E-08	4.609E-08	1.718E-08	7.690E-09	4.473E-09	2.949E-09
SE	1.756E-06	5.980E-07	2.779E-07	1.700E-07	1.176E-07	5.692E-08	2.017E-08	8.961E-09	5.211E-09	3.430E-09
SSE	4.265E-06	1.394E-06	6.608E-07	4.155E-07	2.930E-07	1.462E-07	5.407E-08	2.480E-08	1.463E-08	9.735E-09

X

VENT AND BUILDING PARAMETERS:

RELEASE HEIGHT (METERS)	0.0	REF. WIND HEIGHT (METERS)	10.0
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)	WIND SPEED (METERS/SEC)
	STABLE CONDITIONS	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 1/17/80-6/30/80

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

DIRECTION FROM SITE	0.25	0.75	1.00	2.00	3.50	4.00	4.50
S	3.540E-08	1.197E-08	6.120E-09	3.700E-09	1.43E-09	7.728E-10	5.000E-10
SSW	4.768E-08	1.612E-08	8.278E-09	5.083E-09	2.537E-09	1.039E-09	5.511E-10
SSE	4.120E-08	1.403E-08	7.208E-09	4.525E-09	2.210E-09	9.055E-10	5.179E-10
SW	2.485E-08	8.402E-09	4.314E-09	2.649E-09	1.311E-09	6.010E-10	3.251E-10
SSW	1.492E-08	5.723E-09	3.238E-09	1.804E-09	9.455E-10	4.673E-10	2.408E-10
WSW	1.531E-08	5.178E-09	2.658E-09	1.532E-09	8.118E-10	4.337E-10	2.296E-10
W	1.880E-08	5.350E-09	3.252E-09	2.005E-09	1.270E-09	7.470E-10	4.400E-10
WSW	3.277E-08	1.109E-08	5.690E-09	3.474E-09	1.74E-09	8.570E-10	4.510E-10
W	4.335E-08	1.402E-08	7.209E-09	4.511E-09	2.299E-09	1.194E-09	6.313E-10
WNW	5.447E-08	2.194E-08	1.126E-08	6.916E-09	3.444E-09	1.711E-09	8.138E-10
N	6.031E-08	2.039E-08	1.047E-08	6.429E-09	3.205E-09	1.514E-09	7.242E-10
NNE	3.304E-08	1.117E-08	5.131E-09	3.225E-09	1.759E-09	9.201E-10	4.619E-10
E	2.740E-08	9.202E-09	4.757E-09	2.921E-09	1.490E-09	7.422E-10	3.968E-10
ESE	2.579E-08	8.477E-09	4.477E-09	2.749E-09	1.371E-09	6.690E-10	3.497E-10
E	3.344E-08	1.131E-08	5.807E-09	3.205E-09	1.778E-09	8.822E-10	4.504E-10
SSE	5.162E-08	1.948E-08	1.000E-08	6.143E-09	3.003E-09	1.457E-09	7.400E-10

DISTANCES IN MILES

DIRECTION FROM SITE	5-5	7.50	19.00	13.00	20.00	25.00	35.00	40.00	45.00	50.00
S	2.647E-10	4.010E-10	6.960E-11	3.891E-11	2.113E-11	1.471E-11	1.019E-11	7.623E-12	5.927E-12	4.733E-12
SSW	2.221E-10	3.493E-10	6.075E-11	3.494E-11	2.092E-11	1.490E-11	1.025E-11	7.671E-12	5.907E-12	4.517E-12
SSW	2.629E-10	4.095E-10	6.965E-11	4.007E-11	2.473E-11	1.698E-11	1.168E-11	8.923E-12	6.930E-12	5.346E-12
WSW	1.574E-10	2.719E-11	4.841E-11	2.447E-11	1.481E-11	9.929E-12	7.114E-12	5.342E-12	4.154E-12	3.181E-12
W	1.072E-10	2.294E-11	3.257E-11	1.666E-11	1.009E-11	6.782E-12	4.640E-12	3.638E-12	2.829E-12	2.209E-12
WSW	4.770E-11	1.294E-11	2.760E-11	1.400E-11	8.425E-12	5.494E-12	3.794E-12	2.500E-12	1.709E-12	1.269E-12
W	1.191E-10	2.839E-11	4.603E-11	1.852E-11	1.121E-11	7.518E-12	5.388E-12	4.033E-12	3.143E-12	2.409E-12
WNW	2.074E-10	1.015E-10	3.544E-11	2.272E-11	1.495E-11	1.310E-11	9.382E-12	6.478E-12	4.370E-12	3.172E-12
N	2.740E-10	1.343E-10	6.425E-11	4.257E-11	2.776E-11	1.728E-11	1.235E-11	9.288E-12	7.230E-12	5.775E-12
NNE	4.110E-10	2.014E-10	1.264E-10	6.388E-11	3.866E-11	2.592E-11	1.657E-11	1.094E-11	8.663E-12	7.071E-12
NE	3.821E-10	1.672E-10	1.173E-10	5.938E-11	3.584E-11	2.410E-11	1.727E-11	1.008E-11	6.953E-12	6.373E-12
ENE	2.093E-10	1.020E-10	6.437E-11	3.232E-11	1.909E-11	1.240E-11	8.400E-12	5.232E-12	3.412E-12	2.601E-12
E	1.730E-10	8.507E-11	5.238E-11	2.693E-11	1.633E-11	1.099E-11	7.845E-12	5.941E-12	4.500E-12	3.489E-12
ESE	1.634E-10	8.007E-11	5.024E-11	2.539E-11	1.537E-11	1.030E-11	7.386E-12	5.644E-12	4.311E-12	3.444E-12
SE	2.119E-10	1.038E-10	6.515E-11	3.293E-11	1.993E-11	1.338E-11	9.578E-12	7.190E-12	5.591E-12	4.466E-12
SSE	3.651E-10	1.789E-10	1.122E-10	5.674E-11	3.434E-11	2.302E-11	1.620E-11	1.239E-11	9.632E-12	7.694E-12

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

DIRECTION FROM SITE	5-1	1-2	2-3	3-4	5-5	5-10	10-20	20-30	30-40	40-50
S	5.397E-09	1.976E-09	7.864E-10	4.697E-10	2.734E-10	1.173E-10	5.638E-11	1.442E-11	7.700E-12	4.766E-12
SSW	8.602E-09	2.657E-09	1.057E-09	5.779E-10	3.043E-10	1.578E-10	4.892E-11	1.939E-11	1.035E-11	6.409E-12
SSW	7.437E-09	2.313E-09	9.651E-10	5.030E-10	2.617E-10	1.377E-10	4.258E-11	1.668E-11	9.012E-12	5.578E-12
WSW	4.463E-09	1.505E-09	5.911E-10	3.011E-10	1.544E-10	8.221E-11	2.949E-11	1.010E-11	5.340E-12	3.340E-12
W	3.053E-09	9.734E-10	3.753E-10	2.051E-10	1.304E-10	7.304E-11	2.730E-11	9.822E-12	5.075E-12	2.875E-12
WNW	2.762E-09	8.534E-10	3.396E-10	1.856E-10	1.179E-10	5.066E-11	1.571E-11	6.260E-12	3.323E-12	2.058E-12
W	3.392E-09	1.048E-09	4.170E-10	2.279E-10	1.449E-10	6.222E-11	1.929E-11	7.647E-12	4.083E-12	2.527E-12
WNW	5.912E-09	1.827E-09	7.262E-10	3.972E-10	2.524E-10	1.084E-10	3.364E-11	1.335E-11	7.117E-12	4.405E-12
N	7.802E-09	2.410E-09	9.594E-10	5.242E-10	3.331E-10	1.931E-10	9.437E-11	1.759E-11	9.344E-12	5.813E-12
NNE	1.170E-08	3.616E-09	1.439E-09	7.802E-10	4.642E-10	2.140E-10	6.656E-11	2.635E-11	1.490E-11	8.720E-12
NE	1.068E-08	3.361E-09	1.337E-09	7.309E-10	4.642E-10	2.140E-10	6.656E-11	2.635E-11	1.490E-11	8.720E-12
ENE	5.951E-09	1.842E-09	7.328E-10	4.034E-10	2.545E-10	1.093E-10	3.390E-11	1.344E-11	7.175E-12	4.491E-12
E	4.943E-09	1.527E-09	6.077E-10	3.321E-10	2.111E-10	9.066E-11	2.811E-11	1.114E-11	5.950E-12	3.683E-12
ESE	4.652E-09	1.437E-09	5.719E-10	3.125E-10	1.956E-10	8.532E-11	2.646E-11	1.049E-11	5.600E-12	3.466E-12
SE	6.033E-09	1.864E-09	7.471E-10	4.053E-10	2.576E-10	1.107E-10	3.731E-11	1.300E-11	6.262E-12	4.495E-12
SSE	1.039E-08	3.214E-09	1.276E-09	6.983E-10	4.438E-10	1.908E-10	5.912E-11	2.333E-11	1.231E-11	7.745E-12

VENT AND BUILDING PARAMETERS

RELEASE HEIGHT (METERS)	0.0
DIAMETER (METERS)	0.0
REP. WIND HEIGHT (METERS)	10.0
BUILDING HEIGHT (METERS)	59.0

VENT AND BUILDING PARAMETERS:

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

RCP\* WIND HEIGHT (METERS) 10.0  
 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:		AT THE MEASURED WIND HEIGHT (11.0 METERS):	
VENT RELEASE MODE	WIND SPEED (METERS/SEC)	VENT RELEASE MODE	WIND SPEED (METERS/SEC)
ELEVATED	LESS THAN 0.0	STABLE CONDITIONS	UNSTABLE/NEUTRAL CONDITIONS
MIXED	BETWEEN 0.0 AND 0.0	LESS THAN 0.0	LESS THAN 0.0
GROUND LEVEL	ABOVE 0.0	BETWEEN 0.0 AND 0.0	BETWEEN 0.0 AND 0.0
		ABOVE 0.0	ABOVE 0.0

EXIT ONE GROUND LEVEL RELEASE 1/1/80-6/30/80  
 SPECIFIC POINTS OF INTEREST

ID	RELEASE	TYPE OF LOCATION	DIRECTION	DISTANCE (MILES)	(METERS)	X/Q (DEC/1000 METERS)	X/Q (DEC/1000 METERS)	X/Q (DEC/1000 METERS)	D/Q (PER 300 METER)
1	A	SITE BOUNDARY	S	0.26	451	1.2E-05	1.2E-05	1.2E-05	3.0E-08
2	A	SITE BOUNDARY	SSW	0.29	467	0.9E-06	0.9E-06	0.9E-06	3.0E-08
3	A	SITE BOUNDARY	SW	0.36	579	3.7E-06	3.7E-06	3.7E-06	2.0E-08
4	A	SITE BOUNDARY	WSW	0.38	579	2.3E-06	2.3E-06	2.3E-06	1.4E-08
5	A	SITE BOUNDARY	W	0.50	805	9.3E-07	9.3E-07	9.3E-07	5.7E-09
6	A	SITE BOUNDARY	WNW	0.55	805	9.4E-07	9.4E-07	9.4E-07	4.4E-09
7	A	SITE BOUNDARY	NW	1.23	1979	2.9E-07	2.9E-07	2.9E-07	1.4E-09
8	A	SITE BOUNDARY	NWN	1.89	3042	3.9E-07	3.9E-07	3.9E-07	1.2E-09
9	A	SITE BOUNDARY	N	1.94	3126	6.0E-07	6.0E-07	6.0E-07	1.5E-09
10	A	SITE BOUNDARY	NNE	1.40	2928	1.9E-06	1.9E-06	1.9E-06	4.7E-09
11	A	SITE BOUNDARY	NE	1.01	1625	1.2E-06	1.2E-06	1.2E-06	0.3E-09
12	A	SITE BOUNDARY	ESE	0.86	1384	1.2E-06	1.2E-06	1.2E-06	4.0E-09
13	A	SITE BOUNDARY	E	0.61	782	4.1E-06	4.1E-06	4.1E-06	6.7E-09
14	A	SITE BOUNDARY	ESE	0.50	805	3.0E-06	3.0E-06	3.0E-06	2.8E-06
15	A	SITE BOUNDARY	SE	0.29	467	9.1E-06	9.1E-06	9.1E-06	8.5E-06
16	A	SITE BOUNDARY	SSE	0.26	418	2.8E-05	2.8E-05	2.8E-05	2.4E-08
17	A	MILK COW	NE	1.30	2092	0.3E-07	0.3E-07	0.3E-07	4.1E-09
18	A	MILK COW	S	4.40	6759	1.4E-07	1.4E-07	1.4E-07	2.4E-10
19	A	MEAT ANIMAL	S	2.32	3734	4.3E-07	4.3E-07	4.3E-07	9.8E-10
20	A	MEAT ANIMAL	SSW	2.08	3347	3.9E-07	3.9E-07	3.9E-07	1.4E-09
21	A	MEAT ANIMAL	SW	2.27	3653	2.4E-07	2.4E-07	2.4E-07	1.1E-09
22	A	MEAT ANIMAL	WSW	2.09	3259	1.1E-07	1.1E-07	1.1E-07	4.8E-10
23	A	MEAT ANIMAL	W	3.97	6389	4.2E-08	4.2E-08	4.2E-08	1.6E-10
24	A	MEAT ANIMAL	WSW	4.07	6290	4.9E-08	4.9E-08	4.9E-08	1.4E-10
25	A	MEAT ANIMAL	NW	1.60	2575	2.0E-07	2.0E-07	2.0E-07	8.9E-10
26	A	MEAT ANIMAL	NWN	2.64	4571	2.0E-07	2.0E-07	2.0E-07	5.7E-10
27	A	MEAT ANIMAL	N	2.93	4715	4.0E-07	4.0E-07	4.0E-07	7.1E-10
28	A	MEAT ANIMAL	NNE	1.03	2059	1.1E-06	1.1E-06	1.1E-06	4.9E-09
29	A	MEAT ANIMAL	NE	1.16	1867	4.8E-07	4.8E-07	4.8E-07	5.0E-09
30	A	MEAT ANIMAL	ESE	2.41	3879	2.8E-07	2.8E-07	2.8E-07	7.7E-10
31	A	MEAT ANIMAL	E	3.12	5021	2.1E-07	2.1E-07	2.1E-07	4.0E-10
32	A	MEAT ANIMAL	ESE	1.99	3203	3.9E-07	3.9E-07	3.9E-07	8.4E-10
33	A	RESIDENT	S	0.30	483	1.1E-05	1.1E-05	1.1E-05	2.7E-08
34	A	RESIDENT	SSW	0.30	483	6.5E-06	6.5E-06	6.5E-06	3.0E-08
35	A	RESIDENT	SW	0.40	644	3.2E-06	3.2E-06	3.2E-06	2.0E-08
36	A	RESIDENT	WSW	0.40	644	2.0E-06	2.0E-06	2.0E-06	1.8E-08
37	A	RESIDENT	W	0.60	966	7.1E-07	7.1E-07	7.1E-07	4.4E-09
38	A	RESIDENT	WNW	0.70	1127	6.9E-07	6.9E-07	6.9E-07	3.0E-09
39	A	RESIDENT	NW	1.30	2092	2.7E-07	2.7E-07	2.7E-07	1.3E-09
40	A	RESIDENT	NWN	2.70	7007	4.9E-07	4.9E-07	4.9E-07	5.0E-10
41	A	RESIDENT	N	2.90	7007	4.9E-07	4.9E-07	4.9E-07	7.3E-10
42	A	RESIDENT	NNE	1.30	2092	1.0E-06	1.0E-06	1.0E-06	4.4E-09
43	A	RESIDENT	NE	1.20	1931	9.3E-07	9.3E-07	9.3E-07	4.7E-09
44	A	RESIDENT	ESE	0.70	1468	1.1E-06	1.1E-06	1.1E-06	4.2E-09
45	A	RESIDENT	E	0.80	1287	1.4E-06	1.4E-06	1.4E-06	4.3E-09
46	A	RESIDENT	ESE	0.60	766	2.2E-06	2.2E-06	2.2E-06	6.5E-09
47	A	RESIDENT	SE	0.30	483	6.5E-06	6.5E-06	6.5E-06	2.5E-08
48	A	RESIDENT	SSE	0.30	483	2.4E-05	2.4E-05	2.4E-05	4.4E-08
49	A	GARDEN	S	0.90	644	6.0E-06	6.0E-06	6.0E-06	1.7E-08
50	A	GARDEN	SSW	0.30	805	2.9E-06	2.9E-06	2.9E-06	1.6E-08
51	A	GARDEN	SW	0.50	805	2.3E-06	2.3E-06	2.3E-06	1.4E-08
52	A	GARDEN	WSW	0.60	766	1.1E-06	1.1E-06	1.1E-06	6.2E-09
53	A	GARDEN	W	0.60	766	7.1E-07	7.1E-07	7.1E-07	4.2E-09
54	A	GARDEN	WNW	0.70	1468	4.3E-07	4.3E-07	4.3E-07	2.0E-09
55	A	GARDEN	NW	1.30	2092	2.7E-07	2.7E-07	2.7E-07	1.3E-09
56	A	GARDEN	NWN	2.70	7007	4.9E-07	4.9E-07	4.9E-07	5.2E-10
57	A	GARDEN	N	2.90	7007	4.9E-07	4.9E-07	4.9E-07	7.3E-10
58	A	GARDEN	NNE	1.30	2092	1.0E-06	1.0E-06	1.0E-06	4.4E-09
59	A	GARDEN	NE	1.20	1931	9.3E-07	9.3E-07	9.3E-07	4.7E-09
60	A	GARDEN	ESE	0.70	1468	1.1E-06	1.1E-06	1.1E-06	4.2E-09
61	A	GARDEN	E	0.80	1287	1.4E-06	1.4E-06	1.4E-06	4.3E-09
62	A	GARDEN	ESE	0.60	766	2.2E-06	2.2E-06	2.2E-06	6.5E-09
63	A	GARDEN	SE	0.30	483	6.5E-06	6.5E-06	6.5E-06	2.5E-08
64	A	GARDEN	SSE	0.30	483	2.4E-05	2.4E-05	2.4E-05	4.4E-08
65	A	GARDEN	S	0.90	644	6.0E-06	6.0E-06	6.0E-06	1.7E-08
66	A	GARDEN	SSW	0.30	805	2.9E-06	2.9E-06	2.9E-06	1.6E-08
67	A	GARDEN	SW	0.50	805	2.3E-06	2.3E-06	2.3E-06	1.4E-08
68	A	GARDEN	WSW	0.60	766	1.1E-06	1.1E-06	1.1E-06	6.2E-09
69	A	GARDEN	W	0.60	766	7.1E-07	7.1E-07	7.1E-07	4.2E-09
70	A	GARDEN	WNW	0.70	1468	4.3E-07	4.3E-07	4.3E-07	2.0E-09
71	A	GARDEN	NW	1.30	2092	2.7E-07	2.7E-07	2.7E-07	1.3E-09
72	A	GARDEN	NWN	2.70	7007	4.9E-07	4.9E-07	4.9E-07	5.2E-10
73	A	GARDEN	N	2.90	7007	4.9E-07	4.9E-07	4.9E-07	7.3E-10
74	A	GARDEN	NNE	1.30	2092	1.0E-06	1.0E-06	1.0E-06	4.4E-09
75	A	GARDEN	NE	1.20	1931	9.3E-07	9.3E-07	9.3E-07	4.7E-09
76	A	GARDEN	ESE	0.70	1468	1.1E-06	1.1E-06	1.1E-06	4.2E-09
77	A	GARDEN	E	0.80	1287	1.4E-06	1.4E-06	1.4E-06	4.3E-09
78	A	GARDEN	ESE	0.60	766	2.2E-06	2.2E-06	2.2E-06	6.5E-09
79	A	GARDEN	SE	0.30	483	6.5E-06	6.5E-06	6.5E-06	2.5E-08
80	A	GARDEN	SSE	0.30	483	2.4E-05	2.4E-05	2.4E-05	4.4E-08

X

A	GARDEN	W	0.60	966.	7.1E-07	7.1E-07	6.4E-07	4.2E-09
A	GARDEN	WNW	0.90	1448.	4.3E-07	4.3E-07	3.8E-07	2.0E-09
A	GARDEN	NW	1.30	2092.	2.7E-07	2.6E-07	2.3E-07	1.3E-09
A	GARDEN	NNW	3.00	4820.	1.8E-07	1.8E-07	1.5E-07	5.2E-10
A	GARDEN	N	2.90	4667.	4.1E-07	4.0E-07	3.2E-07	7.3E-10
A	GARDEN	NNE	1.40	2253.	1.4E-06	1.4E-06	1.2E-06	3.9E-09
A	GARDEN	NE	1.30	2092.	8.3E-07	8.3E-07	7.1E-07	4.1E-09
A	GARDEN	ENE	2.20	3541.	3.2E-07	3.2E-07	2.6E-07	4.0E-10
A	GARDEN	E	2.80	4506.	2.4E-07	2.4E-07	1.9E-07	4.9E-10
A	GARDEN	ESE	0.60	966.	2.2E-06	2.2E-06	2.0E-06	6.5E-09
A	GARDEN	SE	0.30	483.	8.5E-06	8.5E-06	8.0E-06	2.5E-08
A	GARDEN	SSE	0.30	483.	2.2E-05	2.2E-05	2.1E-05	4.4E-08

VENT AND BUILDING PARAMETERS:

RELEASE HEIGHT (METERS)	0.0	REF. WIND HEIGHT (METERS)	10.0
DIAMETER (METERS)	0.0	BUILDING HEIGHT (METERS)	59.0
EXIT VELOCITY (METERS)	0.0	BLOG. 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)	WIND SPEED (METERS/SEC)
ELEVATED	LESS THAN 0.0	UNSTABLE/NEUTRAL CONDITIONS
MIXED	BETWEEN 0.0 AND 0.0	LESS THAN 0.0
GROUND LEVEL	ABOVE 0.0	BETWEEN 0.0 AND 0.0
		ABOVE 0.0



ENCLOSURE 4

METEOROLOGICAL DATA FOR  
JANUARY 1 - JUNE 30, 1980  
H. B. ROBINSON STEAM ELECTRIC PLANT

The wind frequency tables present the number of hourly combinations of wind direction, wind speed, and stability for the upper (60 meter) and lower (10 meter) sensor elevations.

Pertinent information available from the tables is as follows:

1. Stability

Percent occurrence Pasquill categories:

<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>
10.7	5.6	5.5	34.3	25.4	10.3	8.2

2. Wind Speed

Average Speed (mph)  
Percent Calm  
Percent Less than 3.5 mph

<u>10 Meter</u>	<u>60 Meter</u>
6.2	10.4
0.3	0.0
23.7	3.8

3. Wind Direction

Prevailing Direction  
Percent Occurrence

<u>10 Meter</u>	<u>60 Meter</u>
SSW	SW
11.2	11.7

4. Data Recovery

Percent Good Hours

<u>10 Meter</u>	<u>60 Meter</u>
99.2	99.3

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS A  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS (MPH)								TOTAL	AVG. WIND SPEED
	0.75- 3.5	3.5- 7.5	7.5- 12.5	12.5- 18.5	18.5- 25.0	GREATER THAN 25.0	TOTAL	WIND SPEED		
N	0.	2.	13.	19.	1.	0.	35.	12.9		
NNE	0.	8.	9.	7.	0.	0.	24.	10.0		
NE	0.	3.	13.	7.	0.	0.	23.	10.8		
ENE	0.	9.	17.	6.	0.	0.	32.	9.7		
E	0.	6.	11.	4.	0.	0.	21.	10.3		
ESE	0.	17.	2.	1.	0.	0.	20.	6.2		
SE	0.	6.	5.	1.	0.	0.	13.	8.1		
SSE	0.	6.	4.	3.	0.	0.	13.	9.7		
S	0.	2.	8.	0.	0.	1.	11.	11.0		
SSW	0.	1.	6.	10.	1.	0.	18.	13.5		
SW	0.	2.	48.	48.	12.	0.	110.	13.4		
WSW	0.	1.	21.	16.	5.	3.	46.	13.9		
W	0.	1.	11.	14.	1.	0.	27.	13.5		
WNW	0.	0.	1.	18.	1.	3.	23.	17.1		
NW	0.	0.	7.	15.	2.	0.	24.	14.0		
NNW	0.	0.	0.	17.	4.	0.	21.	16.6		
TOTAL	0.	64.	176.	186.	27.	7.	461.	11.9		

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 18

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS B  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS (MPH)						TOTAL	AVG. WIND SPEED
	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.	6.	10.	3.	0.	0.	19.	9.6
NNE	0.	9.	2.	5.	0.	0.	16.	9.9
NE	0.	4.	6.	1.	1.	0.	12.	10.3
ENE	0.	7.	7.	2.	0.	0.	16.	8.2
E	0.	4.	5.	1.	0.	0.	11.	7.4
ESE	0.	4.	0.	2.	0.	0.	8.	7.9
SE	0.	4.	2.	6.	1.	0.	13.	11.4
SSE	0.	6.	0.	1.	2.	0.	9.	10.4
S	0.	3.	3.	3.	1.	2.	12.	13.1
SSW	0.	3.	7.	4.	1.	0.	15.	11.5
SW	0.	3.	16.	10.	3.	1.	33.	12.4
WSW	0.	13.	8.	8.	0.	1.	30.	10.3
W	0.	4.	4.	3.	1.	0.	12.	10.4
WNW	0.	3.	5.	4.	1.	0.	13.	11.8
NW	0.	3.	5.	6.	0.	0.	14.	11.1
NNW	0.	1.	4.	2.	1.	0.	8.	12.4
TOTAL	0.	77.	84.	61.	12.	4.	241.	10.5

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/1/80 TO 11:00 PM 6/30/80

STABILITY CLASS C  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	CALM	0.75-3.5	3.5-7.5	7.5-12.5	SPEED CLASS(MPH) 12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.	0.	6.	7.	6.	0.	0.	19.	10.1
NNE	0.	0.	5.	5.	4.	0.	0.	14.	10.3
NE	0.	1.	0.	7.	5.	0.	0.	13.	11.4
NNE	0.	1.	6.	5.	2.	0.	0.	14.	7.9
E	0.	1.	9.	3.	1.	0.	0.	14.	6.5
ESE	0.	3.	2.	1.	1.	0.	0.	7.	6.1
SE	0.	1.	9.	0.	4.	0.	0.	14.	7.9
SSE	0.	0.	5.	3.	2.	0.	0.	10.	9.0
S	0.	0.	4.	4.	1.	2.	1.	12.	11.9
SSW	0.	0.	2.	4.	6.	2.	0.	14.	12.9
SW	0.	0.	5.	12.	11.	4.	1.	33.	13.8
WSW	0.	0.	4.	10.	3.	1.	2.	20.	12.7
W	0.	0.	11.	7.	2.	0.	0.	20.	8.2
WNW	0.	0.	4.	4.	2.	0.	1.	11.	10.8
NW	0.	0.	6.	6.	3.	1.	0.	16.	10.2
NNW	0.	0.	1.	5.	1.	1.	0.	8.	11.4
TOTAL	0.	7.	79.	83.	54.	11.	5.	239.	10.1

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

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JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS D  
 STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
 ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	SPEED CLASS(MPH) 12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.	3.	20.	23.	28.	11.	6.	91.	12.7
NNE	0.	3.	24.	64.	75.	8.	0.	174.	11.8
NE	0.	6.	50.	101.	74.	9.	0.	240.	10.7
ENE	0.	6.	35.	41.	10.	0.	0.	92.	8.3
E	0.	2.	25.	27.	6.	0.	0.	60.	8.3
ESE	0.	2.	27.	32.	9.	0.	0.	70.	8.7
SE	0.	5.	23.	29.	20.	5.	1.	83.	10.5
SSE	0.	4.	15.	31.	19.	7.	1.	77.	11.3
S	0.	1.	16.	20.	18.	8.	1.	64.	12.0
SSW	0.	7.	9.	37.	42.	2.	0.	97.	11.6
SW	0.	2.	18.	40.	50.	7.	0.	120.	12.2
WSW	0.	2.	14.	26.	11.	5.	1.	59.	10.5
W	0.	2.	17.	22.	9.	3.	0.	53.	9.7
WNW	0.	2.	19.	17.	5.	6.	5.	54.	11.3
NW	0.	2.	18.	21.	13.	3.	0.	57.	10.4
NNW	0.	0.	20.	41.	25.	2.	0.	88.	10.4
TOTAL	0.	49.	350.	575.	414.	76.	15.	1479.	10.7

NUMBER OF CALMS - 0  
 NUMBER OF BAD HOURS - 12

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS E  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS (MPH)							TOTAL	AVG. WIND SPEED
	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0			
N	0.	1.	12.	25.	18.	0.	0.	56.	10.5
NNE	0.	1.	17.	38.	13.	0.	0.	69.	9.4
NE	0.	2.	17.	24.	7.	0.	0.	50.	8.9
NNE	0.	1.	6.	19.	0.	0.	0.	28.	8.2
E	0.	2.	7.	13.	10.	0.	0.	32.	9.8
ESE	0.	5.	15.	8.	0.	0.	0.	28.	6.0
SE	0.	6.	16.	22.	0.	0.	0.	44.	7.0
SSE	0.	3.	12.	23.	17.	4.	0.	59.	10.7
S	0.	3.	19.	45.	22.	6.	1.	96.	10.9
SSW	0.	3.	22.	67.	43.	1.	1.	157.	10.8
SW	0.	4.	16.	51.	38.	8.	0.	117.	11.4
WSW	0.	0.	9.	44.	19.	4.	0.	76.	11.3
W	0.	2.	24.	33.	20.	3.	0.	82.	10.1
WNW	0.	4.	20.	23.	16.	0.	0.	63.	9.4
NW	0.	3.	11.	36.	16.	1.	0.	67.	10.4
NNW	0.	1.	6.	31.	32.	2.	0.	74.	11.9
TOTAL	0.	41.	233.	522.	271.	29.	1.	1098.	9.8

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/1/80 TO 11:00 PM 6/30/80

STABILITY CLASS F  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS (MPH)										TOTAL	AVG. WIND SPEED
	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	25.0-30.0	30.0-35.0	35.0-40.0	40.0-45.0	45.0-50.0		
N	0.	6.	17.	2.	0.	0.	0.	0.	0.	0.	30.	7.8
NNE	0.	7.	11.	0.	0.	0.	0.	0.	0.	0.	20.	6.9
NE	1.	10.	7.	2.	0.	0.	0.	0.	0.	0.	20.	7.3
ENE	0.	5.	2.	0.	0.	0.	0.	0.	0.	0.	10.	5.5
E	0.	7.	3.	0.	0.	0.	0.	0.	0.	0.	12.	5.8
ESE	0.	5.	2.	0.	0.	0.	0.	0.	0.	0.	7.	6.7
SE	0.	6.	5.	0.	0.	0.	0.	0.	0.	0.	13.	6.8
SSE	0.	6.	5.	4.	0.	0.	0.	0.	0.	0.	15.	8.9
S	0.	6.	29.	5.	0.	0.	0.	0.	0.	0.	44.	8.7
SSW	0.	9.	27.	5.	0.	0.	0.	0.	0.	0.	42.	9.1
SW	0.	4.	30.	12.	0.	0.	0.	0.	0.	0.	47.	10.7
WSW	0.	8.	32.	30.	0.	0.	0.	0.	0.	0.	70.	11.4
W	0.	8.	19.	11.	0.	0.	0.	0.	0.	0.	38.	10.3
WNW	0.	7.	6.	0.	0.	0.	0.	0.	0.	0.	14.	7.0
NW	0.	10.	15.	3.	0.	0.	0.	0.	0.	0.	28.	8.8
NNW	0.	6.	20.	3.	0.	0.	0.	0.	0.	0.	32.	8.9
TOTAL	0.	110.	230.	77.	0.	0.	0.	0.	0.	0.	442.	8.2

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
 FOR THE PERIOD 12:00 AM 1/1/80 TO 11:00 PM 6/30/80

STABILITY CLASS G  
 STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
 ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	CALM	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.	1.	11.	20.	0.	0.	0.	32.	8.4
NNE	0.	3.	6.	11.	1.	0.	0.	21.	7.8
NE	0.	2.	6.	12.	0.	0.	0.	20.	7.2
ENE	0.	2.	13.	0.	1.	0.	0.	16.	5.3
E	0.	1.	6.	1.	0.	0.	0.	8.	5.6
ESE	0.	5.	10.	1.	0.	0.	0.	16.	4.7
SE	0.	3.	9.	3.	0.	0.	0.	15.	5.5
SSE	0.	3.	1.	8.	0.	0.	0.	12.	7.4
S	0.	4.	8.	8.	0.	0.	0.	20.	6.2
SSW	0.	1.	12.	21.	2.	0.	0.	36.	8.4
SW	0.	2.	8.	26.	8.	0.	0.	44.	9.5
WSW	0.	0.	9.	13.	8.	0.	0.	30.	10.0
W	0.	4.	16.	5.	0.	0.	0.	25.	5.8
WNW	0.	5.	12.	3.	0.	0.	0.	20.	5.1
NW	0.	1.	7.	9.	0.	0.	0.	17.	7.4
NNW	0.	1.	5.	14.	2.	0.	0.	22.	8.9
TOTAL	0.	38.	139.	155.	22.	0.	0.	354.	7.1

NUMBER OF CALMS - 0  
 NUMBER OF BAD HOURS - 0



JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/1/80 TO 11:00 PM 6/30/80

SUMMARY  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

UPPER WIND DIRECTION	SPEED CLASS(MPH)										TOTAL	AVG. WIND SPEED
	CALM	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0					
N	0.	10.	63.	115.	76.	12.	6.	282.	10.9			
NNE	0.	9.	76.	140.	105.	8.	0.	338.	10.5			
NE	0.	12.	90.	170.	96.	10.	0.	378.	10.1			
ENE	0.	13.	83.	91.	21.	0.	0.	208.	8.1			
E	0.	9.	64.	63.	22.	0.	0.	158.	8.3			
ESE	0.	17.	80.	46.	13.	0.	0.	156.	7.2			
SE	0.	18.	73.	66.	31.	6.	1.	195.	8.8			
SSE	0.	10.	51.	74.	46.	13.	1.	195.	10.4			
S	0.	12.	58.	117.	49.	17.	6.	259.	10.6			
SSW	0.	12.	58.	189.	112.	7.	1.	379.	10.8			
SW	0.	9.	56.	226.	177.	34.	2.	504.	12.0			
WSW	0.	2.	58.	154.	95.	15.	7.	331.	11.4			
W	0.	8.	81.	101.	59.	8.	0.	257.	9.9			
WNW	0.	12.	65.	59.	45.	8.	9.	198.	10.4			
NW	0.	6.	55.	99.	56.	7.	0.	223.	10.4			
NNW	0.	5.	41.	115.	82.	10.	0.	253.	11.1			
TOTAL	0.	164.	1052.	1825.	1085.	155.	33.	4314.	10.4			

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 30

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS A  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS (MPH)						TOTAL	AVG. WIND SPEED
	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.	5.	20.	0.	0.	0.	25.	9.6
NNE	0.	13.	18.	0.	0.	0.	31.	8.1
NE	0.	9.	13.	0.	0.	0.	22.	8.2
ENE	0.	17.	16.	0.	0.	0.	33.	7.6
E	0.	9.	14.	0.	0.	0.	23.	8.0
ESE	0.	17.	2.	0.	0.	0.	19.	5.5
SE	0.	10.	5.	0.	0.	0.	15.	6.6
SSE	0.	9.	5.	2.	0.	0.	17.	8.0
S	0.	1.	6.	0.	1.	0.	8.	10.0
SSW	0.	5.	19.	7.	0.	0.	31.	10.2
SW	0.	14.	74.	17.	0.	0.	105.	10.1
WSW	0.	8.	25.	6.	0.	0.	39.	10.1
W	0.	3.	17.	1.	0.	0.	21.	10.0
WNW	0.	0.	20.	2.	1.	0.	23.	10.9
NW	0.	6.	17.	3.	0.	0.	26.	9.8
NNW	0.	0.	18.	5.	0.	0.	23.	11.3
TOTAL	0.	126.	289.	43.	2.	0.	461.	9.0

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 18

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS-B  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS(SMPH)						TOTAL	AVG. WIND SPEED
	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.	10.	8.	0.	0.	0.	18.	7.3
NNE	0.	10.	7.	0.	0.	0.	17.	7.8
NE	0.	6.	5.	1.	0.	0.	12.	8.1
ENE	0.	15.	4.	0.	0.	0.	19.	6.4
E	0.	7.	2.	0.	0.	0.	10.	6.0
ESE	0.	4.	2.	0.	0.	0.	7.	6.9
SE	0.	9.	4.	1.	0.	0.	15.	7.1
SSE	0.	4.	2.	4.	0.	0.	10.	10.3
S	0.	7.	3.	1.	2.	0.	13.	10.3
SSW	0.	4.	9.	3.	0.	0.	16.	9.4
SW	0.	9.	21.	4.	0.	0.	34.	9.1
WSW	0.	13.	11.	1.	0.	0.	25.	7.9
W	0.	9.	3.	1.	0.	0.	13.	7.6
WNW	0.	6.	4.	1.	0.	0.	11.	7.9
NW	0.	3.	10.	0.	0.	0.	13.	7.9
NNW	0.	0.	8.	0.	0.	0.	8.	9.4
TOTAL	0.	116.	103.	17.	2.	0.	241.	8.1

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS-C  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

ROBINSON ON-SITE METEOROLOGICAL FACILITY

WEEK NO.	DIRECTION	SPEED CLASS (MPH)						TOTAL	AVG. WIND SPEED
		0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
	N	0.	11.	6.	0.	0.	17.	7.4	
	NNE	0.	7.	6.	2.	0.	15.	8.4	
	NE	0.	3.	9.	1.	0.	13.	8.9	
	ENE	0.	9.	2.	0.	0.	13.	5.9	
	E	0.	9.	4.	0.	0.	14.	5.7	
	ESE	0.	8.	1.	0.	0.	10.	4.8	
	SE	0.	8.	1.	2.	0.	13.	6.3	
	SSE	0.	5.	5.	1.	0.	11.	7.6	
	S	0.	5.	4.	2.	1.	12.	9.8	
	SSW	0.	4.	7.	3.	0.	14.	9.9	
	SW	0.	9.	19.	8.	0.	36.	9.9	
	WSW	0.	9.	7.	3.	0.	19.	8.6	
	W	0.	11.	5.	0.	0.	16.	6.3	
	WNW	0.	7.	2.	0.	0.	9.	6.7	
	NW	0.	9.	6.	1.	0.	17.	7.4	
	NNW	0.	5.	5.	0.	0.	10.	7.8	
	TOTAL	0.	119.	89.	25.	1.	239.	7.6	

NUMBER OF CALMS - 0  
NUMBER OF BAD HOURS - 0

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/1/80 TO 11:00 PM 6/30/80

STABILITY CLASS 0  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	CALM	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.	6.	34.	38.	10.	0.	0.	88.	8.0
NNE	0.	10.	83.	116.	12.	0.	0.	221.	8.1
NE	0.	9.	107.	74.	4.	0.	0.	194.	7.2
ENE	0.	12.	64.	14.	2.	0.	0.	92.	5.7
E	0.	12.	33.	8.	0.	0.	0.	53.	5.3
ESE	0.	8.	35.	12.	0.	0.	0.	55.	5.7
SE	0.	7.	36.	22.	5.	0.	0.	70.	7.0
SSE	0.	8.	46.	37.	13.	1.	0.	105.	8.1
S	0.	6.	24.	27.	10.	1.	0.	68.	8.8
SSW	0.	9.	40.	70.	7.	0.	0.	126.	8.1
SW	0.	3.	53.	43.	8.	0.	0.	107.	7.8
WSW	0.	8.	20.	10.	2.	0.	0.	40.	6.5
W	0.	7.	26.	12.	1.	0.	0.	46.	6.3
WNW	0.	5.	28.	7.	7.	0.	0.	47.	7.1
NW	0.	10.	33.	15.	3.	0.	0.	61.	6.3
NNW	0.	3.	59.	44.	1.	0.	0.	107.	7.1
TOTAL	0.	123.	721.	549.	85.	2.	0.	1480.	7.1

NUMBER OF CALMS - 0  
NUMBER OF CALM HOURS - 11

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS E  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS (MPH)						TOTAL	AVG. WIND SPEED
	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0	GREATER THAN 25.0		
N	0.	19.	26.	5.	0.	0.	50.	4.4
NNE	0.	11.	23.	8.	0.	0.	42.	5.1
NE	0.	11.	42.	3.	0.	0.	56.	4.9
ENE	0.	6.	13.	1.	0.	0.	20.	4.4
E	0.	4.	15.	4.	0.	0.	23.	5.0
ESE	0.	6.	9.	0.	0.	0.	15.	4.0
SE	0.	6.	12.	0.	0.	0.	18.	3.7
SSE	0.	14.	28.	11.	4.	0.	67.	6.0
S	0.	31.	69.	24.	6.	1.	131.	5.8
SSW	1.	44.	111.	38.	3.	0.	197.	5.6
SW	0.	28.	61.	18.	4.	0.	111.	5.5
WSW	0.	25.	29.	9.	1.	0.	64.	4.8
W	0.	27.	26.	6.	2.	0.	61.	4.3
WNW	0.	22.	33.	1.	0.	0.	56.	4.2
W	0.	24.	48.	6.	0.	0.	78.	4.5
NNW	0.	12.	61.	12.	0.	0.	105.	5.3
TOTAL	1.	290.	536.	146.	20.	1.	1094.	4.8

NUMBER OF CALMS - 1  
NUMBER OF BAD HOURS - 4

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/ 1/80 TO 11:00 PM 6/30/80

STABILITY CLASS F  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	SPEED CLASS(MPH) 12.5-18.5	18.5-25.0	GREATER THAN 25.0	TOTAL	AVG. WIND SPEED
N	0.	18.	1.	0.	0.	0.	0.	19.	2.3
NNE	0.	16.	1.	0.	0.	0.	0.	17.	2.3
NE	0.	8.	1.	0.	0.	0.	0.	9.	2.5
ENE	0.	3.	0.	0.	0.	0.	0.	3.	1.5
E	0.	1.	0.	0.	0.	0.	0.	1.	1.4
ESE	0.	1.	0.	0.	0.	0.	0.	1.	1.5
SE	0.	6.	0.	0.	0.	0.	0.	6.	1.5
SSE	0.	10.	8.	0.	0.	0.	0.	18.	3.5
S	1.	42.	19.	0.	0.	0.	0.	62.	3.1
SSW	1.	37.	23.	0.	0.	0.	0.	61.	3.3
SW	0.	20.	20.	0.	0.	0.	0.	40.	3.4
WSW	0.	25.	22.	1.	0.	0.	0.	48.	3.6
W	0.	32.	4.	0.	0.	0.	0.	36.	2.7
WNW	0.	22.	5.	0.	0.	0.	0.	27.	2.6
NW	0.	28.	7.	0.	0.	0.	0.	35.	2.7
NNW	1.	33.	25.	0.	0.	0.	0.	59.	3.2
TOTAL	3.	302.	136.	1.	0.	0.	0.	442.	2.6

NUMBER OF CALMS - 3  
NUMBER OF BAD HOURS - 0

JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/1/80 TO 11:00 PM 6/30/80

STABILITY CLASS G  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2  
ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS (MPH)						TOTAL	AVG. WIND SPEED
	CALM	0.75-3.5	3.5-7.5	7.5-12.5	12.5-18.5	18.5-25.0		
N	2.	41.	4.	0.	0.	0.	47.	1.9
NNE	0.	12.	0.	0.	0.	0.	12.	1.5
NE	0.	3.	0.	0.	0.	0.	3.	1.2
ENE	0.	4.	1.	0.	0.	0.	5.	2.1
E	0.	2.	0.	0.	0.	0.	2.	1.1
ESE	0.	7.	0.	0.	0.	0.	7.	1.0
SE	0.	3.	0.	0.	0.	0.	3.	1.6
SSE	0.	14.	2.	0.	0.	0.	16.	2.3
S	1.	24.	3.	0.	0.	0.	28.	2.3
SSW	2.	28.	8.	0.	0.	0.	38.	2.7
SW	0.	10.	6.	0.	0.	0.	16.	3.1
WSW	0.	8.	3.	0.	0.	0.	11.	2.6
W	0.	10.	1.	0.	0.	0.	11.	1.9
WNW	1.	16.	2.	0.	0.	0.	19.	2.0
NW	1.	16.	2.	0.	0.	0.	19.	2.2
NNW	4.	84.	29.	0.	0.	0.	117.	2.8
TOTAL	11.	282.	61.	0.	0.	0.	354.	2.0

NUMBER OF CALMS - 11  
NUMBER OF BAD HOURS - 0



JOINT OCCURRENCE FREQUENCIES OF WIND DIRECTION AND SPEED  
FOR THE PERIOD 12:00 AM 1/1/80 TO 11:00 PM 6/30/80SUMMARY  
STABILITY CALCULATED FROM DIFF. TEMPERATURE #1+2

## ROBINSON ON-SITE METEOROLOGICAL FACILITY

LOWER WIND DIRECTION	SPEED CLASS(MPH)							TOTAL	AVG. WIND SPEED
	CALM	0.75- 3.5	3.5- 7.5	7.5-12.5	12.5-16.5	16.5-25.0	GREATER THAN 25.0		
N	2.	84.	91.	77.	10.	0.	0.	264.	5.9
NNE	0.	49.	137.	155.	14.	0.	0.	355.	7.2
NE	0.	31.	168.	104.	6.	0.	0.	309.	6.8
ENE	0.	27.	119.	37.	2.	0.	0.	185.	5.8
E	0.	21.	73.	32.	0.	0.	0.	126.	5.7
ESE	0.	24.	73.	17.	0.	0.	0.	114.	5.1
SE	0.	25.	75.	32.	8.	0.	0.	140.	6.1
SSE	0.	47.	112.	60.	24.	1.	0.	244.	6.9
S	2.	103.	128.	64.	19.	6.	0.	322.	6.1
SSW	4.	118.	195.	143.	23.	0.	0.	483.	6.3
SW	0.	61.	172.	175.	41.	0.	0.	449.	7.5
WSW	0.	66.	104.	63.	13.	0.	0.	246.	6.2
W	0.	76.	80.	43.	5.	0.	0.	204.	5.3
WNW	1.	65.	81.	34.	10.	1.	0.	192.	5.6
NW	1.	79.	108.	54.	7.	0.	0.	249.	5.5
NNW	5.	132.	199.	87.	6.	0.	0.	429.	5.3
TOTAL	15.	1006.	1915.	1177.	188.	8.	0.	4311.	6.2

NUMBER OF CALMS - 15  
NUMBER OF BAD HOURS - 33