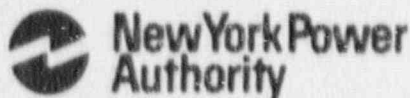


James A. FitzPatrick  
Nuclear Power Plant  
P.O. Box 41  
Lycoming, New York 13093  
315 342-3840



William Fernandez II  
Resident Manager

February 28, 1991  
JAFF-91-0137

United States Nuclear  
Regulatory Commission  
Region 1  
475 Allendale Road  
King of Prussia, PA 19406

ATTN: Mr. Thomas T. Martin  
Regional Administrator

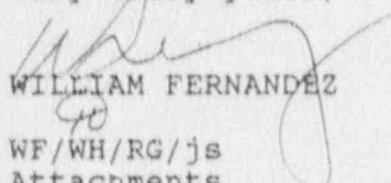
SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
DOCKET NO. 50-333, LICENSE NO. DPR-59

Gentlemen:

Attached is the Semi-annual Radioactive Effluent Release Report for the period of July 1, 1990 through December 31, 1990. This report is submitted in accordance with the requirements of Amendment 93, Appendix B, Section 7.3.C of the James A. FitzPatrick Nuclear Power Plant Technical Specifications.

The format used for the effluent data is as outlined in Appendix B of Regulatory Guide 1.21, Revision 1. Distribution is in accordance with Regulatory Guide 10.1, Revision 4.

Very truly yours,

  
WILLIAM FERNANDEZ

WF/WH/RG/js  
Attachments

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NEW YORK POWER AUTHORITY  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
EFFLUENT AND WASTE DISPOSAL  
SEMI-ANNUAL REPORT

JULY 1, 1990 - DECEMBER 31, 1990

DOCKET NO.: 50-333

LICENSE NO.: DPR-59

NEW YORK POWER AUTHORITY  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
EFFLUENT AND WASTE DISPOSAL  
SEMI-ANNUAL REPORT JULY 1990 - DECEMBER 1990

**SUPPLEMENTAL INFORMATION**

FACILITY: JAENPP

LICENSEE: NEW YORK POWER AUTHORITY

**1. Regulatory Limits**

a. Fission and Activation Gases:

- (1) The dose rate at or beyond the site boundary due to radioactive materials released from the plant in gaseous effluent shall be limited as follows:
  - (a) Less than or equal to 500 mrem/year to the whole body and less than or equal to 3000 mrem/year to the skin from noble gases.
- (2) The air dose to areas at or beyond the site boundary from noble gases released from the plant in gaseous effluent shall be limited:
  - (a) During any calendar quarter, to less than or equal to 5 mrad from gamma radiation, and less than or equal to 10 mrad from beta radiation; and,
  - (b) During any calendar year, to less than or equal to 10 mrad from gamma radiation and less than or equal to 20 mrad from beta radiation.

b. Tritium, Iodines and Particulates, Half Lives > 8 days:

- (1) The dose to a member of the public at or beyond the site boundary from Iodine-131, Iodine-133, Tritium, and radionuclides in particulate form with half-lives greater than 8 days released from the plant in gaseous effluent shall be limited:
  - (a) During any calendar quarter to less than or equal to 7.5 mrem to any organ; and,
  - (b) During any calendar year to less than or equal to 15 mrem to any organ.
  - (c) Less than 0.1% of the limits of Specification 3.4.a.1 and 3.4.a.2 as a result of burning contaminated oil.

## SUPPLEMENTAL INFORMATION (Continued)

(2) The dose rate at or beyond the site boundary due to radioactive materials released from the plant in gaseous effluents shall be limited as follows:

(a) Less than or equal to 1500 mrem/year to any organ from Iodine-131, Iodine-133, Tritium and for radioactive materials in particulate form with half-lives greater than 8 days (inhalation pathway only).

c. Liquid Effluents:

(1) The concentration of radioactive materials released to the unrestricted areas shall not exceed the values specified in 10 CFR 20, Appendix B, Table II, Column 2. For dissolved or entrained noble gases the concentration shall be limited to  $2.00E-04$   $\mu\text{Ci/ml}$ .

(2) The dose to a member of the public from radioactive materials released from the plant in liquid effluents to unrestricted areas shall be limited as follows:

(a) During any calendar quarter, limited to less than or equal to 1.5 mrem to the whole body and to less than or equal to 5 mrem to any organ; and,

(b) During any calendar year, limited to less than or equal to 3 mrem to the whole body and to less than or equal to 10 mrem to any organ.

### 2. Maximum Permissible Concentrations

a. Fission and activation gases: (None specified)

b. Iodines: (None specified)

c. Particulates, half-lives > 8 days: (None specified)

d. Liquid effluents:	<u>Quarter 3</u>	<u>Quarter 4</u>
(1) Fission and activation products (mixture MPC) ( $\mu\text{Ci/ml}$ )	$2.53E-05$	*
(2) Tritium ( $\mu\text{Ci/ml}$ )	$3.00E-03$	$3.00E-03$
(3) Dissolved and entrained gases ( $\mu\text{Ci/ml}$ )	$2.00E-04$	$2.00E-04$

\* No releases in this period



## SUPPLEMENTAL INFORMATION (Continued)

3. Average Energy,  $\bar{E}$ : (None specified)

4. Measurements and Approximations of Total Radioactivity

- a. Fission and activation gases: Continuous monitor on each release path calibrated to a marinelli grab sample analyzed by gamma spectroscopy; bubbler grab sample analyzed for tritium.
- b. Iodines: Gamma spectral analysis of charcoal cartridge and particulate filter on each release path.
- c. Particulates: Gamma spectral analysis of particulate filter and charcoal cartridge on each release path.
- d. Liquid effluents: Gamma spectral analysis of each batch discharged, except composite analysis for Sr-89, Sr-90, Fe-55, Tritium, and Alpha.

5. Batch Releases

Liquid:	<u>Quarter 3</u>	<u>Quarter 4</u>
(1) Number of batch releases:	7.00E+00	None
(2) Total time period for batch release: (min)	4.90E+02	0
(3) Maximum time period for batch release: (min)	9.00E+01	0
(4) Average time period for batch release: (min)	7.00E+01	0
(5) Minimum time period for batch release: (min)	4.70E+01	0

6. Abnormal Releases

a. Liquid:	<u>Quarter 3</u>	<u>Quarter 4</u>
(1) Number of releases:	None	None
(2) Total activity released:	None	None
b. Gaseous		
(1) Number of releases:	None	None
(2) Total activity released:	None	None

NEW YORK POWER AUTHORITY  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
EFFLUENT AND WASTE DISPOSAL  
SEMI-ANNUAL REPORT JULY 1990 DECEMBER 1990

**TABLE 1A**  
**GASEOUS EFFLUENTS-SUMMARY OF ALL RELEASES**

	UNIT	QUARTER 3	QUARTER 4	EST TOTAL ERROR %
<b>A. FISSION AND ACTIVATION GASES</b>				
1. Total Release	Ci	9.27E+02	2.98E+02	≤ 25
2. Average release rate for period	μCi/sec	1.17E+02	3.75E+01	
3. Tech. Spec. Limit	%	*	*	
<b>B. IODINE-131</b>				
1. Total Iodine-131	Ci	6.87E-04	6.57E-04	≤ 25
2. Average release rate for period	μCi/sec	8.64E-05	8.26E-05	
3. Tech. Spec. Limit	%	*	*	
<b>C. IODINE-133 AND PARTICULATES</b>				
1. Iodine-133 and Particulates with half-lives > 8 days	Ci	4.45E-03	6.11E-03	≤ 25
2. Average release rate for period	μCi/sec	1.19E-03	1.69E-04	
3. Tech. Spec. Limit	%	*	*	
4. Gross alpha radioactivity	Ci	1.62E-05	2.62E-06	≤ 25
<b>D. TRITIUM</b>				
1. Total Release	Ci	6.18E+00	2.52E+00	≤ 25
2. Average release rate for period	μCi/sec	7.78E-07	3.17E-07	
<b>*E. PERCENT OF TECHNICAL SPECIFICATION LIMITS</b>				
<b>FISSION AND ACTIVATION GASES</b>				
1. Quarterly gamma air dose limit	%	3.76E-01	1.03E-01	
2. Quarterly beta air dose limit	%	9.07E-02	2.96E-02	
3. Yearly gamma air dose limit	%	1.88E-01	5.16E-02	
4. Yearly beta air dose limit	%	4.54E-02	1.48E-02	
5. Whole body dose rate limit	%	3.60E-03	9.86E-04	
6. Skin dose rate limit	%	9.20E-04	2.64E-04	
<b>HALOGENS, TRITIUM AND PARTICULATES WITH HALF-LIVES &gt; 8 DAYS</b>				
7. Quarterly dose limit (organ)	%	1.49E-01	1.45E-01	
8. Yearly dose limit (organ)	%	7.47E-02	7.27E-02	
9. Organ dose rate limit	%	1.38E-03	1.36E-03	

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EFFLUENT AND WASTE DISPOSAL  
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**TABLE 1B**  
**GASEOUS EFFLUENTS--ELEVATED RELEASE**

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE	
		QUARTER 3	QUARTER 4
1. <u>Fission Gases</u>			
Argon-41	CI	1.36E+01	1.83E+01
Krypton-85m	CI	4.76E+01	2.03E+01
Krypton-87	CI	3.37E+01	4.31E+00
Krypton-88	CI	8.08E+01	7.39E+01
Xenon-131m	CI	1.88E+00	1.38E+01
Xenon-133	CI	1.61E+02	1.29E+02
Xenon-133m	CI	1.41E+00	1.75E+00
Xenon-135	CI	1.29E+02	9.55E+00
Xenon-135m	CI	2.70E+01	2.15E+00
Xenon-137	CI	1.70E+02	7.02E+00
Xenon-138	CI	9.26E+01	5.88E+00
2. <u>Iodines</u>			
Iodine-131	CI	5.87E-04	5.06E-04
Iodine-133	CI	2.93E-03	7.32E-04
3. <u>Particulates</u>			
Manganese-54	CI	1.39E-05	-----
Cobalt-60	CI	1.60E-07	-----
Zinc-65	CI	1.63E-07	-----
Strontium-89	CI	4.12E-05	2.91E-06
Strontium-90	CI	1.38E-06	4.45E-09
Cesium-137	CI	3.07E-05	9.2 -07
Barium/Lanthanum-140	CI	6.49E-05	9.56E-06

Note: There were no batch releases for this report period.

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TABLE 1C  
GASEOUS EFFLUENTS--GROUND LEVEL RELEASES

<u>NUCLIDES RELEASED</u>	<u>UNIT</u>	<u>CONTINUOUS MODE</u>	
		<u>QUARTER 3</u>	<u>QUARTER 4</u>
<b>1. <u>Fission Gases</u></b>			
Argon-41	Ci	-----	9.02E-01
Krypton-85m	Ci	1.06E+01	-----
Krypton-87	Ci	8.73E-01	4.00E+00
Krypton-88	Ci	9.15E+00	1.33E+00
Xenon-131m	Ci	-----	1.83E+00
Xenon-133	Ci	1.68E+01	2.47E+01
Xenon-133m	Ci	7.18E+01	5.34E+00
Xenon-135	Ci	1.41E+01	1.22E+01
Xenon-135m	Ci	3.79E-01	2.43E+00
Xenon-137	Ci	2.54E+00	3.87E+00
Xenon-138	Ci	1.20E+01	4.60E+00
<b>2. <u>Iodines</u></b>			
Iodine-131	Ci	9.93E-05	1.51E-04
Iodine-133	Ci	5.02E-04	1.19E-03
<b>3. <u>Particulates</u></b>			
Chromium-51	Ci	3.62E-03	2.31E-03
Manganese-54	Ci	2.78E-05	1.68E-05
Cobalt-58	Ci	5.76E-05	6.76E-05
Iron-59	Ci	-----	8.69E-06
Cobalt-60	Ci	1.20E-04	8.53E-05
Zinc-65	Ci	2.01E-03	1.64E-03
Strontium-89	Ci	1.43E-05	1.72E-05
Ruthenium-103	Ci	4.51E-07	3.52E-07
Silver-110M	Ci	-----	2.36E-07
Antimony-124	Ci	-----	1.29E-06
Cesium-137	Ci	1.58E-06	6.06E-06
Barium/Lanthanum-140	Ci	-----	1.26E-05
Cerium-141	Ci	1.34E-06	-----
Cerium-144	Ci	1.61E-05	7.05E-06

Note: There were no batch releases for this report period.

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EFFLUENT AND WASTE DISPOSAL  
SEMI-ANNUAL REPORT JULY 1990 - DECEMBER 1990

TABLE 2A  
LIQUID EFFLUENTS--SUMMATION OF ALL RELEASES

	UNIT	QUARTER 3	QUARTER 4	EST TOTAL ERROR %
<b>A. FISSION AND ACTIVATION PRODUCTS</b>				
1. Total Release (not including tritium and alpha)	Ci	1.94E-03	0	≤ 25
2. Average diluted concentration during period	μCi/ml	8.90E-12	-----	
3. Applicable limit	%	3.52E-05	-----	
<b>B. TRITIUM</b>				
1. Total Release	Ci	6.62E-01	0	≤ 25
2. Average diluted concentration during period	μCi/ml	3.04E-09	-----	
3. Applicable limit	%	1.01E-04	-----	
<b>C. DISSOLVED AND ENTRAINED GASES</b>				
1. Total Release	Ci	1.60E-04	0	≤ 25
2. Average diluted concentration during period	μCi/ml	7.33E-13	-----	
3. Applicable Limit	%	3.66E-07	-----	
<b>D. GROSS ALPHA RADIOACTIVITY</b>				
1. Total Release	Ci	4.52E-06	0	≤ 25
<b>E. VOLUME OF WASTE RELEASED (PRIOR TO DILUTION)</b>				
	liters	3.01E+05	0	
<b>F. VOLUME OF DILUTION WATER USED DURING PERIOD</b>				
	liters	2.18E+11	1.92E+11	
<b>G. PERCENT OF TECHNICAL SPECIFICATION LIMITS</b>				
1. Quarterly Whole Body Dose	%	3.63E-04	-----	
2. Quarterly Organ Dose	%	2.52E-04	-----	
3. Annual Whole Body Dose	%	1.81E-04	-----	
4. Annual Organ Dose	%	1.26E-04	-----	



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TABLE 2B  
LIQUID EFFLUENTS

<u>NUCLIDES RELEASED</u>	<u>UNIT</u>	<u>BATCH MODE</u>	
		<u>QUARTER 3</u>	<u>QUARTER 4</u>
Hydrogen-3	Ci	6.62E-01	---
Sodium-24	Ci	1.30E-04	---
Manganese-54	Ci	6.64E-06	---
Iron-55	Ci	1.51E-03	---
Cobalt-60	Ci	1.28E-05	---
Zinc-65	Ci	8.69E-05	---
Strontium-89	Ci	2.41E-05	---
Strontium-90	Ci	1.93E-05	---
Xenon-135	Ci	1.60E-04	---

Note: There were no continuous mode discharges during this report period.

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JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
EFFLUENT AND WASTE DISPOSAL  
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TABLE 3A  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

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

1. <u>Type of Waste</u>	<u>UNIT</u>	<u>SIX MONTH PERIOD</u>	<u>EST TOTAL ERROR %</u>
a. Spent resins, filter sludges evaporator bottoms, etc.	m <sup>3</sup> Ci	73.7 1300	± 10 ± 25
b. Dry compressible waste, contaminated equipment, etc.	m <sup>3</sup> Ci	50.2 9.47	± 10 ± 25
c. Irradiated components	m <sup>3</sup> Ci	N/A N/A	N/A N/A
d. Other	m <sup>3</sup> Ci	N/A N/A	N/A N/A

2. Estimate of Major Nuclide Composition

<u>Isotope</u>	<u>% Abundance</u>	<u>Isotope</u>	<u>% Abundance</u>
Zinc-65	68.42	Nickel-63	0.47
Cobalt-60	12.58	Iron-59	0.15
Iron-55	9.05	Strontium-89	0.03
Chromium-51	3.98	Carbon-14	0.01
Manganese-54	2.96	Zirconium-95	0.01
Cesium-137	1.31		
Cobalt-58	0.52		
Cesium-134	0.49		

3. Solid Waste Disposition

<u>Shipment</u>	<u>Qty</u>	<u>Transportation Mode</u>	<u>Destination</u>
Type a	16	Truck	Barnwell, S.C.
Type b	2	Truck	Barnwell, S.C.
Type b	2	Truck	Richland, Wa.

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JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
EFFLUENT AND WASTE DISPOSAL  
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TABLE 3B  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. NRC CLASS A

1. Compacted/Uncompacted Dry Waste

Container Type:	92 ft <sup>3</sup> Steel Box (LSA)
Solidification Media:	None
Total Volume:	1564 ft <sup>3</sup> 44.3 m <sup>3</sup>
No. of Shipments:	2
Type:	Flatbed
Mode:	Truck

<u>Principal Isotopes</u>	<u>Curies</u>	<u>% Abundance</u>	<u>Quantity Determination</u>
Cobalt-60	0.192	35.41	E
Zinc-65	0.172	31.77	E
Iron-55	0.106	19.59	E
Manganese-54	0.025	4.61	E
Cesium-137	0.019	3.57	E
Cesium-134	0.013	2.36	E
Nickel-63	0.008	1.57	E
Cobalt-58	0.006	1.09	E

TOTAL: 0.541

E = Estimated

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JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
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TABLE 3B  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. NRC CLASS A

2. Compacted/Uncompacted Dry Waste

Container Type:	7.5 ft <sup>3</sup> Steel Drum (LSA)
Solidification Media:	None
Total Volume:	210.0 ft <sup>3</sup> 5.9 m <sup>3</sup>
No. of Shipments:	2
Type:	Cask
Mode:	Truck

<u>Principal Isotopes</u>	<u>Curies</u>	<u>% Abundance</u>	<u>Quantity Determination</u>
Cobalt-60	3.150	35.32	E
Zinc-65	2.850	31.88	E
Iron-55	1.750	19.57	E
Manganese-54	0.412	4.62	E
Cesium-137	0.318	3.56	E
Cesium-134	0.211	2.36	E
Nickel-63	0.139	1.56	E
Cobalt-58	0.099	1.11	E
Carbon-14	0.002	0.03	E
<b>TOTAL:</b>	<b>8.93</b>		

E = Estimated

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TABLE 3B  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. NRC CLASS A

3. Solidified Evaporator Bottoms

Container Type:	181.7 ft <sup>3</sup> Steel Liner (LSA)
Solidification Media:	Cement
Total Volume:	908.5 ft <sup>3</sup> 25.7 m <sup>3</sup>
No. of Shipments:	5
Type:	Cask
Mode:	Truck

<u>Principal Isotopes</u>	<u>Curies</u>	<u>% Abundance</u>	<u>Quantity Determination</u>
Iron-55	40.60	40.43	E
Zinc-65	30.80	30.61	M
Cobalt-60	23.80	23.65	M
Manganese-54	3.29	3.27	M
Cesium-137	1.43	1.41	M
Cesium-134	0.40	0.40	E
Nickel-63	0.18	0.18	E
Hydrogen-3	0.04	0.04	E
TOTAL:	100.0		

E = Estimated  
M = Measured



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TABLE 3B  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. NRC CLASS A

4. Dewatered Bead Resin

Container Type:	151.8 ft <sup>3</sup> Poly HIC (LSA)
Solidification Media:	None
Total Volume:	632.4 ft <sup>3</sup> 17.9 m <sup>3</sup>
No. of Shipments:	4
Type:	Cask
Mode:	Truck

<u>Principal Isotopes</u>	<u>Curies</u>	<u>% Abundance</u>	<u>Quantity Determination</u>
Zinc-65	34.30	69.12	M
Cobalt-60	7.13	14.39	M
Iron-55	3.08	6.22	E
Manganese-54	2.62	5.29	M
Cobalt-58	0.97	1.96	M
Chromium-51	0.64	1.29	M
Cesium-137	0.34	0.69	E
Cesium-134	0.19	0.38	E
Iron-59	0.14	0.28	E
Nickel-63	0.12	0.24	E
Carbon-14	0.06	0.13	E
TOTAL:	49.6		

E = Estimated  
M = Measured

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TABLE 3B  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. NRC CLASS A

5. Dewatered Powdered Resin

Container Type:	134.6 ft <sup>3</sup> Stainless Steel HIC (LSA)
Solidification Media:	None
Total Volume:	269.2 ft <sup>3</sup> 7.6 m <sup>3</sup>
No. of Shipments:	2
Type:	Cask
Mode:	Truck

<u>Principal Isotopes</u>	<u>Curies</u>	<u>% Abundance</u>	<u>Quantity Determination</u>
Zinc-65	253.00	65.67	M
Chromium-51	46.50	12.08	M
Cobalt-60	38.30	9.94	M
Iron-55	21.10	5.50	E
Manganese-54	15.40	4.01	M
Cobalt-58	3.33	0.87	E
Cesium-137	2.55	0.66	E
Nickel-63	1.69	0.44	E
Iron-59	1.56	0.41	E
Cesium-134	1.52	0.39	E
Strontium-89	0.07	0.02	E

TOTAL: 32.5

E = Estimated

M = Measured

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TABLE 3B  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. NRC CLASS A

6. Dewatered Powdered Resin

Container Type:	182.4 ft <sup>3</sup> Poly HIC (LSA)
Solidification Media:	None
Total Volume:	182.4 ft <sup>3</sup> 5.2 m <sup>3</sup>
No. of Shipments:	1
Type:	Cask
Mode:	Truck

<u>Principal Isotopes</u>	<u>Curies</u>	<u>% Abundance</u>	<u>Quantity Determination</u>
Zinc-65	97.50	74.38	M
Cobalt-60	14.50	11.06	M
Iron-55	8.04	6.13	E
Chromium-51	4.93	3.76	M
Manganese-54	3.02	2.30	M
Cesium-137	1.58	1.21	M
Nickel-63	0.64	0.49	E
Cobalt-58	0.46	0.35	E
Cesium-134	0.29	0.22	E
Iron-59	0.04	0.03	E
Strontium-89	0.04	0.03	E
Zirconium-95	0.02	0.01	E
TOTAL:	131		

E = Estimated  
M = Measured

NEW YORK POWER AUTHORITY  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
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TABLE 3B  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. NRC CLASS A

7. Dewatered Cartridge Filters

Container Type:	158.1 ft <sup>3</sup> Poly HIC (LSA)
Solidification Media:	None
Total Volume:	158.1 ft <sup>3</sup> 4.5 m <sup>3</sup>
No. of Shipments:	1
Type:	Cask
Mode:	Truck

<u>Principal Isotopes</u>	<u>Curies</u>	<u>% Abundance</u>	<u>Quantity Determination</u>
Cobalt-60	3.500	32.04	M
Zinc-65	3.450	31.59	M
Iron-55	2.590	23.71	E
Manganese-54	0.511	4.68	M
Cesium-137	0.337	3.08	E
Cesium-134	0.222	2.03	E
Nickel-63	0.151	1.38	E
Cobalt-58	0.115	1.05	M
Iron-59	0.029	0.26	M
Strontium-89	0.009	0.08	E
Zirconium-95	0.004	0.03	E
Carbon-14	0.003	0.02	E
Nickel-59	0.001	0.01	E
TOTAL:	10.9		

E = Estimated  
M = Measured

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TABLE 3B  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. NRC CLASS "B"

1. Dewatered Powdered Resin

Container Type:	134.6 ft <sup>3</sup> Stainless Steel HIC (LSA)
Solidification Media:	None
Total Volume:	269.2 ft <sup>3</sup> 7.6 m <sup>3</sup>
No. of Shipments:	2
Type:	Cask
Mode:	Truck

<u>Principal Isotopes</u>	<u>Curies</u>	<u>% Abundance</u>	<u>Quantity Determination</u>
Zinc-65	376.00	77.51	M
Cobalt-60	56.30	11.61	M
Iron-55	31.20	6.43	E
Manganese-54	10.50	2.16	M
Cesium-137	4.88	1.01	M
Nickel-63	2.49	0.51	E
Cesium-134	1.84	0.38	E
Cobalt-58	1.47	0.30	E
Iron-59	0.16	0.03	E
Strontium-89	0.13	0.03	E
Zirconium-95	0.05	0.01	E
Carbon-14	0.04	0.01	E
TOTAL:	485.0		

E = Estimated  
M = Measured



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JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
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TABLE 3B  
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. NRC CLASS "B"

2. Dewatered Powdered Resin

Container Type:	182.4 ft <sup>3</sup> Poly HIC (LSA)
Solidification Media:	None
Total Volume:	182.4 ft <sup>3</sup> 5.2 m <sup>3</sup>
No. of Shipments:	1
Type:	Cask
Mode:	Truck

<u>Principal Isotopes</u>	<u>Curies</u>	<u>% Abundance</u>	<u>Quantity Determination</u>
Zinc-65	97.50	71.19	M
Cobalt-60	17.80	13.00	M
Iron-55	9.88	7.21	E
Cesium-137	5.65	4.13	M
Manganese-54	2.97	2.17	M
Cesium-134	1.70	1.24	M
Nickel-63	0.79	0.58	E
Cobalt-58	0.37	0.27	M
Strontium-89	0.15	0.11	E
Zirconium-95	0.06	0.04	E
Iron-59	0.05	0.04	E
Carbon-14	0.01	0.01	E

TOTAL: 137

E = Estimated  
M = Measured

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ATTACHMENT NO. 1

CHANGES TO THE OFFSITE DOSE CALCULATION MANUAL (ODCM)

In accordance with Section 7.3.C.3 of Amendment 93 to the James A. FitzPatrick Nuclear Power Plant Technical Specifications, changes made to the Offsite Dose Calculation Manual (ODCM) during the reporting period shall be included in the Semiannual Radioactive Effluent Release Report.

No changes were made to the ODCM this report period.

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JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
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ATTACHMENT NO. 2

SUMMARY OF CHANGES TO THE PROCESS CONTROL PROGRAM

In accordance with Section 7.3.C.3 of Amendment 93 to the James A. FitzPatrick Nuclear Power Plant Technical Specifications, changes made to the Process Control Program (PCP) during the reporting period shall be included in the Semiannual Radioactive Effluent Release Report.

No changes were made to the Process Control Program this report period.

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JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
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ATTACHMENT NO. 3

SUMMARY OF CHANGES TO THE ENVIRONMENTAL  
MONITORING AND DOSE CALCULATION LOCATIONS

In accordance with section 7.3.C.3 of Amendment 93 to the James A. FitzPatrick Nuclear Power Plant Technical Specifications, a listing of new locations for dose calculation and/or environmental monitoring identified by the land use census shall be included in the Semiannual Radioactive Effluent Release Reports.

1. CHANGES IN ENVIRONMENTAL MONITORING LOCATIONS

No change in Environmental Monitoring Locations was required based on the land use census.

2. NEW LOCATIONS FOR DOSE CALCULATIONS

No changes in Dose Calculation Receptor Locations were required based on land use census.

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ATTACHMENT NO. 4

DEVIATIONS FROM THE REQUIRED  
ENVIRONMENTAL SAMPLING SCHEDULE

In accordance with Section 7.3.C.7 of Amendment 93 to the James A. FitzPatrick Nuclear Power Plant Technical Specifications, the cause for unavailability of any environmental samples required during the reporting period shall be included in the Semiannual Radioactive Effluent Release Reports.

EXCEPTION TO THE ENVIRONMENTAL SAMPLING PROGRAM

1. The air sampler at the Off-site Environmental Sampling Station R-5 was inoperable from July 7, 1990 (0800 hours) to July 24, 1990 (1055 hours). The inoperability was caused by a pump electrical failure.
2. The air sampler at the Off-site Environmental Sampling Station R-5 was inoperable from August 7, 1990 (1415 hours) to August 14, 1990 (1030 hours). The inoperability was caused by operator error. The appropriate procedure was revised to require a check off for each station that the pump was returned to an operating condition.
3. The air sampler at the Off-site Environmental Sampling Station R-1 was inoperable from September 9, 1990 (2200 hours) through September 11, 1990 (0800 hours). The inoperability was caused by a mechanical failure of a cooling fan which resulted in the sampling pump overheating and a electrical fuse failure.

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ATTACHMENT NO. 5

SEMI-ANNUAL SUMMARY OF HOURLY METEOROLOGICAL DATA

In accordance with Section 7.3.C.2 of Amendment 93 to the James A. FitzPatrick Nuclear Power Plant Technical Specifications, an annual summary of meteorological data may be included and submitted in the Semiannual Radioactive Effluent Release Report within 60 days after January 1 of each year.

An hourly summary of Meteorological data for the period of January 1, 1990 through December 31, 1990 is attached.



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

STABILITY CLASS - A

EXTREMELY UNSTABLE (DELTA T / 100 METERS < -1.9 DEG C)

DIR	SPEED (MPH)					TOTAL		
	00-03	04-07	08-12	13-18	19-23	>=24		
N	0.0 (0)	0.4 (8)	0.4 (8)	0.4 (8)	0.1 (3)	0.1 (3)	1.4 (30)	
NNE	0.0 (0)	0.4 (9)	0.4 (8)	0.0 (0)	0.0 (0)	0.0 (0)	0.8 (17)	
NE	0.0 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)	
ENE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	
E	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	
ESE	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	
SE	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	
SSE	0.0 (0)	0.2 (4)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)	
S	0.0 (0)	0.2 (4)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)	
SSW	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)	
SW	0.0 (0)	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)	
WSW	0.0 (0)	0.0 (0)	0.1 (3)	0.1 (3)	0.0 (1)	0.0 (0)	0.3 (7)	
W	0.0 (1)	0.0 (1)	0.3 (6)	0.2 (5)	0.0 (1)	0.1 (3)	0.8 (17)	
WNW	0.0 (0)	0.0 (0)	0.3 (6)	0.1 (2)	0.3 (6)	0.0 (0)	1.0 (26)	
NW	0.0 (0)	0.0 (0)	0.1 (3)	0.5 (10)	0.3 (6)	0.1 (2)	1.0 (21)	
NNW	0.0 (1)	0.0 (1)	0.0 (1)	0.2 (4)	0.0 (1)	0.0 (0)	0.4 (8)	
TOTAL	0.2 (4)	1.5 (33)	1.9 (41)	1.5 (32)	0.8 (18)	0.9 (17)	6.9 (147)	

## SUMMARY FOR STABILITY CLASS - A

NUMBER OF CALM HOURS (<1.0 MPH) .....	0
NUMBER OF MISSING WIND OBSERVATIONS .....	1
NUMBER OF HOURS OF THIS STABILITY CLASS ....	148 OF 2135 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

STABILITY CLASS - B

MODERATELY UNSTABLE (-1.9 DEG C < DELTA T / 100 METERS < -1.7 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
NNE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 2)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
NNE	0.0 ( 1)	0.0 ( 3)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)
ENE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
E	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SSE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
S	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SSW	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)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
WSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
W	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
TOTAL	0.0 ( 1)	0.3 ( 6)	0.4 ( 9)	0.7 ( 15)	0.9 ( 19)	0.5 ( 11)	2.9 ( 61)

SUMMARY FOR STABILITY CLASS - B

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 61

2135 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

STABILITY CLASS - C SLIGHTLY UNSTABLE (-1.7 DEG C < DELTA T / 100 METERS < -1.5 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 0)	0.0 ( 1)	0.1 ( 2)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.3 ( 7)
NNE	0.0 ( 0)	0.1 ( 2)	0.5 ( 10)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.7 ( 15)
NE	0.0 ( 0)	0.0 ( 1)	0.1 ( 2)	0.0 ( 3)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
ENE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
E	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
ESE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
SE	0.0 ( 0)	0.1 ( 2)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
SSE	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
S	0.0 ( 0)	0.0 ( 1)	0.1 ( 2)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)
SSW	0.0 ( 0)	0.0 ( 1)	0.1 ( 3)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)
SW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
WSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
W	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.2 ( 4)	0.3 ( 6)	0.0 ( 0)	0.7 ( 11)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.2 ( 5)	0.3 ( 7)	0.2 ( 4)	1.5 ( 19)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.6 ( 12)	0.3 ( 7)	0.1 ( 3)	1.0 ( 22)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
TOTAL	0.0 ( 0)	0.5 ( 11)	1.1 ( 24)	1.5 ( 33)	1.1 ( 23)	1.0 ( 2)	5.3 ( 113)

## SUMMARY FOR STABILITY CLASS - C

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 1

NUMBER OF HOURS OF THIS STABILITY CLASS .... 114 OF 217 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

STABILITY CLASS - D

NEUTRAL (-1.5 DEG C < DELTA T / 100 METERS < -0.5 DEG C)

DIR	SPEED (MPH)						TOTAL	
	00-03	04-07	08-12	13-18	19-23	>=24		
N	0.0 ( 0)	0.2 ( 4)	0.4 ( 8)	0.4 ( 7)	0.0 ( 0)	0.0 ( 0)	1.0 ( 21)	
NNE	0.0 ( 0)	0.8 ( 17)	1.9 ( 41)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	2.9 ( 61)	
NE	0.3 ( 6)	1.2 ( 25)	1.5 ( 33)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	3.1 ( 67)	
ENE	0.3 ( 7)	0.9 ( 19)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.2 ( 26)	
E	0.3 ( 7)	0.9 ( 20)	0.4 ( 8)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.6 ( 35)	
ESE	0.2 ( 5)	0.8 ( 17)	0.5 ( 10)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	1.5 ( 33)	
SE	0.2 ( 4)	0.8 ( 18)	1.2 ( 25)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	2.3 ( 50)	
SSE	0.1 ( 2)	1.3 ( 27)	1.2 ( 25)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	2.7 ( 57)	
S	0.0 ( 1)	0.7 ( 16)	1.6 ( 35)	0.4 ( 8)	0.0 ( 0)	0.0 ( 0)	2.8 ( 60)	
SSW	0.0 ( 0)	0.5 ( 10)	0.7 ( 15)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.2 ( 25)	
SW	0.0 ( 0)	0.7 ( 14)	1.2 ( 25)	0.6 ( 13)	0.0 ( 1)	0.0 ( 0)	2.0 ( 43)	
WSW	0.0 ( 0)	0.4 ( 5)	0.9 ( 14)	0.7 ( 16)	0.5 ( 10)	0.8 ( 17)	2.9 ( 62)	
W	0.0 ( 0)	0.1 ( 3)	0.9 ( 20)	1.4 ( 29)	0.5 ( 11)	1.8 ( 39)	4.8 ( 102)	
WNW	0.0 ( 0)	0.1 ( 3)	1.2 ( 22)	1.2 ( 26)	1.0 ( 21)	1.7 ( 37)	5.1 ( 109)	
NW	0.0 ( 0)	0.2 ( 5)	0.7 ( 16)	0.8 ( 18)	0.6 ( 13)	0.0 ( 1)	2.5 ( 53)	
NNW	0.0 ( 1)	0.0 ( 1)	0.7 ( 14)	0.3 ( 7)	0.0 ( 0)	0.0 ( 0)	1.1 ( 23)	
TOTAL	1.5 ( 33)	9.1 ( 194)	14.6 ( 311)	6.5 ( 139)	2.6 ( 56)	4.4 ( 94)	38.7 ( 827)	

## SUMMARY FOR STABILITY CLASS - D

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 1

NUMBER OF HOURS OF THIS STABILITY CLASS .... 828

2135 OF 2135 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

STABILITY CLASS - E      SLIGHTLY STABLE (-0.5 DEG C < DELTA T      100 METERS <= 1.5 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.1 (3)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)
NNE	0.2 (4)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (10)
NNE	0.4 (8)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.6 (12)
E	0.4 (9)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.6 (13)
E	0.5 (10)	0.7 (15)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.2 (24)
ESE	0.4 (9)	1.2 (26)	0.5 (11)	0.0 (0)	0.0 (0)	0.0 (0)	2.2 (47)
SE	0.4 (9)	2.5 (53)	2.2 (46)	0.1 (3)	0.0 (0)	0.0 (0)	5.2 (111)
SSE	0.2 (4)	2.5 (53)	2.9 (62)	0.6 (12)	0.0 (0)	0.0 (0)	6.2 (131)
S	0.1 (3)	1.7 (37)	2.7 (57)	0.6 (12)	0.0 (0)	0.0 (0)	5.1 (109)
SSW	0.1 (2)	0.9 (20)	0.7 (16)	0.0 (0)	0.0 (0)	0.0 (0)	1.8 (39)
SW	0.2 (4)	0.8 (17)	1.6 (34)	0.3 (7)	0.0 (0)	0.0 (0)	3.0 (63)
WSW	0.3 (7)	0.7 (16)	1.1 (24)	1.0 (22)	0.7 (11)	0.2 (3)	4.0 (85)
W	0.0 (1)	0.0 (0)	0.4 (9)	0.8 (17)	0.7 (14)	0.2 (3)	2.2 (47)
WNW	0.1 (2)	0.0 (0)	0.3 (6)	0.0 (0)	0.2 (4)	0.0 (1)	0.6 (13)
NW	0.0 (0)	0.1 (3)	0.0 (1)	0.0 (1)	0.0 (1)	0.0 (0)	0.3 (8)
NNW	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
TOTAL	3.5 (75)	12.1 (258)	12.5 (267)	3.5 (75)	1.5 (31)	0.5 (11)	33.6 (717)

## SUMMARY FOR STABILITY CLASS - E

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 717      OF      2135      VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE  
ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

MODERATELY STABLE (1.5 DEG C < DELTA T / 100 METERS <= 4.0 DEG C)

STABILITY CLASS - F

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NNE	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
NE	0.0 (11)	0.0 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (16)
NNE	0.3 (6)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (9)
E	0.3 (12)	0.1 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (17)
ESE	0.6 (2)	0.2 (21)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.8 (23)
SE	0.1 (8)	1.0 (38)	0.1 (5)	0.0 (0)	0.0 (0)	0.0 (0)	1.2 (51)
SSE	0.4 (4)	1.8 (21)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.2 (25)
S	0.0 (1)	0.0 (5)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (6)
SSW	0.0 (1)	0.0 (5)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (6)
SW	0.0 (4)	0.2 (5)	0.5 (10)	0.3 (6)	0.0 (0)	0.0 (0)	1.0 (25)
WSW	0.2 (0)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (4)
W	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
WNW	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
NW	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (2)
NNW	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
TOTAL	2.9 (61)	5.4 (116)	0.8 (18)	0.3 (6)	0.0 (0)	0.0 (0)	9.4 (201)

## SUMMARY FOR STABILITY CLASS - F

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 201 OF 2133 VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      FROM: 1/01/90 TO 3/31/90      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

STABILITY CLASS - 6      EXTREMELY STABLE (4.0 DEG C < DELTA T / 100 METERS)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ENE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
E	0.1 ( 3)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 7)
ESE	0.2 ( 5)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 7)
SE	0.6 ( 12)	0.7 ( 14)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.3 ( 26)
SSE	0.0 ( 1)	0.4 ( 8)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.5 ( 11)
S	0.0 ( 1)	0.3 ( 6)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.4 ( 7)
SSW	0.0 ( 1)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
SW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
WSW	0.0 ( 0)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
W	0.0 ( 1)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
TOTAL	1.1 ( 74)	1.7 ( 37)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.1 ( 66)

## SUMMARY FOR STABILITY CLASS - 6

NUMBER OF CALM HOURS ( <1.0 MPH ) .....	0
NUMBER OF MISSING WIND OBSERVATIONS .....	0
NUMBER OF HOURS OF THIS STABILITY CLASS ....	66 OF 2113 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

STABILITY CLASS - ALL (A-G)

DIR	00-03	04-07	08-12	13-18	19-23	>=24	T <sub>h</sub>
N	0.2 (4)	0.7 (16)	0.9 (26)	1.0 (22)	0.1 (3)	0.1 (3)	3.1 (68)
NNE	0.2 (5)	1.6 (35)	2.7 (59)	0.4 (8)	0.0 (0)	0.0 (0)	3.0 (107)
NNE	1.3 (27)	1.9 (40)	1.6 (35)	0.1 (3)	0.0 (0)	0.0 (0)	4.9 (105)
ENE	1.0 (22)	1.3 (27)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.3 (49)
E	1.3 (32)	2.0 (43)	0.4 (8)	0.0 (0)	0.0 (0)	0.0 (0)	3.6 (78)
ESE	1.5 (32)	2.4 (52)	1.0 (21)	0.0 (1)	0.0 (0)	0.0 (0)	4.9 (106)
SE	1.3 (27)	109 (52)	74 (34)	0.7 (6)	0.0 (0)	0.0 (0)	10.0 (216)
SSE	0.7 (15)	130 (83)	4.5 (98)	0.3 (16)	0.0 (0)	0.0 (0)	12.0 (259)
S	0.4 (9)	3.9 (83)	4.4 (37)	1.0 (21)	0.0 (0)	0.0 (0)	7.8 (211)
SSW	0.2 (4)	1.5 (33)	1.7 (37)	0.1 (2)	0.0 (0)	0.0 (0)	3.3 (116)
SW	0.2 (5)	1.2 (26)	3.0 (65)	0.9 (20)	0.1 (2)	0.0 (0)	5.3 (182)
WSW	0.5 (11)	1.3 (29)	2.4 (51)	2.2 (47)	1.9 (22)	1.0 (22)	8.4 (205)
W	0.1 (3)	0.5 (10)	1.8 (38)	2.6 (56)	1.6 (39)	2.6 (56)	9.4 (205)
WNW	0.2 (4)	0.2 (5)	1.7 (36)	1.8 (28)	2.4 (52)	3.2 (70)	11.1 (245)
NW	0.0 (1)	0.4 (9)	1.0 (21)	2.1 (46)	1.3 (28)	0.3 (6)	5.1 (111)
NNW	0.1 (2)	0.3 (6)	0.7 (16)	0.6 (14)	0.0 (1)	0.0 (0)	1.8 (39)
TOTAL	9.2 (198)	30.3 (655)	31.3 (675)	13.9 (300)	6.8 (147)	7.3 (157)	98.7 (2132)

SUMMARY FOR STABILITY CLASS - ALL (A-G)

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 3

NUMBER OF VALID STABILITY HOURS ..... 2135 OF 2160 TOTAL HOURS IN PERIOD

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT 2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION

WIND DATA FROM: MAIN 30' SITE

FROM: 1/01/90 TO 5/31/90

## TOTAL WIND CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH)	13-18	19-23	>=24	TOTAL
N	0.2 (4)	0.7 (16)	0.9 (20)	1.0 (22)	0.1 (3)	0.1 (3)	0.1 (3)	3.1 (68)
NNE	0.2 (5)	1.6 (35)	2.7 (59)	0.4 (8)	0.0 (0)	0.0 (0)	0.0 (0)	3.0 (107)
NE	1.3 (27)	1.9 (40)	1.6 (35)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	4.9 (105)
ENE	1.0 (22)	1.3 (27)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.3 (49)
E	1.3 (27)	2.4 (43)	0.4 (8)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.6 (78)
ESE	1.5 (32)	2.0 (43)	1.0 (21)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	4.9 (106)
SE	1.3 (27)	3.1 (110)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	10.0 (117)
SSE	0.7 (15)	4.0 (130)	4.5 (98)	0.7 (16)	0.0 (0)	0.0 (0)	0.0 (0)	12.0 (259)
SSW	0.4 (9)	3.9 (85)	1.7 (37)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	9.8 (111)
SW	0.2 (5)	1.5 (33)	1.7 (37)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	3.5 (76)
WSW	0.2 (5)	1.2 (26)	3.0 (65)	0.9 (20)	0.1 (2)	0.1 (2)	0.1 (2)	5.5 (118)
WS	0.5 (11)	1.3 (29)	2.4 (51)	2.2 (47)	1.8 (39)	1.8 (39)	1.0 (22)	8.4 (182)
WNW	0.1 (3)	0.5 (10)	1.7 (38)	2.6 (56)	2.4 (52)	2.4 (52)	2.6 (56)	9.4 (202)
NW	0.2 (4)	0.2 (5)	1.7 (36)	1.6 (38)	1.3 (28)	1.3 (28)	0.3 (6)	9.5 (205)
NNW	0.0 (1)	0.4 (9)	1.0 (21)	2.1 (46)	1.3 (28)	1.3 (28)	0.3 (6)	5.1 (11)
N	0.1 (2)	0.3 (6)	0.7 (16)	0.6 (14)	0.0 (1)	0.0 (1)	0.0 (0)	1.8 (39)
TOTAL	9.2 (198)	30.4 (656)	31.3 (675)	13.9 (300)	6.8 (147)	7.3 (157)	7.3 (157)	98.8 (2139)

## SUMMARY FOR TOTAL WIND CATEGORY

NUMBER OF CALM HOURS (<1.0 MPH)	0
NUMBER OF MISSING WIND OBSERVATIONS	27
TOTAL HOURS IN PERIOD	2160

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

## \*\*\* LEGEND \*\*\* \*\*\* JOINT FREQUENCY OF WIND SPEED AND WIND DIRECTION \*\*\* \*\*\* BY STABILITY \*\*\*

SITE: NINE MILE UPPER: WIND SPEED UPPER - 200FT CUP  
 WIND DIRECTION UPPER - 200FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

NINE MILE LOWER: WIND SPEED LOWER - 30FT CUP  
 WIND DIRECTION LOWER - 30FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

STABILITY CLASS: PASQUILL STABILITY CATEGORIES - NEG C/100M

A - EXTREMELY UNSTABLE	<= -1.9	TO <= -1.9
B - MODERATELY UNSTABLE	> -1.9	TO <= -1.7
C - SLIGHTLY UNSTABLE	> -1.7	TO <= -1.5
D - NEUTRAL	> -1.5	TO <= -1.3
E - SLIGHTLY STABLE	> -1.3	TO <= -1.1
F - MODERATELY STABLE	> -1.1	TO <= -0.9
G - EXTREMELY STABLE	> -0.9	TO <= -0.7
ALL - ALL STABILITIES (1-6)	> -0.7	TO <= -0.5
( ) - TOTAL WIND		N/A

WIND CLASS: SIX WIND SPEED CATEGORIES - (SEE TABLE HEADING) MPH  
 SIXTEEN WIND DIRECTION CATEGORIES - 22.5 DEG

NOTE: THE DATA CAPTURE STATISTICS ARE GIVEN FOR EACH OF THE NINE CATEGORIES LISTED ABOVE.

CALM WINDS ARE LISTED IN THE 0-3 MPH WIND SPEED CATEGORY.

WIND SPEEDS ARE ROUNDED TO NEAREST MPH e.s. 3.4 = 3.0, 3.5 = 4.0

WIND DIRECTIONS ARE MEASURED \*FROM\* THE DIRECTION THE WIND IS COMING FROM.



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

STABILITY CLASS - A

EXTREMELY UNSTABLE (DELTA T / 100 METERS < -1.9 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 1)	0.2 ( 4)	0.3 ( 7)	0.0 ( 1)	0.3 ( 6)	0.3 ( 6)	1.2 ( 25)
NNE	0.0 ( 0)	0.0 ( 1)	0.4 ( 8)	0.3 ( 7)	0.4 ( 9)	0.0 ( 0)	1.2 ( 25)
NNE	0.0 ( 0)	0.1 ( 2)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
SSE	0.0 ( 0)	0.0 ( 1)	0.0 ( 3)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 5)
SSE	0.0 ( 0)	0.1 ( 3)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)
SSW	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
SSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
WSW	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)
WSW	0.0 ( 0)	0.0 ( 1)	0.1 ( 2)	0.3 ( 7)	0.2 ( 4)	0.1 ( 3)	1.7 ( 17)
WSW	0.0 ( 0)	0.0 ( 1)	0.2 ( 5)	0.2 ( 4)	0.2 ( 5)	0.1 ( 10)	1.2 ( 25)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.2 ( 5)	0.5 ( 10)	0.4 ( 8)	1.1 ( 24)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.1 ( 3)	0.1 ( 2)	0.3 ( 6)
TOTAL	0.1 ( 2)	0.7 ( 15)	1.5 ( 32)	1.5 ( 33)	1.7 ( 37)	1.4 ( 29)	6.9 ( 148)

SUMMARY FOR STABILITY CLASS - A

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 148 OF 2133 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

MODERATELY UNSTABLE (-1.9 DEG C < DELTA T / 100 METERS < -1.7 DEG C)

## STABILITY CLASS - B

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 1)	0.0 ( 1)	0.0 ( 0)	0.1 ( 3)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.1 ( 2)	0.2 ( 4)
NL	0.0 ( 0)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
ENE	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
E	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SSE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
S	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
SW	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 2)
WSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 2)
W	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 2)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)	0.0 ( 1)	0.4 ( 8)	0.6 ( 14)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 3)	0.2 ( 4)	0.7 ( 15)	1.1 ( 24)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)	0.2 ( 5)	0.1 ( 2)	0.4 ( 10)
TOTAL	0.0 ( 0)	0.1 ( 2)	0.1 ( 3)	0.7 ( 16)	0.6 ( 13)	1.3 ( 27)	2.7 ( 61)

## SUMMARY FOR STABILITY CLASS - B

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 61 OF 2135 VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

STABILITY CLASS - C

SLIGHTLY UNSTABLE (-1.7 DEG C < DELTA T / 100 METERS <= -1.5 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.1 ( 2 )	0.1 ( 3 )	0.0 ( 1 )	0.3 ( 7 )
NNE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 4 )	0.1 ( 3 )	0.4 ( 8 )	0.7 ( 15 )
NE	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.2 ( 4 )
ENE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
E	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
ESE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SE	0.0 ( 0 )	0.0 ( 1 )	0.1 ( 2 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 4 )
SSE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.2 ( 2 )
S	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 1 )	0.1 ( 3 )
SSW	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 4 )
SW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.1 ( 2 )
WSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
W	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.2 ( 4 )	0.3 ( 6 )	0.6 ( 12 )
WNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.1 ( 2 )	0.3 ( 7 )	1.0 ( 21 )	1.6 ( 31 )
NW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 3 )	0.6 ( 13 )	0.4 ( 9 )	1.2 ( 25 )
NNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.1 ( 2 )	0.0 ( 0 )	0.1 ( 3 )
TOTAL	0.0 ( 0 )	0.1 ( 3 )	0.5 ( 10 )	0.9 ( 20 )	1.6 ( 35 )	2.2 ( 46 )	5.3 ( 114 )

SUMMARY FOR STABILITY CLASS - C

NUMBER OF CALM HOURS ( <1.0 NPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 114      OF      2135      VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS  
 WIND DATA FROM: MAIN 200' SITE  
 ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

NEUTRAL (-1.5 DEG C < DELTA T / 100 METERS <= -0.5 DEG C)

## STABILITY CLASS - D

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 0 )	0.1 ( 3 )	0.1 ( 3 )	0.6 ( 13 )	0.2 ( 5 )	0.0 ( 1 )	1.7 ( 25 )
NNE	0.0 ( 0 )	0.1 ( 2 )	0.4 ( 9 )	0.7 ( 14 )	1.2 ( 25 )	1.4 ( 29 )	3.7 ( 79 )
NE	0.0 ( 1 )	0.4 ( 9 )	0.5 ( 10 )	0.9 ( 20 )	0.4 ( 9 )	0.1 ( 3 )	2.4 ( 52 )
ENE	0.0 ( 0 )	0.3 ( 6 )	0.6 ( 13 )	0.0 ( 6 )	0.0 ( 0 )	0.0 ( 0 )	0.9 ( 19 )
E	0.0 ( 1 )	0.3 ( 6 )	0.3 ( 6 )	0.3 ( 6 )	0.0 ( 0 )	0.0 ( 0 )	0.9 ( 19 )
ESE	0.1 ( 2 )	0.3 ( 6 )	0.6 ( 13 )	0.5 ( 10 )	0.2 ( 4 )	0.0 ( 1 )	1.8 ( 39 )
SE	0.0 ( 1 )	0.3 ( 6 )	0.7 ( 15 )	0.7 ( 16 )	0.4 ( 9 )	0.1 ( 2 )	2.3 ( 50 )
SSE	0.0 ( 0 )	0.2 ( 4 )	0.8 ( 17 )	0.7 ( 16 )	0.6 ( 13 )	0.0 ( 1 )	2.4 ( 52 )
S	0.0 ( 0 )	0.0 ( 1 )	0.9 ( 20 )	1.5 ( 32 )	0.6 ( 13 )	0.1 ( 3 )	3.2 ( 69 )
SSW	0.0 ( 0 )	0.0 ( 1 )	0.7 ( 14 )	0.4 ( 8 )	0.1 ( 2 )	0.0 ( 0 )	1.2 ( 25 )
SW	0.0 ( 0 )	0.0 ( 1 )	0.4 ( 9 )	1.0 ( 21 )	0.2 ( 4 )	0.0 ( 0 )	1.6 ( 35 )
WSW	0.0 ( 0 )	0.0 ( 1 )	0.2 ( 4 )	0.6 ( 13 )	0.8 ( 18 )	1.4 ( 29 )	3.0 ( 65 )
W	0.0 ( 0 )	0.1 ( 3 )	0.6 ( 12 )	1.3 ( 27 )	0.3 ( 7 )	2.4 ( 56 )	4.7 ( 100 )
WNW	0.0 ( 0 )	0.2 ( 4 )	0.8 ( 17 )	1.4 ( 29 )	0.6 ( 13 )	2.6 ( 56 )	5.6 ( 119 )
NW	0.0 ( 0 )	0.1 ( 3 )	0.3 ( 7 )	0.6 ( 12 )	0.5 ( 10 )	0.8 ( 18 )	2.3 ( 50 )
NNW	0.0 ( 0 )	0.1 ( 2 )	0.3 ( 6 )	0.5 ( 10 )	0.4 ( 9 )	0.1 ( 3 )	1.4 ( 30 )
TOTAL	0.2 ( 5 )	3.0 ( 63 )	8.2 ( 175 )	11.6 ( 247 )	6.6 ( 141 )	9.2 ( 197 )	38.8 ( 828 )

## SUMMARY FOR STABILITY CLASS - D

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0  
 NUMBER OF MISSING WIND OBSERVATIONS ..... 0  
 NUMBER OF HOURS OF THIS STABILITY CLASS .... 828 OF 2135 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

STABILITY CLASS - E

SLIGHTLY STABLE (-0.5 DEG C < DELTA T / 100 METERS <= 1.5 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.1 ( 3)	0.0 ( 0)	0.1 ( 2)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.4 ( 8)
NNE	0.0 ( 1)	0.2 ( 4)	0.2 ( 5)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.5 ( 11)
NE	0.1 ( 3)	0.3 ( 6)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.7 ( 14)
ENE	0.0 ( 1)	0.3 ( 6)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.4 ( 9)
E	0.0 ( 1)	0.2 ( 5)	0.3 ( 7)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.7 ( 14)
ESE	0.0 ( 1)	0.2 ( 5)	0.5 ( 10)	0.4 ( 9)	0.0 ( 1)	0.0 ( 0)	1.2 ( 26)
SE	0.0 ( 0)	0.2 ( 5)	0.6 ( 13)	2.2 ( 46)	0.5 ( 11)	0.2 ( 5)	3.7 ( 80)
SSE	0.0 ( 0)	0.2 ( 4)	0.7 ( 16)	1.9 ( 40)	2.4 ( 51)	0.3 ( 7)	5.5 ( 118)
S	0.0 ( 0)	0.3 ( 6)	0.4 ( 9)	3.2 ( 69)	1.6 ( 35)	0.7 ( 15)	6.3 ( 134)
SSW	0.1 ( 3)	0.2 ( 4)	0.5 ( 10)	2.0 ( 42)	0.2 ( 5)	0.0 ( 0)	3.0 ( 64)
SW	0.1 ( 2)	0.1 ( 3)	0.7 ( 14)	0.7 ( 15)	0.2 ( 5)	0.1 ( 3)	2.0 ( 42)
WSW	0.0 ( 0)	0.0 ( 1)	0.7 ( 15)	1.1 ( 23)	1.2 ( 25)	0.9 ( 20)	3.9 ( 84)
W	0.0 ( 1)	0.4 ( 8)	0.3 ( 7)	0.7 ( 15)	0.9 ( 19)	1.4 ( 30)	3.7 ( 80)
WNW	0.0 ( 1)	0.1 ( 3)	0.1 ( 3)	0.3 ( 6)	0.0 ( 1)	0.3 ( 6)	0.9 ( 20)
NW	0.0 ( 0)	0.1 ( 2)	0.1 ( 2)	0.1 ( 3)	0.0 ( 1)	0.0 ( 1)	0.4 ( 9)
NNW	0.0 ( 1)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)
TOTAL	0.8 ( 18)	3.0 ( 65)	5.6 ( 120)	12.8 ( 273)	7.2 ( 154)	4.1 ( 87)	33.6 ( 717)

## SUMMARY FOR STABILITY CLASS - E

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 717 OF 2135 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FLITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 1/01/90 TO 3/31/90

MODERATELY STABLE (1.5 DEG C < DELTA T / 100 METERS <= 4.0 DEG C)

STABILITY CLASS - F

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
NNE	0.1 (3)	0.1 (2)	0.0 (1)	0.0 (5)	0.0 (0)	0.0 (0)	0.2 (11)
NE	0.0 (1)	0.1 (2)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.2 (5)
NNE	0.1 (3)	0.1 (2)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.3 (7)
E	0.0 (0)	0.1 (5)	0.0 (2)	0.0 (2)	0.0 (0)	0.0 (0)	0.2 (7)
ESE	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (2)	0.0 (0)	0.0 (0)	0.2 (4)
SE	0.0 (0)	0.1 (1)	0.0 (7)	0.0 (15)	0.0 (4)	0.0 (0)	0.2 (27)
SSE	0.1 (2)	0.1 (3)	0.3 (6)	0.6 (13)	0.1 (2)	0.0 (0)	1.1 (24)
S	0.0 (0)	0.1 (3)	0.4 (9)	0.7 (15)	0.0 (0)	0.0 (0)	1.2 (27)
SSW	0.0 (0)	0.1 (3)	0.3 (9)	0.7 (15)	0.0 (0)	0.0 (0)	1.2 (27)
SW	0.0 (0)	0.1 (3)	0.4 (9)	0.7 (15)	0.0 (0)	0.0 (0)	1.2 (27)
WSW	0.0 (0)	0.1 (3)	0.4 (9)	0.7 (15)	0.0 (0)	0.0 (0)	1.2 (27)
W	0.0 (0)	0.1 (3)	0.2 (5)	0.1 (5)	0.1 (3)	0.0 (0)	0.5 (16)
WNW	0.0 (0)	0.1 (3)	0.2 (5)	0.1 (5)	0.1 (3)	0.0 (0)	0.5 (16)
NW	0.0 (0)	0.1 (2)	0.2 (5)	0.1 (5)	0.0 (0)	0.0 (0)	0.4 (8)
NNW	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)
TOTAL	0.5 (10)	2.2 (47)	2.8 (60)	3.1 (66)	0.6 (13)	0.2 (5)	9.4 (201)

## SUMMARY FOR STABILITY CLASS - F

NUMBER OF CALM HOURS (<1.0 MPH)	0
NUMBER OF MISSING WIND OBSERVATIONS	0
NUMBER OF HOURS OF THIS STABILITY CLASS	201
OF	2135
VALID STABILITY HOURS	5



# INFLUENCE OF VELOCITY OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: HAIN 200' SITE

FROM: 1/01/90 TO 3/31/90

EXTREMELY STABLE (4.0 DEG C < DELTA T / 100 METERS)

STABILITY CLASS - G

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
NN	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NENE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ENE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
E	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SSE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
S	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SSW	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)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
WSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
W	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
WIND	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
TOTAL	0.4 ( 8)	0.8 ( 17)	1.1 ( 23)	0.7 ( 14)	0.2 ( 4)	0.0 ( 0)	3.1 ( 66)

## SUMMARY FOR STABILITY CLASS - 6

NUMBER OF CALF HOURS ( $<1.0$  MP) .....

NUMBER OF MISSING WIND OBSERVATIONS .....

NUMBER OF HOURS OF THIS STABILITY CLASS ...

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3 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      FROM: 1/01/90 TO 3/31/90      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

STABILITY CLASS - ALL ( A-G )

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.2 ( 4 )	0.4 ( 9 )	0.6 ( 12 )	1.0 ( 21 )	0.7 ( 15 )	0.4 ( 8 )	3.2 ( 69 )
NNE	0.2 ( 4 )	0.4 ( 9 )	1.1 ( 23 )	1.5 ( 32 )	1.8 ( 38 )	1.8 ( 39 )	6.7 ( 145 )
NNE	0.2 ( 5 )	1.0 ( 22 )	0.8 ( 18 )	1.0 ( 22 )	0.5 ( 10 )	0.1 ( 3 )	3.7 ( 80 )
ENE	0.2 ( 4 )	0.9 ( 19 )	0.8 ( 18 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	1.9 ( 42 )
E	0.1 ( 3 )	0.9 ( 19 )	0.8 ( 18 )	0.3 ( 7 )	0.0 ( 0 )	0.0 ( 0 )	2.2 ( 47 )
ESE	0.0 ( 1 )	0.9 ( 19 )	1.2 ( 25 )	1.0 ( 22 )	0.2 ( 5 )	0.0 ( 1 )	3.4 ( 73 )
ESE	0.1 ( 2 )	0.7 ( 15 )	2.0 ( 44 )	3.0 ( 65 )	0.9 ( 20 )	0.3 ( 7 )	7.1 ( 153 )
SSE	0.3 ( 7 )	0.7 ( 16 )	2.0 ( 44 )	3.6 ( 77 )	3.2 ( 69 )	0.4 ( 8 )	10.2 ( 221 )
S	0.1 ( 2 )	0.8 ( 18 )	2.1 ( 45 )	5.6 ( 120 )	2.4 ( 51 )	0.9 ( 19 )	11.8 ( 255 )
SSW	0.2 ( 5 )	0.5 ( 10 )	1.7 ( 37 )	3.4 ( 74 )	0.4 ( 8 )	0.0 ( 0 )	6.2 ( 134 )
SW	0.1 ( 2 )	0.5 ( 10 )	1.6 ( 35 )	2.0 ( 43 )	0.5 ( 11 )	0.1 ( 3 )	4.8 ( 104 )
WSW	0.0 ( 1 )	0.3 ( 6 )	1.3 ( 27 )	2.0 ( 43 )	2.2 ( 47 )	2.4 ( 52 )	8.1 ( 176 )
W	0.0 ( 1 )	0.7 ( 16 )	1.1 ( 23 )	2.6 ( 57 )	1.8 ( 39 )	4.6 ( 100 )	10.9 ( 236 )
WNW	0.0 ( 1 )	0.6 ( 12 )	1.5 ( 32 )	2.1 ( 46 )	1.4 ( 30 )	5.0 ( 108 )	10.6 ( 229 )
NW	0.0 ( 0 )	0.3 ( 7 )	0.7 ( 15 )	1.3 ( 27 )	1.8 ( 39 )	1.8 ( 38 )	5.8 ( 126 )
NW	0.0 ( 1 )	0.2 ( 5 )	0.3 ( 7 )	0.6 ( 12 )	0.7 ( 15 )	0.2 ( 5 )	2.1 ( 45 )
TOTAL	2.0 ( 43 )	9.8 ( 212 )	19.6 ( 423 )	31.0 ( 669 )	18.4 ( 397 )	18.1 ( 391 )	98.8 ( 2135 )

SUMMARY FOR STABILITY CLASS - ALL (A-G)

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF VALID STABILITY HOURS ..... 2135      OF      2160 TOTAL HOURS IN PERIOD



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION

WIND DATA FROM: MAIN 200' SITE

FROM: 1/01/90 TO 3/31/90

## TOTAL WIND CATEGORY

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.2 ( 4)	0.4 ( 9)	0.6 ( 12)	1.0 ( 21)	0.7 ( 15)	0.4 ( 8)	3.2 ( 69)
NNE	0.2 ( 4)	0.4 ( 9)	1.1 ( 23)	1.5 ( 32)	1.8 ( 38)	1.8 ( 39)	6.7 ( 145)
NE	0.2 ( 5)	1.0 ( 22)	0.8 ( 18)	1.0 ( 22)	0.5 ( 10)	0.1 ( 3)	3.7 ( 80)
ENE	0.2 ( 4)	0.9 ( 19)	0.8 ( 18)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	1.9 ( 42)
E	0.1 ( 3)	0.9 ( 19)	0.8 ( 18)	0.3 ( 7)	0.0 ( 0)	0.0 ( 0)	2.2 ( 47)
ESE	0.0 ( 1)	0.9 ( 19)	1.2 ( 25)	1.0 ( 22)	0.2 ( 5)	0.0 ( 1)	3.4 ( 73)
SE	0.1 ( 2)	0.7 ( 15)	2.0 ( 44)	3.0 ( 65)	0.9 ( 20)	0.3 ( 7)	7.1 ( 153)
SSE	0.3 ( 7)	0.7 ( 16)	2.0 ( 44)	3.6 ( 77)	3.2 ( 69)	0.4 ( 8)	10.2 ( 221)
S	0.1 ( 2)	0.9 ( 19)	2.1 ( 45)	5.6 ( 120)	2.4 ( 51)	0.9 ( 19)	11.9 ( 256)
SSW	0.2 ( 5)	0.5 ( 10)	1.7 ( 37)	3.4 ( 74)	0.4 ( 8)	0.0 ( 0)	6.2 ( 134)
SW	0.1 ( 2)	0.5 ( 10)	1.6 ( 35)	2.0 ( 43)	0.5 ( 11)	0.1 ( 3)	4.8 ( 104)
WSW	0.0 ( 1)	0.3 ( 6)	1.3 ( 27)	2.0 ( 43)	2.2 ( 47)	2.4 ( 52)	8.1 ( 176)
W	0.0 ( 1)	0.7 ( 16)	1.1 ( 23)	2.6 ( 57)	1.8 ( 39)	4.6 ( 100)	10.9 ( 236)
WNW	0.0 ( 1)	0.6 ( 12)	1.5 ( 32)	2.1 ( 46)	1.4 ( 30)	5.0 ( 108)	10.6 ( 229)
NW	0.0 ( 0)	0.3 ( 7)	0.7 ( 15)	1.3 ( 27)	1.8 ( 39)	1.8 ( 38)	5.8 ( 126)
NNW	0.0 ( 1)	0.2 ( 5)	0.3 ( 7)	0.6 ( 12)	0.7 ( 15)	0.2 ( 5)	2.1 ( 45)
TOTAL	2.0 ( 43)	9.9 ( 213)	19.6 ( 423)	31.0 ( 669)	18.4 ( 397)	18.1 ( 391)	98.9 ( 2136)

## SUMMARY FOR TOTAL WIND CATEGORY

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 24

TOTAL HOURS IN PERIOD ..... 2160

\*\*\* LEGEND \*\*\*  
 \*\*\* JOINT FREQUENCY OF WIND SPEED AND WIND DIRECTION \*\*\*  
 \*\*\* BY STABILITY \*\*\*

SITE: NINE MILE UPPER: WIND SPEED UPPER - 200FT CUP  
 WIND DIRECTION UPPER - 200FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

NINE MILE LOWER: WIND SPEED LOWER - 30FT CUP  
 WIND DIRECTION LOWER - 30FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

STABILITY CLASS: PASQUILL STABILITY CATEGORIES - DEG C/100M

A - EXTREMELY UNSTABLE	> -1.9	TO <= -1.9	<= -1.9
B - MODERATELY UNSTABLE	> -1.7	TO <= -1.7	<= -1.7
C - SLIGHTLY UNSTABLE	> -1.5	TO <= -1.5	<= -1.5
D - NEUTRAL	> -0.5	TO <= -0.5	<= -0.5
E - SLIGHTLY STABLE	> 1.5	TO <= 1.5	<= 1.5
F - MODERATELY STABLE	> 4.0	TO <= 4.0	<= 4.0
G - EXTREMELY STABLE	> ALL		
ALL - ALL STABILITIES (A-G)			
ALL - TOTAL WIND			N/A

WIND CLASS: SIX WIND SPEED CATEGORIES - (SEE TABLE HEADING) MPH  
 NINE WIND DIRECTION CATEGORIES - 22.5 DEG

NOTE: THE DATA CAPTURE STATISTICS ARE GIVEN FOR EACH OF THE NINE CATEGORIES LISTED ABOVE.

CALM WINDS ARE LISTED IN THE 0-3 MPH WIND SPEED CATEGORY.

WIND SPEEDS ARE ROUNDED TO NEAREST MPH e.g., 3.4 = 3.0, 3.5 = 4.0

WIND DIRECTIONS ARE MEASURED "FROM" THE DIRECTION THE WIND IS COMING FROM.

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - A

EXTREMELY UNSTABLE (DELTA T / 100 METERS < -1.9 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
NNE	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
NNE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
ENE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
E	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
ESE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
ESE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SSE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
S	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
WSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
W	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
WNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
NW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
NNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
TOTAL	0.0 ( 0 )	0.6 ( 12 )	1.4 ( 31 )	0.5 ( 10 )	0.2 ( 3 )	0.1 ( 3 )	2.8 ( 61 )

## SUMMARY FOR STABILITY CLASS - A

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 4

NUMBER OF HOURS OF THIS STABILITY CLASS .... 65

21.69 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - B

MODERATELY UNSTABLE (-1.9 DEG C < DELTA T / 100 METERS < -1.7 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	24-29	TOTAL
N	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
NNE	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
NE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
ENE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
E	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
ESE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
SE	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
SSE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
S	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SSW	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 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
WSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
W	0.0 ( 0 )	0.0 ( 0 )	0.4 ( 8 )	0.2 ( 4 )	0.0 ( 0 )	0.1 ( 2 )	0.6 ( 14 )
WNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 1 )	0.1 ( 3 )
NW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 2 )	0.1 ( 3 )
NNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
TOTAL	0.0 ( 0 )	0.0 ( 1 )	0.3 ( 12 )	0.3 ( 6 )	0.1 ( 2 )	0.2 ( 5 )	1.2 ( 26 )

## SUMMARY FOR STABILITY CLASS - B

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 3

NUMBER OF HOURS OF THIS STABILITY CLASS .... 29

OF 2169 VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - C

SLIGHTLY UNSTABLE (-1.7 DEG C < DELTA T / 100 METERS <= -1.5 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
NNE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
NE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
ENE	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
E	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
SE	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
SSE	0.0 ( 0)	0.1 ( 2)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 6)
S	0.0 ( 0)	0.2 ( 4)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)
SSW	0.0 ( 1)	0.0 ( 1)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)
SW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
WSW	0.0 ( 0)	0.0 ( 1)	0.8 ( 18)	0.6 ( 12)	0.2 ( 5)	0.1 ( 3)	1.8 ( 39)
W	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.6 ( 12)	0.6 ( 14)	0.5 ( 10)	1.8 ( 38)
WNW	0.0 ( 0)	0.0 ( 1)	0.1 ( 2)	0.1 ( 3)	0.3 ( 7)	0.0 ( 1)	0.6 ( 14)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
TOTAL	0.1 ( 2)	0.7 ( 15)	1.4 ( 31)	1.4 ( 31)	1.2 ( 26)	0.6 ( 14)	5.5 ( 119)

## SUMMARY FOR STABILITY CLASS - C

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 2

NUMBER OF HOURS OF THIS STABILITY CLASS .... 121      OF      2169      VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - D      NEUTRAL (-1.5 DEG C < DELTA T / 100 METERS <= -0.5 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.1 ( 3)	0.3 ( 7)	0.6 ( 12)	0.1 ( 3)	0.1 ( 3)	0.0 ( 0)	1.3 ( 28)
NNE	0.1 ( 2)	0.9 ( 20)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.2 ( 26)
NE	0.4 ( 8)	0.5 ( 11)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.9 ( 19)
ENE	0.2 ( 4)	0.6 ( 12)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.7 ( 16)
E	0.2 ( 4)	0.6 ( 13)	0.6 ( 13)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.4 ( 30)
ESE	0.1 ( 3)	1.1 ( 23)	1.1 ( 23)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	2.3 ( 49)
SE	0.1 ( 2)	0.8 ( 18)	0.6 ( 18)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.6 ( 38)
SSE	0.0 ( 0)	0.6 ( 13)	0.7 ( 15)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.3 ( 28)
S	0.1 ( 3)	0.8 ( 17)	1.2 ( 27)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	2.2 ( 47)
SSW	0.0 ( 1)	0.5 ( 10)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.7 ( 15)
SW	0.1 ( 2)	0.9 ( 19)	1.2 ( 27)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	2.4 ( 53)
WSW	0.0 ( 1)	1.2 ( 27)	3.6 ( 79)	1.4 ( 31)	0.5 ( 11)	0.3 ( 7)	7.2 ( 156)
W	0.1 ( 2)	0.8 ( 18)	1.2 ( 26)	1.3 ( 28)	1.2 ( 26)	0.8 ( 18)	5.4 ( 118)
WNW	0.1 ( 2)	0.3 ( 7)	0.3 ( 6)	0.2 ( 5)	0.6 ( 12)	0.0 ( 1)	1.5 ( 33)
NW	0.1 ( 3)	0.2 ( 5)	0.0 ( 1)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.5 ( 11)
NNW	0.0 ( 1)	0.0 ( 1)	0.1 ( 2)	0.3 ( 7)	0.0 ( 0)	0.0 ( 0)	0.5 ( 11)
TOTAL	1.9 ( 41)	10.2 ( 221)	11.8 ( 257)	3.7 ( 81)	2.4 ( 52)	1.2 ( 26)	31.3 ( 678)

## SUMMARY FOR STABILITY CLASS - D

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 12

NUMBER OF HOURS OF THIS STABILITY CLASS .... 690      OF      2169      VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - E SLIGHTLY STABLE (-0.5 DEG C < DELTA T / 100 METERS <= 1.5 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.2 ( 4)	0.5 ( 11)	0.7 ( 15)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.4 ( 30)
NNE	0.4 ( 8)	0.8 ( 18)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.2 ( 27)
NE	0.7 ( 16)	0.7 ( 15)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.4 ( 31)
ENE	1.0 ( 21)	0.6 ( 12)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.5 ( 33)
E	0.6 ( 12)	0.5 ( 11)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.1 ( 24)
ESE	0.5 ( 10)	0.8 ( 17)	0.4 ( 9)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.7 ( 36)
SE	0.3 ( 7)	2.2 ( 46)	0.5 ( 11)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 66)
SSE	0.1 ( 2)	2.5 ( 55)	0.9 ( 19)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.5 ( 76)
S	0.4 ( 8)	1.6 ( 35)	1.5 ( 32)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.5 ( 75)
SSW	0.1 ( 3)	1.0 ( 22)	0.3 ( 6)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	1.5 ( 32)
SW	0.2 ( 4)	1.8 ( 40)	1.3 ( 28)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	3.4 ( 74)
WSW	0.1 ( 3)	1.8 ( 38)	2.6 ( 57)	0.3 ( 6)	0.0 ( 0)	0.0 ( 0)	4.8 ( 104)
W	0.3 ( 7)	0.8 ( 17)	0.4 ( 8)	0.5 ( 11)	0.0 ( 0)	0.0 ( 0)	2.0 ( 43)
WNW	0.3 ( 6)	0.2 ( 4)	0.3 ( 6)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.7 ( 16)
NW	0.3 ( 6)	0.2 ( 5)	0.1 ( 2)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.6 ( 14)
NNW	0.3 ( 7)	0.6 ( 14)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.0 ( 22)
TOTAL	5.7 ( 124)	16.7 ( 362)	9.0 ( 196)	1.0 ( 21)	0.0 ( 0)	0.0 ( 0)	32.4 ( 703)

## SUMMARY FOR STABILITY CLASS - E

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 5

NUMBER OF HOURS OF THIS STABILITY CLASS .... 708 OF 2169 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

MODERATELY STABLE (1.5 DEG C < DELTA T / 100 METERS <= 4.0 DEG C)

STABILITY CLASS - F

DIR	SPEED (MPH)						19-23	>=24	TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24			
N	0.0 ( 1 )	0.2 ( 4 )	0.2 ( 4 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.4 ( 9 )
NNE	0.2 ( 4 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.3 ( 7 )
NNE	0.5 ( 10 )	0.2 ( 7 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.8 ( 17 )
NNE	0.3 ( 11 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.6 ( 13 )
ESE	0.5 ( 15 )	0.2 ( 7 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.7 ( 10 )
ESE	0.7 ( 10 )	0.3 ( 7 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.8 ( 17 )
ESE	0.4 ( 9 )	0.6 ( 13 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	1.0 ( 22 )
SSE	0.4 ( 9 )	0.6 ( 13 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	1.1 ( 24 )
SSW	0.2 ( 5 )	0.2 ( 13 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	1.1 ( 24 )
SSW	0.0 ( 6 )	0.8 ( 18 )	0.2 ( 5 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	1.0 ( 23 )
SSW	0.0 ( 1 )	0.3 ( 17 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.9 ( 21 )
WSW	0.1 ( 3 )	1.0 ( 22 )	0.7 ( 17 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	1.9 ( 42 )
W	0.0 ( 1 )	0.8 ( 17 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	1.0 ( 23 )
WNW	0.0 ( 4 )	0.2 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 7 )
NW	0.1 ( 3 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 6 )
NNW	0.0 ( 1 )	0.3 ( 6 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.3 ( 7 )
TOTAL	4.2 ( 92 )	6.6 ( 144 )	1.5 ( 32 )	0.2 ( 5 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	12.6 ( 273 )

## SUMMARY FOR STABILITY CLASS - F

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 2

NUMBER OF HOURS OF THIS STABILITY CLASS .... 275      OF      2169      VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - G

EXTREMELY STABLE (4.0 DEG C < DELTA T / 100 METERS)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 1)	0.3 ( 7)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.4 ( 8)
NNE	0.1 ( 3)	0.3 ( 6)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.5 ( 10)
NE	0.2 ( 4)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 7)
ENE	0.2 ( 5)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 6)
E	0.9 ( 20)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.0 ( 22)
ESE	1.0 ( 22)	0.7 ( 15)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.7 ( 37)
SE	1.1 ( 24)	1.0 ( 21)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	2.1 ( 45)
SSE	0.6 ( 12)	1.1 ( 23)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.7 ( 36)
S	0.4 ( 8)	1.1 ( 24)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.5 ( 32)
SSW	0.3 ( 6)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.4 ( 8)
SW	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
WSW	0.1 ( 2)	0.4 ( 8)	0.5 ( 10)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	1.0 ( 22)
W	0.3 ( 6)	0.2 ( 5)	0.1 ( 2)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.7 ( 15)
WNW	0.2 ( 5)	0.1 ( 3)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.5 ( 10)
NW	0.1 ( 3)	0.3 ( 6)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.4 ( 9)
NNW	0.2 ( 5)	0.3 ( 7)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.6 ( 12)
TOTAL	5.9 ( 127)	6.2 ( 134)	0.7 ( 16)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	13.0 ( 281)

## SUMMARY FOR STABILITY CLASS - G

NUMBER OF CALM HOURS ( <1.0 MPH ) .....	1			
NUMBER OF MISSING WIND OBSERVATIONS .....	0			
NUMBER OF HOURS OF THIS STABILITY CLASS ....	281	OF	2169	VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - ALL (A-G)

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.4 (9)	1.4 (31)	1.5 (33)	0.1 (3)	0.0 (0)	0.0 (0)	3.4 (79)
NNE	0.8 (17)	2.3 (50)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	3.4 (74)
NNE	1.7 (38)	1.7 (37)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.4 (70)
E	1.9 (42)	1.3 (28)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.2 (76)
ESE	2.3 (51)	1.4 (31)	0.6 (14)	0.0 (0)	0.0 (0)	0.0 (0)	4.4 (96)
ESE	2.1 (45)	1.9 (43)	1.7 (38)	0.0 (0)	0.0 (0)	0.0 (0)	5.7 (127)
SE	1.9 (41)	1.0 (21)	1.6 (35)	0.0 (0)	0.0 (0)	0.0 (0)	4.5 (100)
SSE	1.1 (23)	1.0 (23)	1.9 (42)	0.0 (0)	0.0 (0)	0.0 (0)	3.8 (83)
S	1.1 (24)	1.3 (29)	1.9 (43)	0.0 (0)	0.0 (0)	0.0 (0)	3.3 (73)
SSW	1.8 (38)	1.7 (37)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.5 (79)
SSW	0.4 (9)	1.3 (29)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.7 (61)
WSW	0.4 (9)	3.1 (67)	2.7 (58)	0.4 (9)	0.9 (19)	0.7 (15)	8.2 (183)
W	0.8 (16)	4.5 (99)	2.4 (53)	2.8 (62)	2.0 (43)	1.3 (27)	18.7 (409)
WNW	0.7 (15)	2.6 (57)	1.8 (40)	0.4 (9)	0.7 (15)	0.3 (6)	7.5 (167)
NW	0.7 (15)	1.0 (22)	0.3 (7)	0.3 (6)	0.0 (0)	0.0 (0)	2.3 (51)
NW	0.6 (14)	1.4 (31)	0.2 (4)	0.4 (8)	0.0 (0)	0.0 (0)	2.6 (57)
TOTAL	17.7 (386)	40.7 (889)	26.3 (575)	7.2 (158)	3.9 (85)	2.2 (48)	98.0 (2141)

SUMMARY FOR STABILITY CLASS - ALL (A-G)

NUMBER OF CALM HOURS (<1.0 MPH) : 1

NUMBER OF MISSING WIND OBSERVATIONS : 29

NUMBER OF VALID STABILITY HOURS : 2167 OF 2184 TOTAL HOURS IN PERIOD



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION

WIND DATA FROM: MAIN 30' SITE

FROM: 4/01/90 TO 6/30/90

## TOTAL WIND CATEGORY

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.8 (3)	1.3 (33)	1.3 (33)	0.1 (3)	0.1 (3)	0.0 (0)	3.8 (69)
NNE	0.7 (17)	1.3 (30)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	2.3 (54)
NNE	1.7 (38)	1.7 (37)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.4 (75)
E	1.9 (42)	1.3 (28)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.2 (70)
E	2.3 (51)	1.4 (31)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.7 (82)
ESE	2.1 (45)	1.9 (43)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	4.0 (88)
ESE	1.1 (23)	1.6 (36)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.7 (59)
SSE	1.1 (23)	1.9 (43)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.0 (66)
S	1.1 (23)	1.9 (43)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.0 (66)
SSW	0.8 (17)	1.4 (31)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.2 (48)
SW	0.4 (8)	1.1 (24)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.5 (32)
WSW	0.4 (9)	1.1 (24)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.5 (32)
W	0.7 (16)	1.1 (24)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.8 (39)
WNW	0.8 (17)	1.1 (24)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.9 (41)
NW	0.7 (15)	1.1 (24)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.8 (39)
NNW	0.6 (14)	1.1 (24)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.7 (36)
TOTAL	17.7 (386)	41.0 (896)	26.3 (575)	7.2 (158)	3.9 (83)	2.2 (48)	98.4 (2148)

## SUMMARY FOR TOTAL WIND CATEGORY

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 1

NUMBER OF MISSING WIND OBSERVATIONS ..... 36

TOTAL HOURS IN PERIOD ..... 2184

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

## \*\*\* LEGEND \*\*\* JOINT FREQUENCY OF WIND SPEED AND WIND DIRECTION \*\*\* BY STABILITY \*\*\*

SITE: NINE MILE UPPER: WIND SPEED UPPER - 200FT CUP  
WIND DIRECTION UPPER - 200FT VANE  
TEMPERATURE DIFFERENCE - (200FT-30FT)

NINE MILE LOWER: WIND SPEED LOWER - 30FT CUP  
WIND DIRECTION LOWER - 30FT VANE  
TEMPERATURE DIFFERENCE - (200FT-30FT)

STABILITY CLASS: PASQUILL STABILITY CATEGORIES - DEG C/100M

A - EXTREMELY UNSTABLE	< -1.9	TO	< -1.9
B - MODERATELY UNSTABLE	> -1.7	TO	< -1.7
C - SLIGHTLY UNSTABLE	> -1.5	TO	< -1.5
D - NEUTRAL	> -1.3	TO	< -1.3
E - SLIGHTLY STABLE	> -0.5	TO	< -0.5
F - MODERATELY STABLE	> 1.5	TO	< 1.5
G - EXTREMELY STABLE	> 4.0	TO	< 4.0
ALL - ALL STABILITIES (A-G)	ALL		
( ) - TOTAL WIND	N/A		

WIND CLASS: SIX WIND SPEED CATEGORIES - (SEE TABLE HEADING) MPH  
SIXTEEN WIND DIRECTION CATEGORIES - 22.5 DEG

NOTE: THE DATA CAPTURE STATISTICS ARE GIVEN FOR EACH OF THE NINE CATEGORIES LISTED ABOVE.

CALM WINDS ARE LISTED IN THE 0-3 MPH WIND SPEED CATEGORY.

WIND SPEEDS ARE ROUNDED TO NEAREST MPH e.g. 3.4 = 3.0, 3.5 = 4.0

WIND DIRECTIONS ARE MEASURED "FROM" THE DIRECTION THE WIND IS COMING FROM.



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200' F1 DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

EXTREMELY UNSTABLE (DELTA T / 100 METERS < -1.9 DEG C)

STABILITY CLASS - A

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.1 ( 2)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.1 ( 2)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SSE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
S	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SSW	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)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
WSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
W	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
TOTAL	0.0 ( 0)	0.2 ( 4)	0.4 ( 9)	1.3 ( 29)	0.8 ( 17)	0.3 ( 6)	3.0 ( 65)

## SUMMARY FOR STABILITY CLASS - A

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 65

2169 VALID STABILITY HOURS

OF

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - B      MODERATELY UNSTABLE (-1.9 DEG C < DELTA T / 100 METERS < -1.7 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
NNE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.1 ( 2 )
NNE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
ENE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
E	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
ESE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
SE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
SSE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
S	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SSW	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 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
WSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
W	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.3 ( 7 )	0.1 ( 3 )	0.2 ( 4 )	0.6 ( 14 )
WNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 4 )	0.1 ( 2 )	0.3 ( 6 )
NW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 1 )
NNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
TOTAL	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.5 ( 11 )	0.4 ( 9 )	0.3 ( 7 )	1.3 ( 29 )

## SUMMARY FOR STABILITY CLASS - B

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 29      OF      2169      VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

WIND DATA FROM: MAIN 200' SITE

FROM: 4/01/90 TO 6/30/90

SLIGHTLY UNSTABLE (-1.7 DEG C < DELTA T / 100 METERS < -1.5 DEG C)

STABILITY CLASS - C

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.1 ( 3)
NNE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.1 ( 3)
NE	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
ENE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
E	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.1 ( 2)
SSE	0.0 ( 0)	0.1 ( 2)	0.0 ( 1)	0.0 ( 4)	0.0 ( 0)	0.0 ( 0)	0.2 ( 7)
S	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)
SSW	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
SW	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
WSW	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)	0.6 ( 12)	0.6 ( 12)	0.5 ( 11)	1.8 ( 40)
W	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.2 ( 4)	0.2 ( 15)	0.7 ( 13)	1.7 ( 36)
WNW	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.2 ( 4)	0.2 ( 4)	0.4 ( 9)	0.8 ( 18)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.1 ( 2)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 1)
TOTAL	0.0 ( 0)	0.3 ( 6)	0.7 ( 15)	1.3 ( 29)	1.7 ( 36)	1.6 ( 35)	5.6 ( 121)

## SUMMARY FOR STABILITY CLASS - C

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 121

2169 VALID STABILITY HOURS

OF

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - D

NEUTRAL (-1.5 DEG C < DELTA T / 100 METERS <= -0.5 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 1)	0.2 ( 5)	0.1 ( 2)	0.6 ( 14)	0.2 ( 5)	0.1 ( 3)	1.4 ( 30)
NNE	0.1 ( 2)	0.2 ( 5)	0.1 ( 3)	0.6 ( 14)	0.2 ( 5)	0.2 ( 5)	1.6 ( 34)
NE	0.0 ( 1)	0.3 ( 6)	0.2 ( 4)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.6 ( 12)
ENE	0.0 ( 0)	0.3 ( 6)	0.1 ( 3)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.6 ( 12)
E	0.0 ( 0)	0.2 ( 4)	0.1 ( 3)	0.5 ( 10)	0.1 ( 2)	0.0 ( 0)	0.9 ( 19)
ESE	0.0 ( 0)	0.1 ( 3)	0.6 ( 13)	0.7 ( 15)	0.4 ( 9)	0.0 ( 0)	1.8 ( 40)
SE	0.0 ( 1)	0.0 ( 1)	1.0 ( 21)	1.1 ( 23)	0.2 ( 5)	0.0 ( 0)	2.4 ( 51)
SSE	0.0 ( 0)	0.1 ( 2)	0.6 ( 14)	0.7 ( 16)	0.1 ( 3)	0.0 ( 0)	1.6 ( 35)
S	0.0 ( 1)	0.1 ( 2)	0.8 ( 18)	1.3 ( 28)	0.1 ( 2)	0.0 ( 0)	2.4 ( 51)
SSW	0.0 ( 0)	0.3 ( 6)	0.2 ( 5)	0.3 ( 7)	0.0 ( 0)	0.0 ( 0)	0.8 ( 18)
SW	0.0 ( 0)	0.2 ( 5)	0.4 ( 8)	0.9 ( 20)	0.1 ( 2)	0.1 ( 2)	1.7 ( 37)
WSW	0.0 ( 1)	0.1 ( 3)	1.9 ( 41)	2.8 ( 61)	1.3 ( 29)	1.0 ( 22)	7.2 ( 157)
W	0.0 ( 0)	0.6 ( 14)	0.9 ( 20)	1.6 ( 34)	1.0 ( 22)	1.8 ( 35)	5.9 ( 128)
WNW	0.0 ( 0)	0.2 ( 5)	0.3 ( 6)	0.2 ( 5)	0.2 ( 5)	0.9 ( 19)	1.8 ( 40)
NW	0.0 ( 1)	0.3 ( 6)	0.0 ( 1)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.5 ( 10)
NNW	0.0 ( 1)	0.0 ( 1)	0.2 ( 4)	0.3 ( 6)	0.2 ( 4)	0.0 ( 0)	0.7 ( 16)
TOTAL	0.4 ( 9)	3.4 ( 74)	7.7 ( 166)	11.9 ( 258)	4.3 ( 94)	4.1 ( 89)	31.8 ( 690)

## SUMMARY FOR STABILITY CLASS - D

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 690 OF 2169 VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

STABILITY CLASS - E      SLIGHTLY STABLE (-0.5 DEG C < DELTA T / 10° METERS (= 1.5 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.1 ( 2)	0.4 ( 8)	0.2 ( 4)	0.3 ( 7)	0.6 ( 14)	0.3 ( 6)	1.9 ( 41)
NNE	0.0 ( 1)	0.2 ( 4)	0.2 ( 5)	0.3 ( 6)	0.4 ( 9)	0.2 ( 5)	1.4 ( 30)
NE	0.1 ( 3)	0.3 ( 6)	0.1 ( 3)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	0.8 ( 17)
ENE	0.1 ( 3)	0.7 ( 15)	0.2 ( 5)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	1.1 ( 24)
E	0.0 ( 1)	0.4 ( 9)	0.4 ( 8)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	1.0 ( 21)
ESE	0.0 ( 0)	0.2 ( 5)	0.4 ( 8)	0.6 ( 12)	0.0 ( 1)	0.0 ( 0)	1.3 ( 26)
SE	0.1 ( 7)	0.1 ( 3)	0.6 ( 14)	1.3 ( 33)	0.4 ( 7)	0.0 ( 0)	2.8 ( 61)
SSE	0.0 ( 1)	0.3 ( 1)	0.6 ( 12)	2.3 ( 50)	0.4 ( 9)	0.0 ( 0)	3.4 ( 73)
S	0.0 ( 0)	0.1 ( 2)	1.0 ( 22)	2.0 ( 43)	0.5 ( 10)	0.0 ( 0)	3.6 ( 78)
SSW	0.0 ( 0)	0.1 ( 3)	0.6 ( 13)	0.4 ( 9)	0.1 ( 2)	0.0 ( 0)	1.2 ( 27)
SW	0.2 ( 4)	0.4 ( 8)	0.8 ( 17)	1.2 ( 26)	0.3 ( 7)	0.0 ( 0)	2.9 ( 62)
WSW	0.1 ( 2)	0.4 ( 8)	1.4 ( 30)	2.4 ( 51)	0.7 ( 16)	0.2 ( 5)	5.2 ( 112)
W	0.2 ( 4)	0.6 ( 14)	1.0 ( 21)	0.3 ( 19)	0.4 ( 7)	0.1 ( 3)	3.3 ( 70)
WNW	0.0 ( 1)	0.7 ( 15)	0.4 ( 9)	0.2 ( 4)	0.0 ( 1)	0.0 ( 0)	1.4 ( 30)
NW	0.0 ( 1)	0.5 ( 11)	0.1 ( 3)	0.2 ( 4)	0.0 ( 0)	0.0 ( 1)	0.9 ( 20)
NNW	0.0 ( 1)	0.3 ( 6)	0.1 ( 3)	0.1 ( 2)	0.1 ( 2)	0.0 ( 1)	0.7 ( 15)
TOTAL	1.2 ( 27)	5.4 ( 118)	8.2 ( 177)	12.7 ( 275)	4.1 ( 89)	1.0 ( 21)	32.6 ( 707)

## SUMMARY FOR STABILITY CLASS - E

NUMBER OF CALM HOURS ( <1.0 MPH ) : 0

NUMBER OF MISSING WIND OBSERVATIONS : 1

NUMBER OF HOURS OF THIS STABILITY CLASS : 708

2169 OF 2169 VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Σ FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

MODERATELY STABLE (1.5 DEG C < DELTA T / 100 METERS <= 4.0 DEG C)

STABILITY CLASS - F

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0 )	0.1 ( 3 )	0.0 ( 0 )	0.4 ( 9 )	0.1 ( 3 )	0.0 ( 0 )	0.7 ( 15 )
NNE	0.1 ( 2 )	0.1 ( 3 )	0.0 ( 1 )	0.2 ( 4 )	0.0 ( 1 )	0.0 ( 0 )	0.5 ( 11 )
NNE	0.0 ( 0 )	0.3 ( 6 )	0.1 ( 3 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.5 ( 11 )
E	0.0 ( 1 )	0.3 ( 7 )	0.0 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.4 ( 11 )
ESE	0.0 ( 1 )	0.2 ( 5 )	0.1 ( 3 )	0.0 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.4 ( 11 )
SE	0.0 ( 0 )	0.2 ( 3 )	0.2 ( 7 )	0.1 ( 5 )	0.0 ( 0 )	0.0 ( 0 )	0.6 ( 20 )
SSE	0.0 ( 0 )	0.1 ( 4 )	0.2 ( 4 )	0.6 ( 12 )	0.0 ( 0 )	0.0 ( 0 )	0.9 ( 20 )
S	0.0 ( 0 )	0.2 ( 4 )	0.1 ( 3 )	0.4 ( 10 )	0.1 ( 3 )	0.0 ( 0 )	0.9 ( 19 )
SSW	0.0 ( 0 )	0.2 ( 5 )	0.1 ( 3 )	0.5 ( 10 )	0.0 ( 0 )	0.0 ( 0 )	0.7 ( 15 )
SW	0.0 ( 0 )	0.2 ( 3 )	0.7 ( 16 )	0.6 ( 12 )	0.2 ( 5 )	0.0 ( 0 )	1.3 ( 40 )
WSW	0.0 ( 0 )	0.1 ( 3 )	0.9 ( 20 )	0.3 ( 7 )	0.2 ( 4 )	0.1 ( 1 )	1.8 ( 37 )
W	0.1 ( 3 )	0.6 ( 14 )	0.3 ( 7 )	0.2 ( 5 )	0.2 ( 4 )	0.1 ( 1 )	1.9 ( 37 )
WNW	0.1 ( 3 )	0.3 ( 6 )	0.4 ( 8 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.9 ( 19 )
NW	0.0 ( 0 )	0.1 ( 2 )	0.1 ( 2 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.3 ( 7 )
NNW	0.0 ( 0 )	0.1 ( 2 )	0.1 ( 2 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.3 ( 7 )
TOTAL	0.5 ( 10 )	3.6 ( 78 )	3.8 ( 83 )	3.7 ( 80 )	1.9 ( 19 )	0.2 ( 4 )	12.6 ( 274 )

## SUMMARY FOR STABILITY CLASS - F

NUMBER OF CALM HOURS ( <1.0 MPH )	0
NUMBER OF MISSING WIND OBSERVATIONS	1
NUMBER OF HOURS OF THIS STABILITY CLASS	275
OF	2169
VALID STABILITY HOURS	

100110

# NEW YORK POWER AUTHORITY - JAMES A. FLETCHER NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 4/01/90 TO 6/30/90

EXTREMELY STABLE (4.0 DEG C < DELTA T / 100 METERS)

STABILITY CLASS - 6

DIR	00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (	0.1 (	0.2 (	0.4 (	0.1 (	0.0 (	0.9 (
NNE	0.1 (	0.2 (	0.0 (	0.0 (	0.0 (	0.0 (	0.4 (
NE	0.1 (	0.5 (	0.0 (	0.0 (	0.0 (	0.0 (	0.7 (
ENE	0.1 (	0.4 (	0.1 (	0.0 (	0.0 (	0.0 (	0.6 (
E	0.2 (	0.5 (	0.2 (	0.0 (	0.0 (	0.0 (	1.0 (
ESE	0.1 (	0.3 (	0.4 (	0.0 (	0.0 (	0.0 (	0.8 (
SE	0.1 (	0.2 (	0.3 (	0.0 (	0.0 (	0.0 (	0.7 (
SSE	0.0 (	0.1 (	0.3 (	0.0 (	0.0 (	0.0 (	0.4 (
S	0.0 (	0.1 (	0.2 (	0.0 (	0.0 (	0.0 (	0.3 (
SSW	0.0 (	0.1 (	0.3 (	0.0 (	0.0 (	0.0 (	0.4 (
SW	0.0 (	0.2 (	0.4 (	0.0 (	0.0 (	0.0 (	0.6 (
WSW	0.0 (	0.2 (	0.4 (	0.0 (	0.0 (	0.0 (	0.6 (
W	0.0 (	0.2 (	0.4 (	0.0 (	0.0 (	0.0 (	0.6 (
WNW	0.0 (	0.2 (	0.4 (	0.0 (	0.0 (	0.0 (	0.6 (
NW	0.0 (	0.2 (	0.4 (	0.0 (	0.0 (	0.0 (	0.6 (
NNW	0.1 (	0.1 (	0.1 (	0.2 (	0.4 (	0.0 (	1.0 (
TOTAL	1.2 (	4.1 (	3.8 (	2.7 (	0.8 (	0.4 (	13.0 (

## SUMMARY FOR STABILITY CLASS - 6

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 281

2169

OF

VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      FROM: 4/01/90 TO 6/30/90      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATUR

STABILITY CLASS - ALL (A-G)

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.2 (4)	0.5 (19)	0.5 (12)	1.6 (39)	1.2 (27)	0.4 (9)	5.0 (110)
NNE	0.3 (7)	0.8 (17)	0.5 (13)	1.3 (28)	0.8 (18)	0.5 (10)	4.1 (90)
NE	0.3 (7)	1.3 (29)	0.5 (12)	0.3 (7)	0.0 (0)	0.0 (0)	2.9 (67)
ENE	0.3 (7)	1.6 (36)	0.6 (29)	0.2 (4)	0.0 (0)	0.0 (0)	2.7 (60)
E	0.2 (5)	1.3 (29)	0.7 (29)	0.6 (14)	0.1 (2)	0.0 (0)	2.9 (67)
ESE	0.2 (5)	0.8 (17)	1.6 (49)	1.6 (36)	0.7 (10)	0.0 (0)	4.7 (102)
SE	0.2 (5)	1.2 (12)	2.2 (22)	3.2 (70)	0.7 (13)	0.0 (0)	6.9 (151)
SSE	0.4 (1)	0.5 (11)	3.7 (37)	4.2 (91)	0.5 (12)	0.0 (0)	7.0 (152)
S	0.1 (2)	0.5 (11)	5.0 (50)	4.2 (91)	0.7 (16)	0.0 (0)	7.2 (160)
SSW	0.1 (2)	0.7 (16)	2.7 (27)	1.5 (33)	0.1 (2)	0.0 (0)	3.7 (80)
SW	0.2 (4)	1.3 (29)	2.8 (62)	2.9 (64)	0.5 (10)	0.1 (2)	7.8 (171)
WSW	0.1 (3)	1.1 (25)	5.0 (109)	7.4 (161)	3.4 (75)	2.4 (53)	19.5 (426)
W	0.4 (8)	2.2 (47)	2.5 (54)	2.9 (64)	2.8 (62)	2.8 (61)	13.6 (296)
WNW	0.3 (6)	1.4 (31)	0.6 (24)	0.6 (13)	0.6 (13)	1.5 (33)	5.9 (120)
NW	0.1 (3)	1.2 (26)	0.7 (7)	0.7 (10)	0.1 (2)	0.1 (2)	2.7 (50)
NNW	0.2 (4)	0.6 (13)	0.6 (14)	0.7 (15)	0.8 (17)	0.0 (1)	3.0 (65)
TOTAL	3.3 (72)	16.8 (368)	24.5 (534)	33.9 (741)	12.9 (281)	7.8 (171)	99.2 (2167)

SUMMARY FOR STABILITY CLASS - ALL (A-G)

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 2

NUMBER OF VALID STABILITY HOURS ..... 2169 OF 2184 TOTAL HOURS IN PERIOD

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION

WIND DATA FROM: MAIN 200' SITE

FROM: 4/01/90 TO 6/30/90

TOTAL WIND CATEGORY

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.2 (4)	1.0 (21)	0.5 (13)	1.8 (39)	1.2 (27)	0.4 (9)	4.1 (127)
NNE	0.3 (7)	0.8 (17)	0.5 (13)	1.3 (28)	0.8 (18)	0.3 (7)	4.1 (90)
NE	0.3 (7)	1.3 (29)	0.5 (13)	0.3 (7)	0.9 (20)	0.0 (0)	4.3 (53)
ENE	0.3 (7)	1.6 (36)	0.6 (13)	0.2 (4)	0.4 (9)	0.0 (0)	2.7 (60)
E	0.2 (5)	1.3 (29)	0.9 (19)	0.6 (14)	0.1 (2)	0.0 (0)	4.7 (87)
ESE	0.2 (5)	0.8 (17)	1.6 (35)	1.6 (36)	0.1 (2)	0.0 (0)	6.9 (102)
SE	0.2 (5)	1.2 (27)	2.2 (49)	3.2 (70)	0.7 (15)	0.0 (0)	11.1 (151)
SSE	0.0 (1)	0.5 (11)	1.7 (37)	4.2 (91)	0.5 (12)	0.0 (0)	7.0 (152)
S	0.1 (2)	0.5 (11)	2.3 (50)	4.2 (91)	0.7 (16)	0.0 (0)	17.0 (170)
SSW	0.1 (2)	0.7 (16)	1.2 (27)	1.5 (33)	0.1 (2)	0.0 (0)	3.7 (80)
SW	0.2 (4)	1.3 (29)	2.6 (62)	2.9 (64)	0.5 (10)	0.1 (2)	7.8 (171)
WSW	0.1 (3)	1.1 (25)	5.1 (111)	7.4 (161)	3.4 (75)	2.4 (53)	19.6 (428)
W	0.4 (8)	2.2 (49)	2.5 (54)	2.9 (64)	2.6 (62)	2.8 (61)	13.6 (258)
WNW	0.3 (6)	1.4 (31)	1.1 (24)	0.6 (13)	0.6 (13)	1.5 (33)	5.3 (120)
NW	0.1 (3)	1.2 (27)	0.3 (7)	0.5 (10)	0.1 (2)	0.0 (0)	2.3 (51)
NNW	0.2 (4)	0.6 (13)	0.6 (14)	0.7 (16)	0.8 (17)	0.0 (1)	3.0 (65)
TOTAL	3.3 (72)	17.1 (373)	24.5 (536)	33.9 (741)	12.9 (281)	7.8 (171)	99.5 (2174)

SUMMARY FOR TOTAL WIND CATEGORY

NUMBER OF CALM HOURS ( <1.0 MPH ) 0

NUMBER OF MISSING WIND OBSERVATIONS 10

TOTAL HOURS IN PERIOD 2184

\*\*\* LEGEND \*\*\*  
 \*\*\* JOINT FREQUENCY OF WIND SPEED AND WIND DIRECTION \*\*\*  
 \*\*\* BY STABILITY \*\*\*

SITE: NINE MILE UPPER: WIND SPEED UPPER - 200FT CUF  
 WIND DIRECTION UPPER - 200FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

NINE MILE LOWER: WIND SPEED LOWER - 30FT CUF  
 WIND DIRECTION LOWER - 30FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

STABILITY CLASS: PASQUILL STABILITY CATEGORIES - DEG C/100H

A - EXTREMELY UNSTABLE	> -1.9 TO <= -1.7
B - MODERATELY UNSTABLE	> -1.7 TO <= -1.5
C - SLIGHTLY UNSTABLE	> -1.5 TO <= -0.5
D - NEUTRAL	> -0.5 TO <= 1.5
E - SLIGHTLY STABLE	> 1.5 TO <= 4.0
F - MODERATELY STABLE	> 4.0
G - EXTREMELY STABLE	> ALL
ALL - ALL STABILITIES (A-G)	N/A
( ) - TOTAL WIND	

WIND CLASS: SIX WIND SPEED CATEGORIES - (SEE TABLE HEADING) MPH  
 SIXTEEN WIND DIRECTION CATEGORIES - 22.5 DEG

NOTE: THE DATA CAPTURE STATISTICS ARE GIVEN FOR EACH OF THE NINE CATEGORIES LISTED ABOVE.

CALM WINDS ARE LISTED IN THE 0-3 MPH WIND SPEED CATEGORY.

WIND SPEEDS ARE ROUNDED TO NEAREST MPH e.g., 3.4 = 3.0, 3.5 = 4.0

WIND DIRECTIONS ARE MEASURED "FROM" THE DIRECTION THE WIND IS COMING FROM.



## NEW YORK POWER AUTHORITY - JAMES A. FLETCHER, NUCLEAR POWER PLANT

3. FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

[illegible]

WIND DATA FROM 1941-30 SITE

FROM: 7/01/90 TO 7/30/90

STABILITY CLASSES

EXTREMELY UNSTABLE (DELTA T = 100 METERS < -1.9 DEG C)

# STABILITY FOR STABILITY CLASSES

NUMBER OF HOURS OF THIS STABILITY CLASS ...	PERCENT	VAL TO STABILITY HOURS
1	100	1
2	100	2
3	100	3
4	100	4
5	100	5
6	100	6
7	100	7
8	100	8
9	100	9
10	100	10
11	100	11
12	100	12
13	100	13
14	100	14
15	100	15
16	100	16
17	100	17
18	100	18
19	100	19
20	100	20
21	100	21
22	100	22
23	100	23
24	100	24
25	100	25
26	100	26
27	100	27
28	100	28
29	100	29
30	100	30
31	100	31
32	100	32
33	100	33
34	100	34
35	100	35
36	100	36
37	100	37
38	100	38
39	100	39
40	100	40
41	100	41
42	100	42
43	100	43
44	100	44
45	100	45
46	100	46
47	100	47
48	100	48
49	100	49
50	100	50
51	100	51
52	100	52
53	100	53
54	100	54
55	100	55
56	100	56
57	100	57
58	100	58
59	100	59
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61	100	61
62	100	62
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66	100	66
67	100	67
68	100	68
69	100	69
70	100	70
71	100	71
72	100	72
73	100	73
74	100	74
75	100	75
76	100	76
77	100	77
78	100	78
79	100	79
80	100	80
81	100	81
82	100	82
83	100	83
84	100	84
85	100	85
86	100	86
87	100	87
88	100	88
89	100	89
90	100	90
91	100	91
92	100	92
93	100	93
94	100	94
95	100	95
96	100	96
97	100	97
98	100	98
99	100	99
100	100	100

## NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

... FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

WIND DATA FROM: MAIN 30° SITE

FROM: 7/01/90 TO 9/30/90

MODERATELY INSTABLE (-1.9 DEG C < DELTA T / 100 METERS < -1.7 DEG C)

STABILITY CLASS - L

## SUMMARY FOR STABILITY CLASS - B

NUMBER OF CALM HOURS (1.0 REF) .....

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26

NUMBER OF HOURS OF THIS STABILITY CLASS \*\*\*

2160 VALUABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2. FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 7/01/90 TO 9/30/90

STABILITY CLASS - C      SLIGHTLY UNSTABLE (-1.7 DEG C < DELTA T / 100 METERS < -1.5 DEG C)

DIR	00-03	04-07	08-12	13-16	17-23	24	TOTAL
N	0.0	0.1	0.2	0.0	0.0	0.0	0.3
NNE	0.0	0.1	0.0	0.0	0.0	0.0	0.1
NE	0.0	0.3	0.1	0.0	0.0	0.0	0.4
ENE	0.0	0.4	0.0	0.0	0.0	0.0	0.4
E	0.0	0.4	0.0	0.0	0.0	0.0	0.4
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.1	0.0	0.0	0.0	0.0	0.1
SSE	0.0	0.1	0.0	0.0	0.0	0.0	0.1
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.3	0.1	0.0	0.0	0.0	0.4
W	0.0	0.3	0.1	0.0	0.0	0.0	0.4
WNW	0.0	0.1	0.0	0.0	0.0	0.0	0.1
NW	0.0	0.1	0.0	0.0	0.0	0.0	0.1
NNW	0.0	0.2	0.3	0.0	0.0	0.0	0.5
TOTAL	0.1	2.6	2.5	0.0	0.0	0.0	5.2

## SUMMARY FOR STABILITY CLASS - C

NUMBER OF CALM HOURS ( < 1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 2

NUMBER OF HOURS OF THIS STABILITY CLASS .... 164

2189      VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2. FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 7/01/90 TO 9/30/90

STABILITY CLASS - D      NEUTRAL (-1.5 DEG C / DELTA T / 100 METERS (-0.5 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
000	0.1 (1)	1.5 (3)	0.4 (1)	0.1 (1)	0.0 (0)	0.0 (0)	3.1 (6)
010	0.5 (1)	1.5 (3)	0.6 (2)	0.0 (0)	0.0 (0)	0.0 (0)	3.6 (6)
020	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
030	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
040	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
050	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
060	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
070	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
080	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
090	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
100	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
110	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
120	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
130	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
140	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
150	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
160	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
170	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
180	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
190	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
200	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
210	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
220	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
230	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
240	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
250	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
260	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
270	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
280	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
290	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
300	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
TOTAL	2.9 (64)	16.0 (348)	10.5 (227)	3.0 (68)	1.8 (40)	0.0 (0)	34.3 (747)

## SUMMARY FOR STABILITY CLASS - D

NUMBER OF CALM HOURS (-1.0 MPH) +++++ 0

NUMBER OF MISSING WIND OBSERVATIONS +++++ 3

NUMBER OF HOURS OF THIS STABILITY CLASS ++++ 750

2180 UNID STABILITY HOURS

OF





# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 7/91/90 TO 7/30/90

STABILITY CLASS - F

MODERATELY STABLE (1.5 DEG C < DELTA T / 100 METERS < 4.0 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
00-03	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
01-04	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
05-08	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
09-12	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
13-16	0.7 ( 16)	0.6 ( 14)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.3 ( 30)
17-20	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	2.0 ( 42)
21-24	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
25-28	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
29-32	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
33-36	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
37-40	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
41-44	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
45-48	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
49-52	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
53-56	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
57-60	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
61-64	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
65-68	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
69-72	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
73-76	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
77-80	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
81-84	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
85-88	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
89-92	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
93-96	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
97-100	0.4 ( 8)	1.6 ( 34)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 72)
TOTAL	3.8 ( 82)	7.1 ( 154)	0.4 ( 8)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	11.4 ( 247)

## SUMMARY FOR STABILITY CLASS - F

NUMBER OF CALM HOURS ( < 1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 247

2180 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2. FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      FROM: 7/01/90 TO 9/30/90      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

STABILITY CLASS - G      EXTREMELY STABLE (4.0 DEG C < DELTA T / 100 METERS)

DIR	00-03	04-07	08-12	13-16	17-23	24	TOTAL
N	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
NNE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
NNE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
ENE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
ESE	0.4 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (1)
ESE	0.9 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (2)
SSE	0.8 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.8 (2)
SSW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
SSW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
WSW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
WSW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
NNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
TOTAL	3.1 (6)	7.3 (15)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	10.5 (22)

## SUMMARY FOR STABILITY CLASS - G

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0  
 NUMBER OF MISSING WIND OBSERVATIONS ..... 0  
 NUMBER OF HOURS OF THIS STABILITY CLASS .... 229 OF 2160 VALID STABILITY HOURS

## NEW YORK POWER AUTHORITY - JAMES M. FITZPATRICK NUCLEAR POWER PLANT

2. FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30° SITE

ATMOSPHERIC STABILITY FROM: 200 FT DELTA TEMPERATURE

FROM: 7/01/90 TO 7/30/90 08/03/90

STABILITY CLASS - ALL ( A-B )

country for

[illegible]

VALLEY OF THE MONUMENTS

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## NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2. FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION

WIND DATA FROM: MAIN 30° SITE

FROM: 7/01/90 TO 7/30/90

TOTAL WIND CATEGORY

## CONCLUSIONS FOR THE FUTURE

[illegible]

JOINT FREQUENCY OF WIND SPEED AND WIND DIRECTION  
BY STABILITY

SITE: WIND MILE UPPER: WIND SPEED UPPER - 200FT CUP  
WIND DIRECTION UPPER - 200FT WANE  
TEMPERATURE DIFFERENCE - (200FT-30FT)

WIND MILE LOWER: WIND SPEED LOWER - 30FT CUP  
WIND DIRECTION LOWER - 30FT WANE  
TEMPERATURE DIFFERENCE - (200FT-30FT)

STABILITY CLASS: PASQUILL STABILITY CATEGORIES - BEG C/100N

A - EXTREMELY UNSTABLE	> -1.3 TO <= -1.7
B - MODERATELY UNSTABLE	> -1.7 TO <= -1.9
C - SLIGHTLY UNSTABLE	> -1.9 TO <= -2.3
D - NEUTRAL	> -2.3 TO <= -2.5
E - SLIGHTLY STABLE	> -2.5 TO <= -2.9
F - MODERATELY STABLE	> -2.9 TO <= -3.3
G - EXTREMELY STABLE	> -3.3 TO <= -4.0
M1 - ALL STABILITIES (A-G)	ALL
M2 - TOTAL WIND	N/A

WIND CLASS: WIND SPEED CATEGORIES - (SEE TABLE HEADING) MPH  
WIND DIRECTION CATEGORIES - 22.5 DEG

NOTE: THE DATA CAPTURE STATISTICS ARE GIVEN FOR EACH OF THE CATEGORIES LISTED ABOVE.

CALM WINDS ARE LISTED IN THE 0-3 MPH WIND SPEED CATEGORY.

WIND SPEEDS ARE ROUNDED TO NEAREST MPH E.G. 3.4 - 3.0, 3.5 - 4.0

WIND DIRECTIONS ARE MEASURED "FROM" THE DIRECTION THE WIND IS COMING FROM.



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 7/01/90 TO 9/30/90

STABILITY CLASS - A

EXTREMELY UNSTABLE (DELTA T / 100 METERS < -1.9 DEG C)

DIR	00-03	04-07	08-12	13-16	17-23	>24	TOTAL
N	0.0 ( 0)	0.4 ( 8)	0.1 ( 3)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.7 ( 15)
NNE	0.0 ( 0)	0.0 ( 0)	0.3 ( 6)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.5 ( 10)
NNE	0.0 ( 0)	0.1 ( 2)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)
ENE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
E	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 2)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)
SE	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.4 ( 4)
SSE	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
SSW	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 1)
SW	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
WSW	0.0 ( 0)	0.0 ( 1)	0.0 ( 10)	0.2 ( 5)	0.4 ( 8)	0.0 ( 0)	0.9 ( 24)
W	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.1 ( 3)
WNW	0.0 ( 0)	0.3 ( 6)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 6)
W	0.0 ( 0)	0.3 ( 7)	0.0 ( 3)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.7 ( 13)
WNW	0.0 ( 0)	0.3 ( 6)	0.5 ( 10)	0.4 ( 8)	0.0 ( 0)	0.0 ( 0)	1.1 ( 24)
TOTAL	0.0 ( 0)	1.4 ( 31)	2.0 ( 44)	1.3 ( 29)	0.4 ( 9)	0.0 ( 1)	5.2 ( 114)

## SUMMARY FOR STABILITY CLASS - A

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 114 OF 2180 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2. FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE  
ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 7/01/90 TO 9/30/90

MODERATELY UNSTABLE (-1.7 DEG C / 100 METERS) -1.7 DEG C

STABILITY CLASS - B

DIR	00-03	04-07	08-12	13-18	19-23	24-29	TOTAL
N	0.0 (	0.1 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (
NNE	0.0 (	0.1 (	0.1 (	0.1 (	0.0 (	0.0 (	0.0 (
NNE	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (
ENE	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (
E	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (
ESE	0.0 (	0.1 (	0.1 (	0.1 (	0.0 (	0.0 (	0.0 (
SE	0.0 (	0.0 (	0.1 (	0.1 (	0.0 (	0.0 (	0.0 (
SSE	0.0 (	0.0 (	0.1 (	0.1 (	0.0 (	0.0 (	0.0 (
SSW	0.0 (	0.1 (	0.1 (	0.1 (	0.0 (	0.0 (	0.0 (
WSW	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (
WSW	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (
WNW	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (
WNW	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (
WNW	0.0 (	0.1 (	0.0 (	0.0 (	0.0 (	0.0 (	0.0 (
TOTAL	0.0 (	1.1 (	1.4 (	1.2 (	0.1 (	0.0 (	2.8 (

SUMMARY FOR STABILITY CLASS - B

NUMBER OF CALM HOURS (≤1.0 MPH) \*\*\*\*\*

NUMBER OF MISSING WIND OBSERVATIONS \*\*\*\*\*

NUMBER OF HOURS OF THIS STABILITY CLASS \*\*\*

93 OF 2130 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FLITFAIRER NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 7/01/90 (3 9/30/90

SLIGHTLY UNSTABLE (-1.7 DEG C < DELTA T < 100 METERS 1.5 DEG C)

STABILITY CLASS - C

DIR	00-03	04-07	08-12	13-18	17-23	24	TOTAL
N	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (1)	0.0 (4)	0.0 (1)	0.0 (8)
NNE	0.0 (0)	0.2 (6)	0.1 (2)	0.1 (3)	0.0 (1)	0.0 (0)	0.3 (10)
NNE	0.0 (0)	0.1 (3)	0.0 (1)	0.0 (0)	0.0 (1)	0.0 (0)	0.2 (4)
NNE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
ESE	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
ESE	0.0 (0)	0.0 (0)	0.1 (4)	0.1 (3)	0.0 (0)	0.0 (0)	0.2 (7)
ESE	0.0 (0)	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (3)
SSW	0.0 (0)	0.0 (0)	0.2 (2)	0.2 (4)	0.0 (0)	0.0 (0)	0.4 (6)
SSW	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
SSW	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (2)
WSW	0.0 (0)	0.1 (3)	0.3 (8)	0.6 (12)	0.4 (2)	0.0 (0)	1.4 (25)
WSW	0.0 (0)	0.4 (8)	0.7 (17)	0.4 (8)	0.2 (5)	0.0 (0)	1.7 (38)
WNW	0.0 (0)	0.2 (4)	0.1 (2)	0.1 (3)	0.0 (0)	0.0 (0)	0.6 (9)
WNW	0.0 (0)	0.1 (2)	0.0 (1)	0.1 (3)	0.0 (0)	0.0 (0)	0.3 (6)
NNW	0.0 (1)	0.1 (2)	0.2 (4)	0.2 (4)	0.0 (0)	0.0 (0)	0.6 (9)
TOTAL	0.0 (1)	1.5 (32)	2.0 (43)	1.6 (35)	1.3 (29)	1.1 (25)	7.5 (164)

## SUMMARY FOR STABILITY CLASS - C

NUMBER OF CALM HOURS (≤1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 164 OF 2160 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: 200' SITE

ATMOSPHERIC STABILITY FROM: HAIN 200 FT DELTA TEMPERATURE

FROM: 7/01/90 TO 7/30/90

STABILITY CLASS - B		NEUTRAL (-1.5 DEG C < DELTA T / 100 METERS < -0.5 DEG C)									
DIR	00-03	04-07	08-12	13-18	19-23	24-29	TOTAL				
N	0.1 ( 2)	0.5 ( 10)	0.5 ( 11)	0.5 ( 11)	0.3 ( 7)	0.0 ( 1)	1.9 ( 42)				
NNE	0.0 ( 0)	0.5 ( 10)	0.5 ( 14)	0.7 ( 16)	1.0 ( 21)	0.4 ( 8)	7.7 ( 40)				
NNE	0.0 ( 0)	1.1 ( 23)	0.5 ( 10)	0.1 ( 2)	0.2 ( 5)	0.0 ( 0)	2.9 ( 6)				
E	0.1 ( 2)	0.1 ( 3)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)				
E	0.0 ( 0)	0.1 ( 2)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)				
ESE	0.0 ( 0)	0.3 ( 5)	0.7 ( 15)	1.4 ( 30)	0.3 ( 7)	0.0 ( 0)	2.7 ( 50)				
ESE	0.0 ( 0)	0.3 ( 5)	0.7 ( 15)	1.4 ( 30)	0.3 ( 7)	0.0 ( 0)	2.7 ( 50)				
SSE	0.0 ( 0)	0.3 ( 4)	0.9 ( 11)	1.3 ( 17)	0.4 ( 9)	0.0 ( 0)	3.9 ( 47)				
S	0.0 ( 0)	0.5 ( 10)	0.9 ( 20)	0.6 ( 14)	0.2 ( 5)	0.0 ( 1)	2.2 ( 50)				
SSW	0.0 ( 0)	0.3 ( 7)	0.4 ( 8)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.7 ( 17)				
SSW	0.0 ( 0)	0.3 ( 5)	0.6 ( 12)	0.4 ( 8)	0.0 ( 0)	0.0 ( 0)	1.3 ( 16)				
WSW	0.0 ( 0)	0.5 ( 11)	1.3 ( 28)	1.2 ( 26)	0.4 ( 9)	0.0 ( 0)	4.5 ( 82)				
W	0.0 ( 0)	1.1 ( 23)	2.3 ( 51)	1.1 ( 24)	1.0 ( 21)	1.0 ( 22)	8.6 ( 182)				
WNW	0.1 ( 2)	0.5 ( 5)	1.3 ( 18)	1.0 ( 21)	0.6 ( 13)	0.2 ( 7)	4.7 ( 93)				
WNW	0.1 ( 2)	0.2 ( 5)	0.6 ( 16)	1.1 ( 11)	0.3 ( 7)	0.0 ( 0)	2.3 ( 53)				
NNW	0.2 ( 5)	0.2 ( 5)	0.5 ( 11)	0.6 ( 13)	0.3 ( 6)	0.0 ( 0)	1.8 ( 39)				
TOTAL	0.8 ( 17)	6.6 ( 143)	10.6 ( 230)	9.7 ( 212)	4.6 ( 100)	2.1 ( 46)	34.3 ( 748)				

## SUMMARY FOR STABILITY CLASS - B

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 2

NUMBER OF HOURS OF THIS STABILITY CLASS .... 750

2180 VALID STABILITY HOURS

OF

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 7/01/90 TO 9/30/90

STABILITY CLASS - E SLIGHTLY STABLE (-0.5 DEG C < DELTA T / 100 METERS < 1.5 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.0 ( 1 )	0.2 ( 5 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.3 ( 10 )
NNE	0.1 ( 2 )	0.3 ( 7 )	0.3 ( 7 )	0.2 ( 4 )	0.0 ( 1 )	0.0 ( 0 )	1.0 ( 11 )
NNE	0.2 ( 4 )	0.5 ( 10 )	0.6 ( 13 )	0.5 ( 10 )	0.0 ( 0 )	0.0 ( 0 )	1.7 ( 37 )
NNE	0.2 ( 5 )	0.3 ( 7 )	0.2 ( 4 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.7 ( 16 )
E	0.0 ( 0 )	0.2 ( 4 )	0.2 ( 3 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.4 ( 9 )
ESE	0.0 ( 0 )	0.4 ( 8 )	0.7 ( 15 )	0.4 ( 9 )	0.0 ( 0 )	0.0 ( 0 )	1.5 ( 32 )
ESE	0.0 ( 0 )	0.3 ( 6 )	1.1 ( 25 )	1.8 ( 40 )	0.3 ( 7 )	0.0 ( 0 )	3.6 ( 78 )
ESE	0.0 ( 0 )	0.3 ( 3 )	0.5 ( 10 )	0.4 ( 23 )	0.4 ( 7 )	0.0 ( 0 )	2.0 ( 50 )
S	0.0 ( 1 )	0.2 ( 4 )	0.8 ( 17 )	1.3 ( 41 )	0.3 ( 3 )	0.0 ( 0 )	3.0 ( 66 )
SSW	0.0 ( 0 )	0.3 ( 6 )	0.7 ( 15 )	1.1 ( 24 )	0.3 ( 4 )	0.0 ( 0 )	3.1 ( 68 )
SSW	0.1 ( 2 )	0.4 ( 8 )	1.0 ( 21 )	1.3 ( 29 )	0.2 ( 4 )	0.0 ( 0 )	3.4 ( 74 )
WSW	0.1 ( 2 )	0.3 ( 7 )	0.7 ( 16 )	1.3 ( 36 )	0.6 ( 13 )	0.1 ( 2 )	3.5 ( 76 )
WSW	0.1 ( 1 )	0.5 ( 11 )	0.7 ( 16 )	0.3 ( 6 )	0.3 ( 6 )	0.0 ( 0 )	2.5 ( 42 )
WNW	0.0 ( 1 )	0.1 ( 2 )	0.0 ( 1 )	0.1 ( 2 )	0.3 ( 6 )	0.0 ( 0 )	0.6 ( 12 )
WNW	0.0 ( 0 )	0.2 ( 4 )	0.1 ( 3 )	0.1 ( 3 )	0.0 ( 1 )	0.0 ( 0 )	0.3 ( 8 )
WNW	0.1 ( 2 )	0.1 ( 2 )	0.2 ( 4 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.4 ( 8 )
TOTAL	1.0 ( 22 )	4.3 ( 74 )	7.9 ( 173 )	10.7 ( 234 )	2.6 ( 57 )	0.1 ( 3 )	26.7 ( 583 )

## SUMMARY FOR STABILITY CLASS - E

NUMBER OF CALM HOURS ( 1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 583

2180 VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

ATMOSPHERIC STABILITY FROM: RAIN 200 FT DELTA TEMPERATURE

WIND DATA FROM: RAIN 200' SITE

FROM: 7/01/90 TO 9/30/90

MODERATELY STABLE (1.5 DEG C DELTA T / 100 METERS) 4.0 7.6 C

STABILITY CLASS - F

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NNE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
NNE	0.0 (0)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
NNE	0.1 (2)	0.4 (9)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (11)
E	0.1 (3)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (9)
ESE	0.0 (0)	0.1 (3)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
ESE	0.0 (0)	0.0 (0)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
ESE	0.0 (0)	0.1 (3)	0.4 (8)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (11)
ESE	0.0 (0)	0.1 (3)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (9)
S	0.0 (0)	0.1 (2)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
SSW	0.0 (0)	0.3 (6)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (11)
SSW	0.0 (0)	0.3 (6)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (11)
WSW	0.0 (0)	0.2 (5)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (11)
WSW	0.0 (0)	0.1 (3)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
W	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
WNW	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
WNW	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
NNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
TOTAL	0.4 (9)	2.6 (57)	2.8 (61)	3.1 (112)	0.4 (3)	0.2 (3)	11.3 (247)

SUMMARY FOR STABILITY CLASS - F

NUMBER OF CALM HOURS (1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 247

2100 VALID STABILITY HOURS

OF

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 7/01/90 TO 9/30/90

STABILITY CLASS - G  
EXTREMELY STABLE (1.0 DEG C < DELTA T / 100 METERS)

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.2 ( 4)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)
NNE	0.0 ( 0)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
NNE	0.0 ( 0)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 5)
NNE	0.0 ( 1)	0.3 ( 5)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 6)
NNE	0.0 ( 1)	0.3 ( 6)	0.0 ( 5)	0.0 ( 3)	0.0 ( 0)	0.0 ( 0)	0.6 ( 12)
NNE	0.0 ( 0)	0.2 ( 3)	0.3 ( 3)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.6 ( 13)
NNE	0.1 ( 2)	0.3 ( 6)	0.3 ( 7)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.9 ( 19)
NNE	0.0 ( 0)	0.0 ( 1)	0.3 ( 6)	0.5 ( 11)	0.0 ( 0)	0.0 ( 0)	0.8 ( 18)
NNE	0.0 ( 0)	0.3 ( 6)	0.6 ( 13)	0.6 ( 14)	0.0 ( 0)	0.0 ( 0)	1.5 ( 33)
NNE	0.1 ( 2)	0.2 ( 5)	0.7 ( 16)	0.4 ( 9)	0.0 ( 0)	0.0 ( 0)	1.4 ( 32)
NNE	0.0 ( 1)	0.3 ( 6)	1.3 ( 29)	0.7 ( 16)	0.0 ( 0)	0.0 ( 0)	2.3 ( 52)
NNE	0.1 ( 2)	0.3 ( 11)	1.3 ( 29)	0.7 ( 16)	0.0 ( 0)	0.0 ( 0)	2.4 ( 57)
NNE	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.1 ( 3)
NNE	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
NNE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
TOTAL	0.7 ( 15)	2.6 ( 62)	4.3 ( 94)	2.6 ( 57)	0.0 ( 0)	0.0 ( 1)	10.2 ( 229)

SUMMARY FOR STABILITY CLASS - G

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 229 OF 2160 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES H. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT IELTA TEMPERATURE

FROM: 7/01/90 TO 9/30/90

STABILITY CLASS - ALL (A-G)

DIR	00-03	04-07	08-12	13-18	19-23	24-29	TOTAL
ALL	0.3 ( 7 )	1.3 ( 29 )	0.9 ( 19 )	0.8 ( 17 )	0.5 ( 12 )	0.1 ( 2 )	3.9 ( 86 )
NE	0.1 ( 2 )	1.3 ( 31 )	1.4 ( 31 )	1.3 ( 29 )	1.1 ( 24 )	0.7 ( 11 )	6.2 ( 136 )
E	0.2 ( 5 )	2.3 ( 51 )	1.2 ( 26 )	0.6 ( 14 )	0.3 ( 6 )	0.0 ( 0 )	4.6 ( 102 )
SE	0.3 ( 10 )	1.1 ( 24 )	0.4 ( 8 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	1.7 ( 42 )
S	0.2 ( 4 )	1.0 ( 21 )	0.5 ( 12 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	1.8 ( 39 )
SW	0.0 ( 1 )	1.0 ( 23 )	2.2 ( 47 )	1.4 ( 32 )	0.0 ( 1 )	0.0 ( 0 )	4.6 ( 106 )
WSW	0.1 ( 3 )	0.8 ( 18 )	1.8 ( 41 )	3.8 ( 83 )	0.3 ( 7 )	0.0 ( 0 )	7.8 ( 173 )
W	0.0 ( 1 )	0.5 ( 12 )	1.7 ( 41 )	4.7 ( 103 )	0.5 ( 13 )	0.0 ( 0 )	7.7 ( 173 )
WNW	0.0 ( 1 )	1.1 ( 25 )	2.8 ( 62 )	4.4 ( 97 )	0.5 ( 10 )	0.0 ( 1 )	8.4 ( 176 )
SSW	0.1 ( 3 )	1.1 ( 25 )	2.1 ( 47 )	2.4 ( 53 )	0.3 ( 7 )	0.0 ( 0 )	6.1 ( 133 )
SW	0.2 ( 4 )	1.2 ( 26 )	3.6 ( 77 )	3.2 ( 71 )	0.2 ( 4 )	0.0 ( 0 )	8.3 ( 184 )
WSW	0.2 ( 5 )	1.7 ( 38 )	4.2 ( 93 )	4.2 ( 92 )	1.3 ( 30 )	0.0 ( 0 )	12.6 ( 277 )
W	0.2 ( 4 )	2.0 ( 45 )	3.5 ( 78 )	1.5 ( 33 )	1.4 ( 32 )	1.1 ( 18 )	10.0 ( 221 )
WNW	0.2 ( 4 )	1.2 ( 27 )	0.8 ( 17 )	1.2 ( 26 )	1.3 ( 28 )	0.1 ( 2 )	5.6 ( 126 )
NW	0.1 ( 3 )	1.0 ( 21 )	1.0 ( 22 )	1.0 ( 21 )	0.8 ( 17 )	0.1 ( 2 )	5.2 ( 117 )
NNW	0.3 ( 7 )	0.9 ( 19 )	1.4 ( 31 )	1.4 ( 30 )	0.4 ( 8 )	0.0 ( 0 )	4.3 ( 97 )
TOTAL	2.9 ( 64 )	20.1 ( 443 )	30.6 ( 676 )	31.7 ( 705 )	9.1 ( 200 )	4.1 ( 93 )	78.6 ( 2178 )

## SUMMARY FOR STABILITY CLASS - ALL (A-G)

NUMBER OF CALM HOURS (<1.0 MPH) .....	0
NUMBER OF MISSING WIND OBSERVATIONS .....	2
NUMBER OF VALID STABILITY HOURS .....	2180
	OF
	2268 TOTAL HOURS IN PERIOD

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION

WIND DATA FROM: MAIN 200' SITE

FROM: 7/01/90 TO 9/30/90

TOTAL WIND CATEGORY

DIR	00-03	04-07	08-12	13-18	19-23	24-29	TOTAL
N	0.3 ( 7)	1.3 ( 29)	0.9 ( 19)	0.8 ( 17)	0.5 ( 12)	0.1 ( 2)	3.9 ( 86)
NNE	0.1 ( 2)	1.8 ( 39)	1.4 ( 31)	1.3 ( 29)	1.1 ( 24)	0.5 ( 11)	6.9 ( 156)
NENE	0.2 ( 5)	2.3 ( 51)	1.2 ( 26)	0.6 ( 14)	0.3 ( 6)	0.0 ( 0)	4.6 ( 102)
E	0.7 ( 10)	1.1 ( 24)	0.4 ( 8)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.2 ( 27)
ESE	0.2 ( 4)	1.0 ( 21)	0.5 ( 12)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	1.8 ( 39)
SE	0.0 ( 1)	1.0 ( 23)	2.2 ( 49)	1.4 ( 32)	0.0 ( 1)	0.0 ( 0)	4.6 ( 106)
SSE	0.1 ( 3)	0.8 ( 18)	2.6 ( 61)	3.8 ( 85)	0.3 ( 7)	0.0 ( 0)	7.6 ( 174)
S	0.0 ( 1)	1.2 ( 25)	1.9 ( 41)	4.7 ( 103)	0.6 ( 13)	0.0 ( 0)	8.4 ( 190)
SSW	0.0 ( 1)	1.1 ( 23)	2.8 ( 62)	4.4 ( 97)	0.5 ( 10)	0.0 ( 1)	8.8 ( 196)
SW	0.1 ( 3)	1.1 ( 25)	2.1 ( 47)	3.4 ( 75)	0.3 ( 7)	0.0 ( 0)	7.0 ( 155)
WSW	0.2 ( 5)	1.2 ( 28)	3.6 ( 79)	5.2 ( 113)	0.2 ( 5)	0.0 ( 0)	10.4 ( 233)
W	0.2 ( 4)	1.7 ( 38)	4.2 ( 93)	4.3 ( 92)	1.5 ( 33)	0.8 ( 18)	13.0 ( 291)
WNW	0.2 ( 4)	2.0 ( 45)	3.5 ( 78)	1.5 ( 33)	1.4 ( 31)	1.3 ( 29)	10.0 ( 221)
NW	0.2 ( 4)	1.2 ( 27)	0.8 ( 17)	1.2 ( 26)	1.2 ( 26)	1.2 ( 26)	6.4 ( 146)
NNW	0.1 ( 3)	1.6 ( 31)	1.0 ( 22)	1.0 ( 21)	0.8 ( 17)	0.1 ( 3)	5.8 ( 130)
TOTAL	2.9 ( 64)	20.1 ( 443)	30.6 ( 676)	31.9 ( 705)	9.1 ( 200)	4.1 ( 90)	98.6 ( 2173)

SUMMARY FOR TOTAL WIND CATEGORY

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 30

TOTAL HOURS IN PERIOD ..... 2708

\*\*\* LEGEND \*\*\*  
 JOINT FREQUENCY OF WIND SPEED AND WIND DIRECTION  
 \*\*\* BY STABILITY \*\*\*

SITE: NINE MILE UPPER: WIND SPEED UPPER - 200FT CUP  
 WIND DIRECTION UPPER - 200FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

NINE MILE LOWER: WIND SPEED LOWER - 30FT CUP  
 WIND DIRECTION LOWER - 30FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

STABILITY CLASS: PASQUILL STABILITY CATEGORIES - DEG C/100M

A - EXTREMELY UNSTABLE	-1.7 TO	-1.7
B - MODERATELY UNSTABLE	-1.7 TO	-1.5
C - SLIGHTLY UNSTABLE	-1.5 TO	-0.5
D - NEUTRAL	-0.5 TO	1.5
E - SLIGHTLY STABLE	1.5 TO	4.0
F - MODERATELY STABLE	4.0	
G - EXTREMELY STABLE	ALL	
ALL - ALL STABILITIES (A-G)		
( ) - TOTAL WIND		N/A

WIND CLASS: SIX WIND SPEED CATEGORIES - (SEE TABLE HEADING) MPH  
 SIXTEEN WIND DIRECTION CATEGORIES - 22.5 DEG

NOTE: THE DATA CAPTURE STATISTICS ARE GIVEN FOR EACH OF THE NINE CATEGORIES LISTED ABOVE.

CALM WINDS ARE LISTED IN THE 0-3 MPH WIND SPEED CATEGORY.

WIND SPEEDS ARE ROUNDED TO NEAREST MPH e.g. 3.4 - 3.0, 3.5 - 4.0

WIND DIRECTIONS ARE MEASURED "FROM" THE DIRECTION THE WIND IS COMING FROM.



# NEW YORK POWER AUTHORITY - JAMES A. FITZ - NICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE

ATMOSPHERIC STABILITY FROM: MAIN 2 ) FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

EXTREMELY UNSTABLE (DELTA T / 100 METERS < -1.9 DEG C)

STABILITY CLASS - A

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
W	0.0 ( 0 )	0.1 ( 2 )	0.2 ( 4 )	0.2 ( 4 )	0.0 ( 0 )	0.0 ( 0 )	0.5 ( 10 )
NNE	0.0 ( 0 )	0.3 ( 7 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.4 ( 10 )
N	0.0 ( 0 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 3 )
NNE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
E	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
ESE	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
SE	0.0 ( 0 )	0.1 ( 3 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 5 )
SSE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
S	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SSW	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 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
WSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 1 )
W	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 3 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 4 )
WNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
NW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
NNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
TOTAL	0.0 ( 0 )	0.8 ( 17 )	0.6 ( 14 )	0.5 ( 10 )	0.1 ( 3 )	1.9 ( 42 )	4.0 ( 86 )

## SUMMARY FOR STABILITY CLASS - A

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 86 OF 1171 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      FROM: 10/01/90 TO 12/31/90      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

STABILITY CLASS - B

MODERATELY UNSTABLE (-1.9 DEG C < DELTA T / 100 METERS <= -1.7 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>24	
N	0.0 ( 0 )	0.2 ( 4 )	0.2 ( 5 )	0.7 ( 15 )	0.0 ( 1 )	0.0 ( 1 )	1.2 ( 26 )
NNE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 3 )
NNE	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
ENE	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
E	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
ESE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SSE	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
S	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 3 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 5 )
SSW	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
SW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
WSW	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 4 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.2 ( 5 )
W	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.5 ( 10 )	0.5 ( 10 )
WNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 0 )	1.1 ( 23 )	1.2 ( 25 )
NW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 4 )	0.2 ( 5 )	0.4 ( 7 )	0.8 ( 16 )
NNW	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.4 ( 8 )	0.1 ( 3 )	0.0 ( 0 )	0.6 ( 13 )
TOTAL	0.0 ( 0 )	0.5 ( 10 )	0.9 ( 19 )	1.5 ( 33 )	0.5 ( 10 )	2.0 ( 43 )	5.3 ( 115 )

## SUMMARY FOR STABILITY CLASS - B

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0  
 NUMBER OF MISSING WIND OBSERVATIONS ..... 0  
 NUMBER OF HOURS OF THIS STABILITY CLASS .... 115      OF      2171      VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - C      SLIGHTLY UNSTABLE (-1.7 DEG C < DELTA T / 100 METERS <= -1.5 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	24	TOTAL
N	0.0 (0)	0.6 (1)	0.5 (1)	0.3 (6)	0.0 (1)	0.0 (1)	0.2 (20)
NNE	0.0 (0)	0.1 (3)	0.3 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.3 (11)
NENE	0.0 (0)	0.0 (1)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
E	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
ESE	0.0 (0)	0.0 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (2)
SE	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
SSE	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
S	0.0 (0)	0.2 (4)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.3 (6)
SSW	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)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
WSW	0.0 (0)	0.0 (0)	0.2 (3)	0.2 (3)	0.1 (3)	0.1 (2)	0.7 (15)
W	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)	0.6 (12)	0.6 (14)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)	0.2 (4)	0.3 (17)	1.1 (23)
NW	0.0 (0)	0.0 (1)	0.1 (2)	0.4 (9)	0.3 (7)	0.0 (1)	0.9 (20)
NNW	0.0 (0)	0.1 (2)	0.4 (8)	0.4 (9)	0.0 (0)	0.0 (0)	0.9 (19)
TOTAL	0.0 (1)	0.7 (16)	1.8 (38)	1.6 (34)	0.7 (16)	1.5 (33)	6.4 (138)

## SUMMARY FOR STABILITY CLASS - C

NUMBER OF CALM HOURS (<1.0 MPH) .....	0
NUMBER OF MISSING WIND OBSERVATIONS .....	0
NUMBER OF HOURS OF THIS STABILITY CLASS ....	138
OF	2171
VALID STABILITY HOURS	

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

± FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - D		NEUTRAL (-1.5 DEG C, DELTA T / 100 METERS <= -0.5 DEG C)									
		SPEED (MPH)									
DIR		00-03	04-07	08-12	13-18	19-23	24				
N	0.1 ( 2)	0.5 ( 11)	1.1 ( 21)	0.5 ( 10)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	2.3 ( 49)			
NNE	0.1 ( 2)	1.2 ( 23)	1.7 ( 39)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 65)			
NNE	0.3 ( 6)	2.6 ( 57)	0.8 ( 16)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.7 ( 81)			
E	0.3 ( 6)	0.6 ( 13)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.9 ( 19)			
E	0.3 ( 6)	0.6 ( 12)	0.3 ( 6)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.2 ( 25)			
ESE	0.4 ( 8)	1.5 ( 33)	1.0 ( 21)	0.3 ( 7)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	3.2 ( 70)			
ESE	0.2 ( 4)	1.6 ( 35)	1.0 ( 22)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 65)			
SSE	0.2 ( 4)	0.8 ( 17)	0.8 ( 17)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	2.0 ( 43)			
S	0.2 ( 5)	1.4 ( 31)	1.6 ( 35)	0.5 ( 11)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.8 ( 82)			
SSW	0.1 ( 3)	1.1 ( 24)	1.7 ( 36)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	2.9 ( 63)			
SSW	0.1 ( 2)	0.3 ( 7)	0.6 ( 14)	0.2 ( 11)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	1.7 ( 37)			
WSW	0.1 ( 2)	0.4 ( 8)	0.7 ( 16)	0.7 ( 16)	0.8 ( 18)	0.6 ( 14)	0.6 ( 14)	3.0 ( 66)			
W	0.1 ( 2)	0.0 ( 0)	0.7 ( 16)	1.4 ( 30)	1.3 ( 28)	2.4 ( 52)	2.4 ( 52)	5.9 ( 128)			
NNW	0.1 ( 2)	0.3 ( 7)	2.7 ( 57)	2.6 ( 57)	0.7 ( 15)	0.5 ( 11)	0.5 ( 11)	5.5 ( 119)			
NW	0.0 ( 1)	0.6 ( 13)	1.2 ( 41)	1.7 ( 36)	0.6 ( 13)	0.3 ( 6)	0.3 ( 6)	5.1 ( 110)			
NNW	0.2 ( 4)	0.5 ( 10)	0.8 ( 17)	0.3 ( 6)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	1.8 ( 39)			
TOTAL	2.8 ( 60)	14.0 ( 303)	15.5 ( 337)	9.0 ( 195)	3.8 ( 83)	3.2 ( 83)	3.2 ( 83)	48.9 ( 1061)			

## SUMMARY FOR STABILITY CLASS - D

NUMBER OF HOURS ( < 1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 27

NUMBER OF HOURS OF THIS STABILITY CLASS .... 1088 OF 2171 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - E      SLIGHTLY STABLE (-0.5 DEG C < DELTA T / 100 METERS < -1.5 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	24-29	TOTAL
N	0.1 ( 2)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)
NNE	0.0 ( 1)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)
NE	0.1 ( 2)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 7)
ENE	0.1 ( 2)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 6)
E	0.4 ( 8)	0.7 ( 15)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.1 ( 23)
ESE	0.3 ( 7)	1.3 ( 29)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	1.6 ( 45)
SE	0.1 ( 2)	2.2 ( 48)	2.9 ( 62)	0.4 ( 8)	0.0 ( 0)	0.0 ( 0)	5.6 ( 120)
SSE	0.1 ( 2)	1.5 ( 33)	3.7 ( 75)	0.2 ( 4)	0.0 ( 0)	0.0 ( 0)	5.5 ( 119)
S	0.1 ( 2)	1.2 ( 23)	1.7 ( 37)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	4.3 ( 100)
SSW	0.0 ( 1)	1.2 ( 16)	1.8 ( 40)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	3.0 ( 67)
SW	0.1 ( 3)	0.2 ( 4)	1.1 ( 24)	0.3 ( 7)	0.0 ( 0)	0.0 ( 0)	2.6 ( 58)
WSW	0.1 ( 2)	0.4 ( 8)	0.6 ( 14)	0.4 ( 9)	0.4 ( 9)	0.0 ( 1)	2.6 ( 63)
W	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)	0.1 ( 2)	0.3 ( 7)	0.3 ( 6)	1.3 ( 33)
WNW	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.1 ( 3)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNW	0.0 ( 0)	0.1 ( 2)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)
TOTAL	1.8 ( 40)	8.9 ( 193)	13.9 ( 301)	1.5 ( 33)	0.7 ( 16)	0.4 ( 9)	27.3 ( 592)

## SUMMARY FOR STABILITY CLASS - E

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 8

NUMBER OF HOURS OF THIS STABILITY CLASS .... 600

2171 VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SILL      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - F      MODERATELY STABLE (1.5 DEG C < DELTA T / 100 METERS <= 4.0 DEG C)

DIS	SPEED (MPH)								TOTAL	
	00-03	04-07	08-12	13-16	17-23	>=24				
N	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.0 (0)	(0)
NNE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.0 (0)	(0)
NNE	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.1 (2)	(0)
E	0.0 (0)	0.3 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.0 (0)	(0)
E	0.0 (1)	0.4 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.0 (0)	(0)
ESE	0.2 (4)	0.4 (9)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.2 (4)	(13)
ESE	0.2 (4)	0.6 (13)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.6 (13)	(17)
SSE	0.2 (4)	0.7 (15)	0.2 (5)	0.0 (0)	0.0 (0)	0.0 (0)			1.1 (24)	(24)
S	0.0 (1)	0.6 (13)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)			0.8 (16)	(16)
SSW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.0 (0)	(0)
SW	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.2 (4)	(4)
WSW	0.0 (1)	0.1 (3)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)			0.3 (7)	(7)
W	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.0 (1)	(1)
WNW	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.0 (1)	(1)
NW	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.0 (1)	(1)
NNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)			0.0 (0)	(0)
TOTAL	1.0 (21)	2.7 (59)	0.6 (12)	0.0 (1)	0.6 (0)	0.0 (0)			4.3 (93)	(93)

## SUMMARY FOR STABILITY CLASS - F

NUMBER OF CALM HOURS (<1.0 MPH) .....	0		
NUMBER OF MISSING WIND OBSERVATIONS .....	0		
NUMBER OF HOURS OF THIS STABILITY CLASS ....	93	OF	2171 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 0/01/90 TO 12/31/90

STABILITY CLASS - G      EXTREMELY STABLE (4.0 DEG C < DELTA T / 100 METERS)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.1 ( 2)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
ESE	0.6 ( 13)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.7 ( 16)
SE	0.0 ( 1)	0.4 ( 9)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.5 ( 10)
SSE	0.1 ( 2)	0.4 ( 9)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.5 ( 11)
S	0.0 ( 1)	0.3 ( 7)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.4 ( 8)
SSW	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
SW	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
WSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
TOTAL	0.9 ( 20)	1.4 ( 30)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	2.3 ( 51)

## SUMMARY FOR STABILITY CLASS - G

NUMBER OF CALM HOURS ( 1.0 MPH ) .....	0
NUMBER OF MISSING WIND OBSERVATIONS .....	0
NUMBER OF HOURS OF THIS STABILITY CLASS ....	51
OF	2171
VALID STABILITY HOURS	

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 30' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - ALL ( A-G )

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.2 ( 4 )	0.9 ( 19 )	2.0 ( 44 )	1.6 ( 35 )	0.2 ( 5 )	0.1 ( 2 )	4.2 ( 102 )
NNE	0.1 ( 3 )	1.7 ( 38 )	2.1 ( 47 )	0.2 ( 5 )	0.0 ( 0 )	0.0 ( 0 )	4.2 ( 93 )
NNE	0.3 ( 10 )	3.1 ( 68 )	1.0 ( 21 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	4.2 ( 99 )
E	0.4 ( 18 )	0.8 ( 18 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	1.2 ( 27 )
ESE	0.8 ( 32 )	1.5 ( 33 )	0.3 ( 6 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	2.6 ( 57 )
ESE	1.4 ( 11 )	3.7 ( 77 )	0.7 ( 29 )	0.4 ( 8 )	0.0 ( 1 )	0.0 ( 0 )	6.7 ( 147 )
SE	0.5 ( 17 )	4.9 ( 109 )	1.3 ( 86 )	0.5 ( 12 )	0.0 ( 0 )	0.0 ( 0 )	9.9 ( 218 )
SSE	0.8 ( 17 )	3.4 ( 76 )	4.5 ( 99 )	0.4 ( 9 )	0.0 ( 0 )	0.0 ( 0 )	9.1 ( 201 )
S	0.4 ( 9 )	3.6 ( 80 )	5.2 ( 114 )	0.7 ( 16 )	0.0 ( 0 )	0.0 ( 0 )	9.9 ( 126 )
SSW	0.2 ( 5 )	1.9 ( 42 )	3.6 ( 79 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	5.7 ( 81 )
SW	0.2 ( 7 )	0.6 ( 13 )	1.8 ( 39 )	0.1 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	3.7 ( 142 )
WSW	0.2 ( 5 )	0.9 ( 19 )	1.6 ( 35 )	1.4 ( 31 )	0.1 ( 3 )	0.9 ( 20 )	6.4 ( 166 )
W	0.1 ( 3 )	0.0 ( 0 )	1.1 ( 24 )	1.5 ( 34 )	1.7 ( 37 )	4.0 ( 88 )	8.4 ( 197 )
WNW	0.1 ( 3 )	0.4 ( 8 )	1.2 ( 27 )	2.9 ( 63 )	0.9 ( 19 )	3.5 ( 77 )	8.9 ( 158 )
NW	0.1 ( 2 )	0.6 ( 14 )	1.9 ( 43 )	2.3 ( 50 )	1.2 ( 26 )	1.0 ( 23 )	7.2 ( 158 )
NNW	0.2 ( 4 )	0.6 ( 14 )	1.3 ( 29 )	1.1 ( 24 )	0.2 ( 5 )	0.0 ( 0 )	3.4 ( 76 )
TOTAL	6.4 ( 142 )	28.4 ( 628 )	32.7 ( 722 )	13.9 ( 306 )	5.8 ( 128 )	9.5 ( 210 )	96.7 ( 2136 )

SUMMARY FOR STABILITY CLASS - ALL (A-G)

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 35

NUMBER OF VALID STABILITY HOURS ..... 2171

2708 TOTAL HOURS IN PERIOD

OF

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

## % FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION

WIND DATA FROM: MAIN 30' SITE

FROM: 10/01/90 TO 12/31/90

### TOTAL WIND CATEGORY

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.2 ( 4)	0.9 ( 19)	2.0 ( 45)	1.6 ( 35)	0.2 ( 5)	0.1 ( 2)	5.0 ( 110)
NNE	0.1 ( 3)	1.7 ( 38)	2.1 ( 47)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	4.2 ( 93)
NE	0.5 ( 10)	3.1 ( 68)	1.0 ( 21)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	4.5 ( 99)
ENE	0.4 ( 9)	0.8 ( 18)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	1.2 ( 27)
E	0.8 ( 18)	1.5 ( 33)	0.3 ( 6)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	2.6 ( 57)
ESE	1.4 ( 32)	3.8 ( 84)	1.4 ( 30)	0.4 ( 8)	0.0 ( 1)	0.0 ( 0)	7.0 ( 155)
SE	0.5 ( 12)	5.2 ( 115)	4.0 ( 89)	0.5 ( 12)	0.0 ( 0)	0.0 ( 0)	10.3 ( 228)
SSE	0.8 ( 18)	3.4 ( 76)	4.5 ( 99)	0.4 ( 9)	0.0 ( 0)	0.0 ( 0)	9.1 ( 202)
S	0.4 ( 9)	3.6 ( 80)	5.2 ( 114)	0.7 ( 16)	0.0 ( 0)	0.0 ( 0)	9.9 ( 219)
SSW	0.2 ( 5)	1.9 ( 42)	3.6 ( 79)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	5.7 ( 126)
SW	0.3 ( 7)	0.6 ( 13)	1.8 ( 39)	0.9 ( 19)	0.1 ( 3)	0.0 ( 0)	3.7 ( 81)
WSW	0.2 ( 5)	0.9 ( 19)	1.6 ( 35)	1.4 ( 31)	1.4 ( 32)	0.9 ( 20)	6.4 ( 142)
W	0.1 ( 3)	0.0 ( 0)	1.1 ( 24)	1.5 ( 34)	1.7 ( 37)	4.0 ( 88)	8.4 ( 186)
WNW	0.1 ( 3)	0.4 ( 8)	1.2 ( 27)	2.9 ( 63)	0.9 ( 19)	3.5 ( 77)	8.9 ( 197)
NW	0.1 ( 2)	0.7 ( 16)	1.9 ( 43)	2.3 ( 50)	1.2 ( 26)	1.0 ( 23)	7.2 ( 160)
NNW	0.2 ( 4)	0.7 ( 15)	1.4 ( 30)	1.1 ( 24)	0.2 ( 5)	0.0 ( 0)	3.5 ( 78)
TOTAL	6.5 ( 144)	29.2 ( 644)	33.0 ( 728)	13.9 ( 306)	5.8 ( 128)	9.5 ( 210)	97.8 ( 2160)

### SUMMARY FOR TOTAL WIND CATEGORY

NUMBER OF CALM HOURS ( <1.0 MPH ) .....	0
NUMBER OF MISSING WIND OBSERVATIONS .....	46
TOTAL HOURS IN PERIOD .....	2208



NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

\*\*\* \*\* LEGEND \*\*\* \*\*  
 \*\* \* JOINT FREQUENCY OF WIND SPEED AND WIND DIRECTION  
 \*\* \* BY STABILITY \*\*\* \*\*

SITE: NINE MILE UPPER: WIND SPEED UPPER - 200FT CUP  
 WIND DIRECTION UPPER - 200FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

NINE MILE LOWER: WIND SPEED LOWER - 30FT CUP  
 WIND DIRECTION LOWER - 30FT VANE  
 TEMPERATURE DIFFERENCE - (200FT-30FT)

STABILITY CLASS: PASQUILL STABILITY CATEGORIES - DEG C/100M

A - EXTREMELY UNSTABLE	>	-1.9	TO	<=	-1.9
B - MODERATELY UNSTABLE	>	-1.7	TO	<=	-1.7
C - SLIGHTLY UNSTABLE	>	-1.5	TO	<=	-1.5
D - NEUTRAL	>	-0.5	TO	<=	-0.5
E - SLIGHTLY STABLE	>	1.5	TO	<=	1.5
F - MODERATELY STABLE	>	4.0	TO	<=	4.0
G - EXTREMELY STABLE	>	ALL			
ALL - ALL STABILITIES (A-G)	>	N/A			
( ) - TOTAL WIND					

WIND CLASS: SIX WIND SPEED CATEGORIES - (SEE TABLE HEADING) MPH  
 SIXTEEN WIND DIRECTION CATEGORIES - 22.5 DEG

NOTE: THE DATA CAPTURE STATISTICS ARE GIVEN FOR EACH OF THE NINE CATEGORIES LISTED ABOVE.

CALM WINDS ARE LISTED IN THE 0-3 MPH WIND SPEED CATEGORY.

WIND SPEEDS ARE ROUNDED TO NEAREST MPH e.g., 3.4 = 3.0, 3.5 = 4.0

WIND DIRECTIONS ARE MEASURED "FROM" THE DIRECTION THE WIND IS COMING FROM.



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

2 FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - A

EXTREMELY UNSTABLE (DELTA T / 100 METERS <= -1.9 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.2 ( 4)	0.1 ( 3)	0.0 ( 1)	0.4 ( 9)
NNE	0.0 ( 0)	0.1 ( 2)	0.1 ( 3)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	0.5 ( 10)
ENE	0.0 ( 0)	0.1 ( 3)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.2 ( 4)
E	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
SSE	0.0 ( 0)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
SSW	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
WSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
NNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
TOTAL	0.0 ( 0)	0.4 ( 8)	0.4 ( 8)	0.8 ( 18)	0.2 ( 4)	2.2 ( 48)	4.0 ( 86)

## SUMMARY FOR STABILITY CLASS - A

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 86 OF 2171 VALID STABILITY HOURS

NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLAS

WIND DATA FROM: MAIN 200' SITE AT: ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - B MODERATELY UNSTABLE (-1.9 DEG C < DELTA T / 100 METERS <= -1.7 DEG C)

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.1 ( 3 )	0.4 ( 5 )	0.6 ( 14 )	1.2 ( 26 )
NNE	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.1 ( 3 )
ENE	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
E	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
ESE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
SSE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
S	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 1 )
SSW	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 1 )	0.1 ( 2 )	0.0 ( 1 )	0.3 ( 6 )
WSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 3 )
WS	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
WNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.1 ( 3 )	0.0 ( 0 )	0.1 ( 2 )	0.3 ( 6 )
W	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.4 ( 8 )	0.4 ( 8 )
WN	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	1.0 ( 21 )	1.1 ( 23 )
NW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.9 ( 19 )	1.0 ( 21 )
NNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.3 ( 7 )	0.1 ( 3 )	0.6 ( 12 )
TOTAL	0.0 ( 0 )	0.2 ( 4 )	0.3 ( 7 )	0.6 ( 12 )	1.0 ( 22 )	3.2 ( 69 )	5.3 ( 114 )

SUMMARY FOR STABILITY CLASS - B

NUMBER OF CALM HOURS ( <1.0 MPH )	0
NUMBER OF MISSING WIND OBSERVATIONS	1
NUMBER OF HOURS OF THIS STABILITY CLASS	115
OF	2171
VALID STABILITY HOURS	

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - C      SLIGHTLY UNSTABLE (-1.7 DEG C < DELTA T / 100 METERS <= -1.5 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0)	0.0 ( 1)	0.1 ( 3)	0.2 ( 4)	0.3 ( 6)	0.3 ( 6)	0.9 ( 20)
NNE	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.0 ( 1)	0.1 ( 3)	0.1 ( 3)	0.4 ( 9)
NE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)
ENE	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
E	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)
ESE	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
SE	0.0 ( 0)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)
SSE	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
S	0.0 ( 0)	0.0 ( 0)	0.3 ( 6)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.3 ( 7)
SSW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)
SW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)
WSW	0.0 ( 0)	0.0 ( 0)	0.1 ( 3)	0.0 ( 1)	0.0 ( 1)	0.4 ( 8)	0.6 ( 13)
W	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 1)	0.6 ( 13)	0.7 ( 15)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.2 ( 4)	0.7 ( 15)	1.0 ( 21)
NW	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.1 ( 2)	0.4 ( 9)	0.5 ( 10)	1.0 ( 22)
NNW	0.0 ( 0)	0.0 ( 1)	0.0 ( 1)	0.4 ( 9)	0.4 ( 8)	0.1 ( 2)	1.0 ( 21)
TOTAL	0.0 ( 0)	0.3 ( 7)	0.8 ( 18)	1.0 ( 21)	1.5 ( 33)	2.7 ( 58)	6.3 ( 137)

## SUMMARY FOR STABILITY CLASS - C

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 1

NUMBER OF HOURS OF THIS STABILITY CLASS .... 138 OF 2171 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FRM: 10/01/90 TO 12/31/90

STABILITY CLASS - D

NEUTRAL (-1.5 DEG C < DELTA T / 100 METERS <= -0.5 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0)	0.3 ( 7)	0.6 ( 12)	1.0 ( 21)	0.4 ( 9)	0.2 ( 5)	2.5 ( 54)
NNE	0.0 ( 0)	0.3 ( 6)	0.7 ( 15)	1.9 ( 42)	0.9 ( 19)	0.3 ( 7)	4.1 ( 89)
NE	0.0 ( 0)	0.9 ( 19)	0.8 ( 17)	0.8 ( 18)	0.0 ( 1)	0.0 ( 0)	2.5 ( 55)
ENE	0.1 ( 2)	0.4 ( 8)	0.5 ( 10)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.9 ( 20)
E	0.1 ( 2)	0.3 ( 6)	0.1 ( 3)	0.3 ( 6)	0.1 ( 2)	0.0 ( 0)	0.9 ( 19)
ESE	0.1 ( 2)	0.2 ( 5)	0.8 ( 18)	0.8 ( 17)	0.2 ( 5)	0.2 ( 4)	2.3 ( 51)
SE	0.0 ( 1)	0.3 ( 7)	0.8 ( 18)	1.4 ( 31)	0.4 ( 9)	0.4 ( 9)	3.5 ( 75)
SSE	0.1 ( 2)	0.3 ( 7)	0.4 ( 14)	0.5 ( 11)	0.5 ( 11)	0.0 ( 1)	2.1 ( 46)
S	0.0 ( 0)	0.6 ( 12)	1.2 ( 27)	0.9 ( 19)	1.0 ( 21)	0.3 ( 6)	3.9 ( 85)
SSW	0.0 ( 1)	0.3 ( 6)	1.5 ( 32)	1.7 ( 36)	0.2 ( 4)	0.0 ( 0)	3.6 ( 79)
SW	0.0 ( 0)	0.4 ( 8)	0.2 ( 4)	0.8 ( 17)	0.5 ( 10)	0.4 ( 8)	2.2 ( 47)
WSW	0.0 ( 0)	0.1 ( 3)	0.5 ( 11)	0.2 ( 4)	0.3 ( 6)	2.0 ( 44)	3.1 ( 68)
W	0.0 ( 0)	0.1 ( 3)	0.3 ( 6)	0.9 ( 20)	0.9 ( 19)	3.4 ( 74)	5.6 ( 122)
WNW	0.0 ( 1)	0.2 ( 4)	1.1 ( 23)	2.1 ( 45)	1.4 ( 31)	0.9 ( 19)	5.7 ( 123)
NW	0.1 ( 3)	0.0 ( 1)	1.4 ( 30)	1.7 ( 37)	1.1 ( 23)	0.6 ( 14)	5.0 ( 108)
NNW	0.0 ( 1)	0.3 ( 7)	0.6 ( 13)	0.7 ( 15)	0.2 ( 4)	0.2 ( 4)	2.0 ( 44)
TOTAL	0.7 ( 15)	5.0 ( 109)	11.7 ( 253)	15.6 ( 339)	8.0 ( 174)	9.0 ( 195)	50.0 ( 1085)

SUMMARY FOR STABILITY CLASS - D

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 3

NUMBER OF HOURS OF THIS STABILITY CLASS .... 1088 OF 2171 VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - E SLIGHTLY STABLE (-0.5 DEG C < DELTA T / 100 METERS <= 1.5 DEG C)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.0 ( 0)	0.1 ( 2)
NNE	0.0 ( 1)	0.0 ( 1)	0.0 ( 1)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.2 ( 3)
NE	0.0 ( 1)	0.1 ( 2)	0.1 ( 3)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.3 ( 6)
ENE	0.0 ( 0)	0.3 ( 7)	0.3 ( 6)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.7 ( 15)
E	0.0 ( 1)	0.1 ( 2)	0.2 ( 5)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.4 ( 8)
ESE	0.0 ( 0)	0.2 ( 4)	0.5 ( 10)	0.4 ( 8)	0.0 ( 1)	0.0 ( 0)	1.1 ( 23)
SE	0.0 ( 1)	0.0 ( 0)	0.5 ( 11)	2.5 ( 55)	1.4 ( 30)	0.4 ( 9)	4.9 ( 106)
SSE	0.0 ( 0)	0.0 ( 1)	0.3 ( 6)	2.1 ( 46)	1.8 ( 40)	1.0 ( 21)	5.3 ( 114)
S	0.0 ( 0)	0.2 ( 4)	0.5 ( 10)	2.8 ( 60)	1.9 ( 42)	0.0 ( 1)	5.4 ( 117)
SSW	0.0 ( 0)	0.1 ( 2)	0.5 ( 11)	2.4 ( 52)	0.2 ( 5)	0.0 ( 0)	3.2 ( 70)
SW	0.0 ( 0)	0.2 ( 5)	0.2 ( 5)	1.3 ( 28)	0.5 ( 11)	0.0 ( 1)	2.3 ( 50)
WSW	0.0 ( 0)	0.1 ( 2)	0.3 ( 7)	0.7 ( 16)	0.3 ( 7)	0.8 ( 18)	2.3 ( 50)
W	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)	0.1 ( 3)	0.2 ( 5)	0.5 ( 11)	0.9 ( 20)
WNW	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.1 ( 2)	0.0 ( 0)	0.1 ( 3)	0.2 ( 5)
NW	0.0 ( 1)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 0)	0.0 ( 1)
NNW	0.0 ( 1)	0.0 ( 1)	0.2 ( 4)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	0.4 ( 8)
TOTAL	0.3 ( 6)	1.5 ( 32)	3.7 ( 80)	12.7 ( 276)	6.5 ( 142)	2.9 ( 64)	27.6 ( 600)

## SUMMARY FOR STABILITY CLASS - E

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 600 OF 2171 VALID STABILITY HOURS



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FK01: 10/01/90 TO 12/31/90

MODERATELY STABLE (1.5 DEG C < DELTA T / 100 METERS <= 4.0 DEG C)

STABILITY CLASS - F

DIR	00-03	04-07	08-12	13-18	19-23	>=24	TOTAL
N	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
NNE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
NE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
NENE	0.1 (2)	0.1 (3)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
E	0.0 (0)	0.0 (1)	0.0 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
ESE	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
SE	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.5 (10)
SSE	0.0 (0)	0.0 (1)	0.1 (2)	0.3 (7)	0.0 (1)	0.0 (0)	0.6 (14)
S	0.0 (0)	0.1 (2)	0.1 (3)	0.5 (13)	0.1 (2)	0.0 (0)	0.8 (18)
SSW	0.0 (0)	0.1 (3)	0.0 (1)	0.6 (13)	0.0 (0)	0.0 (0)	0.8 (17)
SW	0.0 (0)	0.0 (0)	0.1 (3)	0.1 (2)	0.0 (1)	0.0 (0)	0.3 (6)
WSW	0.0 (0)	0.0 (1)	0.1 (3)	0.1 (1)	0.0 (0)	0.0 (1)	0.3 (6)
W	0.0 (0)	0.0 (1)	0.0 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
WNW	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
NW	0.0 (0)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
NNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)
TOTAL	0.1 (2)	0.7 (16)	1.0 (22)	2.2 (47)	0.2 (5)	0.0 (1)	4.3 (93)

## SUMMARY FOR STABILITY CLASS - F

NUMBER OF CALM HOURS (<1.0 MPH) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 0

NUMBER OF HOURS OF THIS STABILITY CLASS .... 93

2171 OF 2171 VALID STABILITY HOURS

# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE      ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - G

EXTREMELY STABLE (4.0 DEG C < DELTA T / 100 METERS)

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
NNE	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )
ENE	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
E	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 3 )
ESE	0.0 ( 0 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 3 )
SE	0.0 ( 0 )	0.1 ( 2 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 4 )
SSE	0.0 ( 0 )	0.1 ( 1 )	0.1 ( 3 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 4 )
S	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 2 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.1 ( 3 )
SSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 4 )	0.0 ( 0 )	0.0 ( 0 )	0.2 ( 5 )
SW	0.0 ( 0 )	0.2 ( 4 )	0.2 ( 5 )	0.0 ( 5 )	0.0 ( 0 )	0.0 ( 0 )	0.6 ( 14 )
WSW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 1 )
W	0.0 ( 0 )	0.0 ( 1 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 1 )
WNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
NW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
NNW	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )	0.0 ( 0 )
TOTAL	0.0 ( 1 )	0.8 ( 17 )	0.8 ( 18 )	0.6 ( 14 )	0.0 ( 1 )	0.0 ( 0 )	2.3 ( 51 )

## SUMMARY FOR STABILITY CLASS - G

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0  
 NUMBER OF MISSING WIND OBSERVATIONS ..... 0  
 NUMBER OF HOURS OF THIS STABILITY CLASS .... 51      OF      2171      VALID STABILITY HOURS

## NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

Z FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION BY ATMOSPHERIC STABILITY CLASS

WIND DATA FROM: MAIN 200' SITE

ATMOSPHERIC STABILITY FROM: MAIN 200 FT DELTA TEMPERATURE

FROM: 10/01/90 TO 12/31/90

STABILITY CLASS - ALL ( A-G )

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0)	0.5 ( 11)	0.7 ( 16)	1.4 ( 32)	1.2 ( 27)	1.2 ( 26)	5.1 ( 112)
NNE	0.0 ( 1)	0.6 ( 13)	1.0 ( 21)	2.3 ( 50)	1.0 ( 22)	0.5 ( 11)	5.3 ( 118)
NE	0.1 ( 2)	1.2 ( 27)	1.0 ( 21)	0.9 ( 20)	0.0 ( 1)	0.0 ( 0)	3.2 ( 71)
NENE	0.2 ( 4)	1.0 ( 22)	0.8 ( 18)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	2.1 ( 46)
E	0.1 ( 3)	0.5 ( 12)	0.5 ( 10)	0.3 ( 6)	0.1 ( 2)	0.0 ( 0)	1.5 ( 33)
ESE	0.1 ( 2)	0.5 ( 12)	1.5 ( 34)	1.2 ( 27)	0.3 ( 6)	0.2 ( 4)	3.8 ( 85)
SE	0.1 ( 2)	0.5 ( 11)	1.7 ( 37)	4.4 ( 97)	1.8 ( 40)	0.8 ( 18)	9.3 ( 205)
SSE	0.1 ( 2)	0.5 ( 10)	1.2 ( 27)	3.1 ( 68)	2.4 ( 53)	1.0 ( 22)	8.2 ( 182)
S	0.0 ( 0)	0.8 ( 18)	2.3 ( 50)	4.2 ( 92)	3.1 ( 68)	0.4 ( 8)	10.7 ( 236)
SSW	0.0 ( 1)	0.5 ( 11)	2.1 ( 47)	4.9 ( 108)	0.4 ( 9)	0.0 ( 0)	8.0 ( 176)
SW	0.0 ( 0)	0.8 ( 17)	0.8 ( 17)	2.4 ( 52)	1.0 ( 22)	0.5 ( 10)	5.3 ( 118)
WSW	0.0 ( 0)	0.3 ( 6)	1.1 ( 25)	1.2 ( 27)	0.7 ( 15)	3.7 ( 82)	7.0 ( 155)
W	0.0 ( 0)	0.2 ( 5)	0.5 ( 10)	1.2 ( 27)	1.1 ( 25)	5.0 ( 110)	8.0 ( 177)
WNW	0.0 ( 1)	0.2 ( 4)	1.1 ( 24)	2.3 ( 51)	1.7 ( 37)	3.8 ( 83)	9.1 ( 200)
NW	0.2 ( 4)	0.2 ( 5)	1.4 ( 31)	1.8 ( 39)	1 ( 35)	2.3 ( 51)	7.5 ( 165)
NNW	0.1 ( 2)	0.4 ( 9)	0.8 ( 18)	1.3 ( 29)	0 ( 19)	0.5 ( 10)	3.9 ( 87)
TOTAL	1 ( 24)	8.7 ( 193)	18.4 ( 406)	32.9 ( 727)	17.3 ( 381)	19.7 ( 435)	98.1 ( 2166)

SUMMARY FOR STABILITY CLASS - ALL (A-G)

NUMBER OF CALM HOURS ( &lt;1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 5

NUMBER OF VALID STABILITY HOURS ..... 2171 OF 2208 TOTAL HOURS IN PERIOD

## NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

% FREQUENCY (NO. OF OCCURRENCES) OF WIND SPEED AND WIND DIRECTION

WIND DATA FROM: MAIN 200' SITE

FROM: 10/01/90 TO 12/31/90

## TOTAL WIND CATEGORY

DIR	SPEED (MPH)						TOTAL
	00-03	04-07	08-12	13-18	19-23	>=24	
N	0.0 ( 0)	0.5 ( 11)	0.8 ( 17)	1.4 ( 32)	1.2 ( 27)	1.2 ( 26)	5.1 ( 113)
NNE	0.0 ( 1)	0.6 ( 13)	1.0 ( 21)	2.3 ( 50)	1.0 ( 22)	0.5 ( 11)	5.3 ( 118)
NE	0.1 ( 2)	1.2 ( 27)	1.0 ( 21)	0.9 ( 20)	0.0 ( 1)	0.0 ( 0)	3.2 ( 71)
ENE	0.2 ( 4)	1.0 ( 22)	0.8 ( 18)	0.1 ( 2)	0.0 ( 0)	0.0 ( 0)	2.1 ( 46)
E	0.1 ( 3)	0.5 ( 12)	0.5 ( 10)	0.3 ( 6)	0.1 ( 2)	0.0 ( 0)	1.5 ( 33)
ESE	0.1 ( 2)	0.5 ( 12)	1.7 ( 38)	1.2 ( 27)	0.3 ( 6)	0.2 ( 4)	4.0 ( 89)
SE	0.1 ( 2)	0.5 ( 11)	1.9 ( 41)	4.7 ( 104)	1.8 ( 40)	0.8 ( 18)	9.8 ( 216)
SSE	0.1 ( 2)	0.5 ( 12)	1.2 ( 27)	3.2 ( 70)	2.4 ( 53)	1.0 ( 22)	8.4 ( 186)
S	0.0 ( 0)	0.8 ( 18)	2.3 ( 50)	4.2 ( 92)	3.1 ( 68)	0.4 ( 8)	10.7 ( 236)
SSW	0.0 ( 1)	0.5 ( 11)	2.1 ( 47)	4.9 ( 108)	0.4 ( 9)	0.0 ( 0)	8.0 ( 176)
SW	0.0 ( 0)	0.8 ( 17)	0.8 ( 17)	2.4 ( 52)	1.0 ( 22)	0.5 ( 10)	5.3 ( 118)
WSW	0.0 ( 0)	0.3 ( 6)	1.1 ( 25)	1.2 ( 27)	0.7 ( 15)	3.7 ( 82)	7.0 ( 155)
W	0.0 ( 0)	0.2 ( 5)	0.5 ( 10)	1.2 ( 27)	1.1 ( 25)	5.0 ( 110)	8.0 ( 177)
WNW	0.0 ( 1)	0.2 ( 4)	1.1 ( 24)	2.3 ( 51)	1.7 ( 37)	3.8 ( 83)	9.1 ( 200)
NW	0.2 ( 4)	0.2 ( 5)	1.5 ( 33)	1.8 ( 39)	1.6 ( 35)	2.3 ( 51)	7.6 ( 167)
NNW	0.1 ( 2)	0.4 ( 9)	0.9 ( 20)	1.3 ( 29)	0.9 ( 9)	0.5 ( 10)	4.0 ( 89)
TOTAL	1.1 ( 24)	8.8 ( 195)	19.0 ( 419)	33.3 ( 736)	17.3 ( 361)	19.7 ( 435)	99.2 ( 2190)

## SUMMARY FOR TOTAL WIND CATEGORY

NUMBER OF CALM HOURS ( <1.0 MPH ) ..... 0

NUMBER OF MISSING WIND OBSERVATIONS ..... 18

TOTAL HOURS IN PERIOD ..... 2208



# NEW YORK POWER AUTHORITY - JAMES A. FITZPATRICK NUCLEAR POWER PLANT

## \*\*\* LEGEND \*\*\* JOINT FREQUENCY OF WIND SPEED AND WIND DIRECTION \*\*\* BY STABILITY \*\*\*

SITE: NINE MILE UPPER: WIND SPEED UPPER - 200FT CUP  
WIND DIRECTION UPPER - 200FT VANE  
TEMPERATURE DIFFERENCE - (200FT-30FT)

NINE MILE LOWER: WIND SPEED LOWER - 30FT CUP  
WIND DIRECTION LOWER - 30FT VANE  
TEMPERATURE DIFFERENCE - (200FT-30FT)

STABILITY CLASS: PASQUILL STABILITY CATEGORIES - DEG C/100M

A - EXTREMELY UNSTABLE	> -1.9 TO <= -1.9
B - MODERATELY UNSTABLE	> -1.7 TO <= -1.7
C - SLIGHTLY UNSTABLE	> -1.5 TO <= -1.5
D - NEUTRAL	> -0.5 TO <= -0.5
E - SLIGHTLY STABLE	> 1.5 TO <= 1.5
F - MODERATELY STABLE	> 4.0
G - EXTREMELY STABLE	> ALL
ALL - ALL STABILITIES (A-G)	N/A
( ) - TOTAL WIND	

WIND CLASS: SIX WIND SPEED CATEGORIES - (SEE TABLE HEADING) MPH  
SIXTEEN WIND DIRECTION CATEGORIES - 22.5 DEG

NOTE: THE DATA CAPTURE STATISTICS ARE GIVEN FOR EACH OF THE NINE CATEGORIES LISTED ABOVE.

CALM WINDS ARE LISTED IN THE 0-3 MPH WIND SPEED CATEGORY.

WIND SPEEDS ARE ROUNDED TO NEAREST MPH e.s. 3.4 = 3.0, 3.5 = 4.0

WIND DIRECTIONS ARE MEASURED \*FROM\* THE DIRECTION THE WIND IS COMING FROM.