NINE MILE POINT NUCLEAR STATION

SEMI-ANNUAL RADIOACTIVE EFFLUENT

RELEASE REPORT

JULY - DECEMBER 1986

DOCKET NO.: 50-220

LICENSE NO.: DPR-63

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

JULY - DECEMBER 1986

SUPPLEMENTAL INFORMATION

Facility: Nine Mile Point Unit #1

Licensee: Niagara Mohawk Power Corporation

1. Technical Specification Limits:

A) Fission and activation gases:

1. The dose rate limit of noble gases from the site to areas at and beyond the site boundary shall be less than or equal to 500 mrems/year to the total body and less than or equal to 3000 mrems/year to the skin.

2. The air dose due to noble gases released in gaseous effluents from the Nine Mile Point 1 Station to areas at and beyond the site boundary shall be limited during any calendar quarter to less than or equal to 5 milliroentgen for gamma radiation and less than or equal to 10 mrads for beta radiation and, during any calendar year to less than or equal to 10 milliroentgen for gamma radiation and less than or equal to 20 mrads for beta radiation.

B&C) Tritium, Iodines and Particulates, half lives > 8 days:

1. The dose rate limit of Iodine-131, Iodine-133, Tritium and all radionuclides in particulate form with half-lives greater than eight days, released to the environs as part of the gaseous wastes from the site, shall be less than or equal to 1500 mrems/year to any organ.

2. The dose to a member of the public from Iodine-131, Iodine-133, Tritium and all radionuclides in particulate form with half lives greater than 8 days as part of gaseous effluents released from the Nine Mile Point 1 Station to areas at and beyond the site boundary shall be limited during any calendar quarter to less than or equal to 7.5 mrems to any organ and, during any calendar year to less than or equal to 15 mrems to any organ.

D) Liquid Effluents

1. The concentration of radioactive material released in liquid effluents to unrestricted areas shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gas, the concentration shall be limited to 2E-04 microcuries/ml total activity.

D. Liquid Effluents (Cont'd)

2. The dose or dose commitment to a member of the public from radioactive materials in liquid effluents released from Nine Mile Point Unit 1 unrestricted areas shall be limited during any calendar quarter to less than or equal to 1.5 mrems to the total body and to less than or equal to 5 mrems to any organ, and during any calendar year to less than or equal to 3 mrems to the total body and to less than or equal to 10 mrems to any organ.

2. Maximum Permissible Concentrations

A) Fission and activation gases:

None specified

B&C) Iodines and particulates, half lives $\geq$ 8 days:

None specified

D) Liquid Effluents:

10CFR 20, Appendix B, Table II, Column 2.
Avg MPC (July - Sept.) = no discharges
Avg MPC (Oct. - Dec.) = no discharges

3. Average Energy (Fission and Activation gases - Mev)

July - Sept.: $\bar{E}_\gamma = 0.729$; $\bar{E}_\beta = 0.652$
Oct. - Dec.: $E_\gamma = 0.843$; $E_\beta = 0.527$

4. Measurements and Approximations of Total Radioactivity

Described below are the methods used to measure or approximate the total radioactivity and radionuclide composition in effluents.

A) Fission and Activation Gases: Noble gas effluent activity is determined by on-line gamma spectroscopic monitoring (intrinsic germanium crystal) or gross activity monitoring (calibrated against gamma isotopic analysis of a 4.0L Marinelli sample) of an isokinetic stack sample stream.

B) Iodines: Iodine effluent activity is determined by gamma spectroscopic analysis (at least weekly) of charcoal cartridges manually or automatically sampled from an isokinetic stack sample stream.

4. (Cont.)

C) Particulates: Activity released from main stack is determined by gamma spectroscopic analysis (at least weekly) of particulate filters manually or automatically sampled from an isokinetic sample stream.

For emergency condenser vent batch releases, effluent curie quantities are estimated by subtracting activity remaining in the shell side of the emergency condenser after batch release from activity delivered to the shell from Make-Up sources. Actual isotopic concentrations are found via gamma spectroscopy. Batch release activities of Sr-89, Sr-90 and Fe-55 are estimated by applying scaling factors to activity concentrations of gamma emitters. The activity of tritium released during normal operation or during batch releases is conservatively estimated by multiplying recent condensate storage tank H-3 activity by assumed steaming rates out the vents.

D) Tritium: Tritium effluent activity is estimated by liquid scintillation or gas proportional counting of monthly samples taken with an air sparging/water trap apparatus.

E) Liquid Effluents: Isotopic Analysis of a representative sample of each batch.

F) Solid Effluents: Isotopic contents of waste shipments are determined by gamma spectroscopy, gross alpha and water content analyses of a representative sample of each batch. Scaling factors established from primary composite sample analyses conducted off-site are applied, where appropriate, to find estimated concentration of non-gamma emmitters. For low activity trash shipments, curie content is estimated by dose rate measurement and application of appropriate scaling factors.

5. Batch Releases

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

A) Liquid

1.	Number of batch releases: 0				
2.	Total time period for batch releases:	0	hours	0	min.
3.	Maximum time period for a batch release:	0	hours	0	min.
4.	Average time period for a batch release:	0	hours	0	min.
5.	Minimum time period for a batch release:	0	hours	0	min.
6.	Average stream flow during period of release of effluent into a flowing stream:	Not Applicable			
7.	Total volume of water used to dilute the liquid effluent during release periods :	No Discharges			
8.	Total volume of water available to dilute the liquid effluent during reporting period :	2.71E+02 GL			

5. (Cont.)

B) Gaseous (Emergency Condenser Vents)
1. Number of batch releases: 0
2. Total time period for batch releases: 0 hours 0 min.
3. Maximum time period for a batch release: 0 hours 0 min.
4. Average time period ofr a batch release: 0 hours 0 min.
5. Minimum time period for a batch release: 0 hours 0 min.

6. Abnormal Releases
A. Liquids - none
B. Gaseous - none

TABLE 1A

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES
ELEVATED AND GROUND LEVEL

JULY - DECEMBER

	UNIT	3rd QUARTER	4th QUARTER	EST.TOTAL ERROR, %
A. Fission & Activation gases				
1. Total release	Ci	1.03E+02	1.46E+02	5.0E+01
2. Average release rate for period	µCi/sec	1.30E+01	1.84E+01	
3. Percent of Technical Specification Limit	%	*	*	
B. Iodines				
1. Total iodine-131	Ci	1.10E-03	6.96E-04	1.0E+01
2. Average release rate for period	µCi/sec	1.38E-04	8.76E-05	
3. Percent of Technical Specification Limit	%	*	*	
C. Particulates				
1. Particulates with half-lives >8 days	Ci	1.87E-03	1.37E-03	3.0E+01
2. Average release rate for period	µCi/sec	2.36E-04	1.73E-04	
3. Percent of Technical Specification Limit	%	*	*	
4. Gross alpha radio-activity	Ci	3.85E-05	1.01E-05	2.5E+01
D. Tritium				
1. Total release	Ci	2.83E+01	1.77E+01	1.0E+02
2. Average release rate for period	µCi/sec	3.56E+00	2.22E+00	
3. Percent of Technical Specification Limit	%	*	*	

TABLE 1A

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES
ELEVATED AND GROUND LEVEL

JULY - DECEMBER (Cont'd)

	UNIT	3rd QUARTER	4th QUARTER
E.* Percent of Technical Specification Limits (NMP-1 Elevated Release)			
Fission and Activation Gases:			
1. Percent of Quarterly Gamma Air Dose Limit	%	8.89E-01	1.46E+00
2. Percent of Quarterly Beta Air Dose Limit	%	3.98E-01	4.54E-01
3. Percent of Annual Gamma Air Dose Limit to Date	%	9.54E-01	1.69E+00
4. Percent of Annual Beta Air Dose Limit to Date	%	4.99E-01	7.28E-01
5. Percent of Whole Body Dose Rate Limit	%	3.53E-02	5.80E-02
6. Percent of Skin Dose Rate Limit	%	1.11E-02	1.57E-02
Tritium, Iodines and Particulates (with half-lives greater than 8 days):			
1. Percent of Quarterly Dose Limit	%	3.51E-01	1.91E-01
2. Percent of Annual Dose Limit to Date	%	1.49E+00	1.56E+00
3. Percent of Organ Dose Rate Limit	%	6.96E-03	3.78E-03

TABLE 1A (Corrections)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
CORRECTIONS TO PREVIOUS REPORT

Percent of Technical Specification Dose Rate Limits reported in the January-June 1986 Radioactive Effluent Release Report were in error. Correct values are reported below. (Original, incorrect values are reported in parentheses).

	Unit	1st QUARTER	2nd QUARTER
Percent of Technical Specification Limits (NMP-1 Elevated Release)			
Fission and Activation Gases:			
1. Percent of Quarterly Gamma Air Dose Limit	%	9.48E-01	7.00E-02
2. Percent of Quarterly Beta Air Dose Limit	%	5.52E-01	4.77E-02
3. Percent of Annual Gamma Air Dose Limit to Date	%	4.74E-01	5.09E-01
4. Percent of Annual Beta Air Dose Limit to Date	%	2.76E-01	3.00E-01
5. Percent of Whole Body Dose Rate Limit	%	3.84E-02(9.48E-03)	2.81E-03(7.00E-04)
6. Percent of Skin Dose Rate Limit	%	1.39E-02(1.84E-03)	1.11E-03(1.59E-04)
Tritium, Iodines and Particulates (with half-lives greater than 8 days):			
1. Percent of Quarterly Dose Limit	%	2.68E+00	7.54E-01
2. Percent of Annual Dose Limit to Date	%	1.35E+00	1.37E+00
3. Percent of Organ Dose Rate Limit	%	5.43E-02(1.34E-02)	1.52E-02(3.78E-03)

TABLE 1B

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
GASEOUS EFFLUENTS-ELEVATED RELEASE

JULY - DECEMBER

Nuclides Released	Unit	CONTINUOUS MODE 3RD Quarter	CONTINUOUS MODE 4th Quarter
1. Fission Gases			
Argon-41	Ci	4.96E+00	2.79E+00
Krypton-85m	Ci	6.75E+00	6.56E+00
Krypton-87	Ci	--------	2.55E+00
Krypton-88	Ci	3.93E+00	4.66E+00
Xenon-133	Ci	6.97E+00	1.87E+01
Xenon-135	Ci	5.96E+00	1.74E+01
Xenon-135m	Ci	1.37E+01	3.52E+00
Xenon-137	Ci	1.99E+01	5.37E+00
Xenon-138	Ci	4.13E+01	8.46E+01
2. Iodines			
Iodine-131	Ci	1.10E-03	6.96E-04
Iodine-133	Ci	9.90E-03	4.86E-03
Iodine-135	Ci	2.37E-02	1.18E-02
3. Particulates			
Strontium-89	Ci	1.50E-04	2.16E-04
Strontium-90	Ci	1.35E-06	1.38E-06
Cesium-134	Ci	8.20E-06	---------
Cesium-137	Ci	1.67E-04	1.54E-04
Cobalt-60	Ci	7.75E-04	3.94E-04
Cobalt-58	Ci	6.12E-05	8.15E-06
Manganese-54	Ci	2.81E-05	4.96E-06
Barium-Lanthanum-140	Ci	3.07E-04	1.74E-04
Antimony-125	Ci	---------	---------
Niobium-95	Ci	---------	---------
Cerium-141	Ci	---------	---------
Cerium-144	Ci	---------	---------
Iron-59	Ci	---------	---------
Cesium-136	Ci	---------	---------
Chromium-51	Ci	3.76E-04	4.22E-04
Zinc-65	Ci	---------	---------
Iron	Ci	---------	---------
4. Tritium	Ci	4.63E+00	2.55E+00

TABLE 1C

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
GASEOUS EFFLUENTS-GROUND LEVEL (EMERGENCY CONDENSER VENT) RELEASES

JULY - DECEMBER

		CONTINUOUS MODE		BATCH MODE	
Nuclides Released	Unit	3rd Quarter	4th Quarter	3rd Quarter	4th Quarter
1. Fission Gases					
Argon-41	Ci	--------	--------	--------	--------
Krypton-85m	Ci	--------	--------	--------	--------
Krypton-87	Ci	--------	--------	--------	--------
Krypton-88	Ci	--------	--------	--------	--------
Xenon-133	Ci	--------	--------	--------	--------
Xenon-135	Ci	--------	--------	--------	--------
Xenon-135m	Ci	--------	--------	--------	--------
Xenon-137	Ci	--------	--------	--------	--------
Xenon-138	Ci	--------	--------	--------	--------
2. Iodines					
Iodine-131	Ci	--------	--------	--------	--------
Iodine-133	Ci	--------	--------	--------	--------
Iodine-135	Ci	--------	--------	--------	--------
3. Particulates					
Strontium-89	Ci	--------	--------	--------	--------
Strontium-90	Ci	--------	--------	--------	--------
Cesium-134	Ci	--------	--------	--------	--------
Cesium-137	Ci	--------	--------	--------	--------
Cobalt-60	Ci	--------	--------	--------	--------
Cobalt-58	Ci	--------	--------	--------	--------
Manganese-54	Ci	--------	--------	--------	--------
Barium-Lanthanum-140	Ci	--------	--------	--------	--------
Antimony-125	Ci	--------	--------	--------	--------
Niobium-95	Ci	--------	--------	--------	--------
Cerium-141	Ci	--------	--------	--------	--------
Cerium-144	Ci	--------	--------	--------	--------
Iron-59	Ci	--------	--------	--------	--------
Cesium-136	Ci	--------	--------	--------	--------
Chromium-51	Ci	--------	--------	--------	--------
Zinc-65	Ci	--------	--------	--------	--------
Iron-55	Ci	--------	--------	--------	--------
4. Tritium	Ci	2.37E+01	1.51E+01	--------	--------

TABLE 2A

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

JULY - DECEMBER

	Unit	3rd Quarter	4th Quarter	Est. Total Error, %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	None	None	-----
2. Average duluted concentration during reporting period	μCi/ml	-----	-----	
3. Percent of applicable limit	%	-----	-----	
B. Tritium				
1. Total release	Ci	None	None	-----
2. Average diluted concentration during reporting period	μCi/ml	-----	-----	
3. Percent of applicable limit	%	-----	-----	
C. Dissolved and entrained gases				
1. Total release	Ci	None	None	-----
2. Average diluted concentration during reporting period	μCi/ml	-----	-----	
3. Percent of applicable limit	%	-----	-----	
D. Gross alpha radioactivity				
1. Total release	Ci	None	None	-----
E. Volumes				
1. Prior to dilution	liters	None	None	-----
2. Volume of dilution water used during release period	liters	-----	-----	-----
3. Volume of dilution water used during reporting period	liters	1.37E+02	1.33E+02	2.0E+01

TABLE 2A

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

JULY - DECEMBER (Cont.)

	Unit	3rd Quarter	4th Quarter
F.* Percent of Technical Specification Limits			
1. Percent of Quarterly whole Body Dose Limit	%	*	*
2. Percent of Quarterly Organ Dose Limit	%	*	*
3. Percent of Annual Whole Body Dose Limit to Date	%	<1.76E-03	<1.76E-03
4. Percent of Annual Organ Dose Limit to Date	%	<6.82E-04	<6.82E-04
5. Percent of 10CFR20 Concentration Limit	%	*	*
6. Percent of Dissolved or Entrained Noble Gas Limit	%	*	*

*There were no liquid discharges from NMP-1 through the period July - December 1986.

TABLE 2B

RADIOACTIVE EFFLUENT RELEASE SEMI-ANNUAL REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
LIQUID EFFLUENTS RELEASED
JULY - DECEMBER

	Unit	BATCH MODE 3rd Quarter	BATCH MODE 4th Quarter
Nuclides Released			
Strontium-89	Ci		
Strontium-90	Ci		
Cesium-134	Ci		
Cesium-137	Ci		
Iodine-131	Ci		
Cobalt-58	Ci		
Cobalt-60	Ci		
Manganese-54	Ci		
Chromium-51	Ci	No Discharges	No Discharges
Zirconium-niobium-95	Ci		
Barium-lanthanum-140	Ci		
Tungsten-187	Ci		
Arsenic-76	Ci		
Iodine-133	Ci		
Iron-59	Ci		
Iron-55	Ci		
Neptunium-239	Ci		
Praseodymium-144	Ci		
Iodine-135	Ci		
Σ Dissolved or Entrained Gases	Ci		

TABLE 3A

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. Solid Waste Shipped Off-Site for Burial or Disposal (Not irradiated fuel)

1. Class of Waste	July - December	Est. Total Error, %
a. Class A		
Spent Resins		
m^3	1.57E+01	
Curies	1.29E+01	2.5E+01
Solidification Agent	Cement	
Container	HIC	
Package	Type A	
Principle Isotopes	Co60, Co58, Mn54, La140 Ba140,Cr51	
Conc. Waste		
m^3	4.01E+01	
Curies	2.15E+01	2.5E+01
Solidification Agent	Cement	
Container	Steel Liner	
Package	Type A	
Principle Isotopes	Cs137, Co60, Cs134, Mn54	
Dry Compressible Waste		
m^3	1.15E+02	
Ci	4.23E-01	5.0E+01
Solidification Agent	None	
Container	Strong Tight Package	
Package	Wood LSA Box	
Principle Isotopes	Cs137, Co60, Cs134, Mn54	
Dry Non-Compressed Waste		
m^3	5.83E+00	
Curies	6.33E+00	5.0E+01
Solidification Agent	None	
Container	Strong Tight Package	
Package	Wood LSA Box	
Principle Isotopes	Cs137, Co60, Mn54, Cs134	
Contaminated Oil		
m^3	1.00E+01	
Curies	1.30E-02	5.0E+01
Solidification Agent	Cement	
Container	Steel Liner	
Package	LSA Container	
Principle Isotopes	H3, Cs137, Co60	

TABLE 3A

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
(Continued)

A. Solid Waste Shipped Off-Site for Burial or Disposal (Not irradiated fuel)

1. Class of Waste	JULY - DECEMBER	Est. Total Error, %
a. Class A (Cont'd)		
Recirc Pump Seals		
m^3	3.11E+00	
Curies	5.28E-01	5.0E+01
Solidification Agent	None	
Container	Strong Tight Package	
Package	Wood LSA Box	
Principle Isotopes	Co60, Fe55, Ni63, Mn54	
Scrap Metal		
m^3	6.03E+00	
Curies	9.60E-02	5.0E+01
Solidification Agent	None	
Container	Strong Tight Package	
Package	Wood LSA Box	
Principle Isotopes	Co60, Ni63, Mn54, Zn65, Fe59	
Contaminated Heat Exchangers*		
m^3	3.56E+01	
Curies	1.00E-03	1.0E+02
Solidification Agent	None	
Container	Strong Tight Package	
Package	Heat Exchanger Schell	
Principle Isotopes	Co60, Cs137, Cs134	
Channel Racks*		
m^3	3.31E+00	
Curies	2.90E-02	5.0E+01
Solidification Agent	None	
Container	Strong Tight Package	
Package	Metal LSA Box	
Principle Isotopes	Co60, Cs137, Fe55	
Scrap Metal		
m^3	9.04E+00	
Curies	2.90E-02	5.0E+01
Solidification Agent	None	
Container	Strong Tight Package	
Package	Wood LSA Box	
Principle Isotopes	Co60, Cs137, Cs134, Mn54	

*Shipped to Quadrex for Decon/Recycle.

TABLE 3A

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
(Continued)

A. Solid Waste Shipped Off-Site for Burial or Disposal (Not irradiated fuel)

1. Class of Waste		JULY - DECEMBER	Est.Total Error, %
b. Class B			
Filter Media			
	m^3	1.00E+01	
	Curies	9.48E+01	2.5E+01
	Solidification Agent	Cement	
	Container	Steel Liner	
	Package	Type A	
	Principle Isotopes	Co60, Cs137, Fe55, Mn54, Ni63	

c. Class C

None

TABLE 3A

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
(Continued)

2. Estimate of Major Nuclide Composition (by Type of Waste)

a. Evaporator Bottoms - Resins - Filter Media

Cobalt-60	5.19E+01
Cesium-137	2.53E+01
Manganese-54	5.52E+00
Iron-55	4.75E+00
Cobalt-58	2.99E+00
Lanthanum-140	2.02E+00
Barium-140	1.97E+00
Cr-51	1.26E+00
Cesium-134	1.16E+00
Other	3.13E+00

b. Dry Compressible Waste, Contaminated Components

Nuclide	Percent
Cobalt-60	5.49E+01
Cesium-137	2.88E+01
Iron-55	9.51E+00
Manganese-54	1.68E+00
Nickel-63	1.49E+00
Cesium-134	1.25E+00
Other	2.37E+00

c. Contaminated Oil

Nuclide	Percent
Tritium	9.18E+01
Cesium-137	4.64E+00
Cobalt-60	3.04E+00
Other	5.20E-01

3. Solid Waste Disposition

Number of Shipments	Mode	Destination
18	Truck	Barnwell, SC
1	Truck	Hanford, WA
4*	Truck	Oakridge, TE

*Four Heat Exchangers Shipped off Site for Decon/Recycle

TABLE 3A

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
(Continued)

4. Irradiated Reactor Components Disposition

a.

Number of Shipments	Mode	Destination
None	-	-

5. Irradiated Fuel Shipments Disposition

Number of Shipments	Mode	Destination
None	-	-

TABLE 4

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION # 1
HOURS AT EACH WIND SPEED AND DIRECTION

JULY - DECEMBER

- See attached pages -

* * * * * LEGEND * * * * *
% FREQUENCY OF WIND DIRECTION WITHIN WIND SPEED CATEGORY
* * * BY STABILITY * * * *

--JG120

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SITE:  NINE MILE UPPER:  WIND SPEED UPPER          - 200FT AEROVANE
                         WIND DIRECTION UPPER      - 200FT AEROVANE
                         TEMPERATURE DIFFERENCE    - (200-27FT)

       NINE MILE LOWER:  WIND SPEED LOWER          - 30FT CUP
                         WIND DIRECTION LOWER      - 30FT CUP
                         TEMPERATURE DIFFERENCE    - (200-27FT)

STABILITY CLASS:  PASQUILL STABILITY CATEGORIES - DEGC/100M

                    A - EXTREMELY UNSTABLE           LT -1.9
                    B - MODERATELY UNSTABLE    -1.8  TO -1.7
                    C - SLIGHTLY UNSTABLE      -1.6  TO -1.5
                    D - NEUTRAL                -1.4  TO -0.5
                    E - SLIGHTLY STABLE        -0.4  TO  1.5
                    F - MODERATELY STABLE       1.6  TO  4.0
                    G - EXTREMELY STABLE             GT  4.0
                  ALL - ALL STABILITIES (A-G)      ALL
                  ( ) - ALL WIND                   N/A

WIND CLASS:  SIX WIND SPEED CATEGORIES - (SEE TABLE HEADINGS) 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 WIND SPEED CATEGORY.
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NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

-- JG120

STABILITY CLASS - A

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)
NNE	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (1)	0.0 (0)	0.1 (3)
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 (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 (1)	0.0 (0)	0.0 (0)	0.1 (3)	0.2 (4)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)	0.1 (3)
NW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)
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)	0.0 (0)	0.1 (3)	0.1 (3)	0.0 (1)	0.4 (8)	0.7 (15)

FOR STABILITY CLASS - A

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 20

NUMBER OF MISSING WIND OBSERVATIONS: 5

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

---------- JG120

STABILITY CLASS - B

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 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)	0.1 (2)	0.1 (2)
NNE	0.0 (0)	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	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 (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)	0.1 (2)	0.1 (2)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)	0.1 (2)
NW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)	0.3 (6)	0.4 (8)
NNW	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.1 (2)
TOTAL	0.0 (0)	0.0 (1)	0.2 (4)	0.0 (1)	0.1 (2)	0.6 (12)	1.0 (20)

FOR STABILITY CLASS - B

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 24

NUMBER OF MISSING WIND OBSERVATIONS: 4

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

---------- JG120

STABILITY CLASS - C

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.1 (3)	0.2 (4)
NNE	0.0 (0)	0.0 (0)	0.1 (2)	0.1 (2)	0.0 (1)	0.0 (1)	0.3 (6)
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 (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 (1)	0.0 (1)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)	0.4 (8)
NW	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)	0.2 (5)	0.3 (7)
NNW	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)	0.0 (1)	0.0 (1)	0.3 (6)
TOTAL	0.0 (0)	0.0 (1)	0.1 (3)	0.3 (6)	0.2 (4)	0.9 (19)	1.6 (33)

FOR STABILITY CLASS - C

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 45

NUMBER OF MISSING WIND OBSERVATIONS: 12

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

JG120*

STABILITY CLASS - D

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.6 (12)	0.3 (6)	0.6 (12)	1.1 (22)	0.4 (9)	2.9 (61)
NNE	0.0 (1)	0.5 (11)	0.7 (15)	1.1 (22)	0.2 (5)	0.2 (5)	2.8 (59)
NE	0.0 (0)	0.6 (12)	0.9 (18)	0.1 (2)	0.0 (0)	0.0 (0)	1.5 (32)
ENE	0.0 (0)	0.1 (2)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
E	0.0 (0)	0.4 (8)	0.1 (3)	0.0 (1)	0.0 (0)	0.0 (0)	0.6 (12)
ESE	0.0 (0)	0.1 (2)	0.6 (12)	0.7 (15)	0.0 (0)	0.0 (0)	1.4 (29)
SE	0.0 (0)	0.3 (6)	0.8 (17)	0.9 (19)	0.1 (3)	0.1 (3)	2.3 (48)
SSE	0.0 (0)	0.1 (2)	0.4 (9)	0.2 (5)	0.0 (1)	0.0 (1)	0.9 (18)
S	0.0 (0)	0.1 (2)	0.4 (9)	0.3 (6)	0.4 (8)	0.0 (0)	1.2 (25)
SSW	0.0 (0)	0.0 (0)	0.5 (10)	0.5 (11)	0.0 (1)	0.0 (0)	1.1 (22)
SW	0.0 (0)	0.0 (1)	0.5 (10)	0.4 (8)	0.2 (5)	0.2 (4)	1.3 (28)
WSW	0.0 (0)	0.0 (0)	0.5 (11)	0.6 (13)	0.8 (16)	2.6 (55)	4.6 (95)
W	0.0 (0)	0.1 (3)	0.4 (8)	0.9 (18)	1.0 (21)	1.9 (39)	4.3 (89)
WNW	0.0 (0)	0.1 (3)	0.8 (16)	1.6 (33)	1.4 (30)	2.2 (46)	6.1 (128)
NW	0.0 (0)	0.2 (4)	1.0 (20)	2.3 (47)	0.8 (16)	0.6 (13)	4.8 (100)
NNW	0.0 (0)	0.6 (12)	0.9 (19)	1.4 (29)	0.8 (16)	0.5 (10)	4.1 (86)
TOTAL	0.0 (1)	3.8 (80)	8.9 (185)	11.6 (241)	6.9 (144)	8.9 (185)	40.1 (836)

FOR STABILITY CLASS - D

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 862

NUMBER OF MISSING WIND OBSERVATIONS: 26

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

-- JG120

STABILITY CLASS - E

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (1)	0.3 (7)	0.3 (6)	0.2 (4)	0.0 (0)	0.0 (0)	0.9 (18)
NNE	0.0 (0)	0.7 (14)	0.4 (9)	0.6 (12)	0.1 (2)	0.1 (2)	1.9 (39)
NE	0.0 (1)	0.5 (10)	0.8 (17)	0.0 (1)	0.0 (0)	0.0 (0)	1.4 (29)
ENE	0.0 (1)	0.7 (14)	0.4 (9)	0.0 (1)	0.0 (0)	0.0 (0)	1.2 (25)
E	0.2 (4)	0.1 (3)	1.0 (21)	0.4 (9)	0.0 (0)	0.0 (0)	1.8 (37)
ESE	0.0 (1)	0.5 (11)	2.1 (43)	2.2 (46)	0.3 (7)	0.0 (0)	5.2 (108)
SE	0.1 (2)	0.6 (12)	2.2 (45)	3.7 (77)	1.7 (36)	0.8 (17)	9.1 (189)
SSE	0.1 (2)	0.5 (11)	0.7 (14)	2.0 (42)	0.6 (13)	0.8 (16)	4.7 (98)
S	0.1 (2)	0.4 (8)	0.7 (15)	1.6 (33)	1.5 (31)	0.5 (11)	4.8 (100)
SSW	0.0 (0)	0.4 (8)	0.8 (17)	2.3 (48)	0.1 (2)	0.0 (1)	3.6 (76)
SW	0.0 (0)	0.2 (4)	0.9 (19)	1.4 (30)	1.1 (23)	0.0 (1)	3.7 (77)
WSW	0.0 (0)	0.5 (10)	1.0 (20)	0.8 (16)	0.8 (17)	1.5 (31)	4.5 (94)
W	0.0 (1)	0.4 (8)	0.5 (10)	0.8 (16)	0.8 (16)	0.7 (15)	3.2 (66)
WNW	0.0 (0)	0.2 (4)	0.4 (8)	0.1 (3)	0.2 (4)	0.8 (16)	1.7 (35)
NW	0.0 (0)	0.2 (4)	0.1 (3)	0.0 (1)	0.0 (0)	0.1 (3)	0.5 (11)
NNW	0.0 (0)	0.4 (8)	0.1 (3)	0.1 (2)	0.0 (0)	0.0 (0)	0.6 (13)
TOTAL	0.7 (15)	6.5 (136)	12.4 (259)	16.4 (341)	7.2 (151)	5.4 (113)	48.7 (1015)

FOR STABILITY CLASS - E

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 1033

NUMBER OF MISSING WIND OBSERVATIONS: 18

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

JG120*

STABILITY CLASS - F

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 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	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.1 (3)
NE	0.0 (1)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
ENE	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
E	0.0 (1)	0.0 (1)	0.5 (10)	0.0 (1)	0.0 (0)	0.0 (0)	0.6 (13)
ESE	0.0 (0)	0.0 (0)	0.3 (6)	0.0 (1)	0.0 (0)	0.0 (0)	0.3 (7)
SE	0.1 (2)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
SSE	0.0 (0)	0.1 (2)	0.3 (6)	0.4 (9)	0.0 (1)	0.0 (1)	0.9 (19)
S	0.0 (1)	0.0 (0)	0.1 (3)	0.3 (6)	0.1 (2)	0.0 (0)	0.6 (12)
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 (1)	0.2 (5)	0.1 (3)	0.0 (0)	0.0 (0)	0.4 (9)
WSW	0.0 (1)	0.0 (0)	0.2 (4)	0.1 (2)	0.0 (1)	0.3 (6)	0.7 (14)
W	0.0 (0)	0.0 (1)	0.0 (1)	0.1 (2)	0.2 (4)	0.0 (1)	0.4 (9)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)
NW	0.0 (0)	0.2 (4)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
NNW	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.1 (2)
TOTAL	0.4 (8)	0.8 (16)	2.2 (45)	1.3 (28)	0.4 (8)	0.4 (8)	5.4 (113)

FOR STABILITY CLASS - F

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 113

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

JG120*

STABILITY CLASS - G

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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	0.0 (0)	0.1 (2)	0.0 (0)	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)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
E	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
ESE	0.0 (0)	0.0 (1)	0.2 (4)	0.0 (1)	0.0 (0)	0.0 (0)	0.3 (6)
SE	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.1 (2)
SSE	0.0 (0)	0.2 (4)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
S	0.0 (0)	0.1 (3)	0.2 (4)	0.1 (2)	0.0 (0)	0.0 (0)	0.4 (9)
SSW	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
SW	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.1 (3)
WSW	0.0 (0)	0.0 (1)	0.1 (2)	0.1 (2)	0.1 (3)	0.1 (2)	0.5 (10)
W	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (1)	0.0 (1)	0.1 (3)
WNW	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (1)	0.0 (0)	0.1 (2)
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 (17)	0.3 (7)	0.3 (6)	0.1 (3)	2.4 (51)

FOR STABILITY CLASS - G

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 51

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

---------- JG120

STABILITY CLASS - ALL

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

	SPEED (MPH)						
DIR	00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (1)	1.1 (22)	0.6 (12)	0.8 (16)	1.1 (23)	0.7 (15)	4.3 (89)
NNE	0.1 (3)	1.3 (27)	1.4 (30)	1.8 (38)	0.4 (9)	0.4 (8)	5.5 (115)
NE	0.1 (2)	1.1 (23)	1.8 (38)	0.1 (3)	0.0 (0)	0.0 (0)	3.2 (66)
ENE	0.0 (1)	1.0 (21)	0.6 (12)	0.0 (1)	0.0 (0)	0.0 (0)	1.7 (35)
E	0.2 (5)	0.6 (12)	1.7 (35)	0.5 (11)	0.0 (0)	0.0 (0)	3.0 (63)
ESE	0.0 (1)	0.7 (14)	3.1 (65)	3.0 (63)	0.3 (7)	0.0 (0)	7.2 (150)
SE	0.2 (4)	0.9 (19)	3.0 (63)	4.7 (98)	1.9 (39)	1.0 (20)	11.7 (243)
SSE	0.1 (2)	0.9 (19)	1.5 (32)	2.7 (56)	0.7 (15)	0.9 (18)	6.8 (142)
S	0.1 (3)	0.6 (13)	1.5 (31)	2.3 (47)	2.0 (41)	0.5 (11)	7.0 (146)
SSW	0.0 (0)	0.4 (9)	1.5 (31)	2.9 (60)	0.1 (3)	0.0 (1)	5.0 (104)
SW	0.0 (1)	0.3 (7)	1.6 (34)	2.0 (41)	1.4 (29)	0.2 (5)	5.6 (117)
WSW	0.0 (1)	0.5 (11)	1.8 (37)	1.6 (33)	1.8 (37)	4.5 (94)	10.2 (213)
W	0.0 (1)	0.6 (12)	1.0 (21)	1.7 (36)	2.0 (42)	3.0 (62)	8.4 (174)
WNW	0.0 (0)	0.3 (7)	1.2 (25)	1.8 (37)	1.7 (35)	3.6 (75)	8.6 (179)
NW	0.0 (0)	0.6 (13)	1.3 (27)	2.4 (49)	0.9 (18)	1.3 (28)	6.5 (135)
NNW	0.0 (0)	1.1 (22)	1.1 (23)	1.8 (38)	0.9 (18)	0.5 (11)	5.4 (112)
TOTAL	1.2 (25)	12.0 (251)	24.8 (516)	30.1 (627)	15.2 (316)	16.7 (348)	100.0 (2083)

FOR STABILITY CLASS - ALL

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2148

NUMBER OF MISSING WIND OBSERVATIONS: 65

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) . DATA FOR JAN. 1 1986 THROUGH MAR 31 1986

-- JG120

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

	SPEED (MPH)						
DIR	00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (1)	1.1 (22)	0.6 (12)	0.8 (16)	1.1 (23)	0.7 (15)	4.3 (89)
NNE	0.1 (3)	1.3 (27)	1.4 (30)	1.8 (38)	0.4 (9)	0.4 (8)	5.5 (115)
NE	0.1 (2)	1.1 (23)	1.8 (38)	0.1 (3)	0.0 (0)	0.0 (0)	3.2 (66)
ENE	0.0 (1)	1.0 (21)	0.6 (12)	0.0 (1)	0.0 (0)	0.0 (0)	1.7 (35)
E	0.2 (5)	0.6 (12)	1.7 (35)	0.5 (11)	0.0 (0)	0.0 (0)	3.0 (63)
ESE	0.0 (1)	0.7 (14)	3.1 (65)	3.0 (63)	0.3 (7)	0.0 (0)	7.2 (150)
SE	0.2 (4)	0.9 (19)	3.0 (63)	4.7 (98)	1.9 (39)	1.0 (20)	11.7 (243)
SSE	0.1 (2)	0.9 (19)	1.5 (32)	2.7 (56)	0.7 (15)	0.9 (18)	6.8 (142)
S	0.1 (3)	0.6 (13)	1.5 (31)	2.3 (47)	2.0 (41)	0.5 (11)	7.0 (146)
SSW	0.0 (0)	0.4 (9)	1.5 (31)	2.9 (60)	0.1 (3)	0.0 (1)	5.0 (104)
SW	0.0 (1)	0.3 (7)	1.6 (34)	2.0 (41)	1.4 (29)	0.2 (5)	5.6 (117)
WSW	0.0 (1)	0.5 (11)	1.8 (37)	1.6 (33)	1.8 (37)	4.5 (94)	10.2 (213)
W	0.0 (1)	0.6 (12)	1.0 (21)	1.7 (36)	2.0 (42)	3.0 (62)	8.4 (174)
WNW	0.0 (0)	0.3 (7)	1.2 (25)	1.8 (37)	1.7 (35)	3.6 (75)	8.6 (179)
NW	0.0 (0)	0.6 (13)	1.3 (27)	2.4 (49)	0.9 (18)	1.3 (28)	6.5 (135)
NNW	0.0 (0)	1.1 (22)	1.1 (23)	1.8 (38)	0.9 (18)	0.5 (11)	5.4 (112)
TOTAL	1.2 (25)	12.0 (251)	24.8 (516)	30.1 (627)	15.2 (316)	16.7 (348)	100.0 (2083)

FOR ALL WIND CATEGORIES

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2160

NUMBER OF MISSING WIND OBSERVATIONS: 77

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - A

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

SPEED (MPH)

DIR	00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)	0.2 (4)	0.1 (1)	0.5 (9)
NNE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)	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 (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)	0.1 (1)	0.1 (1)	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 (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)	0.1 (1)	0.1 (2)	0.2 (3)	0.0 (0)	0.3 (6)
W	0.0 (0)	0.1 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (3)
WNW	0.0 (0)	0.1 (2)	0.1 (1)	0.1 (1)	0.1 (1)	0.0 (0)	0.3 (5)
NW	0.0 (0)	0.0 (0)	0.1 (2)	0.3 (5)	0.1 (1)	0.0 (0)	0.4 (8)
NNW	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)	0.2 (4)	0.2 (3)	0.5 (9)
TOTAL	0.0 (0)	0.2 (3)	0.3 (6)	0.8 (14)	0.9 (16)	0.3 (5)	2.4 (44)

FOR STABILITY CLASS - A

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 44

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - B

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.1 (2)	0.2 (4)
NNE	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
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)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
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)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
SSE	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (3)	0.0 (0)	0.1 (1)	0.2 (4)
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)	0.1 (2)	0.3 (5)	0.3 (5)	0.0 (0)	0.7 (12)
W	0.0 (0)	0.1 (1)	0.0 (0)	0.1 (1)	0.0 (0)	0.2 (3)	0.3 (5)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.2 (4)	0.3 (5)
NW	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.1 (1)	0.0 (0)	0.1 (2)
NNW	0.0 (0)	0.1 (1)	0.0 (0)	0.1 (1)	0.1 (1)	0.1 (1)	0.2 (4)
TOTAL	0.0 (0)	0.1 (2)	0.4 (7)	0.7 (13)	0.4 (7)	0.6 (11)	2.2 (40)

FOR STABILITY CLASS - B

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 40

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - C

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

SPEED (MPH)

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)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NE	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (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)	0.1 (1)	0.1 (1)	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 (0)	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.1 (1)
SSE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.1 (1)
S	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)	0.0 (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)	0.1 (1)	0.1 (2)	0.2 (4)	0.3 (5)	0.7 (12)
W	0.0 (0)	0.1 (1)	0.1 (1)	0.0 (0)	0.2 (4)	0.4 (7)	0.7 (13)
WNW	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
NW	0.1 (1)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.1 (1)	0.2 (3)
NNW	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)	0.1 (2)
TOTAL	0.1 (1)	0.3 (6)	0.3 (6)	0.1 (2)	0.5 (10)	0.8 (14)	2.1 (39)

FOR STABILITY CLASS - C

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 39

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) . DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - D

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

SPEED (MPH)

DIR	00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.1 (1)	0.1 (1)	0.2 (3)	0.5 (10)	0.3 (6)	0.4 (8)	1.6 (29)
NNE	0.1 (1)	0.1 (2)	0.4 (7)	0.3 (5)	0.3 (6)	0.3 (5)	1.4 (26)
NE	0.0 (0)	0.3 (6)	0.4 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.7 (13)
ENE	0.1 (1)	0.2 (3)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (5)
E	0.0 (0)	0.1 (1)	0.1 (2)	0.1 (1)	0.0 (0)	0.0 (0)	0.2 (4)
ESE	0.0 (0)	0.0 (0)	0.2 (4)	0.2 (4)	0.0 (0)	0.0 (0)	0.4 (8)
SE	0.0 (0)	0.1 (2)	0.3 (6)	0.7 (12)	0.3 (5)	0.1 (1)	1.4 (26)
SSE	0.0 (0)	0.1 (1)	0.2 (4)	1.5 (28)	0.2 (4)	0.0 (0)	2.0 (37)
S	0.1 (1)	0.1 (1)	0.5 (9)	0.8 (14)	0.2 (4)	0.0 (0)	1.6 (29)
SSW	0.0 (0)	0.1 (1)	0.5 (10)	0.5 (10)	0.1 (2)	0.0 (0)	1.3 (23)
SW	0.0 (0)	0.2 (3)	0.4 (8)	0.1 (1)	0.0 (0)	0.1 (2)	0.8 (14)
WSW	0.0 (0)	0.2 (4)	1.8 (33)	2.1 (39)	1.5 (28)	1.2 (22)	6.9 (126)
W	0.1 (1)	0.7 (12)	1.0 (19)	0.9 (17)	2.5 (45)	1.1 (21)	6.3 (115)
WNW	0.0 (0)	0.3 (6)	0.2 (4)	0.2 (3)	0.7 (12)	0.2 (3)	1.5 (28)
NW	0.0 (0)	0.2 (4)	0.2 (3)	0.2 (3)	0.3 (6)	0.1 (2)	1.0 (18)
NNW	0.0 (0)	0.2 (3)	0.1 (1)	0.2 (4)	0.2 (4)	0.1 (1)	0.7 (13)
TOTAL	0.3 (5)	2.7 (50)	6.6 (121)	8.2 (151)	6.7 (122)	3.5 (65)	28.1 (514)

FOR STABILITY CLASS - D

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 514

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - E

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.2 (4)	0.1 (2)	0.1 (2)	0.7 (12)	0.1 (2)	0.3 (5)	1.5 (27)
NNE	0.0 (0)	0.3 (5)	0.5 (10)	0.9 (16)	0.4 (8)	0.1 (2)	2.2 (41)
NE	0.1 (1)	0.2 (3)	0.3 (5)	0.3 (5)	0.0 (0)	0.0 (0)	0.8 (14)
ENE	0.1 (2)	0.1 (2)	0.4 (7)	0.4 (7)	0.0 (0)	0.0 (0)	1.0 (18)
E	0.1 (1)	0.1 (1)	0.1 (2)	0.1 (1)	0.0 (0)	0.0 (0)	0.3 (5)
ESE	0.0 (0)	0.1 (2)	0.5 (9)	0.5 (10)	0.1 (1)	0.0 (0)	1.2 (22)
SE	0.0 (0)	0.0 (0)	0.3 (6)	2.0 (37)	1.1 (20)	0.3 (6)	3.8 (69)
SSE	0.2 (3)	0.1 (2)	0.2 (3)	1.6 (29)	0.5 (9)	0.0 (0)	2.5 (46)
S	0.1 (1)	0.1 (2)	0.5 (10)	1.3 (23)	0.8 (14)	0.0 (0)	2.7 (50)
SSW	0.0 (0)	0.2 (4)	0.6 (11)	0.7 (13)	0.1 (1)	0.0 (0)	1.6 (29)
SW	0.0 (0)	0.2 (4)	0.8 (14)	0.9 (16)	0.3 (6)	0.1 (1)	2.2 (41)
WSW	0.2 (4)	0.6 (11)	1.8 (33)	3.6 (66)	1.4 (25)	1.5 (28)	9.1 (167)
W	0.1 (1)	0.8 (14)	1.7 (32)	0.9 (16)	0.5 (10)	1.1 (21)	5.1 (94)
WNW	0.1 (1)	0.3 (6)	0.1 (2)	0.5 (9)	0.8 (14)	0.0 (0)	1.7 (32)
NW	0.2 (3)	0.3 (5)	0.2 (3)	0.1 (2)	0.2 (4)	0.0 (0)	0.9 (17)
NNW	0.1 (1)	0.3 (5)	0.3 (6)	0.2 (3)	0.0 (0)	0.0 (0)	0.8 (15)
TOTAL	1.2 (22)	3.7 (68)	8.5 (155)	14.5 (265)	6.2 (114)	3.4 (63)	37.5 (687)

FOR STABILITY CLASS - E

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 688

NUMBER OF MISSING WIND OBSERVATIONS: 1

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - F

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (0)	0.3 (5)	0.2 (4)	0.4 (7)	0.2 (4)	0.1 (2)	1.2 (22)
NNE	0.0 (0)	0.1 (1)	0.1 (1)	0.5 (10)	0.2 (3)	0.1 (1)	0.9 (16)
NE	0.1 (1)	0.3 (6)	0.4 (8)	0.1 (2)	0.0 (0)	0.0 (0)	0.9 (17)
ENE	0.1 (1)	0.1 (2)	0.5 (9)	0.2 (3)	0.0 (0)	0.0 (0)	0.8 (15)
E	0.1 (1)	0.0 (0)	0.2 (3)	0.1 (1)	0.0 (0)	0.0 (0)	0.3 (5)
ESE	0.0 (0)	0.1 (1)	0.3 (5)	0.3 (5)	0.0 (0)	0.0 (0)	0.6 (11)
SE	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)	0.1 (1)	0.0 (0)	0.5 (9)
SSE	0.0 (0)	0.1 (2)	0.3 (5)	0.4 (8)	0.3 (5)	0.0 (0)	1.1 (20)
S	0.1 (1)	0.0 (0)	0.1 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.2 (4)
SSW	0.0 (0)	0.0 (0)	0.1 (2)	0.3 (6)	0.0 (0)	0.0 (0)	0.4 (8)
SW	0.1 (1)	0.2 (4)	0.4 (7)	0.4 (7)	0.1 (1)	0.0 (0)	1.1 (20)
WSW	0.0 (0)	0.2 (3)	0.5 (10)	0.3 (5)	0.3 (6)	0.5 (10)	1.9 (34)
W	0.0 (0)	0.3 (6)	0.5 (9)	0.4 (7)	0.3 (6)	0.4 (7)	1.9 (35)
WNW	0.0 (0)	0.5 (9)	0.1 (2)	0.1 (2)	0.0 (0)	0.1 (1)	0.8 (14)
NW	0.1 (1)	0.2 (4)	0.1 (2)	0.1 (1)	0.0 (0)	0.0 (0)	0.4 (8)
NNW	0.0 (0)	0.0 (0)	0.2 (3)	0.0 (0)	0.2 (4)	0.0 (0)	0.4 (7)
TOTAL	0.3 (6)	2.3 (43)	3.9 (71)	4.0 (74)	1.6 (30)	1.1 (21)	13.4 (245)

FOR STABILITY CLASS - F

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 245

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - G

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (0)	0.2 (3)	0.1 (1)	0.2 (4)	0.5 (10)	0.7 (13)	1.7 (31)
NNE	0.1 (1)	0.1 (2)	0.2 (4)	0.3 (5)	0.4 (8)	0.1 (1)	1.1 (21)
NE	0.1 (1)	0.5 (9)	0.3 (6)	0.2 (4)	0.0 (0)	0.0 (0)	1.1 (20)
ENE	0.0 (0)	0.1 (2)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
E	0.1 (1)	0.3 (6)	0.3 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.7 (12)
ESE	0.0 (0)	0.1 (2)	0.4 (7)	0.1 (1)	0.0 (0)	0.0 (0)	0.5 (10)
SE	0.0 (0)	0.2 (4)	0.3 (5)	0.2 (4)	0.0 (0)	0.0 (0)	0.7 (13)
SSE	0.1 (2)	0.1 (2)	0.2 (4)	0.1 (2)	0.0 (0)	0.0 (0)	0.5 (10)
S	0.2 (3)	0.3 (5)	0.2 (4)	0.1 (1)	0.0 (0)	0.0 (0)	0.7 (13)
SSW	0.1 (2)	0.2 (4)	0.5 (9)	0.2 (3)	0.0 (0)	0.0 (0)	1.0 (18)
SW	0.0 (0)	0.6 (11)	0.4 (7)	0.3 (5)	0.0 (0)	0.0 (0)	1.3 (23)
WSW	0.1 (2)	0.5 (10)	0.6 (11)	0.1 (2)	0.1 (1)	0.1 (1)	1.5 (27)
W	0.2 (3)	0.8 (15)	0.3 (5)	0.1 (2)	0.2 (3)	0.1 (1)	1.6 (29)
WNW	0.0 (0)	0.3 (5)	0.1 (2)	0.2 (3)	0.0 (0)	0.0 (0)	0.5 (10)
NW	0.1 (2)	0.2 (4)	0.1 (2)	0.1 (1)	0.2 (3)	0.0 (0)	0.7 (12)
NNW	0.1 (1)	0.1 (2)	0.0 (0)	0.2 (3)	0.1 (1)	0.1 (1)	0.4 (8)
TOTAL	1.0 (18)	4.7 (86)	4.1 (76)	2.2 (40)	1.4 (26)	0.9 (17)	14.4 (263)

FOR STABILITY CLASS - G

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 263

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

---------- JG120

STABILITY CLASS - ALL

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.3 (5)	0.6 (11)	0.5 (10)	2.1 (39)	1.4 (26)	1.7 (31)	6.7 (122)
NNE	0.1 (2)	0.7 (12)	1.3 (23)	2.0 (36)	1.5 (27)	0.5 (9)	5.9 (109)
NE	0.2 (3)	1.4 (25)	1.4 (26)	0.6 (11)	0.0 (0)	0.0 (0)	3.5 (65)
ENE	0.2 (4)	0.5 (9)	1.1 (21)	0.5 (10)	0.0 (0)	0.0 (0)	2.4 (44)
E	0.2 (3)	0.5 (9)	0.8 (14)	0.2 (3)	0.0 (0)	0.0 (0)	1.6 (29)
ESE	0.0 (0)	0.3 (5)	1.4 (25)	1.1 (20)	0.1 (1)	0.0 (0)	2.8 (51)
SE	0.0 (0)	0.3 (6)	1.0 (19)	3.3 (61)	1.5 (27)	0.4 (7)	6.6 (120)
SSE	0.3 (5)	0.4 (7)	0.9 (16)	3.8 (70)	1.1 (20)	0.1 (2)	6.6 (120)
S	0.3 (6)	0.4 (8)	1.4 (25)	2.2 (40)	1.0 (18)	0.0 (0)	5.3 (97)
SSW	0.1 (2)	0.5 (9)	1.7 (32)	1.7 (32)	0.2 (3)	0.0 (0)	4.3 (78)
SW	0.1 (1)	1.2 (22)	2.0 (36)	1.6 (29)	0.4 (7)	0.2 (3)	5.3 (98)
WSW	0.3 (6)	1.5 (28)	5.0 (91)	6.6 (121)	3.9 (72)	3.6 (66)	21.0 (384)
W	0.3 (5)	2.7 (50)	3.7 (68)	2.3 (43)	3.7 (68)	3.3 (60)	16.0 (294)
WNW	0.1 (1)	1.5 (28)	0.7 (12)	1.0 (19)	1.5 (27)	0.4 (8)	5.2 (95)
NW	0.4 (7)	0.9 (17)	0.8 (14)	0.7 (12)	0.8 (15)	0.2 (3)	3.7 (68)
NNW	0.1 (2)	0.7 (12)	0.5 (10)	0.7 (13)	0.8 (14)	0.4 (7)	3.2 (58)
TOTAL	2.8 (52)	14.1 (258)	24.1 (442)	30.5 (559)	17.7 (325)	10.7 (196)	100.0 (1832)

FOR STABILITY CLASS - ALL

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 1833

NUMBER OF MISSING WIND OBSERVATIONS: 1

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.3 (5)	0.6 (11)	0.5 (10)	2.1 (39)	1.4 (26)	1.7 (31)	6.5 (122)
NNE	0.1 (2)	0.8 (14)	1.2 (23)	1.9 (36)	1.4 (27)	0.5 (9)	5.9 (111)
NE	0.2 (3)	1.4 (26)	1.4 (26)	0.6 (11)	0.0 (0)	0.0 (0)	3.5 (66)
ENE	0.2 (4)	0.5 (9)	1.1 (21)	0.5 (10)	0.0 (0)	0.0 (0)	2.4 (44)
E	0.2 (3)	0.5 (10)	0.8 (14)	0.2 (3)	0.0 (0)	0.0 (0)	1.6 (30)
ESE	0.0 (0)	0.3 (5)	1.4 (27)	1.1 (21)	0.1 (1)	0.0 (0)	2.9 (54)
SE	0.0 (0)	0.3 (6)	1.1 (21)	3.4 (64)	1.4 (27)	0.4 (7)	6.7 (125)
SSE	0.4 (7)	0.4 (8)	0.9 (16)	3.9 (72)	1.1 (20)	0.1 (2)	6.7 (125)
S	0.3 (6)	0.4 (8)	1.4 (26)	2.3 (43)	1.0 (18)	0.0 (0)	5.4 (101)
SSW	0.1 (2)	0.5 (9)	1.7 (32)	1.8 (33)	0.2 (3)	0.0 (0)	4.2 (79)
SW	0.1 (1)	1.2 (22)	1.9 (36)	1.6 (29)	0.4 (7)	0.2 (3)	5.3 (98)
WSW	0.3 (6)	1.6 (29)	4.9 (91)	6.6 (123)	4.0 (75)	3.6 (67)	21.0 (391)
W	0.3 (5)	2.7 (51)	3.8 (71)	2.4 (44)	3.6 (68)	3.2 (60)	16.0 (299)
WNW	0.1 (1)	1.5 (28)	0.6 (12)	1.0 (19)	1.4 (27)	0.4 (8)	5.1 (95)
NW	0.4 (7)	0.9 (17)	0.8 (14)	0.6 (12)	0.8 (15)	0.2 (3)	3.6 (68)
NNW	0.1 (2)	0.6 (12)	0.5 (10)	0.7 (13)	0.8 (14)	0.4 (7)	3.1 (58)
TOTAL	2.9 (54)	14.2 (265)	24.1 (450)	30.7 (572)	17.6 (328)	10.6 (197)	100.0 (1866)

FOR ALL WIND CATEGORIES

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2184

NUMBER OF MISSING WIND OBSERVATIONS: 318

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

JG120

STABILITY CLASS - A

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (0)	0.4 (8)	0.7 (14)	0.4 (9)	0.2 (5)	0.1 (3)	1.8 (39)
NNE	0.0 (0)	0.1 (2)	0.2 (4)	0.5 (11)	0.1 (2)	0.0 (0)	0.9 (19)
NE	0.0 (0)	0.0 (0)	0.1 (2)	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 (0)
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)
SE	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)	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 (1)	0.0 (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 (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 (1)	0.0 (0)	0.0 (0)	0.0 (1)
W	0.0 (0)	0.1 (2)	0.0 (1)	0.0 (0)	0.1 (2)	0.0 (0)	0.2 (5)
WNW	0.0 (0)	0.1 (3)	0.2 (4)	0.2 (4)	0.1 (2)	0.0 (0)	0.6 (13)
NW	0.0 (0)	0.6 (12)	0.3 (7)	0.2 (4)	0.1 (2)	0.0 (0)	1.2 (25)
NNW	0.0 (0)	0.6 (12)	0.4 (9)	0.3 (6)	0.0 (1)	0.0 (0)	1.3 (28)
TOTAL	0.0 (0)	1.9 (40)	2.0 (43)	1.6 (35)	0.7 (14)	0.2 (4)	6.4 (136)

FOR STABILITY CLASS - A

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 136

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

STABILITY CLASS - B

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (0)	0.3 (7)	0.1 (3)	0.0 (0)	0.1 (3)	0.1 (2)	0.7 (15)
NNE	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (0)	0.2 (4)
NE	0.0 (0)	0.0 (1)	0.0 (1)	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 (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 (1)	0.0 (1)
SSE	0.0 (0)	0.0 (0)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
S	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
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)	0.1 (2)	0.3 (6)	0.0 (1)	0.0 (0)	0.4 (9)
W	0.0 (0)	0.0 (0)	0.2 (4)	0.0 (0)	0.3 (7)	0.0 (1)	0.6 (12)
WNW	0.0 (0)	0.1 (2)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)
NW	0.0 (0)	0.2 (4)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.3 (6)
NNW	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (1)	0.1 (2)	0.1 (3)	0.3 (7)
TOTAL	0.0 (0)	0.8 (17)	0.9 (20)	0.4 (9)	0.7 (14)	0.3 (7)	3.1 (67)

FOR STABILITY CLASS - B

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 67

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

STABILITY CLASS - C

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (1)	0.2 (4)	0.0 (1)	0.0 (0)	0.0 (1)	0.0 (1)	0.4 (8)
NNE	0.0 (0)	0.2 (4)	0.2 (4)	0.0 (1)	0.0 (0)	0.0 (0)	0.4 (9)
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 (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 (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)	0.2 (5)	0.0 (1)	0.0 (0)	0.0 (0)	0.3 (7)
S	0.0 (0)	0.0 (1)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
SSW	0.0 (0)	0.0 (0)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
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 (1)	0.3 (6)	0.4 (8)	0.0 (0)	0.0 (0)	0.7 (15)
W	0.0 (0)	0.0 (1)	0.3 (6)	0.1 (3)	0.2 (4)	0.1 (3)	0.8 (17)
WNW	0.0 (0)	0.1 (3)	0.1 (3)	0.0 (0)	0.0 (1)	0.1 (2)	0.4 (9)
NW	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (1)	0.0 (0)	0.1 (3)
NNW	0.0 (0)	0.2 (4)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.2 (5)
TOTAL	0.0 (1)	1.0 (21)	1.6 (34)	0.7 (14)	0.3 (7)	0.3 (6)	3.9 (83)

FOR STABILITY CLASS - C

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 83

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

STABILITY CLASS - D

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (1)	0.4 (9)	0.2 (5)	0.7 (15)	0.4 (8)	0.2 (5)	2.0 (43)
NNE	0.0 (1)	0.8 (18)	0.3 (6)	0.9 (20)	0.8 (16)	0.3 (6)	3.1 (67)
NE	0.1 (3)	0.7 (15)	0.5 (11)	0.3 (7)	0.0 (1)	0.0 (0)	1.7 (37)
ENE	0.0 (1)	0.2 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
E	0.0 (1)	0.2 (5)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
ESE	0.0 (0)	0.1 (3)	0.3 (7)	0.0 (1)	0.0 (0)	0.0 (0)	0.5 (11)
SE	0.0 (0)	0.1 (2)	0.9 (19)	0.3 (7)	0.3 (6)	0.0 (0)	1.6 (34)
SSE	0.1 (2)	0.3 (6)	1.2 (25)	0.8 (17)	0.1 (3)	0.0 (0)	2.5 (53)
S	0.0 (1)	0.4 (8)	0.8 (18)	0.7 (15)	0.0 (0)	0.0 (0)	2.0 (42)
SSW	0.0 (0)	0.6 (12)	0.5 (11)	0.2 (4)	0.0 (0)	0.0 (0)	1.3 (27)
SW	0.0 (0)	0.2 (4)	0.6 (12)	0.1 (3)	0.0 (1)	0.0 (0)	0.9 (20)
WSW	0.0 (1)	0.6 (12)	1.1 (24)	2.1 (45)	0.8 (16)	0.1 (3)	4.7 (101)
W	0.0 (1)	0.2 (5)	1.5 (32)	1.7 (36)	1.3 (27)	1.7 (37)	6.5 (138)
WNW	0.0 (0)	0.5 (10)	0.6 (12)	0.9 (19)	0.7 (14)	0.9 (19)	3.5 (74)
NW	0.1 (3)	0.2 (5)	0.4 (9)	0.6 (13)	0.1 (3)	0.6 (12)	2.1 (45)
NNW	0.1 (2)	0.1 (2)	0.1 (2)	0.5 (10)	0.6 (12)	0.4 (9)	1.7 (37)
TOTAL	0.8 (17)	5.7 (121)	9.1 (195)	9.9 (212)	5.0 (107)	4.3 (91)	34.8 (743)

FOR STABILITY CLASS - D

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 743

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

--- JG120

STABILITY CLASS - E

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (1)	0.2 (5)	0.1 (3)	0.1 (3)	0.1 (3)	0.0 (0)	0.7 (15)
NNE	0.0 (1)	0.2 (4)	0.5 (10)	0.8 (16)	0.2 (5)	0.0 (0)	1.7 (36)
NE	0.0 (1)	0.4 (8)	0.6 (12)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (21)
ENE	0.0 (1)	0.5 (10)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.8 (17)
E	0.1 (2)	0.2 (4)	0.8 (16)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (22)
ESE	0.0 (0)	0.2 (4)	0.8 (18)	0.7 (14)	0.0 (0)	0.0 (0)	1.7 (36)
SE	0.0 (0)	0.1 (2)	1.5 (33)	1.9 (40)	0.1 (3)	0.0 (0)	3.7 (78)
SSE	0.0 (0)	0.2 (5)	0.9 (20)	3.7 (79)	0.8 (18)	0.0 (0)	5.7 (122)
S	0.0 (1)	0.2 (4)	1.0 (21)	2.9 (62)	1.4 (29)	0.2 (4)	5.7 (121)
SSW	0.0 (0)	0.3 (6)	0.6 (13)	0.9 (19)	0.1 (3)	0.0 (0)	1.9 (41)
SW	0.0 (1)	0.0 (1)	0.5 (10)	1.1 (23)	0.2 (5)	0.0 (1)	1.9 (41)
WSW	0.0 (0)	0.4 (8)	0.8 (18)	1.9 (40)	0.3 (6)	0.2 (5)	3.6 (77)
W	0.1 (2)	0.3 (7)	0.4 (9)	0.4 (8)	0.0 (0)	0.2 (4)	1.4 (30)
WNW	0.0 (1)	0.0 (1)	0.2 (5)	0.2 (4)	0.0 (0)	0.4 (8)	0.9 (19)
NW	0.0 (0)	0.1 (3)	0.1 (3)	0.0 (1)	0.1 (2)	0.0 (0)	0.4 (9)
NNW	0.0 (1)	0.2 (5)	0.3 (6)	0.0 (0)	0.0 (1)	0.3 (6)	0.9 (19)
TOTAL	0.6 (12)	3.6 (77)	9.5 (203)	14.5 (309)	3.5 (75)	1.3 (28)	33.0 (704)

FOR STABILITY CLASS - E

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 704

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

STABILITY CLASS - F

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

			SPEED (MPH)			
DIR	00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
NNE	0.0 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
NE	0.1 (3)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
ENE	0.0 (0)	0.2 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)
E	0.0 (1)	0.1 (3)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
ESE	0.0 (0)	0.1 (3)	0.2 (4)	0.1 (2)	0.0 (0)	0.0 (0)	0.4 (9)
SE	0.0 (0)	0.0 (0)	0.1 (3)	0.4 (9)	0.1 (2)	0.0 (0)	0.7 (14)
SSE	0.0 (1)	0.1 (2)	0.1 (3)	1.2 (25)	0.0 (0)	0.0 (0)	1.5 (31)
S	0.1 (2)	0.2 (5)	0.3 (7)	0.5 (11)	0.0 (0)	0.0 (0)	1.2 (25)
SSW	0.0 (0)	0.1 (3)	0.2 (4)	0.6 (13)	0.3 (6)	0.0 (0)	1.2 (26)
SW	0.0 (0)	0.1 (2)	0.5 (11)	0.8 (18)	0.0 (1)	0.0 (0)	1.5 (32)
WSW	0.0 (0)	0.2 (4)	0.4 (8)	0.2 (5)	0.1 (2)	0.1 (2)	1.0 (21)
W	0.0 (0)	0.2 (5)	0.2 (4)	0.2 (4)	0.0 (0)	0.0 (0)	0.6 (13)
WNW	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NW	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
TOTAL	0.6 (12)	1.9 (40)	2.2 (47)	4.1 (87)	0.5 (11)	0.1 (2)	9.3 (199)

FOR STABILITY CLASS - F

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 199

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

STABILITY CLASS - G

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.1 (2)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
NNE	0.0 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
NE	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
ENE	0.0 (0)	0.3 (7)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
E	0.0 (1)	0.3 (6)	0.5 (10)	0.1 (2)	0.0 (0)	0.0 (0)	0.9 (19)
ESE	0.0 (0)	0.2 (5)	0.4 (8)	0.0 (1)	0.0 (0)	0.0 (0)	0.7 (14)
SE	0.0 (0)	0.0 (1)	0.1 (3)	0.2 (4)	0.1 (3)	0.0 (0)	0.5 (11)
SSE	0.0 (0)	0.0 (1)	0.4 (9)	0.3 (7)	0.0 (0)	0.0 (0)	0.8 (17)
S	0.0 (1)	0.3 (7)	0.8 (17)	0.4 (9)	0.0 (0)	0.0 (0)	1.6 (34)
SSW	0.0 (0)	0.2 (4)	0.9 (20)	0.7 (14)	0.0 (0)	0.0 (0)	1.8 (38)
SW	0.1 (2)	0.3 (6)	1.1 (23)	0.1 (2)	0.0 (0)	0.0 (0)	1.5 (33)
WSW	0.0 (1)	0.1 (2)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (1)	0.5 (10)
W	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (0)	0.1 (3)
WNW	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.1 (3)
NW	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
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)	2.3 (49)	4.5 (97)	1.9 (40)	0.2 (5)	0.0 (1)	9.4 (201)

FOR STABILITY CLASS - G

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 201

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

STABILITY CLASS - ALL

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.4 (8)	1.6 (35)	1.2 (26)	1.3 (27)	0.9 (20)	0.5 (11)	6.0 (127)
NNE	0.2 (4)	1.6 (34)	1.1 (24)	2.3 (49)	1.1 (24)	0.3 (6)	6.6 (141)
NE	0.4 (8)	1.4 (29)	1.2 (26)	0.3 (7)	0.0 (1)	0.0 (0)	3.3 (71)
ENE	0.1 (2)	1.3 (28)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	1.7 (37)
E	0.2 (5)	0.9 (20)	1.4 (30)	0.1 (2)	0.0 (0)	0.0 (0)	2.7 (57)
ESE	0.0 (0)	0.7 (15)	1.7 (37)	0.8 (18)	0.0 (0)	0.0 (0)	3.3 (70)
SE	0.0 (0)	0.2 (5)	2.8 (59)	2.8 (60)	0.7 (14)	0.1 (2)	6.6 (140)
SSE	0.1 (3)	0.7 (15)	3.1 (66)	6.0 (129)	1.0 (21)	0.0 (0)	11.0 (234)
S	0.2 (5)	1.2 (25)	3.2 (69)	4.5 (97)	1.4 (29)	0.2 (4)	10.7 (229)
SSW	0.0 (0)	1.2 (25)	2.4 (52)	2.3 (50)	0.4 (9)	0.0 (0)	6.4 (136)
SW	0.1 (3)	0.6 (13)	2.6 (56)	2.2 (46)	0.3 (7)	0.0 (1)	5.9 (126)
WSW	0.1 (2)	1.3 (27)	3.0 (64)	4.9 (105)	1.2 (25)	0.5 (11)	11.0 (234)
W	0.1 (3)	1.0 (21)	2.6 (56)	2.4 (52)	1.9 (41)	2.1 (45)	10.2 (218)
WNW	0.0 (1)	1.0 (22)	1.3 (28)	1.3 (27)	0.8 (18)	1.4 (29)	5.9 (125)
NW	0.2 (4)	1.3 (27)	1.0 (22)	0.9 (19)	0.4 (8)	0.6 (12)	4.3 (92)
NNW	0.1 (3)	1.1 (24)	0.8 (17)	0.8 (18)	0.8 (16)	0.8 (18)	4.5 (96)
TOTAL	2.4 (51)	17.1 (365)	30.0 (639)	33.1 (706)	10.9 (233)	6.5 (139)	100.0 (2133)

FOR STABILITY CLASS - ALL

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2133

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.4 (8)	1.6 (35)	1.2 (26)	1.3 (27)	0.9 (20)	0.5 (11)	6.0 (127)
NNE	0.2 (4)	1.6 (34)	1.1 (24)	2.3 (49)	1.1 (24)	0.3 (6)	6.6 (141)
NE	0.4 (8)	1.4 (29)	1.2 (26)	0.3 (7)	0.0 (1)	0.0 (0)	3.3 (71)
ENE	0.1 (2)	1.3 (28)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	1.7 (37)
E	0.2 (5)	0.9 (20)	1.4 (30)	0.1 (2)	0.0 (0)	0.0 (0)	2.7 (57)
ESE	0.0 (0)	0.7 (15)	1.7 (37)	0.8 (18)	0.0 (0)	0.0 (0)	3.3 (70)
SE	0.0 (0)	0.2 (5)	2.8 (59)	2.8 (60)	0.7 (14)	0.1 (2)	6.6 (140)
SSE	0.1 (3)	0.7 (15)	3.1 (66)	6.0 (129)	1.0 (21)	0.0 (0)	11.0 (234)
S	0.2 (5)	1.2 (25)	3.2 (69)	4.5 (97)	1.4 (29)	0.2 (4)	10.7 (229)
SSW	0.0 (0)	1.2 (25)	2.4 (52)	2.3 (50)	0.4 (9)	0.0 (0)	6.4 (136)
SW	0.1 (3)	0.6 (13)	2.6 (56)	2.2 (46)	0.3 (7)	0.0 (1)	5.9 (126)
WSW	0.1 (2)	1.3 (27)	3.0 (64)	4.9 (105)	1.2 (25)	0.5 (11)	11.0 (234)
W	0.1 (3)	1.0 (21)	2.6 (56)	2.4 (52)	1.9 (41)	2.1 (45)	10.2 (218)
WNW	0.0 (1)	1.0 (22)	1.3 (28)	1.3 (27)	0.8 (18)	1.4 (29)	5.9 (125)
NW	0.2 (4)	1.3 (27)	1.0 (22)	0.9 (19)	0.4 (8)	0.6 (12)	4.3 (92)
NNW	0.1 (3)	1.1 (24)	0.8 (17)	0.8 (18)	0.8 (16)	0.8 (18)	4.5 (96)
TOTAL	2.4 (51)	17.1 (365)	30.0 (639)	33.1 (706)	10.9 (233)	6.5 (139)	100.0 (2133)

FOR ALL WIND CATEGORIES

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2208

NUMBER OF MISSING WIND OBSERVATIONS: 75

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - A

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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	0.0 (0)	0.0 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (1)	0.2 (4)
NE	0.0 (0)	0.0 (0)	0.1 (3)	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 (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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
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 (1)	0.0 (0)	0.0 (0)	0.0 (1)
W	0.0 (1)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)	0.1 (3)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)	0.2 (4)
NW	0.0 (0)	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	0.2 (5)	0.4 (8)
NNW	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
TOTAL	0.0 (1)	0.1 (3)	0.5 (10)	0.1 (2)	0.0 (0)	0.5 (11)	1.3 (27)

FOR STABILITY CLASS - A

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 29

NUMBER OF MISSING WIND OBSERVATIONS: 2

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

--- JG120

STABILITY CLASS - B

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
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 (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 (1)	0.0 (0)	0.0 (0)	0.0 (1)
SSE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)	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 (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)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
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 (1)	0.0 (0)	0.0 (0)	0.2 (5)	0.3 (6)
NW	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.1 (3)	0.2 (4)
NNW	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
TOTAL	0.0 (0)	0.1 (3)	0.4 (9)	0.1 (3)	0.0 (1)	0.4 (8)	1.2 (24)

FOR STABILITY CLASS - B

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 24

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - C

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.0 (0)	0.1 (3)	0.0 (1)	0.1 (2)	0.0 (0)	0.3 (6)
NNE	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)	0.1 (2)
NE	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)	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 (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)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.1 (3)
SSE	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)	0.0 (1)	0.0 (0)	0.2 (5)
S	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)	0.0 (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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
W	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)	0.1 (2)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)	0.3 (7)
NW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.3 (7)	0.4 (8)
NNW	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)	0.1 (2)
TOTAL	0.0 (0)	0.0 (1)	0.4 (9)	0.3 (6)	0.2 (5)	0.9 (18)	1.9 (39)

FOR STABILITY CLASS - C

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 39

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

JG120

STABILITY CLASS - D

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.2 (4)	1.5 (32)	1.4 (30)	1.1 (22)	0.1 (3)	4.4 (91)
NNE	0.0 (0)	0.0 (1)	1.1 (22)	1.9 (40)	1.0 (20)	0.8 (16)	4.8 (99)
NE	0.0 (0)	0.4 (8)	0.7 (14)	0.5 (10)	0.1 (2)	0.0 (1)	1.7 (35)
ENE	0.0 (0)	0.0 (0)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
E	0.0 (0)	0.3 (6)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
ESE	0.0 (0)	0.1 (2)	0.1 (3)	1.3 (27)	0.1 (3)	0.0 (0)	1.7 (35)
SE	0.1 (2)	0.2 (5)	0.6 (12)	2.8 (58)	0.3 (7)	0.0 (1)	4.1 (85)
SSE	0.0 (0)	0.1 (3)	0.8 (16)	0.6 (13)	0.5 (10)	0.0 (1)	2.1 (43)
S	0.0 (0)	0.3 (7)	1.1 (23)	0.9 (18)	0.5 (10)	0.2 (4)	3.0 (62)
SSW	0.0 (0)	0.2 (4)	1.3 (26)	0.8 (17)	0.0 (1)	0.0 (0)	2.3 (48)
SW	0.0 (0)	0.0 (0)	0.3 (6)	0.8 (16)	0.8 (16)	0.1 (3)	2.0 (41)
WSW	0.0 (0)	0.4 (8)	0.5 (11)	0.8 (16)	0.6 (12)	2.5 (51)	4.7 (98)
W	0.0 (1)	0.2 (4)	0.5 (10)	1.3 (27)	1.7 (36)	3.0 (62)	6.7 (140)
WNW	0.0 (1)	0.2 (4)	0.8 (16)	1.2 (24)	1.7 (35)	1.3 (27)	5.2 (107)
NW	0.0 (0)	0.0 (1)	0.2 (5)	1.7 (36)	1.0 (21)	0.8 (17)	3.9 (80)
NNW	0.0 (1)	0.0 (1)	1.0 (21)	1.1 (23)	1.1 (23)	0.5 (11)	3.9 (80)
TOTAL	0.2 (5)	2.8 (58)	10.8 (225)	17.1 (355)	10.5 (218)	9.5 (197)	50.9 (1058)

FOR STABILITY CLASS - D

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 1059

NUMBER OF MISSING WIND OBSERVATIONS: 1

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

JG120

STABILITY CLASS - E

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 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)	0.1 (2)	0.2 (5)	0.2 (5)	0.1 (3)	0.0 (0)	0.7 (15)
NE	0.0 (0)	0.3 (6)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.6 (13)
ENE	0.0 (1)	0.2 (4)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (9)
E	0.0 (0)	0.3 (7)	0.3 (7)	0.1 (3)	0.0 (0)	0.0 (0)	0.8 (17)
ESE	0.1 (3)	0.3 (6)	1.2 (24)	1.6 (33)	0.3 (6)	0.1 (2)	3.6 (74)
SE	0.1 (2)	0.6 (12)	1.4 (30)	4.4 (92)	1.3 (28)	0.3 (6)	8.2 (170)
SSE	0.0 (0)	0.5 (10)	1.1 (22)	2.4 (49)	0.6 (13)	0.0 (1)	4.6 (95)
S	0.0 (1)	0.1 (3)	1.1 (23)	2.8 (59)	1.3 (28)	0.2 (5)	5.7 (119)
SSW	0.1 (2)	0.1 (3)	1.5 (31)	2.6 (55)	0.1 (2)	0.0 (0)	4.5 (93)
SW	0.0 (1)	0.2 (5)	1.5 (31)	1.6 (33)	0.3 (6)	0.0 (0)	3.7 (76)
WSW	0.0 (0)	0.0 (0)	0.3 (6)	0.8 (17)	0.4 (9)	0.6 (13)	2.2 (45)
W	0.0 (1)	0.1 (2)	0.1 (3)	0.7 (15)	0.3 (6)	0.7 (14)	2.0 (41)
WNW	0.0 (0)	0.0 (1)	0.2 (5)	0.3 (7)	0.6 (12)	0.2 (5)	1.4 (30)
NW	0.0 (0)	0.0 (0)	0.1 (2)	0.3 (7)	0.2 (4)	0.0 (1)	0.7 (14)
NNW	0.0 (0)	0.1 (2)	0.0 (1)	0.0 (1)	0.2 (4)	0.0 (0)	0.4 (8)
TOTAL	0.5 (11)	3.1 (64)	9.7 (202)	18.2 (377)	5.8 (121)	2.3 (47)	39.6 (822)

FOR STABILITY CLASS - E

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 823

NUMBER OF MISSING WIND OBSERVATIONS: 1

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - F

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

SPEED (MPH)

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)
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)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
ESE	0.0 (0)	0.0 (1)	0.0 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.2 (4)
SE	0.0 (0)	0.0 (0)	0.2 (4)	0.1 (2)	0.0 (0)	0.0 (0)	0.3 (6)
SSE	0.0 (0)	0.0 (1)	0.1 (3)	0.2 (4)	0.0 (0)	0.0 (0)	0.4 (8)
S	0.0 (0)	0.1 (3)	0.2 (4)	0.3 (7)	0.0 (0)	0.0 (0)	0.7 (14)
SSW	0.0 (0)	0.0 (1)	0.1 (2)	0.3 (6)	0.0 (0)	0.0 (0)	0.4 (9)
SW	0.0 (0)	0.1 (3)	0.2 (4)	0.3 (7)	0.0 (0)	0.0 (0)	0.7 (14)
WSW	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.1 (3)
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)	0.4 (9)	1.1 (23)	1.4 (29)	0.0 (0)	0.0 (0)	2.9 (61)

FOR STABILITY CLASS - F

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 61

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - G

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 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)
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 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
ESE	0.0 (0)	0.0 (1)	0.2 (5)	0.0 (1)	0.0 (0)	0.0 (0)	0.3 (7)
SE	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
SSE	0.0 (0)	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
S	0.0 (0)	0.0 (1)	0.1 (3)	0.2 (5)	0.0 (0)	0.0 (0)	0.4 (9)
SSW	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
SW	0.0 (0)	0.0 (1)	0.4 (9)	0.1 (3)	0.0 (0)	0.0 (0)	0.6 (13)
WSW	0.0 (0)	0.2 (5)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
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)	0.5 (11)	1.3 (26)	0.4 (9)	0.0 (0)	0.0 (0)	2.2 (46)

FOR STABILITY CLASS - G

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 46

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - ALL

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.3 (7)	1.8 (37)	1.6 (33)	1.2 (24)	0.1 (3)	5.0 (104)
NNE	0.0 (0)	0.3 (6)	1.5 (31)	2.2 (45)	1.1 (23)	0.9 (18)	5.9 (123)
NE	0.0 (0)	0.7 (15)	1.2 (24)	0.5 (11)	0.1 (3)	0.0 (1)	2.6 (54)
ENE	0.0 (1)	0.2 (4)	0.6 (12)	0.0 (0)	0.0 (0)	0.0 (0)	0.8 (17)
E	0.0 (0)	0.7 (14)	0.6 (13)	0.1 (3)	0.0 (0)	0.0 (0)	1.4 (30)
ESE	0.1 (3)	0.5 (10)	1.6 (33)	3.0 (63)	0.4 (9)	0.1 (2)	5.8 (120)
SE	0.2 (4)	0.8 (17)	2.4 (49)	7.4 (154)	1.7 (35)	0.3 (7)	12.8 (266)
SSE	0.0 (0)	0.7 (14)	2.1 (44)	3.4 (71)	1.2 (25)	0.1 (2)	7.5 (156)
S	0.0 (1)	0.7 (14)	2.6 (54)	4.3 (89)	1.8 (38)	0.4 (9)	9.9 (205)
SSW	0.1 (2)	0.4 (9)	2.9 (61)	3.8 (78)	0.1 (3)	0.0 (0)	7.4 (153)
SW	0.0 (1)	0.4 (9)	2.4 (50)	2.8 (59)	1.1 (22)	0.1 (3)	6.9 (144)
WSW	0.0 (0)	0.6 (13)	1.1 (23)	1.7 (35)	1.0 (21)	3.1 (64)	7.5 (156)
W	0.1 (3)	0.3 (7)	0.7 (14)	2.0 (42)	2.0 (42)	3.8 (79)	9.0 (187)
WNW	0.0 (1)	0.3 (6)	1.1 (22)	1.5 (31)	2.3 (47)	2.3 (48)	7.5 (155)
NW	0.0 (0)	0.0 (1)	0.5 (11)	2.1 (43)	1.3 (26)	1.6 (33)	5.5 (114)
NNW	0.0 (1)	0.1 (3)	1.3 (26)	1.2 (24)	1.3 (27)	0.6 (12)	4.5 (93)
TOTAL	0.8 (17)	7.2 (149)	24.3 (504)	37.6 (781)	16.6 (345)	13.5 (281)	100.0 (2077)

FOR STABILITY CLASS - ALL

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2081

NUMBER OF MISSING WIND OBSERVATIONS: 4

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE UPPER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

JG120*

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.1 (2)	0.3 (7)	1.8 (37)	1.6 (33)	1.1 (24)	0.1 (3)	5.0 (106)
NNE	0.0 (0)	0.3 (6)	1.5 (31)	2.1 (45)	1.1 (23)	0.9 (18)	5.8 (123)
NE	0.0 (0)	0.7 (15)	1.1 (24)	0.5 (11)	0.1 (3)	0.0 (1)	2.6 (54)
ENE	0.0 (1)	0.2 (4)	0.6 (12)	0.0 (0)	0.0 (0)	0.0 (0)	0.8 (17)
E	0.0 (0)	0.7 (14)	0.6 (13)	0.1 (3)	0.0 (0)	0.0 (0)	1.4 (30)
ESE	0.1 (3)	0.5 (10)	1.6 (33)	3.0 (63)	0.4 (9)	0.1 (2)	5.7 (120)
SE	0.2 (4)	0.8 (17)	2.3 (49)	7.3 (154)	1.7 (35)	0.3 (7)	12.6 (266)
SSE	0.0 (0)	0.7 (14)	2.1 (44)	3.4 (71)	1.2 (25)	0.1 (2)	7.4 (156)
S	0.1 (2)	0.7 (14)	2.6 (54)	4.2 (89)	1.8 (38)	0.4 (9)	9.8 (206)
SSW	0.1 (2)	0.5 (10)	3.0 (63)	4.0 (84)	0.1 (3)	0.0 (0)	7.7 (162)
SW	0.0 (1)	0.5 (10)	2.4 (50)	2.9 (62)	1.1 (23)	0.2 (4)	7.1 (150)
WSW	0.0 (0)	0.6 (13)	1.1 (24)	1.8 (38)	1.0 (22)	3.2 (67)	7.8 (164)
W	0.1 (3)	0.4 (9)	0.7 (14)	2.0 (42)	2.0 (42)	3.8 (80)	9.0 (190)
WNW	0.0 (1)	0.3 (6)	1.0 (22)	1.5 (31)	2.3 (49)	2.3 (48)	7.4 (157)
NW	0.0 (0)	0.0 (1)	0.5 (11)	2.0 (43)	1.2 (26)	1.6 (33)	5.4 (114)
NNW	0.0 (1)	0.1 (3)	1.2 (26)	1.1 (24)	1.3 (27)	0.6 (12)	4.4 (93)
TOTAL	0.9 (20)	7.3 (153)	24.1 (507)	37.6 (793)	16.6 (349)	13.6 (286)	100.0 (2108)

FOR ALL WIND CATEGORIES

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2208

NUMBER OF MISSING WIND OBSERVATIONS: 100

NUMBER OF CALM HOURS: 2

* * * * * LEGEND * * * * *
% FREQUENCY OF WIND DIRECTION WITHIN WIND SPEED CATEGORY
* * * BY STABILITY * * * *

--JG120

SITE: NINE MILE UPPER: WIND SPEED UPPER - 200FT AEROVANE
WIND DIRECTION UPPER - 200FT AEROVANE
TEMPERATURE DIFFERENCE - (200-27FT)

NINE MILE LOWER: WIND SPEED LOWER - 30FT CUP
WIND DIRECTION LOWER - 30FT CUP
TEMPERATURE DIFFERENCE - (200-27FT)

STABILITY CLASS: PASQUILL STABILITY CATEGORIES - DEGC/100M

A	EXTREMELY UNSTABLE	LT -1.9
B	MODERATELY UNSTABLE	-1.8 TO -1.7
C	SLIGHTLY UNSTABLE	-1.6 TO -1.5
D	NEUTRAL	-1.4 TO -0.5
E	SLIGHTLY STABLE	-0.4 TO 1.5
F	MODERATELY STABLE	1.6 TO 4.0
G	EXTREMELY STABLE	GT 4.0
ALL	ALL STABILITIES (A-G)	ALL
( )	ALL WIND	N/A

WIND CLASS: SIX WIND SPEED CATEGORIES - (SEE TABLE HEADINGS) 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 WIND SPEED CATEGORY.

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

-- JG120

STABILITY CLASS - A

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
NE	0.0 (0)	0.1 (3)	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 (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)	0.1 (2)	0.1 (3)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)	0.4 (8)
NW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)
NNW	0.0 (0)	0.0 (1)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.2 (4)
TOTAL	0.0 (0)	0.2 (5)	0.1 (3)	0.0 (1)	0.0 (0)	0.5 (11)	0.9 (20)

FOR STABILITY CLASS - A

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 20

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

---------- JG120

STABILITY CLASS - B

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NNE	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NE	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 (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 (1)	0.0 (1)
W	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)	0.2 (5)
NW	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (1)	0.1 (3)	0.2 (4)	0.4 (9)
NNW	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.1 (2)
TOTAL	0.0 (0)	0.2 (5)	0.1 (2)	0.1 (3)	0.1 (3)	0.5 (11)	1.1 (24)

FOR STABILITY CLASS - B

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 24

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

-- JG120

STABILITY CLASS - C

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NNE	0.0 (0)	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
NE	0.0 (0)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
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)	0.2 (4)	0.2 (4)
W	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)	0.0 (0)	0.1 (3)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)	0.3 (7)	0.4 (9)
NW	0.0 (0)	0.0 (1)	0.0 (0)	0.1 (3)	0.2 (4)	0.0 (1)	0.4 (9)
NNW	0.0 (0)	0.0 (0)	0.2 (5)	0.2 (4)	0.0 (0)	0.0 (0)	0.4 (9)
TOTAL	0.0 (0)	0.3 (7)	0.5 (10)	0.4 (8)	0.4 (8)	0.6 (12)	2.1 (45)

FOR STABILITY CLASS - C

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 45

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

-- JG120

STABILITY CLASS - D

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.7 (15)	1.6 (34)	0.0 (1)	0.0 (0)	0.0 (0)	2.3 (50)
NNE	0.2 (5)	1.7 (37)	0.7 (16)	0.0 (0)	0.0 (0)	0.0 (0)	2.7 (58)
NE	0.1 (3)	1.1 (23)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	1.5 (32)
ENE	0.2 (5)	0.7 (16)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (21)
E	0.0 (0)	0.6 (13)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.7 (15)
ESE	0.0 (0)	0.7 (15)	0.7 (16)	0.0 (0)	0.0 (0)	0.0 (0)	1.4 (31)
SE	0.0 (0)	0.9 (19)	0.9 (20)	0.2 (4)	0.0 (0)	0.0 (0)	2.0 (43)
SSE	0.0 (0)	0.5 (10)	0.3 (7)	0.0 (1)	0.0 (0)	0.0 (0)	0.8 (18)
S	0.0 (0)	0.3 (6)	0.9 (19)	0.2 (5)	0.0 (0)	0.0 (0)	1.4 (30)
SSW	0.0 (0)	0.2 (5)	0.8 (17)	0.0 (1)	0.0 (0)	0.0 (0)	1.1 (23)
SW	0.0 (0)	0.2 (4)	0.7 (16)	0.3 (6)	0.0 (1)	0.0 (0)	1.3 (27)
WSW	0.0 (0)	0.1 (2)	0.7 (16)	1.3 (28)	1.4 (31)	0.3 (6)	3.9 (83)
W	0.0 (0)	0.2 (5)	0.6 (13)	1.4 (30)	1.3 (27)	0.6 (12)	4.1 (87)
WNW	0.0 (0)	0.2 (4)	1.0 (21)	1.7 (36)	1.9 (40)	0.8 (18)	5.5 (119)
NW	0.0 (1)	0.3 (7)	2.4 (51)	2.3 (49)	0.7 (15)	0.3 (6)	6.0 (129)
NNW	0.0 (0)	1.2 (26)	2.1 (45)	1.0 (22)	0.0 (0)	0.0 (0)	4.3 (93)
TOTAL	0.7 (14)	9.7 (207)	13.9 (299)	8.5 (183)	5.3 (114)	2.0 (42)	40.0 (859)

FOR STABILITY CLASS - D

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 862

NUMBER OF MISSING WIND OBSERVATIONS: 3

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

-- JG120

STABILITY CLASS - E

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.1 (3)	0.6 (12)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.7 (15)
NNE	0.2 (4)	0.6 (13)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.8 (18)
NE	0.4 (9)	1.1 (23)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	1.5 (33)
ENE	0.5 (11)	1.0 (21)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.5 (32)
E	0.7 (14)	2.6 (55)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	3.3 (70)
ESE	0.5 (10)	3.6 (77)	2.0 (42)	0.0 (0)	0.0 (0)	0.0 (0)	6.0 (129)
SE	0.6 (13)	3.4 (74)	4.2 (91)	0.5 (10)	0.0 (0)	0.0 (0)	8.8 (188)
SSE	0.2 (5)	1.6 (34)	1.8 (38)	0.4 (9)	0.0 (0)	0.0 (0)	4.0 (86)
S	0.2 (5)	1.6 (34)	1.8 (39)	0.9 (20)	0.0 (1)	0.0 (0)	4.6 (99)
SSW	0.0 (0)	1.7 (36)	2.1 (46)	0.0 (1)	0.0 (0)	0.0 (0)	3.9 (83)
SW	0.1 (2)	0.7 (16)	1.3 (28)	0.8 (18)	0.0 (0)	0.0 (0)	3.0 (64)
WSW	0.3 (6)	1.3 (27)	1.2 (25)	1.3 (28)	0.5 (11)	0.2 (4)	4.7 (101)
W	0.1 (2)	0.4 (9)	0.4 (8)	1.3 (27)	0.2 (4)	0.2 (5)	2.6 (55)
WNW	0.1 (2)	0.3 (6)	0.2 (4)	0.2 (5)	0.6 (12)	0.2 (5)	1.6 (34)
NW	0.1 (3)	0.4 (9)	0.1 (2)	0.1 (3)	0.1 (2)	0.0 (0)	0.9 (19)
NNW	0.1 (3)	0.0 (1)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
TOTAL	4.3 (92)	20.8 (447)	15.3 (329)	5.6 (121)	1.4 (30)	0.7 (14)	48.2 (1033)

FOR STABILITY CLASS - E

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 1033

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

-- JG120

STABILITY CLASS - F

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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	0.0 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
NE	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
ENE	0.4 (9)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (11)
E	0.1 (3)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
ESE	0.0 (1)	0.2 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
SE	0.2 (4)	0.6 (13)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.9 (19)
SSE	0.1 (2)	0.4 (9)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.6 (13)
S	0.0 (1)	0.5 (10)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.6 (13)
SSW	0.0 (1)	0.2 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
SW	0.0 (0)	0.0 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
WSW	0.0 (1)	0.0 (1)	0.2 (5)	0.2 (4)	0.2 (4)	0.0 (1)	0.7 (16)
W	0.0 (0)	0.1 (3)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.3 (6)
WNW	0.0 (0)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
NW	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NNW	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
TOTAL	1.3 (27)	2.8 (61)	0.7 (14)	0.3 (6)	0.2 (4)	0.0 (1)	5.3 (113)

FOR STABILITY CLASS - F

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 113

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

-- JG120

STABILITY CLASS - G

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
NE	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
ENE	0.1 (2)	0.0 (0)	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 (1)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
SE	0.2 (4)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
SSE	0.0 (0)	0.5 (11)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (11)
S	0.1 (2)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
SSW	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
SW	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
WSW	0.0 (0)	0.0 (0)	0.1 (3)	0.3 (7)	0.0 (0)	0.0 (0)	0.5 (10)
W	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)
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	0.7 (14)	1.2 (26)	0.2 (4)	0.3 (7)	0.0 (0)	0.0 (0)	2.4 (51)

FOR STABILITY CLASS - G

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 51

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

-- JG120

STABILITY CLASS - ALL

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.1 (3)	1.3 (28)	1.8 (38)	0.0 (1)	0.0 (0)	0.0 (0)	3.3 (70)
NNE	0.5 (10)	2.6 (55)	1.0 (21)	0.0 (0)	0.0 (0)	0.0 (0)	4.0 (86)
NE	0.8 (18)	2.7 (57)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	3.8 (82)
ENE	1.3 (27)	1.8 (39)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.1 (66)
E	0.8 (17)	3.4 (72)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	4.3 (92)
ESE	0.6 (12)	4.8 (103)	2.7 (58)	0.0 (0)	0.0 (0)	0.0 (0)	8.1 (173)
SE	1.0 (21)	5.1 (109)	5.2 (112)	0.7 (15)	0.0 (0)	0.0 (0)	12.0 (257)
SSE	0.3 (7)	3.0 (64)	2.2 (47)	0.5 (10)	0.0 (0)	0.0 (0)	6.0 (128)
S	0.4 (8)	2.4 (52)	2.8 (60)	1.2 (25)	0.0 (1)	0.0 (0)	6.8 (146)
SSW	0.1 (2)	2.2 (47)	2.9 (63)	0.1 (2)	0.0 (0)	0.0 (0)	5.3 (114)
SW	0.1 (3)	1.0 (22)	2.1 (46)	1.1 (24)	0.0 (1)	0.0 (0)	4.5 (96)
WSW	0.3 (7)	1.4 (30)	2.3 (49)	3.1 (67)	2.1 (46)	0.7 (16)	10.0 (215)
W	0.1 (2)	0.8 (18)	1.1 (24)	2.7 (58)	1.6 (34)	0.9 (20)	7.3 (156)
WNW	0.1 (2)	0.7 (14)	1.2 (25)	2.0 (42)	2.5 (53)	2.0 (43)	8.3 (179)
NW	0.2 (5)	0.9 (19)	2.5 (53)	2.6 (56)	1.1 (24)	0.6 (12)	7.9 (169)
NNW	0.1 (3)	1.4 (29)	2.6 (55)	1.4 (29)	0.0 (0)	0.0 (0)	5.4 (116)
TOTAL	6.9 (147)	35.3 (758)	30.8 (661)	15.3 (329)	7.4 (159)	4.2 (91)	100.0 (2145)

FOR STABILITY CLASS - ALL

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2148

NUMBER OF MISSING WIND OBSERVATIONS: 3

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JAN 1 1986 THROUGH MAR 31 1986

JG120

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.1 (3)	1.3 (28)	1.8 (38)	0.0 (1)	0.0 (0)	0.0 (0)	3.3 (70)
NNE	0.5 (10)	2.6 (55)	1.0 (21)	0.0 (0)	0.0 (0)	0.0 (0)	4.0 (86)
NE	0.8 (18)	2.7 (57)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	3.8 (82)
ENE	1.3 (27)	1.8 (39)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.1 (66)
E	0.8 (17)	3.4 (72)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	4.3 (92)
ESE	0.6 (12)	4.8 (103)	2.7 (58)	0.0 (0)	0.0 (0)	0.0 (0)	8.1 (173)
SE	1.0 (21)	5.1 (109)	5.2 (112)	0.7 (15)	0.0 (0)	0.0 (0)	12.0 (257)
SSE	0.3 (7)	3.0 (64)	2.2 (47)	0.5 (10)	0.0 (0)	0.0 (0)	6.0 (128)
S	0.4 (8)	2.4 (52)	2.8 (60)	1.2 (25)	0.0 (1)	0.0 (0)	6.8 (146)
SSW	0.1 (2)	2.2 (47)	2.9 (63)	0.1 (2)	0.0 (0)	0.0 (0)	5.3 (114)
SW	0.1 (3)	1.0 (22)	2.1 (46)	1.1 (24)	0.0 (1)	0.0 (0)	4.5 (96)
WSW	0.3 (7)	1.4 (30)	2.3 (49)	3.1 (67)	2.1 (46)	0.7 (16)	10.0 (215)
W	0.1 (2)	0.8 (18)	1.1 (24)	2.7 (58)	1.6 (34)	0.9 (20)	7.3 (156)
WNW	0.1 (2)	0.7 (14)	1.2 (25)	2.0 (42)	2.5 (53)	2.0 (43)	8.3 (179)
NW	0.2 (5)	0.9 (19)	2.5 (53)	2.6 (56)	1.1 (24)	0.6 (12)	7.9 (169)
NNW	0.1 (3)	1.4 (29)	2.6 (55)	1.4 (29)	0.0 (0)	0.0 (0)	5.4 (116)
TOTAL	6.9 (147)	35.3 (758)	30.8 (661)	15.3 (329)	7.4 (159)	4.2 (91)	100.0 (2145)

FOR ALL WIND CATEGORIES

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2160

NUMBER OF MISSING WIND OBSERVATIONS: 15

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - A

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.1 (2)	0.1 (2)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (5)
NNE	0.1 (2)	0.1 (2)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
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 (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 (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)	0.0 (0)	0.0 (0)	0.3 (6)
W	0.1 (1)	0.2 (3)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (5)
WNW	0.0 (0)	0.1 (1)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NW	0.0 (0)	0.2 (4)	0.1 (1)	0.2 (3)	0.0 (0)	0.0 (0)	0.4 (8)
NNW	0.1 (1)	0.3 (5)	0.1 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.5 (9)
TOTAL	0.3 (6)	0.9 (17)	0.5 (10)	0.5 (10)	0.0 (0)	0.0 (0)	2.4 (43)

FOR STABILITY CLASS - A

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 44

NUMBER OF MISSING WIND OBSERVATIONS: 1

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - B

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.1 (1)	0.1 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.2 (4)
NNE	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
NE	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
ENE	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (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)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
SSE	0.0 (0)	0.0 (0)	0.2 (3)	0.1 (1)	0.0 (0)	0.0 (0)	0.2 (4)
S	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)	0.0 (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)	0.1 (1)	0.3 (6)	0.2 (4)	0.0 (0)	0.0 (0)	0.6 (11)
W	0.0 (0)	0.1 (1)	0.1 (1)	0.0 (0)	0.1 (1)	0.2 (3)	0.3 (6)
WNW	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.2 (4)	0.3 (5)
NW	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NNW	0.0 (0)	0.1 (1)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
TOTAL	0.0 (0)	0.3 (6)	1.0 (18)	0.4 (7)	0.1 (1)	0.4 (7)	2.1 (39)

FOR STABILITY CLASS - B

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 40

NUMBER OF MISSING WIND OBSERVATIONS: 1

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - C

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
ENE	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
E	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)	0.0 (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)	0.1 (1)	0.1 (1)	0.0 (0)	0.0 (0)	0.1 (2)
S	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (1)
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 (4)	0.2 (3)	0.1 (1)	0.0 (0)	0.4 (8)
W	0.0 (0)	0.1 (1)	0.1 (1)	0.2 (4)	0.2 (3)	0.4 (7)	0.9 (16)
WNW	0.0 (0)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.1 (1)	0.1 (2)
NW	0.0 (0)	0.1 (1)	0.1 (1)	0.1 (1)	0.0 (0)	0.0 (0)	0.2 (3)
NNW	0.0 (0)	0.1 (1)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.1 (2)
TOTAL	0.2 (3)	0.3 (6)	0.4 (8)	0.5 (10)	0.2 (4)	0.4 (8)	2.1 (39)

FOR STABILITY CLASS - C

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 39

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - D

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.1 (1)	0.3 (5)	0.7 (12)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (18)
NNE	0.2 (3)	0.8 (15)	0.2 (3)	0.0 (0)	0.0 (0)	0.0 (0)	1.2 (21)
NE	0.3 (6)	0.6 (11)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (17)
ENE	0.3 (5)	0.6 (11)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (16)
E	0.1 (1)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (5)
ESE	0.1 (1)	0.4 (7)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (9)
SE	0.1 (2)	0.6 (11)	0.5 (10)	0.2 (4)	0.0 (0)	0.0 (0)	1.5 (27)
SSE	0.0 (0)	0.3 (6)	1.4 (26)	0.2 (3)	0.0 (0)	0.0 (0)	1.9 (35)
S	0.0 (0)	0.4 (8)	1.0 (18)	0.2 (3)	0.0 (0)	0.0 (0)	1.6 (29)
SSW	0.0 (0)	0.2 (4)	0.8 (15)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (19)
SW	0.1 (1)	0.5 (9)	0.3 (6)	0.1 (2)	0.0 (0)	0.0 (0)	1.0 (18)
WSW	0.0 (0)	1.0 (19)	3.1 (57)	1.5 (27)	0.4 (8)	0.0 (0)	6.1 (111)
W	0.1 (1)	1.2 (21)	0.7 (12)	2.8 (51)	1.6 (29)	0.4 (7)	6.6 (121)
WNW	0.1 (1)	0.5 (10)	0.2 (4)	0.7 (13)	0.3 (6)	0.0 (0)	1.9 (34)
NW	0.1 (1)	0.4 (7)	0.2 (4)	0.3 (5)	0.0 (0)	0.0 (0)	0.9 (17)
NNW	0.1 (2)	0.2 (4)	0.3 (6)	0.1 (1)	0.0 (0)	0.0 (0)	0.7 (13)
TOTAL	1.4 (25)	8.3 (152)	9.5 (174)	6.0 (109)	2.4 (43)	0.4 (7)	27.9 (510)

FOR STABILITY CLASS - D

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 514

NUMBER OF MISSING WIND OBSERVATIONS: 4

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - E

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.3 (5)	0.6 (11)	0.2 (3)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (19)
NNE	0.3 (5)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (9)
NE	0.4 (8)	0.8 (14)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.2 (22)
ENE	0.9 (16)	1.3 (23)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.1 (39)
E	0.5 (9)	0.7 (12)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.2 (21)
ESE	0.3 (5)	0.9 (16)	0.4 (7)	0.0 (0)	0.0 (0)	0.0 (0)	1.5 (28)
SE	0.1 (2)	0.9 (17)	1.9 (35)	0.4 (7)	0.0 (0)	0.0 (0)	3.3 (61)
SSE	0.1 (2)	1.2 (21)	1.4 (25)	0.0 (0)	0.0 (0)	0.0 (0)	2.6 (48)
S	0.2 (4)	1.3 (24)	1.5 (28)	0.0 (0)	0.0 (0)	0.0 (0)	3.1 (56)
SSW	0.3 (5)	0.8 (14)	0.3 (5)	0.0 (0)	0.0 (0)	0.0 (0)	1.3 (24)
SW	0.1 (2)	1.5 (27)	1.2 (22)	0.2 (3)	0.0 (0)	0.0 (0)	3.0 (54)
WSW	0.2 (4)	1.9 (35)	5.3 (97)	2.4 (43)	0.2 (4)	0.0 (0)	10.0 (183)
W	0.3 (5)	1.3 (24)	0.7 (12)	0.9 (17)	0.4 (8)	0.0 (0)	3.6 (66)
WNW	0.5 (9)	0.4 (7)	0.2 (4)	0.4 (7)	0.3 (5)	0.0 (0)	1.8 (32)
NW	0.3 (5)	0.4 (7)	0.3 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (17)
NNW	0.2 (4)	0.3 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (9)
TOTAL	4.9 (90)	14.3 (261)	13.3 (243)	4.2 (77)	0.9 (17)	0.0 (0)	37.7 (688)

FOR STABILITY CLASS - E

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 688

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - F

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

				SPEED (MPH)			
DIR	00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.1 (2)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
NNE	0.1 (1)	0.2 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
NE	0.5 (10)	0.4 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (17)
ENE	0.5 (10)	0.7 (13)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.3 (23)
E	0.3 (6)	0.7 (12)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (18)
ESE	0.4 (7)	0.4 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.8 (14)
SE	0.1 (1)	0.4 (7)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.7 (12)
SSE	0.2 (3)	0.4 (7)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.6 (11)
S	0.2 (3)	0.9 (16)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	1.1 (20)
SSW	0.4 (8)	0.4 (8)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (18)
SW	0.1 (2)	0.2 (4)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
WSW	0.2 (4)	0.3 (6)	1.4 (25)	0.5 (10)	0.1 (2)	0.0 (0)	2.6 (47)
W	0.1 (1)	0.5 (9)	0.2 (4)	0.2 (3)	0.1 (2)	0.0 (0)	1.0 (19)
WNW	0.3 (5)	0.1 (2)	0.1 (1)	0.0 (0)	0.1 (1)	0.0 (0)	0.5 (9)
NW	0.2 (4)	0.2 (4)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (10)
NNW	0.0 (0)	0.5 (9)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (9)
TOTAL	3.7 (67)	6.5 (118)	2.3 (42)	0.7 (13)	0.3 (5)	0.0 (0)	13.4 (245)

FOR STABILITY CLASS - F

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 245

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - G

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.1 (2)	1.0 (18)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.1 (20)
NNE	0.1 (1)	0.3 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
NE	0.4 (8)	0.8 (14)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.2 (22)
ENE	0.7 (13)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (19)
E	0.8 (15)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (17)
ESE	0.7 (13)	0.7 (12)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.4 (25)
SE	0.9 (16)	0.6 (11)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.5 (27)
SSE	1.3 (23)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.6 (29)
S	0.7 (13)	0.4 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.1 (20)
SSW	0.3 (6)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (10)
SW	0.1 (2)	0.3 (6)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (9)
WSW	0.1 (1)	0.1 (2)	0.6 (11)	0.1 (1)	0.1 (1)	0.0 (0)	0.9 (16)
W	0.1 (2)	0.7 (12)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (16)
WNW	0.2 (3)	0.3 (6)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (10)
NW	0.2 (3)	0.2 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
NNW	0.2 (4)	0.3 (5)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (10)
TOTAL	6.8 (125)	6.5 (119)	0.9 (16)	0.1 (1)	0.1 (1)	0.0 (0)	14.3 (262)

FOR STABILITY CLASS - G

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 263

NUMBER OF MISSING WIND OBSERVATIONS: 1

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

-- JG120

STABILITY CLASS - ALL

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.7 (12)	2.2 (41)	0.9 (17)	0.1 (2)	0.0 (0)	0.0 (0)	3.9 (72)
NNE	0.7 (12)	1.6 (29)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	2.6 (47)
NE	1.8 (33)	2.6 (47)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	4.4 (80)
ENE	2.5 (46)	3.0 (54)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	5.5 (100)
E	1.7 (31)	1.8 (32)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.5 (63)
ESE	1.4 (26)	2.3 (42)	0.4 (8)	0.0 (0)	0.0 (0)	0.0 (0)	4.2 (76)
SE	1.2 (21)	2.5 (46)	2.7 (50)	0.6 (11)	0.0 (0)	0.0 (0)	7.0 (128)
SSE	1.5 (28)	2.2 (40)	3.1 (56)	0.4 (7)	0.0 (0)	0.0 (0)	7.2 (131)
S	1.1 (20)	3.1 (56)	2.6 (48)	0.2 (3)	0.0 (0)	0.0 (0)	7.0 (127)
SSW	1.0 (19)	1.6 (30)	1.2 (22)	0.0 (0)	0.0 (0)	0.0 (0)	3.9 (71)
SW	0.4 (7)	2.5 (46)	1.7 (31)	0.3 (5)	0.0 (0)	0.0 (0)	4.9 (89)
WSW	0.5 (9)	3.5 (63)	11.1 (203)	5.0 (91)	0.9 (16)	0.0 (0)	20.9 (382)
W	0.5 (10)	3.9 (71)	1.8 (33)	4.1 (75)	2.4 (43)	0.9 (17)	13.6 (249)
WNW	1.0 (18)	1.4 (26)	0.7 (13)	1.1 (20)	0.7 (12)	0.3 (5)	5.1 (94)
NW	0.7 (13)	1.4 (26)	0.8 (15)	0.5 (9)	0.0 (0)	0.0 (0)	3.5 (63)
NNW	0.6 (11)	1.6 (30)	0.5 (9)	0.2 (4)	0.0 (0)	0.0 (0)	3.0 (54)
TOTAL	17.3 (316)	37.2 (679)	28.0 (511)	12.4 (227)	3.9 (71)	1.2 (22)	100.0 (1826)

FOR STABILITY CLASS - ALL

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 1833

NUMBER OF MISSING WIND OBSERVATIONS: 7

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR APR 1 1986 THROUGH JUNE 30 1986

JG120

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.6 (12)	2.2 (41)	0.9 (17)	0.1 (2)	0.0 (0)	0.0 (0)	3.9 (72)
NNE	0.6 (12)	1.7 (32)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	2.7 (50)
NE	1.8 (33)	2.6 (49)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	4.4 (82)
ENE	2.5 (46)	3.0 (55)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	5.4 (101)
E	1.7 (31)	1.7 (32)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.4 (63)
ESE	1.5 (27)	2.5 (47)	0.4 (8)	0.0 (0)	0.0 (0)	0.0 (0)	4.4 (82)
SE	1.2 (22)	2.6 (48)	2.7 (50)	0.6 (11)	0.0 (0)	0.0 (0)	7.0 (131)
SSE	1.5 (28)	2.2 (41)	3.2 (59)	0.4 (7)	0.0 (0)	0.0 (0)	7.3 (135)
S	1.1 (20)	3.2 (59)	2.6 (48)	0.2 (3)	0.0 (0)	0.0 (0)	7.0 (130)
SSW	1.0 (19)	1.6 (30)	1.2 (22)	0.0 (0)	0.0 (0)	0.0 (0)	3.8 (71)
SW	0.4 (7)	2.5 (46)	1.7 (31)	0.3 (5)	0.0 (0)	0.0 (0)	4.8 (89)
WSW	0.5 (9)	3.4 (64)	11.1 (206)	5.1 (95)	0.9 (16)	0.0 (0)	20.9 (390)
W	0.5 (10)	4.0 (74)	1.9 (35)	4.0 (75)	2.3 (43)	0.9 (17)	13.6 (254)
WNW	1.0 (18)	1.4 (26)	0.7 (13)	1.1 (20)	0.6 (12)	0.3 (5)	5.0 (94)
NW	0.7 (13)	1.4 (26)	0.8 (15)	0.5 (9)	0.0 (0)	0.0 (0)	3.4 (63)
NNW	0.6 (11)	1.7 (31)	0.5 (9)	0.2 (4)	0.0 (0)	0.0 (0)	3.0 (55)
TOTAL	17.1 (318)	37.6 (701)	27.9 (519)	12.4 (231)	3.8 (71)	1.2 (22)	100.0 (1862)

FOR ALL WIND CATEGORIES

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2184

NUMBER OF MISSING WIND OBSERVATIONS: 322

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

---------- JG120

STABILITY CLASS - A

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.1 (3)	1.2 (26)	0.4 (9)	0.2 (4)	0.0 (1)	0.0 (0)	2.0 (43)
NNE	0.0 (1)	0.4 (9)	0.5 (10)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (20)
NE	0.0 (0)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	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)
SE	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (1)
SSE	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
S	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (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 (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)	0.1 (2)	0.1 (2)	0.0 (0)	0.0 (0)	0.2 (5)
WNW	0.0 (0)	0.2 (4)	0.3 (6)	0.1 (2)	0.0 (0)	0.0 (0)	0.6 (12)
NW	0.0 (1)	0.6 (13)	0.3 (6)	0.0 (1)	0.0 (0)	0.0 (0)	1.0 (21)
NNW	0.2 (4)	1.0 (21)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	1.2 (26)
TOTAL	0.4 (9)	3.8 (82)	1.5 (33)	0.5 (11)	0.0 (1)	0.0 (0)	6.4 (136)

FOR STABILITY CLASS - A

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 136

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

---------- JG120

STABILITY CLASS - B

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (0)	0.4 (9)	0.0 (1)	0.2 (5)	0.0 (1)	0.0 (0)	0.8 (16)
NNE	0.0 (0)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
NE	0.0 (0)	0.2 (4)	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)	0.1 (2)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (0)	0.1 (3)
S	0.0 (0)	0.1 (3)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
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)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
W	0.0 (0)	0.0 (1)	0.1 (3)	0.1 (3)	0.0 (1)	0.0 (0)	0.4 (8)
WNW	0.0 (0)	0.1 (3)	0.1 (3)	0.1 (2)	0.1 (3)	0.0 (0)	0.5 (11)
NW	0.0 (0)	0.2 (4)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (6)
NNW	0.0 (1)	0.0 (0)	0.1 (2)	0.1 (2)	0.0 (0)	0.0 (0)	0.2 (5)
TOTAL	0.0 (1)	1.3 (28)	0.9 (20)	0.6 (13)	0.2 (5)	0.0 (0)	3.1 (67)

FOR STABILITY CLASS - B

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 67

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

STABILITY CLASS - C

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.4 (8)	0.0 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.5 (11)
NNE	0.0 (0)	0.2 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)
NE	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 (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)
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)	0.2 (5)	0.0 (1)	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 (0)	0.0 (1)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
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 (1)	0.5 (11)	0.0 (1)	0.0 (0)	0.0 (0)	0.6 (13)
W	0.0 (0)	0.0 (1)	0.3 (7)	0.1 (2)	0.2 (4)	0.0 (0)	0.7 (14)
WNW	0.0 (0)	0.2 (4)	0.2 (4)	0.1 (2)	0.1 (3)	0.0 (1)	0.7 (14)
NW	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NNW	0.0 (1)	0.1 (2)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)
TOTAL	0.1 (2)	1.7 (36)	1.4 (30)	0.3 (7)	0.3 (7)	0.0 (1)	3.9 (83)

FOR STABILITY CLASS - C

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 83

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

JG120

STABILITY CLASS - D

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.5 (11)	1.0 (21)	0.8 (17)	0.3 (6)	0.1 (3)	0.0 (0)	2.7 (58)
NNE	0.0 (1)	1.4 (30)	0.9 (20)	0.0 (1)	0.0 (0)	0.0 (0)	2.4 (52)
NE	0.4 (8)	1.7 (37)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	2.3 (49)
ENE	0.4 (8)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (10)
E	0.1 (2)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)
ESE	0.0 (1)	0.6 (12)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.7 (14)
SE	0.1 (3)	1.3 (28)	0.2 (5)	0.0 (0)	0.0 (0)	0.0 (0)	1.7 (36)
SSE	0.0 (0)	1.1 (24)	0.8 (16)	0.0 (1)	0.0 (0)	0.0 (0)	1.9 (41)
S	0.1 (3)	1.2 (25)	0.7 (14)	0.0 (0)	0.0 (0)	0.0 (0)	2.0 (42)
SSW	0.2 (4)	1.0 (22)	0.4 (9)	0.0 (0)	0.0 (0)	0.0 (0)	1.6 (35)
SW	0.1 (2)	0.5 (11)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.8 (17)
WSW	0.0 (1)	0.8 (17)	2.5 (54)	0.6 (13)	0.0 (1)	0.0 (0)	4.0 (86)
W	0.1 (2)	0.6 (12)	2.4 (52)	1.6 (35)	1.2 (26)	0.6 (12)	6.5 (139)
WNW	0.0 (1)	0.7 (14)	0.8 (18)	1.0 (22)	0.7 (14)	0.5 (11)	3.8 (80)
NW	0.1 (3)	0.6 (12)	0.9 (19)	0.2 (4)	0.2 (5)	0.2 (4)	2.2 (47)
NNW	0.1 (2)	0.9 (19)	0.4 (9)	0.1 (2)	0.0 (0)	0.0 (0)	1.5 (32)
TOTAL	2.4 (52)	13.5 (289)	11.3 (242)	3.9 (84)	2.3 (49)	1.3 (27)	34.8 (743)

FOR STABILITY CLASS - D

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 743

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

STABILITY CLASS - E

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.1 (2)	0.2 (5)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (9)
NNE	0.2 (5)	1.0 (21)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	1.3 (28)
NE	0.5 (10)	0.8 (17)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.3 (27)
ENE	0.4 (8)	0.6 (13)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (21)
E	1.0 (21)	0.9 (19)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.9 (40)
ESE	0.5 (11)	2.1 (45)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	2.8 (59)
SE	0.2 (5)	3.3 (70)	0.4 (8)	0.0 (0)	0.0 (0)	0.0 (0)	3.9 (83)
SSE	0.1 (3)	3.4 (72)	1.4 (29)	0.0 (0)	0.0 (0)	0.0 (0)	4.9 (104)
S	0.3 (6)	2.6 (55)	2.7 (58)	0.3 (6)	0.0 (0)	0.0 (0)	5.9 (125)
SSW	0.4 (8)	0.9 (20)	0.5 (11)	0.0 (0)	0.0 (0)	0.0 (0)	1.8 (39)
SW	0.0 (1)	1.4 (29)	1.2 (26)	0.1 (2)	0.0 (0)	0.0 (0)	2.7 (58)
WSW	0.0 (1)	0.6 (13)	1.5 (31)	0.2 (4)	0.0 (1)	0.0 (0)	2.3 (50)
W	0.2 (5)	0.4 (8)	0.4 (8)	0.0 (0)	0.0 (0)	0.1 (3)	1.1 (24)
WNW	0.2 (4)	0.1 (3)	0.1 (3)	0.0 (0)	0.0 (1)	0.2 (4)	0.7 (15)
NW	0.0 (1)	0.2 (4)	0.0 (1)	0.0 (0)	0.1 (3)	0.0 (1)	0.5 (10)
NNW	0.2 (4)	0.1 (3)	0.2 (4)	0.0 (0)	0.0 (1)	0.0 (0)	0.6 (12)
TOTAL	4.5 (95)	18.6 (397)	8.7 (186)	0.6 (12)	0.3 (6)	0.4 (8)	33.0 (704)

FOR STABILITY CLASS - E

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 704

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

STABILITY CLASS - F

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
ENE	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
E	0.3 (7)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
ESE	0.5 (11)	0.5 (10)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (21)
SE	0.5 (10)	1.0 (22)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.5 (32)
SSE	0.3 (7)	1.5 (31)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.8 (38)
S	0.1 (3)	1.2 (26)	0.5 (11)	0.0 (0)	0.0 (0)	0.0 (0)	1.9 (40)
SSW	0.1 (3)	0.9 (20)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	1.2 (25)
SW	0.1 (2)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (9)
WSW	0.2 (4)	0.3 (7)	0.4 (8)	0.0 (1)	0.0 (0)	0.0 (0)	0.9 (20)
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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
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	2.4 (51)	5.9 (126)	1.0 (21)	0.0 (1)	0.0 (0)	0.0 (0)	9.3 (199)

FOR STABILITY CLASS - F

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 199

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

--- JG120

STABILITY CLASS - G

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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)
ENE	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
E	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
ESE	0.8 (17)	0.6 (12)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.4 (29)
SE	0.9 (20)	1.7 (36)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.6 (56)
SSE	0.3 (6)	2.4 (51)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.7 (57)
S	0.1 (2)	2.1 (45)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	2.3 (48)
SSW	0.0 (1)	0.0 (1)	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 (1)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (4)
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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
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	2.3 (49)	6.9 (147)	0.2 (5)	0.0 (0)	0.0 (0)	0.0 (0)	9.4 (201)

FOR STABILITY CLASS - G

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 201

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

---------- JG120

STABILITY CLASS - ALL

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.8 (16)	3.2 (69)	1.4 (30)	0.8 (17)	0.2 (5)	0.0 (0)	6.4 (137)
NNE	0.3 (7)	3.1 (67)	1.5 (33)	0.0 (1)	0.0 (0)	0.0 (0)	5.1 (108)
NE	0.9 (20)	3.0 (63)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	4.1 (87)
ENE	0.8 (18)	0.9 (19)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.7 (37)
E	1.5 (32)	1.2 (26)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.7 (58)
ESE	1.9 (40)	3.7 (79)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	5.8 (123)
SE	1.8 (38)	7.3 (156)	0.6 (13)	0.0 (1)	0.0 (0)	0.0 (0)	9.8 (208)
SSE	0.8 (16)	8.7 (186)	2.2 (46)	0.1 (2)	0.0 (0)	0.0 (0)	11.7 (250)
S	0.7 (14)	7.5 (159)	4.0 (86)	0.3 (6)	0.0 (0)	0.0 (0)	12.4 (265)
SSW	0.8 (16)	3.0 (64)	1.2 (25)	0.0 (0)	0.0 (0)	0.0 (0)	4.9 (105)
SW	0.2 (5)	2.2 (47)	1.4 (30)	0.1 (2)	0.0 (0)	0.0 (0)	3.9 (84)
WSW	0.3 (6)	1.8 (39)	5.3 (114)	0.9 (19)	0.1 (2)	0.0 (0)	8.4 (180)
W	0.3 (7)	1.1 (24)	3.4 (72)	2.0 (42)	1.5 (31)	0.7 (15)	9.0 (191)
WNW	0.3 (6)	1.3 (28)	1.6 (35)	1.3 (28)	1.0 (21)	0.8 (16)	6.3 (134)
NW	0.3 (6)	1.6 (34)	1.3 (28)	0.2 (5)	0.4 (8)	0.2 (5)	4.0 (86)
NNW	0.6 (12)	2.1 (45)	0.8 (17)	0.2 (5)	0.0 (1)	0.0 (0)	3.8 (80)
TOTAL	12.1 (259)	51.8 (1105)	25.2 (537)	6.0 (128)	3.2 (68)	1.7 (36)	100.0 (2133)

FOR STABILITY CLASS - ALL

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2133

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR JULY 1 1986 THROUGH SEPT 30 1986

-- JG120

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.8 (16)	3.2 (69)	1.4 (30)	0.8 (17)	0.2 (5)	0.0 (0)	6.4 (137)
NNE	0.3 (7)	3.1 (67)	1.5 (33)	0.0 (1)	0.0 (0)	0.0 (0)	5.1 (108)
NE	0.9 (20)	3.0 (63)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	4.1 (87)
ENE	0.8 (18)	0.9 (19)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.7 (37)
E	1.5 (32)	1.2 (26)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.7 (58)
ESE	1.9 (40)	3.7 (79)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	5.8 (123)
SE	1.8 (38)	7.3 (156)	0.6 (13)	0.0 (1)	0.0 (0)	0.0 (0)	9.8 (208)
SSE	0.8 (16)	8.7 (186)	2.2 (46)	0.1 (2)	0.0 (0)	0.0 (0)	11.7 (250)
S	0.7 (14)	7.5 (159)	4.0 (86)	0.3 (6)	0.0 (0)	0.0 (0)	12.4 (265)
SSW	0.8 (16)	3.0 (64)	1.2 (25)	0.0 (0)	0.0 (0)	0.0 (0)	4.9 (105)
SW	0.2 (5)	2.2 (47)	1.4 (30)	0.1 (2)	0.0 (0)	0.0 (0)	3.9 (84)
WSW	0.3 (6)	1.8 (39)	5.3 (114)	0.9 (19)	0.1 (2)	0.0 (0)	8.4 (180)
W	0.3 (7)	1.1 (24)	3.4 (72)	2.0 (42)	1.5 (31)	0.7 (15)	9.0 (191)
WNW	0.3 (6)	1.3 (28)	1.6 (35)	1.3 (28)	1.0 (21)	0.8 (16)	6.3 (134)
NW	0.3 (6)	1.6 (34)	1.3 (28)	0.2 (5)	0.4 (8)	0.2 (5)	4.0 (86)
NNW	0.6 (12)	2.1 (45)	0.8 (17)	0.2 (5)	0.0 (1)	0.0 (0)	3.8 (80)
TOTAL	12.1 (259)	51.8 (1105)	25.2 (537)	6.0 (128)	3.2 (68)	1.7 (36)	100.0 (2133)

FOR ALL WIND CATEGORIES

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2208

NUMBER OF MISSING WIND OBSERVATIONS: 75

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - A

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
NE	0.0 (0)	0.2 (5)	0.2 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (9)
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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
W	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 (1)	0.0 (0)	0.0 (0)	0.1 (3)	0.2 (4)
NW	0.0 (0)	0.0 (1)	0.0 (1)	0.0 (0)	0.0 (1)	0.3 (6)	0.4 (9)
NNW	0.0 (0)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
TOTAL	0.0 (0)	0.5 (11)	0.4 (8)	0.0 (0)	0.0 (1)	0.4 (9)	1.4 (29)

FOR STABILITY CLASS - A

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 29

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - B

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	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 (1)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
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 (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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
SSE	0.0 (0)	0.0 (0)	0.1 (2)	0.0 (0)	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 (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)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (2)
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 (1)	0.0 (0)	0.0 (0)	0.1 (2)	0.1 (3)
NW	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.1 (3)	0.1 (3)	0.3 (7)
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 (5)	0.5 (10)	0.0 (0)	0.1 (3)	0.2 (5)	1.1 (23)

FOR STABILITY CLASS - B

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 24

NUMBER OF MISSING WIND OBSERVATIONS: 1

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - C

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (0)	0.0 (1)	0.1 (2)	0.1 (2)	0.0 (0)	0.0 (0)	0.2 (5)
NNE	0.0 (0)	0.1 (2)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.1 (3)
NE	0.0 (0)	0.0 (1)	0.0 (1)	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 (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)	0.2 (4)	0.0 (1)	0.0 (0)	0.0 (0)	0.2 (5)
S	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (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 (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 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)
W	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (1)
WNW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)	0.2 (5)
NW	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (1)	0.3 (6)	0.2 (4)	0.5 (11)
NNW	0.0 (0)	0.0 (0)	0.0 (1)	0.0 (0)	0.0 (1)	0.0 (0)	0.1 (2)
TOTAL	0.0 (0)	0.2 (5)	0.6 (13)	0.2 (4)	0.3 (7)	0.5 (10)	1.9 (39)

FOR STABILITY CLASS - C

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 39

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - D

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 00-03	04-07	08-12	13-18	19-23	>24	TOTAL
N	0.0 (1)	0.7 (15)	1.8 (37)	1.1 (22)	0.2 (5)	0.0 (0)	3.9 (80)
NNE	0.0 (1)	1.2 (24)	2.5 (52)	0.5 (10)	0.0 (0)	0.0 (0)	4.2 (87)
NE	0.1 (2)	1.5 (32)	1.4 (29)	0.0 (1)	0.0 (0)	0.0 (0)	3.1 (64)
ENE	0.0 (0)	1.0 (21)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.0 (21)
E	0.0 (0)	0.4 (9)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.5 (10)
ESE	0.0 (0)	0.4 (8)	1.5 (30)	0.0 (1)	0.0 (0)	0.0 (0)	1.9 (39)
SE	0.1 (2)	1.1 (22)	2.4 (49)	0.1 (2)	0.0 (0)	0.0 (0)	3.6 (75)
SSE	0.1 (2)	0.8 (16)	1.0 (20)	0.1 (3)	0.0 (0)	0.0 (0)	2.0 (41)
S	0.0 (1)	1.2 (25)	1.3 (26)	0.5 (10)	0.0 (0)	0.0 (0)	3.0 (62)
SSW	0.0 (0)	1.0 (20)	1.3 (27)	0.0 (0)	0.0 (0)	0.0 (0)	2.3 (47)
SW	0.0 (0)	0.2 (4)	0.8 (16)	0.8 (17)	0.0 (0)	0.0 (0)	1.8 (37)
WSW	0.0 (0)	0.3 (7)	1.0 (21)	0.8 (16)	0.6 (13)	0.9 (19)	3.7 (76)
W	0.0 (1)	0.5 (10)	0.7 (14)	2.0 (41)	1.3 (26)	2.2 (45)	6.6 (137)
WNW	0.0 (1)	0.4 (8)	0.6 (12)	1.7 (35)	2.1 (44)	0.7 (15)	5.6 (115)
NW	0.0 (0)	0.1 (3)	1.1 (23)	1.9 (39)	0.9 (19)	0.2 (5)	4.3 (89)
NNW	0.0 (0)	0.4 (8)	0.9 (19)	1.4 (29)	0.6 (13)	0.0 (0)	3.3 (69)
TOTAL	0.5 (11)	11.2 (232)	18.2 (376)	10.9 (226)	5.8 (120)	4.1 (84)	50.8 (1049)

FOR STABILITY CLASS - D

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 1059

NUMBER OF MISSING WIND OBSERVATIONS: 10

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

---------- JG120

STABILITY CLASS - E

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 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 (1)	0.3 (6)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (9)
NE	0.0 (0)	0.5 (10)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.6 (12)
ENE	0.2 (5)	0.4 (8)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.6 (13)
E	0.2 (4)	0.6 (13)	0.0 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (18)
ESE	0.7 (15)	2.4 (50)	1.4 (28)	0.2 (5)	0.0 (0)	0.0 (0)	4.7 (98)
SE	0.5 (11)	3.6 (74)	3.0 (62)	0.5 (10)	0.0 (0)	0.0 (0)	7.6 (157)
SSE	0.8 (16)	2.2 (45)	1.6 (34)	0.0 (1)	0.0 (0)	0.0 (0)	4.6 (96)
S	0.1 (3)	3.3 (68)	3.5 (72)	0.2 (5)	0.0 (0)	0.0 (0)	7.2 (148)
SSW	0.1 (2)	2.1 (44)	1.6 (33)	0.0 (0)	0.0 (0)	0.0 (0)	3.8 (79)
SW	0.0 (1)	1.4 (28)	1.4 (29)	0.2 (4)	0.0 (0)	0.0 (0)	3.0 (62)
WSW	0.0 (1)	0.1 (3)	0.8 (16)	0.6 (12)	0.2 (4)	0.2 (5)	2.0 (41)
W	0.0 (0)	0.1 (2)	0.6 (12)	0.2 (5)	0.2 (5)	0.4 (8)	1.5 (32)
WNW	0.0 (0)	0.1 (3)	0.1 (3)	0.7 (14)	0.2 (5)	0.1 (2)	1.3 (27)
NW	0.0 (0)	0.0 (0)	0.3 (6)	0.5 (10)	0.1 (3)	0.0 (0)	0.9 (19)
NNW	0.0 (0)	0.1 (3)	0.0 (1)	0.1 (3)	0.0 (0)	0.0 (0)	0.3 (7)
TOTAL	2.9 (59)	17.3 (357)	14.6 (301)	3.3 (69)	0.8 (17)	0.7 (15)	39.6 (818)

FOR STABILITY CLASS - E

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 823

NUMBER OF MISSING WIND OBSERVATIONS: 5

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - F

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	SPEED (MPH) 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)
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 (1)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
SE	0.1 (3)	0.2 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (8)
SSE	0.1 (2)	0.8 (16)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (18)
S	0.0 (0)	0.8 (16)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (18)
SSW	0.0 (1)	0.3 (6)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.3 (7)
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)
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	0.4 (8)	2.5 (51)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	3.0 (61)

FOR STABILITY CLASS - F

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 61

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

---------- JG120

STABILITY CLASS - G

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

SPEED (MPH)

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)
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	0.1 (2)	0.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (9)
SE	0.1 (2)	0.1 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (5)
SSE	0.1 (3)	0.5 (11)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.7 (14)
S	0.0 (0)	0.9 (18)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.9 (18)
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	0.3 (7)	1.9 (39)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	2.2 (46)

FOR STABILITY CLASS - G

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 46

NUMBER OF MISSING WIND OBSERVATIONS: 0

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

STABILITY CLASS - ALL

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.0 (1)	0.9 (18)	1.9 (40)	1.2 (24)	0.2 (5)	0.0 (0)	4.3 (88)
NNE	0.1 (2)	1.7 (35)	2.8 (57)	0.5 (10)	0.0 (0)	0.0 (0)	5.0 (104)
NE	0.1 (2)	2.4 (49)	1.7 (36)	0.0 (1)	0.0 (0)	0.0 (0)	4.3 (88)
ENE	0.2 (5)	1.5 (30)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.7 (35)
E	0.2 (5)	1.1 (22)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	1.4 (29)
ESE	0.9 (18)	3.5 (72)	2.9 (59)	0.3 (6)	0.0 (0)	0.0 (0)	7.5 (155)
SE	0.9 (18)	5.0 (104)	5.5 (114)	0.6 (12)	0.0 (0)	0.0 (0)	12.0 (248)
SSE	1.1 (23)	4.3 (88)	2.9 (60)	0.2 (5)	0.0 (0)	0.0 (0)	8.5 (176)
S	0.2 (4)	6.2 (128)	4.8 (100)	0.7 (15)	0.0 (0)	0.0 (0)	12.0 (247)
SSW	0.1 (3)	3.4 (71)	2.9 (60)	0.0 (0)	0.0 (0)	0.0 (0)	6.5 (134)
SW	0.0 (1)	1.6 (33)	2.2 (45)	1.0 (21)	0.0 (0)	0.0 (0)	4.8 (100)
WSW	0.0 (1)	0.5 (10)	2.0 (41)	1.4 (28)	0.8 (17)	1.2 (24)	5.9 (121)
W	0.0 (1)	0.6 (12)	1.3 (27)	2.2 (46)	1.5 (31)	2.6 (54)	8.3 (171)
WNW	0.0 (1)	0.5 (11)	0.8 (17)	2.4 (49)	2.4 (49)	1.3 (27)	7.5 (154)
NW	0.0 (0)	0.2 (4)	1.5 (31)	2.4 (50)	1.5 (32)	0.9 (18)	6.5 (135)
NNW	0.0 (0)	0.6 (13)	1.0 (21)	1.5 (32)	0.7 (14)	0.0 (0)	3.9 (80)
TOTAL	4.1 (85)	33.9 (700)	34.4 (710)	14.5 (299)	7.2 (148)	6.0 (123)	100.0 (2065)

FOR STABILITY CLASS - ALL

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2081

NUMBER OF MISSING WIND OBSERVATIONS: 16

NUMBER OF CALM HOURS: 0

NIAGARA MOHAWK

OSWEGO AMBIENT AIR MONITORING

SITE: NINE MILE LOWER (9) DATA FOR OCT 1 1986 THROUGH DEC 31 1986

-- JG120

% FREQUENCY (NO. OF OCCURRENCES) OF WIND DIRECTION WITHIN WIND SPEED CATEGORY

DIR	00-03	04-07	08-12	SPEED (MPH) 13-18	19-23	>24	TOTAL
N	0.1 (3)	0.9 (18)	1.9 (40)	1.1 (24)	0.2 (5)	0.0 (0)	4.3 (90)
NNE	0.1 (2)	1.7 (35)	2.7 (57)	0.5 (10)	0.0 (0)	0.0 (0)	5.0 (104)
NE	0.1 (2)	2.3 (49)	1.7 (36)	0.0 (1)	0.0 (0)	0.0 (0)	4.2 (88)
ENE	0.2 (5)	1.4 (30)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	1.7 (35)
E	0.2 (5)	1.0 (22)	0.1 (2)	0.0 (0)	0.0 (0)	0.0 (0)	1.4 (29)
ESE	0.9 (18)	3.4 (72)	2.8 (59)	0.3 (6)	0.0 (0)	0.0 (0)	7.4 (155)
SE	0.9 (18)	5.0 (105)	5.4 (114)	0.6 (12)	0.0 (0)	0.0 (0)	11.9 (249)
SSE	1.1 (23)	4.3 (90)	2.9 (60)	0.2 (5)	0.0 (0)	0.0 (0)	8.5 (178)
S	0.2 (4)	6.2 (129)	4.8 (100)	0.7 (15)	0.0 (0)	0.0 (0)	11.8 (248)
SSW	0.1 (3)	3.5 (74)	3.1 (65)	0.0 (0)	0.0 (0)	0.0 (0)	6.8 (142)
SW	0.0 (1)	1.6 (33)	2.2 (46)	1.1 (23)	0.0 (0)	0.0 (0)	4.9 (103)
WSW	0.1 (2)	0.5 (10)	2.1 (45)	1.5 (31)	0.8 (17)	1.1 (24)	6.2 (129)
W	0.1 (2)	0.6 (12)	1.3 (27)	2.3 (48)	1.5 (31)	2.6 (54)	8.3 (174)
WNW	0.1 (2)	0.5 (11)	0.8 (17)	2.4 (51)	2.3 (49)	1.3 (27)	7.5 (157)
NW	0.0 (0)	0.2 (4)	1.5 (31)	2.4 (50)	1.5 (32)	0.9 (18)	6.4 (135)
NNW	0.0 (0)	0.6 (13)	1.0 (21)	1.5 (32)	0.7 (14)	0.0 (0)	3.8 (80)
TOTAL	4.3 (90)	33.7 (707)	34.4 (720)	14.7 (308)	7.1 (148)	5.9 (123)	100.0 (2096)

FOR ALL WIND CATEGORIES

NUMBER OF POSSIBLE HOURLY OBSERVATIONS: 2208

NUMBER OF MISSING WIND OBSERVATIONS: 112

NUMBER OF CALM HOURS: 2

TABLE 5

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER

In accordance with Section 6.9.1.e of Amendment 66 to the Nine Mile Point 1 Technical Specifications, this Table (a) describes and provides justification for recent changes to the Off-Site Dose Calculation Manual (Revision 3 and 4) and (b) explains why these changes will not adversely affect the accuracy or reliability of off-site dose calculations or monitor alarm setpoint determinations.

As stated in letter from T. E. Lempges, NMPC to NRC Document Control Desk, dated February 23, 1987, these Off-Site Dose Calculation Manual revisions address discrepancies and recommendations noted previously by the Nuclear Regulatory Commission and Franklin Research Center (refs, letter from John A. Zwolinski, NRC to C. V. Mangan, NMPC dated August 22, 1986 and Franklin Research Center (FRC) report TER-C5506-595, Appendix D).

Attachment 3 to this document provides a copy of Revision 4 to the Off-Site Dose Calculation Manual (which shows recent changes made to Revisions 2 and 3) and a copy of Revision 2 so that changes can be easily identified. All revisions to the Off-Site Dose Calculation Manual were reviewed and accepted by authorized station personnel in accordance with applicable administrative procedures and Section 6.5.2 of the Technical Specifications. Review and approval documentation is affixed to the front side of Attachment 3.

TABLE 5(Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
1.	Table of Contents	Table was expanded to enable easy reference to individual sections of the ODCM.	None
2.	Section 2.1.1 pg 2, added Paragraph 3; Sections 2.1.2 and 2.1.3 equations	Methodology for setting Liquid Effluent Monitor Alarm Setpoints was changed since previous equation did not adequately account for the presence of non-gamma emitting isotopes in the discharge stream. At NMP-1, the isotope of highest activity and highest contributor to batch MPC in the discharge stream is most frequently tritium. Previous alarm setpoint equation had a typographical error in the dilution factor term noted by FRC. Summation signs were inadvertently left out. This problem was corrected in Revision 3. The tempering fraction of dilution water used during the discharge was previously not included in the alarm setpoint calculation and was therefore added.	Accuracy and reliability of alarm setpoint determinations is improved since contributions of non-gamma emitting isotopes is more conservatively accounted for in the setpoint calculation and the applicable dilution factor used during the discharge is more precisely determined.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
3.	Sections 2.1.4.1-2.1.3.4, and a new Section 2.2 were added, page 5.	As noted by FRC, Revision 2 of the ODCM: (a) did not provide adequate methodology and parameters for liquid concentrations to demonstrate compliance with 10CFR20 limits and NMP-1 Technical Specification Section 3.6.15a; (b) did not consider simultaneous discharges for liquid setpoint calculation and (c) did not provide a description of the methodology for liquid dose projection required by Technical Specification 3.6.16.a. To address these concerns, (a) Section 2.1.4.1 was added to describe mechanical isolation used to prevent inadvertent discharges from the Radwaste Treatment Systems; (b) Section 2.1.4.2 was added which requires liquid batch release cessation if service water system contamination occurs; (c) Section 2.1.4.3 was added to describe actions taken to ensure adequate tank mixing prior to sampling; (d) Section 2.1.4.4 was added to describe Liquid Radwaste System Operation and methodology/ frequency of liquid effluent dose projections;	Actions, responses and calculations described in Sections 2.1.4.1-2.1.4.5 and 2-2 decrease the likelihood of an inadvertant discharge; improve the representativeness of of samples taken; serve to reduce the radioactive materials in liquid waste prior to discharge, and/or ensure compliance with Technicl Specifications 3.6.15.a (1), 3.6.15.a (2). 4.6.15.a (1), 4.6.15.a (2), 3.6.15.a, 4.6.16.a and Table 4.6.15-1. Thus, the overall reliability and accuracy of calculated monitor alarm setpoints and dose determinations are improved.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
		(e) Section 2.1.4.5 was added to describe sampling, analyses and dose evaluations required in the event the Service Water System becomes contaminated; and (f) Section 2.2 was added which describes the calculation used to determine the limiting concentration of radioactive isotopes in the discharge canal.	
4.	Section 2.2.1, page 8, Paragraph 5	The symbol "GeLi" was changed to "gamma spectroscopy" since intrinsic germanium crystals are sometimes used instead of lithium-drifted germanium crystals for isotopic analyses of samples.	Change has no affect on accuracy or reliability of setpoint/dose determinations
5.	Section 2.2.1, Page 11, Paragraph 9	Change was made to include Nine Mile Point Unit II in the 40CFR190 dose evaluation since, in accordance with Technical Specification 3.6.15.d, contributions from all reactor units at the site must be considered.	Inclusion of the contributions from all reactor units at the site improves the accuracy of 40CFR190 dose calculations.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
6.	Section 3.1.1, Page 13, Paragraph 5 and Section 3.1.2, Page 15, Paragraph 3	Change was made to include Nine Mile Point Unit II in Stack Monitor Alarm Setpoint Calculation during abnormal release conditions since, in accordance with Technical Specification 3.6.15.b(1), the noble gas dose rate limit is a site limit (as opposed to a unit limit).	Accuracy and reliability of alarm setpoint determinations is improved if release rates from all significant release sources are considered.
7.	Section 3.1.2, Page 14, X/Q value in equation.	X/Q was changed to be consistent with Table 3-1 value (as noted by FRC). The new X/Q value was generated by C.T.Main using the XOQDOQ program and adjusting for meteorological data height and effluent reference point height.	Use of the higher X/Q value is more correct and lowers the calculated stack monitor alarm setpoint; thus overall reliability of the setpoint calculation is improved.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
8.	Sections 3.1.5 were added, page 18; Figure B-8 and B-9 were added.	FRC review of Revision 2 to the ODCM noted that I-133 was not included in the description of the NMP-1 gaseous effluent sampling and analysis program. To resolve this concern and to provide an improved description as to how the sampling and analysis program at NMP-1 ensures compliance with Technical Specification Surveillance requirements specified in Table 4.6.15-2, Sections 3.1.5.1-3.1.5.6 of the ODCM were added. Sections 3.1.5.1-3.1.5.3 and Figure B-8 and B-9 provide an overall description of hardware used to monitor, collect, and analyze particulate, iodine and noble gas effluents over a wide range of activities. Section 3.1.5.4 describes sampling frequency and the method employed to account for particulate and iodine sample line losses. Section 3.1.5.5 provides an accurate method for estimating I-133 release rates. Section 3.1.5.6 describes frequency of dose calculations used to confirm compliance with Technical Specification 3.6.16.6. Included in this section are release rate assumptions for non-gamma emitting isotopes used in initial (provisional) dose calculations.	The NMP-1 gaseous effluent sampling, and analysis program has been consistent with Table 4.6.15-2 of the Technical Specifications commencing with implementation of the RETS on Jan.1, 1985. Since that time, accuracy and reliability of release rate determinations (and indirectly alarm setpoint and dose calculations) has been improved by (a) adopting more conservative non-gamma emitting isotope scaling factors used in initial (provisional) dose calculations,(b) application of line loss correction factors for particulate/ iodine data and (3) inclusion of Fe-55 (a potentially significant isotope from a dose standpoint) in the particulate analysis program.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
9.	Section 3.2.1.2, Page 22, Paragraph 2.	Change was made to include Nine Mile Point Unit 2 in particulate/ iodine/tritium dose rate assessment during elevated release conditions since, in accordance with Technical Specification 3.6.15.b (1), the particulate/ iodine/tritium release rate is a site limit (as opposed to a unit limit).	Accuracy and reliability of alarm setpoint determinations is improved if release rates from all significant release sources are considered.
10.	Section 3.2.1.2, Pages 22 and 23 Paragraph 3.	The "minimum release rate limit" and "maximum curie-to-dose-conversion factor" changed slightly as a result of changes made to some D/Q values in Revision 2 to the ODCM.	Accuracy and reliability of dose calculations/alarm setpoint determinations, remains unchanged since release rate triggering dose rate assessment (ie, 10^{-2} μCi/sec) remains unchanged
11.	Section 4.0, Page 30 Paragraph 4.	Added section to more clearly explain how the direct radiation dose component is evaluated utilizing environmental TLDs or engineering calculations.	Clarification of the methodology has no effect on the final dose calculations.
12.	Section 4.1, Page 31, Paragraph 1.	Added reference to the fact that calculational methodologies are based on effluent data and Regulatory Guide 1.109 methodology. This change clarified what criteria are used for calculated doses.	Clarification of the methodology has no effect on the final dose calculations.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
13.	Section 4.1, Page 31, Paragraph 2.	Revised Paragraph #2 to show actual equations adapted from Regulatory Guide 1.109 instead of just stating that doses calculated for the fish and shore-line sediment pathways are based on Regulatory Guide 1.109 methodology. The equations show the calculational methodology for the fish consumption pathway (whole body and maximum organ dose) and the shoreline sediment dose pathway (whole body and skin dose).	Clarification of the methodology has no effect on the final dose calculations.
14.	Section 4.2, Page 32, Paragraph 1.	A sentence was added to the paragraph to clarify the pathways that would be evaluated for gaseous effluents.	Clarification of the methodology has no effect on the final dose result.
15.	Section 4.2, Page 32, Paragraph 2.	A sentence was added at the end of the paragraph to clarify the fact that doses calculated from environmental sample results utilize the methodologies found in Regulatory Guide 1.109. This had been stated for doses calculated from gaseous effluents but not for doses calculated from environmental sample results.	Clarification of the methodology has no effect on the final dose result.
16.	Section 4.3, Page 32, Paragraph 3.	As recommended by FRC, a section was added to the end of section 4.3 to clarify how direct radiation doses to critical receptor locations would be evaluated using environmental TLD results.	Clarification of the methodology has no effect on the final dose calculations.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
17.	Section 4.4, Page 34, Paragraph 1.	This paragraph was revised because of a new activity relative to members of the public within the site boundary. Previously, doses had been calculated for summer picnicking and educational activities within the site boundary. Doses are now calculated based on fishing activities within the site boundary which has an increased dose potential from inhalation and direct radiation. The specific location, residency time and other criteria are included in the revision.	Accuracy of the dose calculations has improved by incorporating the most critical activities performed by members of the public within the site boundary.
18.	Section 4.4, Page 33, Paragraph 1.	A reference was added to note the use of the ground dose (deposition) pathway. The use of this additional pathway was necessary because of the new identified activity (i.e., fishing).	Accuracy of the dose calculations has improved by incorporating the most critical activities performed by members of the public within the site boundary.
19.	Section 4.4, Page 34, Paragraph 2.	A statement was added to explain that direct beta radiation from the effluent plume would not be evaluated because of the proximity to the station and the resultant small probability of plume submersion.	This action has no effect on the dose calculations because it is insignificant.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
20.	Section 4.4, Page 34, Paragraph 2.	A note was added to point out the fact that since the inhalation dose calculation contained parameters in units of pCi/M^3 and M^3/second and since the calculations assumed no radionuclide decay, then the equation differed slightly from the equation in Regulatory Guide 1.109.	Clarification of the methodology has no adverse effect on the final dose calculation.
21.	Section 4.4, Page 35, X/Q factor explanation.	The word "approximately" was added to the reference for the critical location. The five year average X/Q value for this location was also revised to reflect the new fishing location.	Accuracy of the dose calculation has improved by incorporation of the specifics for the new location.
22.	Section 4.4, Page 35, t factor explanation.	The specific numerical reference to a fractional portion of the year for which the dose is applicable was deleted to reflect the change in the new identified activity within the site boundary (i.e., fishing).	Accuracy of the dose calculation has not been affected since the calculational factor is still present and is set by the evaluator.
23.	Section 4.4, Page 35, Last paragraph.	A new paragraph was inserted prior to the last paragraph of section 4.4. The paragraph outlined the methodology used to calculate the ground dose pathway (deposition) from fishing on the shoreline within the site boundary. The paragraph also referenced the equation used to calculate the dose as that contained in section 4.1.	Accuracy of the dose calculations has improved by incorporating the most critical activities and their calculational methodologies into the ODCM.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
24.	Section.4.4, Page 36, Last paragraph.	As a result of the new fishing activity and location within the site boundary, the environmental TLD methodology to evaluate direct radiation dose and the time period over which TLD results are utilized was revised. The revision noted a new TLD located in the area of interest and a greater portion of the year to be evaluated. Alternate TLD locations were specified in the event of loss or theft of the TLD at the critical location.	Accuracy of the dose calculations has improved by incorporating the most critical activities and their calculational methodologies into the ODCM.
25.	Section 5.1, Page 36, Paragraph 1.	A reference was added to note the location of the meterological tower within the site boundary. An additional comment was added at the end of the first paragraph to clarify that the environmental sample location coordinates presented in Table 5.1 were based on the NMP-2 reactor centerline.	Clarification presented by the two statements has no effect on the dose calculations contained in the ODCM.
26.	Section 5.2, Page 37, First Paragraph.	A statement was added to clarify the level at which interlaboratory comparison samples are analyzed. The statement noted that the percentage of interlaboratory comparison samples to normal samples (of the same media) will be 5% or better. This clarification provides criteria for determining a minimum number of interlaboratory comparison samples for each sample media.	Clarification of the methodology and criteria has no effect on the program.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
27.	Table 1-1	Additional R_{apij} dose factors were added to the Table. Some minor calculational errors were also corrected.	Accuracy of dose calculation is improved by inclusion of dose contribution from all significant isotopes.
28.	Table 3-1	Estimated critical dispersion X/Q, D/Q parameters were replaced with actual average X/Q, D/Q ground level values for 1985 to improve the accuracy of dose calculations resulting from emergency condenser vent releases. Footnote symbols were changed from numbers to letters to avoid confusion with exponents.	Accuracy of emergency condenser vent dose calculations is improved by using more realistic X/Q, D/Q values.
29.	Tables 4-2 to 4-20	Dose factors for Fe-55 were added since it was felt this isotope could contribute significantly to some organ doses.	Accuracy of dose calculations is improved by inclusion of dose contribution from all significant isotopes.
30.	Table 5.1, Page 68, Milk sample.	Milk sample location #40 was changed to #65 because the previous owner sold his dairy stock. The new location #65 changed the location in degrees and distance from the site. Figure 5.1-2 was also revised to show the new milk sample location.	Accuracy of the dose calculations has improved by incorporating the specifics for the new sample location.

TABLE 5 (Cont'd)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

JULY - DECEMBER
(Continued)

CHG. NO.	ODCM, REV. 2 SECTION CHANGED	DESCRIPTION OF CHANGE (JUSTIFICATION)	AFFECT ON ACCURACY/ RELIABILITY OF DOSE CALCULATIONS/ALARM SETPOINT DETERMINATIONS
31.	Table 5.1, Page 68, Food product.	One food product (garden) location was deleted and four locations were added. The one location was deleted (previous #52 location) because other gardens were identified that showed a greater average D/Q value. Four other locations were added as a result of a small census conducted during 1986. All four locations showed elevated D/Q values. <u>NOTE</u>: The food product locations shown on Table 5.1 are garden locations from which samples may be obtained. Not all of the locations listed need to be sampled. Figure 5.1-2 was also revised to show the new sample locations.	Accuracy of the dose calculations has improved by incorporation of the most recent survey information.
32.	Figures B-1 through B-6.	As noted by FRC, legibility of radwaste treatment flow diagrams was poor. Larger maps were included in Revision 4 to improve legibility.	Improvement in legibility of ODCM diagrams has no direct affect on alarm setpoint or dose determinations.
33.	Figure B-7 was added	This map was added to clarify the Nine Mile Point Site Boundaries.	Clarification of Site Boundaries has no direct effect on alarm setpoint or dose determinations.

TABLE 6

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE PROCESS CONTROL PROGRAM

JULY - DECEMBER

Nine Mile Point Nuclear Station Site Administrative Procedure AP 3.7, which describes the Nine Mile Point Unit 1 Process Control Program (PCP) was revised during the current reporting period. In accordance with Section 6.9.1.e of Amendment 66 to the Nine Mile Point 1 Technical Specifications, this Table: (a) describes the rationale for changes in the PCP and (b) explains why these changes will not adversely affect the overall conformance of the solidified waste product to existing criteria for solid wastes.

Attachment 4 to this document provides a copy of Revision 1 to AP 3.7 (which shows recent changes made to Revision 0) and a copy of Revision 0 so that changes can be easily identified. Also included in Attachment 4 are a copies of Revision 0 and 1 to Procedure N1-CSP-14V "Collection and Analysis of Waste Samples". Although technically not required for submittal in this report (since this procedure implements rather than describes the PCP), description and justification for revision of this document has been provided to demonstrate Nine Mile Point compliance with NRC Audit findings (see Inspection Report No. 50-220/86-15).

AP 3.7 and N1-CSP-14V revisions were reviewed and accepted by authorized station personnel in accordance with Technical Specification 6.5.2 and applicable administrative procedures. Review and approval documentation is affixed to the front side of Attachment 4.

TABLE 6

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE PROCESS CONTROL PROGRAM

JULY - DECEMBER
(Continued)

CHG. NO.	AP 3.7 Rev 0 SECTION CHANGED	RATIONALE FOR CHANGE	AFFECT ON CONFORMANCE OF WASTE PRODUCT TO EXISTING CRITERIA
1.	Section 3.0, page 3; Attachment 1, "Radiation Protection Procedures" pages 7,8.	Various implementing procedures for the PCP were revised and in many cases were superceded by new procedure numbers. For example, training procedures previously described in Unit 1 Administrative Procedures (APN's) are now described in Nuclear Training Procedures (NTP's). Similarly Process Survey Procedure N1-PSP-14 was changed to Chemistry Surveillance Procedure N1-CSP-14V Some Radiation Protection Procedures (RP's) were changed to Site Radiation Protection Procedures (S-RP's).	Conformance of waste product to existing criteria is unaffected or improved since changes to implementing procedures were organizational in nature (except as noted in CHG NO. 3 below), and did not affect solidification or packaging processes, or compliance with 10CFR20, 10CFR61, or 10CFR71 and other Federal and State regulations governing transport and disposal of waste.
2.	Attachment 2, pages 12-17 were added	Certificates of Compliance for additional High Integrity Containers used for waste burial were included.	Conformance of waste product to existing criteria is unaffected. Certification of High Integrity Containers provides assurances of waste stability after burial in conformance with 10CFR61.

TABLE 6

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
SUMMARY OF CHANGES TO THE PROCESS CONTROL PROGRAM

JULY - DECEMBER
(Continued)

CHG. NO.	N1-CSP-14V REV 0 SECTION CHANGED	RATIONALE FOR CHANGE	AFFECT ON CONFORMANCE OF WASTE PRODUCT TO EXISTING CRITERIA
3.	Sections 1.0-2.0, page 1; Section 2.6.4g, page 2.	References to 10CFR20.311(b), 49CFR172.203(d) were included since, as noted during NRC audit 86-15, these regulations must be considered in waste shipment manifest preparation and transportation. NRC definition of a "significant" quantity of a particular isotope was also added to Sections 2.5, 2.6.4g ("Branch Technical Position")	Consideration of all relevant federal regulations (and NRC interpretation of such regulations) improves overall conformance to such requirements and helps to ensure proper waste classification and safe transportation.
4.	Section 2.6.4.b, 2.6.4.c, page 2; Section 4.15.5, 4.15.b, page 14; Figures 1, 2, 3, pages 19-21; Figure 7-9, pages 25-27; Attachments 1 and 2, pages 29-30.	Included provisions to estimate (scale) specific activities of Fe-55 and Sr-89 to ensure all "significant" isotopes are included on waste shipment manifest in accordance with (10CFR20.311(b)).	Inclusion of all potentially "significant" isotopes in the waste shipment manifest improves overall conformance to 10CFR20, 10CFR61 and 49CFR172 and helps ensure proper waste transport, classification and burial.

ATTACHMENT 1

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
DOSES TO MEMBERS OF THE PUBLIC DUE TO THEIR ACTIVITIES
INSIDE THE SITE BOUNDARY
JANUARY - DECEMBER

Doses to members of the public (as defined by the Technical Specifications) as a result of activity inside the site boundary is controlled by activities at the Energy Information Center. This facility is open to the public and offers educational information, summer picnicking activities and fishing. Any possible doses received by a member of the public by utilizing the private road that transverses the east and west site boundaries are not considered here since it takes a matter of minutes to travel the distance.

The activity at the Energy Information Center that is used for the dose analysis is fishing because it is the most time consuming. Although there is no specific survey information available, many of the same individuals have been observed to return again and again because of the access to salmonid and lake trout populations. Dose pathways considered for this activity include direct radiation, inhalation and ground dose (shoreline sediment or soil). Other pathways, such as ingestion pathways are not considered because they are either not applicable or are insignificant. In addition, only releases from the NMP-1 stack were evaluated for the inhalation pathway. The emergency condensers were operated during June of 1986, however, the wind was not blowing towards the critical fishing receptor at that time.

The direct radiation pathway is evaluated in accordance with the methodology found in the Offsite Dose Calculation Manual (ODCM). This pathway considers three components: direct radiation from the generating facilities, direct radiation from a possible overhead plume, and direct radiation from plume submersion. The direct radiation pathway is evaluated by the use of high sensitivity environmental TLDs. Since any significant fishing activity near the Energy Information Center occurs between April through December, environmental TLD data for the approximate period of April 1 - December 31, 1986 was considered. Data from two environmental TLDs from the approximate area where the fishing occurs were compared to three control environmental TLD locations for the same time period. The average fishing area TLD dose was 3.24 E-03 mRem per hour for the period. The average control TLD dose was 3.03 E-03 mRem per hour for the period (approximate second, third and fourth calendar quarters of the year). The average increase in dose as a result of fishing in this area is 6.6 E-02 mRem from direct radiation for the period in question.

The inhalation dose pathway is evaluated by utilizing the inhalation equation in the Offsite Dose Calculation Manual, as adapted from Regulatory Guide 1.109. The equation basically gives a total inhalation dose in mRem for the time period in question (April - December). The total dose equals the sum, for all applicable radionuclides, of the stack release concentration, times the average Unit 1 stack flowrate, times the applicable five year average or real time calculated X/Q, times the inhalation dose factors from Regulatory Guide 1.109, Table E-8, times the Regulatory Guide 1.109 annual air intake, times the fractional portion of the year in question. In order to be conservative, no radiological decay is assumed.

ATTACHMENT 1

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
DOSES TO MEMBERS OF THE PUBLIC DUE TO THEIR ACTIVITIES
INSIDE THE SITE BOUNDARY
(Continued)

The 1986 calculation utilized the following information:

- Unit 1 average stack flowrate = 8.66E + 01 m^3/sec
- X/Q value = 8.9 E-06 (annual NWN sector historical average)
- Inhalation dose factor = Table E-8 of Reg. Guide 1.109
- Annual air intake = 8000 m^3 year (adult)
- Fraction portion of the year = 0.0361 (316 hours)
- I-131 = 9.47 E03 pCi/m^3
- I-133 = 7.77 E+00 pCi/m^3
- Cs-137 = 3.30 E01 pCi/m^3
- Co-60 = 1.20 E+00 pCi/m^3
- Ba-140 = 2.44 E01 pCi/m^3
- Cr-51 = 3.97 E01 pCi/m^3
- Co-58 = 3.99 E02 pCi/m^3
- Cs-134 = 6.26 E03 pCi/m^3
- Zn-65 = 4.44 E03 pCi/m^3
- Cs-136 = 1.59 E03 pCi/m^3
- Mn-54 = 4.13 E02 pCi/m^3
- Sr-89 = 2.12 E01 pCi/m^3
- Sr-90 = 1.77 E03 pCi/m^3
- H-3 = 4.22 E+03 pCi/m^3

The inhalation dose to a member of the public as a result of activities inside the site boundary is 7.84 E-04 mRem to the thyroid (maximum organ dose) and 1.54 E-04 mRem to the whole body.

The dose from standing on the shoreline to fish is based on the methodology in the Off-Site Dose Calculation Manual as adapted from Regulatory Guide 1.109. During 1986, it was noted that fishing was performed from the shoreline on many occassions although waders were also utilized. In order to be conservative it is assumed that the maximum exposed individual fished from the shoreline at all times. The use of waders, of course, would result in a dose of zero from this pathway. The shoreline sediment doses are not taken into consideration by environmental TLD data.

The equation basically gives the total dose to the whole body and skin from the sum of all the plant related radionuclides detected in the sample. The plant related radionuclide concentration is adjusted for background sample results, as applicable. The equation, therefore, yields the whole body and skin dose by multiplying the radionuclide concentration adjusted for any background data (as applicable), times a usage factor, times the sediment or soil density in grams per meter, times the applicable shore width factor, times the regulatory guide dose factor, times the fractional portion of the year over which the dose is applicable. In order to be conservative and to simplify the equation, no radiological decay is assumed since the applicable radionuclides are usually long lived.

ATTACHMENT 1

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
DOSES TO MEMBERS OF THE PUBLIC DUE TO THEIR ACTIVITIES
INSIDE THE SITE BOUNDARY (Cont'd)

The calculations utilized the following information:

- Usage factor = 316 hours.

- Density in grams per meter = 40,000.

- Shore width factor = 0.3.

- Whole body and skin dose factor for each radionuclide = Regulatory Guide 1.109, Table E-6.

- Fraction portion of the year = 1 (used average radionuclide concentration over total time period).

- Average Cs-137 concentration = 7.99 E-1 pCi/g.

- Average Co-60 concentration = 1.10 E-1 pCi/g.

The total whole body and skin dose from standing on the shoreline to fish is 1.8 E-02 mRem whole body and 2.2 E-02 mRem skin dose for the period.

Doses to members of the public relative to activities inside the site boundary from aquatic pathways other than ground dose from shoreline sediment/soil are not applicable.

In summary, the total dose to a member of the public as a result of activities inside the site boundary from the direct radiation, inhalation and shoreline dose pathways is 8.4 E-02 mRem to the whole body and 7.8 E-04 mRem to the maximum exposed internal organ (thyroid). The dose to the skin of an adult is 2.2 E-02 mRem.

ATTACHMENT 2

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1986)
NINE MILE POINT NUCLEAR STATION #1
RADIATION DOSES TO THE LIKELY MOST EXPOSED MEMBER OF THE PUBLIC
OUTSIDE THE SITE BOUNDARY
JANUARY - DECEMBER

Radiation doses to the likely most exposed member of the public are evaluated relative to 40 CFR 190 requirements. The dose limits of 40 CFR 190 are 25 mRem (whole body or organ) per calendar year and 75 mRem (thyroid) per calendar year. The intent of 40 CFR 190 also requires that the effluents of NMP-1 as well as other nearby uranium fuel cycle facilities be considered. In this case, the effluents of NMP-1 and the James A. FitzPatrick (JAF) facilities must be considered. There were no radioactive effluents from NMP-2 during 1986.

Doses to the likely most exposed member of the public as a result of effluents from the site can be evaluated by using calculated dose modeling based on the accepted methodologies of the facilities' Offsite Dose Calculation Manuals or may, in some cases, be calculated from the analysis results of actual environmental samples. Acceptable methods for calculating doses from environmental samples are also found in the facilities' Offsite Dose Calculation Manuals. These methods are based on Regulatory Guide 1.109 methodology.

Dose calculations from actual environmental samples are, at times, difficult to perform for some pathways. Some pathway doses should be estimated using calculational dose modeling. These pathways include noble gas air dose, inhalation dose, etc. Other pathway doses may be calculated directly from environmental sample concentrations using Regulatory Guide 1.109 methodology.

Since the effluents from the two generating facilities were low during 1986, the resultant gaseous and liquid effluent doses are anticipated to be low. In view of this, doses can be based on calculated data. Doses are not based on actual environmental data for 1986, with the exception of doses from direct radiation, fish consumption and shoreline sediment. In addition, in order to be conservative and for the sake of simplicity, it is assumed in the dose calculations that the likely most exposed member of the public is positioned in the maximum receptor location for each pathway at the same time. This approach is utilized because the doses are very low and the computations are greatly simplified.

1. The inhalation dose is calculated at the critical residence because of the high occupancy factor. In order to be conservative, the maximum whole body and organ dose assumes no correction for residing inside a residence. The maximum site whole body/organ dose is 5.91 E-04 mRem (teenager whole body dose) and 4.17 E-03 mRem (child thyroid dose).

2. The milk ingestion dose is calculated utilizing the maximum milk cow location. As noted previously, in order to be conservative and for the sake of simplicity, the likely most exposed member of the public is assumed to be at all critical receptors at one time. In this case, the member of the public at the critical residence is assumed to consume milk from the critical milk location.

7. (Cont'd)

   The calculated maximum adult organ dose was 8.2 E-03 mRem to the liver. The maximum whole body dose is 5.4 E-03 mRem to an adult.

8. The only other aquatic pathway considered is the shoreline sediment pathway relative to recreational activities. Doses from any other possible aquatic pathways are either zero or insignificant. Environmental samples (2) collected during 1986 showed only naturally occurring radionuclides. Since no plant related radionuclides were detected, the calculated dose is zero.

9. During 1986, the emergency isolation condensers at NMP-1 were operated as required by the Technical Specifications. This test was conducted on June 20, 1986. The doses calculated from this test were 1.59 E-03 mRem to the child bone (maximum organ) and 1.44 E-03 mRem to the whole body of a child. The methodology used to calculate these doses is conservative since the emergency isolation condensers are not normal effluent release points. Doses were calculated using the criteria in the NMP-1 Offsite Dose Calculation Manual.

In summary, the maximum dose to the most likely exposed member of the public is 4.8 E-01 mRem to the thyroid (maximum organ dose) and 1.3 E-02 mRem to the whole body. For the sake of simplicity and to be conservative, all maximum organ doses were added, regardless of age group. These maximum total doses are a result of operations at the Nine Mile Point Unit 1 and the James A. FitzPatrick facilities. The maximum organ dose and whole body dose are below the 40 CFR 190 criteria of 25 mRem per calendar year to the maximum exposed organ or the whole body, and below 75 mRem per calendar year to the thyroid.

The maximum whole body/organ site dose is 4.41 E-04 mRem (infant whole body dose) and 2.08 E-01 mRem (infant thyroid dose).

3. The maximum dose from the milk ingestion pathway as a result of consuming goat's milk is based on the same criteria established for item 2 above (ingestion of cow's milk). The maximum whole body/organ site dose is 3.57 E-04 mRem (infant whole body dose) and 1.90 E-01 mRem (infant thyroid dose).

4. The maximum dose associated from consuming meat is based on the critical meat animal. The likely most exposed member at the critical residence is assumed to consume meat from the critical meat animal location. The maximum whole body/organ site dose is 7.16 E-05 mRem (adult whole body dose) and 1.72 E-03 mRem (child thyroid dose).

5. The maximum site dose associated with the consumption of vegetables is calculated from the critical vegetable garden location. As noted previously, the likely most exposed member of the public is assumed to be located at the critical residence and is assumed to consume vegetables from the critical garden location. The maximum site whole body/organ dose is 5.20 E-03 mRem (child whole body dose) and 7.47 E-02 mRem (child thyroid dose).

6. The dose as a result of direct radiation from the site encompasses doses from direct "shine" from the two generating facilities, direct radiation from the over head gaseous plume, plume submersion and from ground deposition. This total dose is measured by environmental TLD. The critical location is based on the closest year round residence from the generating facilities as well as the closest residence in the critical downwind sector in order to evaluate both direct radiation from the generating facilities and gaseous plumes as determined by the local meteorology. During 1986, the closest residence and the critical downwind residence are at the same location.

   The measured average dose for 1986 at the critical residence was 75.2 mrem. The average control dose (average of three locations) was 76.1 mrem. The net critical residence dose is less than the control dose due to different doses from naturally occurring radionuclides in the soil and rock at the different locations. The dose at the critical residence as a result of activities at the generating facilities is assumed to be zero.

7. The dose, as a result of the fish consumption, is considered as part of the aquatic pathway. The dose for 1986 is calculated from actual results of the analysis of environmental fish samples. For the sake of being conservative, the average plant related radionuclide concentrations were utilized from fish samples taken near the site discharge points. The average concentration was adjusted to account for any background concentrations using average control sample data. Only Cs-137 was detected during 1986 (net concentration was 3.6 E-03 pCi/g - wet).

ATTACHMENT 2 (Corrections)

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT (1985)
NINE MILE POINT NUCLEAR STATION #1
RADIATION DOSES TO THE LIKELY MOST EXPOSED MEMBER OF THE PUBLIC
OUTSIDE THE SITE BOUNDARY
JANUARY - DECEMBER

1. Item 7 on page 27 of the report noted the net Cs-137 concentration in fish as 0.41 pCi/g - wet. This result should have been 4.1 E-03 pCi/g - wet.

2. Item 7 on page 28 of the report noted the maximum organ dose and whole body dose as 9.77 E-1 and 3.40 E-1 mRem respectively. These results should have been 9.77 E-3 and 3.40 E-3 mRem respectively.

These errors are of no significant concern since the original reported doses were low and were conservative.

FOR INFORMATION ONLY

TECHDICAL REVIEW AND CONTROL

SUMMARY

DOCUMENT No. ODCM **Rev. No** 4 ***Prd Rev, NC** ☐

TITLE ODCM Unit 1

Author JBlasiak/H Flanagan/D Howes **Date** 2/23/87

Description of Changes (Itemize the nature/reason of general changes)

1) Liq. Alarm Setpoints changed to adequately account for presence of non-gamma emitters (2) NRC Recommended changes made to liquid/gaseous effl. sections (as noted in letter from Zwolinski, NRC to Mangan NMP, 8/22/86) (3) Fig B' revised to permit greater legibility/describe stack monitor system flow path. Revised Section 4.0 to reflect latest env. program changes

* IF PERIODIC REVIEW WITH NO CHANGES (Prd Rev, NC), USE THE LAST PUBLISHED REVISION NUMBER AND CONTINUE REVIEW PROCESS.

INTRADISCIPLINARY REVIEW (minimum of one person required)

DEPT. NAME	TITLE	SIGNATURE	DATE
C&RM	Supv. Rad Support	[signature]	2/25/87
Chem RP	Generation Eng - Chem	[signature]	2/26/87

CROSS DISCIPLINARY REVIEW (if not required, use lines for justification statement)

DEPT. NAME	TITLE	SIGNATURE	DATE
Corp H.P. C Dave Howes	Assoc. Health Physicist	[signature]	2/24/87
Elizabeth D Thomas	Asst. Health Physicist	Elizabeth D Thomas	2/25/87 (tables only)

IF NOT IN CONCURRENCE, DO NOT SIGN BUT RETURN DOCUMENT TO THE AUTHOR WITH COMMENTS

Routed to Quality Assurance for review: Yes ☑, No ☐. If No, reason

Q. A. Representative [signature] Date 2/26/87 & comments are attached. N/A

Routed to A.L.A.R.A. for review: Yes ☐, No ☑ If No, reason Changes do not constitute potential for increased dose to plant personnel or public

A.L.A.R.A. Representative ______ Date ______ & comments are attached. ☐

»»»»»»»»»»»»»»» Route to AUTHOR / UNIT SUPV.

SAFETY ANALYSIS REQUIRED: NO ☑, YES ☐ (SEE ATTACHED)
IF YES, ANALYSIS ASSIGNED TO: SITE ☐, OR TO ENGINEERING ☐, DATE______

REVIEW OF THE SUBJECT DOCUMENT HAS BEEN COMPLETED AND APPROVAL IS RECOMMENDED. (Approvers shall signify approval on the procedure cover sheet) .. ☐

DOCUMENT HELD FOR SORC (MEETING * ....). APPROVED, YES ☐, NO ☐.

OWNERSHIP DEPT SUPV J Blasiak **DEPT** C&RM **DATE** 2/23/87

FIG 2.0.4 SHEET 1 OF 4
AP-2.0 DEC. 85

TECHNICAL REVIEW AND CONTROL

EVALUATION OF NEED FOR SAFETY ANALYSIS IN ACCORDANCE WITH 10 CFR 50.59

(Documents that require General Supt. approval
per Tech Spec. 6.8)

FOR DOCUMENT NO. ODCM REV. 4 DATE 2/23/87

The Author (A) and four SORC Members (Minimum - 2 regular members, 2 alternates) are to respond to each of the questions below.

		NO	YES*
Does the document/revision result in a change to the facility or procedures described in the FSAR ?	A	☑	☐
	1	☑	☐
	2	☑	☐
	3	☑	☐
	4	☑	☐
Does the document/revision deviate from compliance to Tech Specs. or is the margin of safety defined in the basis reduced ?	A	☑	☐
	1	☑	☐
	2	☑	☐
	3	☑	☐
	4	☑	☐
Does the document/revision increase the probability of occurrence, ot the consequences of an accident, or malfunction of equipment important to safety (Class 1) evaluated in the FSAR increased ?	A	☑	☐
	1	☑	☐
	2	☑	☐
	3	☑	☐
	4	☑	☐
Does the document/revision create the possibility for an accident or malfunction of a different type than any evaluated in the FSAR ?	A	☑	☐
	1	☑	☐
	2	☑	☐
	3	☑	☐
	4	☑	☐

* A "MAYBE" constitutes a "YES" response.

SORC MEMBERS RECOMMENDATIONS TO GENERAL SUPERINTENDENT

	1	2	3	4
Recommended Nuclear Engineering or Tech Services perform a safety ANALYSIS to present to SORC (noted by a "YES" response to any of the above questions)	☐	☐	☐	☐
Recommended full SORC committee review this Evaluation of need for Safety Analysis.	☐	☐	☐	☐
Recommended approval - This document does not involve an unreviewed safety question.	☑	☑	☑	☑

	SORC Member Name	SORC Member Signatures	Date
1	J M [illegible]	J M [illegible]	2/26/87
2	BR CANRAL	[signature]	2-25-87
3	[illegible]	[signature]	2/26/87
4	Drews	[signature]	2/27/87

SORC meeting number (if Required) ______

Figure 2.0.4 SH 2 OF 4

TECHNICAL REVIEW AND CONTROL
REFERENCE DOCUMENTS

The items entered below have been included in the preparation and/or review of the attached reference document and are presented in place of a specific check sheet for the document.

The following persons were consulted about this procedure

NAME	TITLE	BY
B. Thomas	Corp. HP	JJB
C. Jensko	Tech C	JJB

Procedure is in compliance with the following Technical Specifications

SECTION	AMENDMENT	BY
3.6.14, 15, 16	66	JJB
4.6.14, 15, 16	66	JJB

Compliance with: CFR / US-NRC

REGULATORY GUIDES(s)	DATED	BY
10 CFR 20	1986	JJB
10 CFR 50	1986	JJB
Reg Guide 1.108		JJB for BT

Compliance with

ANSI STANDARD(s)	DATED	BY
N/A		

Compliance with: ASME Boiler and Pressure Vessel Code(s)

SECTION	DATE	ADDENDUM	BY
	N/A		

is consistent with the following Station or Site procedures:

NUMBER	REV.	BY
N1-CSP-7V	2	JJB
N1-CSP-14W	2	JJB
N1-CSP-4V	1	JJB
N1-CSP-25M	2	JJB

OTHER INFORMATION SOURCES CONSULTED

SOURCES CONSULTED	BY
FRC Eval. Report TERC 5506-515	JB
NUREG 0133	JB

AUTHOR [signature] DATE 2/23/87
REVIEWED BY [signature] DATE 2/26/87

COMMENTS

FIGURE 2.0.4 SHEET 3 OF 4

TECHNICAL REVIEW AND CONTROL
REVIEW CHECK LIST
TO BE PREPARED BY AUTHOR

CHECK LIST FOR DOCUMENT NO. ODCM REV. 2 DATE 2/23/87

"✓" ONLY BOXES THAT APPLY

	YES	NA
All references needed to implement the procedure are clearly identified and available	☑	☐
The procedure contains adequate equipment lists, precautions and limitations, prerequisites, graphs, diagrams or data sheets as required	☐	☑
Surveillance and Maintenance Procedure utilizes PLANT IMPACT statement associated with approval/permission for use	☐	☑
As appropriate, procedure addresses use of MARK - UPs	☐	☑
If appropriate, procedure requires use of fire protection measures. ie, burning permits etc.	☐	☑
If leads are lifted, jumpers placed or blocks used in the procedure, the PLANT IMPACT statement acknowledges such use	☐	☑
As appropriate, procedure notifies other affected departments such as Q.C., Operations, I&C, Maintenance, Rad Protection etc.	☐	☑
If Technical Specification is exceeded, appropriate action is identified	☐	☑
The procedure references valve numbers, motor control numbers, power supplies. Instrumentation identification is clear and correct	☐	☑
When encountered, E.Q. related equipment is identified as such	☐	☑
Procedure steps are clear and accurate. They are not unnecessarily difficult to implement	☐	☑
The procedure reflects the latest system or component configuration	☑	☐
The procedure reflects work as it is to be done at the station	☑	☐
Procedure removes any jumpers or blocks and restores lifted leads used to effect the work	☐	☑
"RETURN TO SERVICE" uses double verification and identifies specifics being verified	☐	☑
For maintenance procedures, "RETURN TO SERVICE" either performs a POST MAINTENANCE TEST or references a required test	☐	☑
MARK - UPs are cleared or surrendered	☐	☑
"ACCEPTANCE CRITERIA" identifies accomplishment of specific goals	☐	☑

FORM PREPARED BY [signature] DATE 2/23/87

FIGURE 2.0.4 SHEET 4 OF 4

NINE MILE POINT NUCLEAR STATION

NINE MILE PONT UNIT 1

OFF-SITE DOSE CALCULATION MANUAL (ODCM)

INFORMATION ONLY

APPROVALS	SIGNATURES	DATE AND INITIALS: REVISION 3	DATE AND INITIALS: REVISION 4	DATE AND INITIALS: REVISION 5
Supervisor Chemistry and Radiochemistry J. N. Duell		12/23/86	2/27/87	
Chemistry and Radiation Management Superintendent C. L. Stuart	for C. L. Stuart	12/23/86	2/27/87	
Station Superintendent NMPNS Unit 1 T. W. Roman		12/23/86	2/27/87	
General Superintendent Nuclear Generation T. J. Perkins		12/23/86	2/27/87	

Summary of Pages

Revision 4 (Effective 2/27/87)

Pages	Date
1- 115	February 1987

NIAGARA MOHAWK POWER CORPORATION

THIS PROCEDURE NOT TO BE
USED AFTER FEBRUARY 1989
SUBJECT TO PERIODIC REVIEW.

OFF-SITE DOSE CALCULATION MANUAL

NINE MILE POINT UNIT 1

February, 1987

ODCM - NINE MILE POINT MILE 1

TABLE OF CONTENTS

4

TABLE OF CONTENTS (Cont'd)

TABLE OF CONTENTS (Cont'd)

4

1.0 INTRODUCTION

The Offsite Dose Calculation Manual (ODCM) provides the methodology to be used for demonstrating compliance with the Radiological Effluent Technical Specifications (RETS), 10 CFR 20, 10 CFR 50, and 40 CFR 190. The contents of the ODCM are based on Draft NUREG-0472, Revision 3, "Standard Radiological Effluent Technical Specifications for Pressurized Water Reactors," September 1982; Draft NUREG-0473, Revision 2, "Radiological Effluent Technical Specifications for BWR's," July 1979; NUREG 0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants," October 1978; the several Regulatory Guides referenced in these documents; and, communication with the NRC staff.

Section 5 contains a detailed description of the Radiological Environmental Monitoring (REM) sampling locations.

Should it be necessary to revise the ODCM, these revisions will be made in accordance with Technical Specifications.

2.0 LIQUID EFFLUENTS

2.1 Setpoint Determinations

2.1.1 Basis

Monitor setpoints will be established such that the concentration of radionuclides in the liquid effluent releases in the discharge canal will not exceed those concentrations as specified in 10 CFR 20, Appendix B, Table II, Column 2. Setpoints for the Service Water System Effluent Line will be calculated quarterly based on the radionuclides identified during the previous year's releases from the liquid radwaste system or the isotopes identified in the most recent radwaste release or other identified probable source. Setpoints for the Liquid Radwaste Effluent Line will be based on the radionuclides identified in each batch of liquid waste prior to its release.

After release, the Liquid Radwaste monitor setpoint may remain as set, or revert back to a setpoint based on a previous Semi-Annual Radioactive Effluent Release Report, or install blank flange in the discharge line and declare inoperable in accordance with the technical specification.

Since the Service Water System effluent monitor and Liquid Radwaste effluent monitor can only detect gamma radiation, the alarm setpoints are calculated by using the concentration of gamma emitting isotopes only (or the corresponding MPC values for the same isotopes, whichever are higher) in the $\Sigma(\mu Ci/ml)_{i\gamma}$ expression (Section 2.1.2, 2.1.3). 3

2.1.1 (Cont'd)

The Required Dilution Factor is calculated using concentrations of all isotopes present (or the corresponding MPC values for the same isotopes, whichever are higher) including tritium and other non-gamma emitters to ensure that all radionuclides in the discharge canal do not exceed 10 CFR 20 limits. 3

2.1.2 Service Water System Effluent Line Alarm Setpoint

The detailed methods for establishing setpoints for the Service Water System Effluent Line Monitor shall be contained in the Nine Mile Point Station Procedures. These methods shall be in accordance with the following:

$$\text{Setpoint (Hi-Hi alarm)} \leq 0.9 \left(\Sigma(\mu Ci/ml)_{i\gamma}\right)(CF)\left(\frac{TDF/F_{sw}}{\Sigma[(\mu Ci/ml)_{iT}/MPC_i]}\right) + \text{background}$$

$$\text{Setpoint (Hi alarm)} \leq 0.7 \left(\Sigma(\mu Ci/ml)_{i\gamma}\right)(CF)\left(\frac{TDF/F_{sw}}{\Sigma\ [(\mu Ci/ml)_{iT}/MPC_i]}\right) + \text{background}$$

$(\mu Ci/ml)_{i\gamma}$ = concentration of gamma emitting isotope i in the sample, or the corresponding MPC of gamma emitting isotope i $(MPC)_{i\gamma}$, whichever is higher (units = uCi/ml). 3

$(\mu Ci/ml)_{iT}$ = concentration of any radioactive isotope i in the sample including tritium and other non-gamma emitters or corresponding MPC of isotope i, MPC_i, whichever is higher (units = $\mu Ci/ml$).

TDF = Total Dilution Flow (units = gallons/min)

F_{sw} = Service Water Flow (units = gallons/min)

CF = monitor calibration factor (units = net cpm/$\mu Ci/ml$)

MPC_i = liquid effluent radioactivity concentrations limit for radionuclide i as specified in 10 CFR 20, Appendix B, Table II, Column 2.

2.1.2 (Cont'd)

Sample = Those nuclides present in the previous batch release from the liquid radwaste effluent system <u>or</u> those nuclides present in the last Semi-annual Radioactive Effluent Release Report (units = $\mu Ci/ml$) or those nuclides present in the service water system.** 3

$(MPC)_i$ = same as MPC_i but for gamma emitting nuclides only.

0.9 and 0.7 = factors of conservatism to account for inaccuracies.

$\Sigma[(\mu Ci/ml)_{iT}/MPC_i]$ = Required Dilution Factor. If MPC valves are used in the $\Sigma(\mu Ci/ml)_i$, they must also be used in calculating RDF (numerator).

TDF/F_{sw} = Actual Dilution Factor

** For periods with known reactor water to RCLC system leakage, RCLC maximum permissible concentration may be prudently substituted for the above.

2.1.3 Liquid Radwaste Effluent Line Alarm Setpoint

The detailed methods for establishing setpoints for the Liquid Radwaste Effluent Line Monitor shall be contained in the Nine Mile Point Station Procedures. These methods shall be in accordance with the following:

$$\text{Setpoint (Hi-Hi alarm)} \leq 0.9 \left(\Sigma(\mu Ci/ml)_{i\gamma}\right)(CF)\left(\frac{TDF/F_{re}}{\Sigma\ [(\mu Ci/ml)_{iT}/MPC_i]}\right) + \text{background}$$ 3

$$\text{Setpoint (Hi alarm)} \leq 0.7 \left(\Sigma(\mu Ci/ml)_{i\gamma}\right)(CF)\left(\frac{TDF/F_{re}}{\Sigma\ [\ (\mu Ci/ml)_{iT}/MPC_i]}\right) + \text{background}$$

$(\mu Ci/ml)_{i\gamma}$ = concentration of gamma emitting isotope i in the sample or the corresponding MPC of gamma emitting isotope i $(MPC)_i$ whichever is higher.

$(\mu Ci/ml)_{iT}$ = concentration of any radioactive isotope i in the sample including tritium and other non-gamma emitters or the corresponding MPC of isotope i MPC_i whichever is higher. (units = $\mu Ci/ml$)

TDF = Total Dilution Flow (units = gallons/min)

F_{re} = Radwaste Effluent Flow (units = gallons/min)

CF = monitor calibration factor (units = net cps/$\mu Ci/ml$)

MPC_i = liquid effluent radioactivity concentration limit for radionuclide i as specified in 10 CFR 20, Appendix B,. Table II, Column 2, for those nuclides detected by spectral 3
analysis of the contents of the radwaste tanks to be released. (units = µCi/ml)

$(MPC)_{i\gamma}$ = same as MPC_i but for gamma emitting nuclide only.

0.9 and 0.7 = factors of conservatism to account for inaccuracies.

$[(\mu Ci/ml)_{iT}/MPC_i]$ =Required Dilution Factor. If MPC values are used in the $\Sigma(\mu Ci/ml)_i$, they must also be used in calculating RDF (numerator).

Notes: (a) If $TDF/F_{re} = \Sigma \; [(\mu Ci/ml)_{iT}/MPC_i]$

the discharge could not be made, since the monitor would be continuously in alarm. To avoid this situation, F_{re} will be reduced (normally by a factor of 2) to allow setting the alarm point at a concentration higher than tank concentration. This will also result in a discharge canal concentration at approximately 50% maximum permissible concentration.

(b) The value used for TDF will be reduced by the fractional
quantity (1-FT), where FT is tempering fraction (i.e., 4
diversion of some fraction of discharge flow to the intake canal for the purpose of temperature control).

2.1.4 Discussion

2.1.4.1 Control of Liquid Effluent Batch Discharges

At Nine Mile Point Unit 1 Liquid Radwaste Effluents are released only on a batch mode. To prevent the inadvertent release of any liquid radwaste effluents, radwaste discharge is mechanically isolated (blank flange installed or discharge valve chain-locked closed) following the completion of a batch release or series of batch releases.

This mechanical isolation remains in place and will only be removed prior to the next series of liquid radwaste discharges after all analyses required in station procedures and Technical Specification Table 4.6.15-1A are performed and monitor setpoints have been properly adjusted.

2.1.4.2 Simultaneous Discharges of Radioactive Liquids.

If during the discharge of any liquid radwaste batch, there is an indication that the service water canal has become contaminated (through a service water monitor alarm or through a grab sample analysis in the event that the service water monitor is inoperable) the discharge shall be terminated immediately. The liquid radwaste discharge shall not be continued until the cause of the service water alarm (or high grab sample analysis result) has been determined and the appropriate corrective measures taken to ensure 10CFR20, Appendix B, Table II, Column 2 (Technical Specification Section 3.6.15.a(1)) limits are not exceeded.

2.1.4.3 Sampling Representativeness

This section covers Technical Specification Table 4.6.15-1 Note b concerning thoroughly mixing of each batch of liquid radwaste prior to sampling. 4

Liquid Radwaste Tanks scheduled for discharge at Nine Mile Point Unit/1 are isolated (i.e. inlet valves marked up) and at least two tank volumes of entrained fluids are recirculated prior to sampling. Minimum recirculation time is calculated as follows:

Minimum Recirculation Time = 2.0(T/R)

Where:

2.0	=	Plant established mixing factor, unitless
T	=	Tank volume, gal
R	=	Recirculation flow rate, gpm.

It should be noted that the Waste Sample Tanks (WST) at Nine Mile Point Unit 1, the most common tanks utilized for liquid batch releases, contain a sparger spray ring which assist the mixing of the tank contents while it is being recirculated prior to sampling. This sparger effectively mixes the tank faster than simple recirculation.

Additionally, the Hi Alarm setpoint of the Liquid Radwaste Effluent Radiation Monitor is set at a value corresponding to not more than 70% of its calculated response to the grab sample or corresponding MPC values. Thus, this radiation monitor will alarm if the grab sample, or corresponding MPC value, is significantly lower in activity than any part of the tank contents being discharged.

2.1.4.4 Liquid Radwaste Systems Operation

Technical Specification 3.6.16.a requires that the liquid radwaste system shall be used to reduce the radioactive materials in liquid wastes prior to their discharge, as necessary, to meet the concentration and dose requirements of Technical Specification 3.6.15.

Utilization of the radwaste system will be based on the capability of the indicated components of each process system to process contents of the respective low conductivity and high conductivity collection tanks:

1) Low Conductivity (Equipment Drains): Radwaste Filter and Radwaste Demin. (See Fig. B-1)

2) High Conductivity (Floor Drains): Waste Evaporator (see Fig. B-1)

Cumulative dose contributions from liquid effluents for the current calendar quarter and the current calendar year shall be determined as described in Section 2.3 of this manual prior to the release of each batch of liquid waste. This same dose projection of Section 2.3 will also be performed in the event that untreated liquid waste is discharged, to ensure that the dose limits of Technical Specification 3.6.15.a(2) are not exceeded. (Thereby implementing the requirements of 10CFR50.36a, General Design Criteria 60 of Appendix A and the Design Objective given in Section II-D of Appendix I to 10 CFR50).

2.1.4.4 (Cont'd)

For the purpose of dose projection, the following assumptions shall be made with regard to concentrations of non-gamma emitting radionuclides subsequently analyzed off-site: 4

a) [H-3] $\geq$ H-3 Concentration found recent condensate storage tank analysis.

b) [Sr-89] $\geq$ 4 x Cs-137 Concentration

c) [Sr-90] $\geq$ 0.5 x Cs-137 Concentration

d) [Fe-55] $\geq$ 1 x Co-60 Concentration

Assumed Scaling Factors used in b, c, and d above represent conservative estimates derived from analysis of historical data from process waste streams. Following receipt of off-site H-3, Sr-89, Sr-90 and Fe-55 analysis information, dose estimates shall be revised using actual radionuclide concentrations and actual tank volumes discharged.

2.1.4.5 Service Water System Contamination

Service water is normally non-radioactive. If contamination is suspected, as indicated by a significant increase in service water effluent monitor response, grab samples will be obtained from the service water discharge lines and a gamma isotopic analysis meeting the LLD requirements of Technical Specification Table 4.6.15-1 completed. If it is determined that an inadvertent radioactive discharge is occurring from the service water system, then:

a) A 50.59 safety evaluation shall be performed (ref. I&E Bulletin 80-10),

4

b) Daily service water effluent samples shall be taken and analyzed for principal gamma emitters until the release is terminated,

c) An incident composite shall be prepared for H-3, gross alpha, Sr-89, Sr-90 and Fe-55 analyses and

d) Dose projections shall be performed in accordance with Section 2.3 of this manual.

Additionally, service water effluent monitor setpoints may be recalculated using the actual distribution of isotopes found from sample analysis.

2.2 Liquid Effluent Concentration Calculation

This calculation documents compliance with Technical Specification Section 3.6.1.5.a (1). 4

The concentration of radioactive material released in liquid effluents to unrestricted areas (see Figure B-7) shall be limited to the concentrations specified in 10CFR20, Appendix B, Table II, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2 E-4 microcurie/ml total activity.

The concentration of radioactivity from Liquid Radwaste batch releases and, if applicable, Service Water System inadvertent discharges are included in the calculation. The calculation is performed for a specific period of time. No credit taken for averaging over the calendar year as permitted by 10CFR20.106. The limiting concentration is calculated as follows:

$$\text{MPC Fraction} = \Sigma_i [\Sigma_s ((\mu Ci/ml)_{is} * F_s) / (MPC_i * \Sigma_s (F_s))]$$

Where:

MPC Fraction = The limiting concentration of 10 CFR 20, Appendix B, Table II, for radionuclides other than dissolved or entrained noble gases. For noble gases, the concentration shall be limited to 2 E-4 microcurie/ml total activity.

2.2 (Cont'd)

$(\mu Ci/ml)_{is}$ = The concentration of nuclide i in particular effluent stream s, µCi/ml.

F_s = The flow rate of a particular effluent stream s, gpm.

MPC_i = The limiting concentration of a specific nuclide i from 10CFR20, Appendix b, Table II, Column 2 (noble gas limit is 2E-4 µCi/ml)

$\Sigma_s((\mu Ci/ml)_{is}*F_s)$ = The total activity rate of nuclide i, in all effluent streams s, µCi/ml*gpm

$\Sigma_s(F_s)$ = The total flow rate of all effluent streams s, gpm (including those streams which do not contain radioactivity).

A value of less than one for MPC fraction is considered acceptable for compliance with Technical Specification Section 3.6.15.a.(1). .4

2.3 Dose Determination

2.3.1 Maximum Dose Equivalent Pathway

A dose assessment report was prepared for the Nine Mile Point Unit 1 facility by Charles T. Main, Inc., of Boston, MA. This report presented the calculated dose equivalent rates to individuals as well as the population within a 50-mile radius of the facility based on the radionuclides released in liquid and gaseous effluents during the time periods of 1 July 1980 through 31 December 1980 and from 1 January 1981 through 31 December 1981. Utilizing the effluent data

2.3.1 (Cont'd)

contained in the Semi-Annual Radioactive Effluent Release Reports as source terms, dose equivalent rates were determined using the environmental pathway models specified in Regulatory Guides 1.109 and 1.111 as incorporated in the NRC computer codes LADTAP for liquid pathways, and XOQDOQ and GASPAR for gaseous effluent pathways. Dose equivalent rates were calculated for the total body as well as seven organs and/or tissues for adults, teenagers, children, and infants. From the standpoint of liquid effluents, the pathways evaluated included fish ingestion, drinking water, and external exposure to water and sediment.

Based on the findings of the above referenced report, the maximum total body dose from all liquid pathways is received by an adult. Similarly, the maximum total dose to any organ is received by the teen liver. In both of these cases (i.e., adult whole body dose and teen liver dose), 99% and 98% respectively of these doses were received via the fish ingestion pathway.

In order to determine the dose contribution from the release of liquid effluents, the annual dose to an adult whole body and a teen liver will be calculated for each of the significant nuclides (see Table 1-1) identified in the liquid waste based on the fish ingestion pathway utilizing the following formula:

$$R_{apji} = 1100 U_{ap} M_p \Sigma B_{ip} D_{aipj} \exp(-\lambda_i t_p)/F$$

Where R_{apji} = total annual dose (per Curie released) to organ "j" of individuals of age group "a" from all of the nuclides "i" in pathway "p" (units = mrem/year - Ci)

U_{ap} = usage factor specifying the exposure time or intake rate for an individual of an age group "a" associated with pathway "p" (units = kg/year)

M_p = mixing rates (reciprocal of dilution factor) at the point of exposure or point of harvest (units = dimensionless)

F = flow rate of the liquid effluent (units = ft^3/sec)

B_{ip} = equilibrium bioaccumulation factor for nuclide "i" in pathway "p" units = liters/kg)

D_{aipj} = the dose factor, specific to a specific age group "a", radionuclide "i", pathway "p", and organ "j", which can be utilized to calculate the radiation dose from an intake of a radionuclide (units = mrem/pCi)

λ_i= radioactive decay constant of nuclide "i" (units = hours $^{-1}$)

t_p = the average transit time required for nuclides to reach the point of exposure. For internal dose, t_p is the total time elapsed between the release of the nuclides and the ingestion of the food and/or water (units = hours)

1100 = factor to convert from $(Ci/year)/(ft^3/sec)$ to pCi/liter

Values for R_{apji} are contained in Table 1-1. All of these values of R_{apji} are on a per Curie basis for each of the nuclides released. Table 1-2 indicates those parameters used for selected factors of the formula.

Prior to each radioactive liquid discharge, each liquid waste tank to be discharged will be analyzed for isotope content utilizing a gamma spectroscopy system. On the basis of this analysis, projected doses to an adult whole body and a teen liver will be calculated using the following relationships: 4

$$PD_{WBi} = 1.05 \quad R_{apji(WB)}C_i$$

$$PD_{Li} = 1.05 \quad R_{apji(L)}C_i$$

Where PD_{WBi} = Projected dose expected to the whole body of an adult due to the release of the identified concentration of nuclide "i".

(units = mrem/year)

PD_{Li} = Projected dose expected to the liver of a teenager due to the release of the identified concentration of nuclide "i" (units = mrem/year

$R_{apji}(WB)$ = total annual dose (per Curie released) to the whole body of an adult caused by the ingestion of nuclide "i" (units = mrem/year-Curie)

$R_{apji}(L)$ = total annual dose (per Curie released) to the liver of a teenager caused by the ingestion of nuclide "i" (units = mrem/year-Curie)

C_i = quanity of nuclide "i" identified as present in the release (units = Curies)

1.05 = correction factor to account for 100% of dose, assuming that 95% of dose received is delivered via the fish ingestion pathway.

The value of 1.05 is used in the equation as a conservative factor to increase the projected dose from an anticipated release to 100%. As long as the 1.05 factor is used, doses received via the drinking water pathway (eg, tritium) need not be accounted for separately.

All projected doses calculated in this manner for each batch of liquid effluent will be summed for comparison with quarterly and annual limits, added to the doses accumulated from other releases in the quarter and year of interest. In all cases, the following relationships will hold:

For a calendar quarter:

$D_t \leq 1.5$ mrem total body

$D_t \leq 5$ mrem for any organ

For the calendar year:

$D_t \leq 3.0$ mrem total body

$D_t \leq 10$ mrem for any organ

where D_t = total dose received due to liquid effluent releases

If these limits are exceeded, a special report will be submitted to the NRC identifying the cause and proposed corrective actions. In addition, if these limits are exceeded by a factor of two, calculations shall be made to determine if the dose limits contained in 40 CFR 190 have been exceeded. Dose limits, as contained in 40 CFR 190 are total body and organ doses of 25 mrem per year and a thyroid dose of 75 mrem per year.

2.3.1 (Cont'd)

These calculations will include doses as a result of liquid and gaseous pathways as well as doses from direct radiation. Liquid, gaseous and direct radiation pathway doses will consider the James A. FitzPatrick and Nine Mile Point Unit II facilities as well as Nine Mile Point Unit I Nuclear Station. 4

In the event the calculations demonstrate that the 40 CFR 190 dose limits, as defined above, have been exceeded, then a report shall be prepared and submitted to the Commission within 30 days as specified in Section 3.6.15.d of the Technical Specifications.

Section 4.0 of the ODCM contains more information concerning calculations for an evaluation of whether 40 CFR 190 limits have been exceeded.

3.0 GASEOUS EFFLUENTS

3.1 Setpoint Determinations

3.1.1 Basis

Stack gas and off gas monitor setpoints will be established such that the instantaneous release rate of radioactive materials in gaseous effluents does not exceed the 10 CFR 20 limits for annual release rate. The setpoints will be activated if the instantaneous dose rate at or beyond the (land) site boundary would exceed 500 mrem/yr to the whole body or 3000 mrem/yr to the skin from the continuous release of radioactive noble gas in the gaseous effluent.

Emergency condenser vent monitor setpoints will be established such that the release rate for radioactive materials in gaseous effluents do not exceed the 10 CFR 20 limits for annual release rate over the projected longest period of release.

Monitor setpoints from continuous release points will be determined once per quarter under normal release rate conditions and will be based on the isotopic composition of the release and/or a more conservative default composition specified in the pertinent procedure. If the calculated setpoint is higher than the existing setpoint, it is not mandatory that the setpoint be changed.

Monitor setpoints for emergency condenser vent monitors are conservatively fixed at 5 mr/hr for reasons described in Sections 3.1.4 and therefore do not require periodic recalculations.

Under abnormal site release rate conditions, monitor alarm setpoints from continuous release points will be recalculated and, if necessary, reset at more frequent intervals as deemed necessary by C&RP Supervision. In particular, contributions from both JAF and NMP-2 and the Emergency Condenser Vents shall be assessed. 4

During outages and until steady state power operation is again realized, the last operating setpoint shall be used.

3.1.1 (Cont'd)

Since monitors respond to noble gases only, monitor alarm points are set to alarm prior to exceeding the corresponding total body dose rates.

The skin dose rate limit is not used in setpoint calculations because it is never limiting.

3.1.2 Stack Monitor Setpoints

The detailed methods for establishing setpoints shall be contained in the station procedures. These methods shall apply the following general criteria:

(1) Rationale for Stack monitor settings is based on the general equation:

$$\frac{\text{release rate, actual}}{\text{corresponding dose rate, actual}} = \frac{\text{release rate, max. allowable}}{\text{corresponding dose rate, max. allowable}}$$

$$\frac{\Sigma Q_i}{X/Q\ \Sigma(Q_i M_i)} = \frac{(Q)_{max}}{500\ \text{mr/yr}}$$

where:

Q_i = μCi/sec released rate for each isotope, i

X/Q = highest land sector site boundary dispersion parameter equal to 2.4 E-6 Sec/m^3 3

M_i = gamma air dose factor in units of mr/yr/μCi/m^3 (See Table 4-1)

$(Q)_{max}$ = instantaneous release rate limit.

3.1.2 (Cont'd)

(2) To ensure that 10 CFR 20 and Technical Specifications dose rate limits are not exceeded, the hi hi alarms on the stack monitors shall be set lower than or equal to (0.9) $(Q)_{max}$. Hi alarms shall be set lower than or equal to (0.5) $(Q)_{max}$.

(3) Based on the above conservatism, the dose contribution from JAF and NMP-2 can usually be ignored. During Emergency Classifications at JAF or NMP-2 due to airborne effluent, or after emergency condenser vent releases of significant proportions, the 500 mr/yr value may be reduced accordingly. 4

(4) To convert monitor gross count rates to µCi/sec release rates, the following general formula shall be applied:

$$(C_m - B)\ K_s = Q = \mu Ci/sec \text{ release rate}$$

where:

C_m = monitor gross count rate in cps or cpm
B = monitor background count rate
K_s = stack monitor efficiency factor with units of µCi/sec-cps or µCi/sec-cpm.

(5) Monitor K_s factors shall be determined using the general formula:

$$K_s = Q_i/(C_m - B)$$

where:

Q_i = individual radionuclide stack effluent release rate as determined by isotopic analysis.

K_s factors more conservative than those calculated by the above methodology may be assumed.

3.1.3 Recombiner Discharge (Off Gas) Monitor Setpoints

(1) The hi hi alarm points shall activate with recombiner discharge rates equal to or less than 500,000 μCi/sec. This alarm point may be set equal to or less than 1 Ci/sec for a period of time not to exceed 60 days provided the offgas treatment system is in operation.

(2) The hi alarm points shall activate with recombiner discharge rates equal to or less than 500,000 μCi/sec

(3) To convert monitor mR/hr readings to μCi/sec, the formula below shall be applied:

$R.K_R$ = Q_R μCi/sec recombiner discharge release rate

where:

R = mR/hr monitor indicator

K_R = efficiency factor in units of μCi/sec/mR/hr determined prior to setting monitor alarm points

(4) Monitor K_R factors shall be determined using the general formula:

K_R = Q_i/R

where:

Q_i = individual radionuclide recombiner discharge release rate as determined by isotopic analysis and flow rate monitor.

K_R factors more conservative than those calculated by the above methodology may be assumed.

3.1.4 Emergency Condenser Vent Monitor Setpoint

The monitor setpoint was established by calculation ("Emergency Condenser Vent Monitor Alarm Setpoint", January 13, 1986, NMPC File Code #16199). Assuming a hypothetical case with (1) reactor water iodine concentrations higher than the Technical Specification Limit, (2) reactor water noble gas concentrations higher than would be expected at Technical Specification iodine levels, and (3) leakage of reactor steam into the emergency condenser shell at 300% of rated flow (or 1.3×10^6 lbs/hr), the calculation predicts an emergency condenser vent monitor response of 20 mr/hr. Such a release would result in less than 10 CFR 20 dose rate values at the site boundary and beyond for typical emergency condenser cooldown periods.

Since a 20 mr/hr monitor response can, in theory, be achievable only when reactor water iodines are higher than permitted by Technical Specifications, a conservative monitor setpoint of 5 mr/hr has been adopted.

3.1.5 Discussion

3.1.5.1 Stack Effluent Monitoring System Description

The NMP-1 Stack Effluent Monitoring System consists of two subsystems; the Radioactive Gaseous Effluent Monitoring System (RAGEMS) and the old General Electric Stack Monitoring System (OGESMS). Both systems may operate concurrently in series from one sample tap or OGESMS may operate alone. Either configuration ensures compliance with Technical Specification requirements.

The RAGEMS is the front end system and can be activated for use in high range monitoring during accident situations in compliance with NUREG 0737 criteria. Under this configuration, stack sample gas is pumped from RAGEMS under slight positive pressure thru the OGESMS. Overall system schematic is shown on Figure B-9. A simplified view 4
of RAGEMS Showing Unit 0, 1, 2, 3 and 4 can be found on Figure B-8.

3.1.5.2 RAGEMS

The RAGEMS provides continuous monitoring and on-line isotopic analysis of NMP-1 stack effluent particulates, iodines and noble gases at Lower Levels of Detection less than Technical Specification Table 4.6.15-2 limits. Activities as low as 10^{-13} μCi/cc for particulates and iodines and 5×10^{-8} for noble gases and as high as 12μCi/cc for particulates and iodines and 2×10^{5} μCi/cc for noble gases are detectable by the system. Thus, it is functional during both normal operation and accident conditions.

3.1.5.3 Stack Sample Flow Path and OGESMS

The effluent sample is obtained inside the stack at elevation 530' using an isokinetic probe with four orifices. The sample line then bends radially out and back into the stack; descends down the stack and out of the stack at approximately elevation 257'; runs horizontally (enclosed in heat tracing) some 270' along the off gas tunnel; and enters the RAGEMS located on the Turbine Building 250' (Dilution cabinet - Unit 0) and Off Gas Building 247' (Particulate, Iodine, Noble Gas stations - Units 1-3). 4

In the Dilution cabinet of the RAGEMS, the stack gas may be diluted during accident situations approximately 100-200X (first stage) or 10000-40000 X (first and second stage) with gaseous nitrogen supplied from an on-site liquid nitrogen storage tank (see Figure B-9).

From Unit 0, the sample gas enters Unit 1-3 of RAGEMS and flows thru in-line particulate and iodine cartridges and then thru either a 6 liter (low range) or 30 cc (high range) noble gas chamber.

The sample gas next flows back thru Unit 0 and the off gas tunnel; along the base of the stack; and up to the OGESMS on Turbine Building 261'.

In the OGESMS, sample flows thru a particulate/iodine cartridge housing (normally unloaded when RAGEMS is operating) and four noble gas scintillation detectors (ie, 07 and 08 low range detectors which are in direct contact with sample gas and 11 and 12 high range detectors). From OGESMS, the stack sample flows back into the stack at approximately elevation 257' consistent with Technical Specification 3.6.14(b).

All OGESMS detector outputs are monitored and recorded remotely in the Main Control Rooom. Alarming capabilities are provided to alert
Operators of high release rate conditions prior to exceeding 4
Technical Specification 3.6.15.b (1) a dose rate limits.

In the event either the RAGEMS becomes inoperable or is taken out of service for repairs, maintenance or testing, valve line-up at the base of the stack can be changed to permit flow thru OGESMS only. Under this configuration, stack particulate and iodine samples are retrieved manually and analyzed in the laboratory using gamma spectroscopy at frequencies, LLD's specified in Table 4.6.15-2 of the Technical Specifications.

3.1.5.4 Sampling Frequency/Sample Analysis

Regardless of which stack monitoring subsystem is utilized, radioactive gaseous wastes shall be sampled and analyzed in accordance with the sampling and analysis program specified in Technical Specification Table 4.6.15-2. Particulate samples are saved and analyzed for principal gamma emitters, gross alpha, Fe-55, Sr-89, Sr-90 at monthly intervals minimally. The latter three analyses are performed off-site from a composite sample. Sample analysis frequencies are increased during elevated release rate conditions, following startup, shutdown and in conjunction with each drywell purge. 4

Consistent with Technical Specification Table 4.6.15-2, stack effluent tritium is sampled monthly, during each drywell purge, and weekly when fuel is off loaded until stable release rates are demonstrated. Samples are analyzed off-site.

Line loss correction factors are applied to all particulate and iodine results. Correction factors of 2.0 and 1.5 are used for data obtained from RAGEMS and OGESMS respectively. These correction factors are based on empirical data from sampling conducted at NMP-1 in 1985 (memo from J. Blasiak to RAGEMS File, 1/6/86, "Stack Sample Representativeness Study: RAGEMS vs. In-Stack Auxiliary Probe Samples").

3.1.5.5 I-133 Estimates

Monthly, the stack effluent shall be sampled for iodines over a 24 hour period and the I-135/I-133 and the I-133/I-131 ratios calculated. These ratios shall be used to calculate I-133, I-135 release for longer acquisition samples collected during the month.

3.1.5.6 Gaseous Radwaste Treatment System Operation

Technical Specification 3.6.16.b requires that the gaseous radwaste treatment system shall be operable and shall be used to reduce radioactive materials in gaseous waste prior to their discharge as necessary to meet the requirements of Technical Specification 3.6.15.b.

To ensure Technical Specification 3.6.15.b limits are not exceeded, and to confirm proper radwaste treatment system operation as applicable, cumulative dose contributions for the current calendar 4
quarter and current calendar year shall be determined monthly in accordance with section 3.2 of this manual. Initial dose calculations shall incorporate the following assumptions with regard to release rates of non-gamma emitting radionuclides subsequently analyzed off-site:

a) H-3 release rate $\geq$ 4μCi/sec

b) Sr-89 release rate $\geq$ 4 x Cs-137 release rate

c) Sr-90 release rate $\geq$ 0.5 x Cs-137 release rate

d) Fe-55 release rate $\geq$ 1 x Co-60 release rate

Assumed release rates represent conservative estimates derived from analysis of historical data from process waste streams. Following receipt of off-site H-3, Sr-89, Sr-90, Fe-55 analysis information, dose estimates shall be revised using actual radionuclide concentrations.

3.2 Dose and Dose Rate Determinations

In accordance with specifications 4.6.15.b.(2) and 4.6.15.b.(3), dose and dose rate determinations will be made monthly in order to determine:

(1) Total body dose rates and gamma air doses at the maximum X/Q land sector site boundary interface and beyond.

(2) Skin dose rates and beta air doses at the maximum X/Q land sector site boundary interface and beyond.

(3) The critical organ dose and dose rate at the maximum X/Q land sector site boundary interface and at a critical receptor location beyond the site boundary.

Either average meteorological data (ie, maximum five year annual average X/Q and D/Q values in the case of elevated releases or 1985 annual average X/Q and D/Q values, in the case of ground level releases) or real time meteorological data shall be utilized for dose and dose rate calculations. Where average meteorological data is assumed, dose and dose rates due to noble gases at locations beyond the site boundary will be lower than equivalent site boundary dose and dose rates. Therefore, under these conditions, calculations of noble gas dose and dose rates beyond the maximum X/Q land sector site boundary locations can be neglected.

3.2 (Cont'd)

The frequency of dose rate calculations will be upgraded when elevated release rate conditions specified in subsequent sections 3.2.1.1 and 3.2.1.2 are realized.

Emergency condenser vent release contributions to the monthly dose and dose rate determinations will be considered only when the emergency condenser return isolation valves have been opened for reactor cooldown or if Emergency Condenser tube leaks develop with or without the system's return isolation valve opened.

Without tube leakage or opening of the return isolation valves, releases from this system are negligible and the corresponding dose contributions do not have to be included.

When releases from the emergency condenser have occurred, dose and dose rate determinations shall be performed using methodology in 3.2.1 and 3.2.2. Furthermore, enviromental sampling may also be initiated to refine any actual contribution to doses. See Section 3.4.

3.2 (Cont'd)

Critical organ doses and dose rates may be conservatively calculated by assuming the existence of a so-called "moving" critical receptor. At this "moving" critical receptor location, it is assumed that all pathways are applicable and the highest X/Q and/or D/Q value for actual pathways as noted in Table 3-1 are in effect. A person's dose at the "moving" critical receptor locations is equal to the same dose that person would receive if they were simultaneously subjected to the highest pathway dose at each critical receptor identified for each pathway.

If dose or dose rates calculated, using the assumptions noted above, reach Technical Specification limits, actual pathways will be evaluated, and dose/dose rates shall be calculated at separate critical receptor locations and compared with applicable limits.

3.2.1 Dose Rate

Not all pathways need be considered in dose and dose rate calculations at each critical receptor location. For example, when calculating land sector site boundary doses and dose rates for particulates, iodines and tritium, only the ground deposition and inhalation pathways apply.

3.2.1.1 Noble Gases

In accordance with the provisions of 10 CFR 20 the dose rates from noble gas release from the site to unrestricted areas are to be limited to 500 mrem/yr to the skin. Dose rate calculation will be performed monthly, or when the Hi Hi stack monitor alarm point is reached, using the following equations:

For total body dose rates (in mr/yr):

$$DR\gamma = 3.17 \times 10^{-8} \quad M_i (X/Q) Q_i/sec$$

For skin dose rates:

$$DR\gamma_{+B} = [3.17 \times 10^{-8} N_i (X/Q) Q_i/sec] + DR$$

where:

M_i, N_i, X/Q, Q_i, 3.17×10^{-8} are as defined in section 3.2.2.1

3.2.1.2 Tritium, Iodines and Particulates

(1) The dose rate in unrestricted areas from the release of tritium, iodine-131, iodine-133 and all radionuclides in particulate form with half lives greater than 8 days is limited to 1500 mrem/year to any organ.

3.2.1.2 (Cont'd)

(2) In order to ensure that the 1500 mrem/year dose rate limit is not exceeded, particulate, iodine and tritium off site dose rate calculations shall be performed monthly and whenever particulate and iodine release rates exceed 10^{-2} µCi/sec using the equation given in Section 3.2.2.2 with Q expressed in µCi/sec. When the release rate exceeds $1-^{-2}$ µCi/sec, the dose rate assessment shall also include JAF and NMP-2 contribution. 4

(3) The use of the 10^{-2} µCi/sec release rate threshold to perform dose rate calculations is justified as follows: The 1500 mrem/yr organ dose rate limit corresponds to a minimum release rate limit of 0.30 µCi/sec calculated using the 4
equation:

$$1500 = (Q/sec) \quad x \quad (R_{ij}W_j)_{max}$$

where:

1500 = site boundary dose rate limit in mrem/year

$(R_{ij}W_j)_{max}$ = the maximum curie to dose conversion factor equal to 4900 mrem-sec/µCi-yr 4
for Sr-90, child bone at the "moving" critical receptor location beyond the site boundary.

3.2.2 Dose

Calculations will be performed monthly at a minimum, to demonstrate that doses resulting from the release of noble gases, tritium, I-131, I-133 and particulates with half lives greater than 8 days are within the limits specified in 10 CFR 50, Appendix I. These limits are:

<u>Noble Gas Air Dose</u>

5 mr gamma/calendar quarter

10 mrad beta/calendar quarter

10 mr gamma/calendar year

20 mrad beta/calendar year

<u>Radioiodines, Tritium & Particulates</u>

7.5 mrem to any organ/calendar quarter

15 mrem to any organ/calendar year

3.2.2.1 Noble Gas Air Dose

The air dose at the critical receptor due to noble gas releases is determined as follows:

3.2.2.1 (Cont'd)

For gamma radiation

$$D = 3.17 \times 10^{-8} \Sigma M_i \; X/Q \; Q_i$$

For beta radiation

$$D_{\beta} = 3.17 \times 10^{-8} \Sigma N_i \; X/Q \; Q_i$$

where

M_i = air gamma dose factor in (mr/year per uCi/m^3) for each isotope i (Table 4-1)

N_i = air beta dose factor (mrad/year per uCi/m^3) for each isotope i (Table 4-1)

X/Q = the relative plume concentration (in units of sec/m^3) at the land sector site boundary or beyond. Either average meteorological data (Table 3-1 or Appendix C), or real time values may be assumed. "Elevated" X/Q values are used for stack releases; "Ground" X/Q values are used for Emergency Condenser Vent releases.

Q_i = the total quantity of isotope i released during the period, (μCi)

3.17×10^{-8} = the inverse of the number of seconds in a year.

3.2.2.2 Radioiodine, Tritium & Particulates

The doses to an individual from I-131, I-133, tritium, and particulates with half lives greater than 8 days will be calculated as follows:

$$\text{Dose} = 3.17 \times 10^{-8} \; \Sigma_j \Sigma_i R_{ijak} W_j Q_i$$

Where

W_J = dispersion parameter either X/Q (sec/m^3) or D/Q ($1/m^2$) depending on pathway and receptor location assumed. Either average meteorological data (Table 3-1, or Appendix C) or real time values may be assumed. "Elevated" W_j values are used for stack releases; "Ground" W_j values are used for Emergency Condenser Vent releases.

Q_i = the total quanity of isotope i released during the period, (uCi)

R_{ijak} = the dose factor for each isotope i, pathway j, age group a, and organ k (Table 4-2, through 4-20)

3.17×10^{-8} = the inverse of the number of seconds in a year

The R values contained in Tables 4-2 through 4-20 were calculated using the methodology defined in NUREG-0133 and Regulatory Guide 1.109, Revision 1.

3.2.2.3 Accumulating Doses

Doses will be calculated monthly, at a minimum, for gamma air and beta air, the identified critical organ, and age group. Results will be summed for each calendar quarter and year.

It has been historically demonstrated that the critical pathway is usually the grass-cow-milk pathway and the critical organ is the infant's thyroid. For this reason, monthly infant thyroid dose estimates will normally be made prior to receipt of all analysis data (i.e., strontium and tritium). The critical doses are based on the following pathways:

- noble gas plume air dose
- ground plane dose (deposition)
- inhalation dose
- cow's milk dose
- goat's milk dose
- meat consumption dose
- vegetation (food crops) dose

The quarterly and annual results shall be compared to the limits listed in paragraph 3.2.2. If the limits are exceeded, special reports, as required by Section 6.9.3 of the Technical Specification, shall be submitted.

3.3 Critical Receptors

In accordance with the provisions of 10 CFR 20 and 10 CFR 50, Appendix I, the critical receptors have been identified and are contained in Table 3-1.

For noble gas doses, one of two critical receptor locations will be assumed. When maximum five year average annual X/Q values are used, the critical receptor is the maximum X/Q land sector site boundary interface. When real time meteorological X/Q values are used, the critical receptor may either be the maximum X/Q land sector site boundary location, or the downwind location of greatest X/Q residence (e.g., 1.5 miles east), whichever is higher.

For I-133, I-131, tritium and particulate radionuclides with half life greater than eight days, the critical pathways are milk (cow and goat), meat, vegetation, inhalation and direct radiation (ground plane) as a result of ground deposition.

The cow milk and goat milk pathway will be based on the greatest D/Q milk cow and milk goat location as determined by technical specification 3.6.22. The inhalation dose pathway will be based on the greatest X/Q residence as determined by technical specification 3.6.22 since this location would have the greatest potential occupancy time. The ground plane dose pathway will be calculated as the greatest D/Q residence because of the greatest potential occupancy time.

3.3 (Cont'd)

For the meat consumption dose pathway, the critical receptor is the greatest D/Q meat animal location. This location has been determined in conjunction with the land use census (technical specification 3.6.22) and is subject to change. The vegetation (food crop) dose is based on the greatest D/Q garden location from which samples are taken. This location also may be modified as a result of vegetation sampling surveys.

3.4 Refinement of Offsite Doses Resulting from Emergency Condenser Vent Releases

The doses resulting from the operation of the emergency condensers and calculated in accordance with 3.2.2 may be refined using data from actual enviromental samples.

Ground deposition samples will be obtained from an area or areas of maximum projected deposition. These areas are anticipated to be at or near the site boundary and near projected plume centerline. Using the methodology found in Regulatory Guide 1.109, the dose will be calculated to the maximum exposed individual. This dose will then be compared to the dose calculated in accordance with 3.2.2. The comparison will result in an adjustment factor of less than or greater than one which will be used to adjust the other doses from other pathways.

3.4 (Cont'd)

Other environmental samples may also be collected and the resultant calculated doses to the maximum exposed individual compared to the dose calculated per 3.2.2. Other environmental sample media may include milk, vegetation (such as garden broadleaf vegetables), etc. The adjustment factors from these pathways may be applied to the doses calculated per 3.2.2 on a pathway by pathway basis or several pathway adjustment factors may be averaged and used to adjust calculated doses.

Doses calculated from actual environmental sample media will be based on the methodology presented in Regulatory Guide 1.109. The regulatory guide equations may be slightly modified to account for short intervals of time (less than one year) or modified for simplicity purposes by deleting decay factors. Deletion of decay factors would yield more conservative results.

4.0 40 CFR 190 REQUIREMENTS

The "Uranium Fuel Cycle" is defined in 40 CFR Part 190.02 (b) as follows:

"Uranium fuel cycle means the operations of milling of uranium ore, chemical conversion of uranium, isotopic enrichment of uranium, fabrication of uranium fuel, generation of electricity by a light-water-cooled nuclear power plant using uranium fuel, and reprocessing of spent uranium fuel, to the extent that these directly support the production of electrical power for public use utilizing nuclear energy, but excludes mining operations, operations at waste disposal sites, transportation of any radioactive material in support of these operations, and the reuse of recovered non-uranium special nuclear and by-product materials from the cycle."

Section 3.6.15.d of the Technical Specifications requires that when the calculated doses associated with the effluent releases exceed twice the limits of sections 3.6.15.a.(2)(b), 3.6.15.b.(2)(b) and 3.6.15.b.(3)(b), then calculations shall be made including direct radiation contributions from the reactor units and outside storage tanks (as applicable) to determine whether the 40 CFR 190 dose limits have been exceeded.

4.0 (Cont'd)

If such is the case, Niagara Mohawk shall submit a Special Report to the NRC and limit subsequent releases such that the dose commitment to a real individual from all uranium fuel cycle sources is limited to $\leq$ 25 mrem to the total body or any organ (except the thyroid, which is limited to $\leq$ 75 mrem) over the calendar year. This report is to demonstrate that radiation exposures to all real individuals from all uranium fuel cycle sources (including all liquid and gaseous effluent pathways and direct radiation) are less than the limits in 40 CFR Part 190.

If releases that result in doses exceeding the 40 CFR 190 limits have occurred, then a variance from the NRC to permit such releases will be requested and if possible, action will be taken to reduce subsequent releases.

The report to the NRC shall contain:

1) Identification of all uranium fuel cycle facilities or operations within 5 miles of the nuclear power reactor units at the site that contribute to the annual dose of the maximum exposed member of the public.
2) Identification of the maximum exposed member of the public and a determination of the total annual dose to this person from existing pathways and sources of radioactive effluents and direct radiation.

4.0 (Cont'd)

The maximum total body and organ doses resulting from radioactive material in liquid effluents from Nine Mile Point Unit 1 will be summed with the maximum doses resulting from the releases of noble gases, radioiodines, and particulates for the other calendar quarters (as applicable) and from the calendar quarter in which twice the limit was exceeded. The direct dose components will be determined by either calculation or actual measurement. Actual measurements will utilize environmental TLD dosimetry. Calculated measurements will utilize engineering calculations to determine a projected direct dose component. In the event calculations are used, the methodology will be detailed as required in Section 6.9.1.e of the Technical Specifications.

The doses from Nine Mile Point Unit 1 will be added to the doses to the maximum exposed individual that are contributed from other uranium fuel cycle operations within 5 miles of the site.

For the purpose of calculating doses, the results of the Radiological Enviromental Monitoring Program may be included for providing more refined estimates of doses to a real maximum exposed individual. Estimated doses, as calculated from station effluents, may be replaced by doses calculated from actual enviromental sample results.

4.1 Evaluation of Doses From Liquid Effluents

For the evaluation of doses to real members of the public from liquid effluents, the fish consumption and shoreline sediment ground dose will be considered. Since the doses from other aquatic pathways are insignificant, fish consumption and shoreline sediment are the only two pathways that will be considered. The dose associated with fish consumption may be calculated using effluent data and Regulatory Guide 1.109 methodology or by calculating a dose to man based on actual fish sample analysis data. The dose associated with shoreline sediment is based on the assumption that the shoreline would be utilized as a recreational area. This dose may be derived from liquid effluent data and Regulatory Guide 1.109 methodology or from actual shoreline sediment sample analysis data.

Equations used to evaluate doses from actual fish and shoreline sediment samples are based on Regulatory Guide 1.109 methodology. Because of the sample medium type and the half-lives of the radionuclides historically observed, the decay corrected portions of the equations are deleted. This does not reduce the conservatism of the calculated doses but increases the simplicity from an evaluation point of view.

The dose from fish sample media is calculated as:

(1) $R_{wb} = \sum_i [C_{if} \times \mu \times 1000 \times D_{iwb} \times f]$

Where:

R_{wb} = The total dose to the whole body of an adult in mrem per year.

4.1 (Cont'd)

C_{if} = The concentration of radionuclide i in fish samples in pCi/gram.

u = The consumption rate of fish for an adult (21 kg per year).

1000 = Grams per kilogram

D_{iwb} = The dose factor for radionuclide i for the whole body of an adult (R.G. 1.109, Table E-11).

f = The fractional portion of the year over which the dose is applicable.

(2) $R_l = \sum_i [C_{if} \times u \times 1000 \times D_{il} \times f]$

Where:

R_l = The total dose to the liver of an adult (maximum exposed organ) in mrem per year.

C_{if} = The concentration of radionuclide i in fish samples in pCi/gram.

u = The consumption rate of fish for an adult (21 kg per year).

1000 = Grams per kilogram

D_{il} = The dose factor for radionuclide i for the liver of an adult (R.G. 1.109, Table E-11) 4

f = The fractional portion of the year over which the dose is applicable.

The dose from shoreline sediment sample media is calculated as:

$R_{wb} = \sum_i [C_{is} \times u \times 40{,}000 \times 0.3 \times D_{iwb} \times f]$

and

$R_{sk} = \sum_i [C_{is} \times u \times 40{,}000 \times 0.3 \times D_{isk} \times f]$

Where:

R_{wb} = The total dose to the whole body of a teenager (maximum exposed age group) in mrem per year.

R_{sk} = The total dose to the skin of a teenager (maximum exposed age group) in mrem per year.

C_{is} = The concentration of radionuclide i in shoreline sediment in pCi/gram.

4.1 (Cont'd)

μ	=	The usage factor. This is assumed as 67 hours per year by a teenager.
40,000	=	The product of the assumed density of shoreline sediment (40 kilogram per square meter to a depth of 2.5 cm) times the number of grams per kilogram.
0.3	=	The shore width factor for a lake.
D_{iwb}	=	The dose factor for radionuclide i for the total body (R.G. 1.109, Table E-6)
D_{isk}	=	The dose factor for radionuclide i for the skin (R.G. 1.109, Table E-6)
f	=	The fractional portion of the year over which the dose is applicable.

4.2 Evaluation of Doses From Gaseous Effluents

For the evaluation of doses to real members of the public from gaseous effluents, the pathways contained in section 3.2.2.3 of the ODCM will be considered. These include the ingestion, inhalation and 4
deposition pathways. However, any updated field data may be utilized that concerns locations of real individuals, real time meteorological data, location of critical receptors, etc. Data from the most recent census and sample location surveys should be utilized. Doses may also be calculated from actual enviromental sample media, as available. Enviromental sample media data such as TLD, air sample, milk sample and vegetable (food crop) sample data may be utilized in lieu of effluent calculational data.

Doses to member of the public from the pathwasy contained in ODCM section 3.2.2.3 as a result of gaseous effluents will be calculated using the dose factors of Regulatory Guide 1.109 or the methodology of the ODCM, as applicalble. Doses calculated from environmental 4
sample media will utilize the methodologies found in Regulatory Guide 1.109.

4.3 Evaluation of Doses From Direct Radiation

Section 3.6.15.d of the Technical Specifications requires that the dose contribution as a result of direct radiation be considered when evaluating whether the dose limitations of 40 CFR 190 have been exceeded.

Direct radiation doses as a result of the reactor, turbine and radwaste buildings and outside radioactive storage tanks (as applicable) may be evaluated by engineering calculations or by evaluating enviromental TLD results at critical receptor locations, site boundary or other special interest locations. For the evaluation of direct radiation doses utilizing environmental TLDs, the critical receptor in question, such as the critical residence, etc., will be compared to the control locations. The comparison involves the difference in environmental TLD results between the receptor location and the average control location result. 4

4.4 Doses to Members of the Public Within the Site Boundary.

Section 6.9.1.e of the Nine Mile Point Unit 1 Technical Specifications requires that the Semiannual Radioactive Effluent Release Report include an assessment of the radiation doses from radioactive liquid and gaseous effluents to members of the public due to their activities inside the site boundary as defined by Figure 5.1-1 of the specifications. A member of the public, as defined by the Technical Specifications, would be represented by an individual who visits the sites' Energy Information Center for the purpose of observing the educational displays or for picnicing and associated activities.

4.4 (Cont'd)

Fishing is a major recreational activity in the area and on the Site as a result of the salmonid and trout populations in Lake Ontario. Fishermen have been observed fishing at the shoreline near the Energy Information Center from April through December in all weather conditions. Thus, fishing is the major activity performed by members of the public within the site boundary. Based on the nature of the fishermen and undocumented observations, it is conservatively assumed that the maximum exposed individual spends an average of 8 hours per week fishing from the shoreline at a location between the Energy Information Center and the Unit 1 facility. This estimate is considered conservative but not necessarily excessive and accounts for occasions where individuals may fish more on weekends or on a few days in March of the year. 4

The pathways considered for the evaluation include the inhalation pathway with the resultant lung dose, the ground dose pathway with the resultant whole body and skin dose and the direct radiation dose pathway with the associated total body dose. The direct radiation dose pathway, in actuality, includes several pathways. These include: the direct radiation gamma dose to an individual from an overhead plume, a gamma submersion plume dose, possible direct radiation dose from the facility and a ground plane dose (deposition). Because the location is in close proximity to the site, any beta plume submersion dose is felt to be insignificant.

Other pathways, such as the ingestion pathway, are not applicable. In addition, pathways associated with water related recreational 4 activities, other than fishing, are not applicable here. These include swimming and wading which are prohibited at the facility.

The inhalation pathway is evaluated by identifying the applicable radionuclides (radioiodine, tritium and particulates) in the effluent for the appropriate time period. The radionuclide concentrations are then multiplied by the appropriate X/Q value, inhalation dose factor, air intake rate, and the fractional portion of the year in question. Thus, the inhalation pathway is evaluated using the following equation adapted from Regulatory Guide 1.109.

4

<u>NOTE:</u> The following equation is adapted from equations C-3 and C-4 of Regulatory Guide 1.109. Since many of the factors are in units of pCi/m^3, $m^3/sec.$, etc., and since the radionuclide decay expressions have been deleted because of the short distance to the receptor location, the equation presented here is not identical to the Regulatory Guide equations.

$$R = \sum_i [C_i F\ X/Q\ DFA_{ija} R_a t]$$

where:

R = the maximum dose for the period in question to the lung (j) for all radionuclides (i) for the adult age group (a) in mrem per time period.

4.4 (Cont'd)

C_i = The average concentration in the stack release of radionuclide i in pCi/m^3 for the period in question.

F = Unit 1 average stack flowrate in m^3/sec.

X/Q = The plume dispersion parameter for a location approximately 0.50 miles west of NMP-1 (The plume dispersion parameter is 8.9E-06 and was obtained from the C.T. Main five year average annual X/Q tables. A X/Q value based on real time meteorology may also be utilized for the period in question, if desired). 4

DFA_{ija} = the inhalation dose factor for radionuclide i, the lung j, and adult age group a in mrem per pCi found on Table E-8 of Regulatory Guide 1.109.

R_a = annual air intake for individuals in age group a in M^3 per year (this value is 8,000 m^3 per year and was obtained from Table E-5 of Regulatory Guide 1.109).

t = fractional portion of the year for which radionuclide i was detected and for which a dose is to be calculated (in years). 4

The ground dose pathway (deposition) will be evaluated by obtaining at least one soil or shoreline sediment sample in the area where fishing occurs. The dose will then be calculated using the sample 4
results, the time period in question, and the methodology based on Regulatory Guide 1.109 as presented in Section 4.1. The resultant dose may be adjusted for a background dose by subtracting the applicable off-site control soil or shoreline sediment sample radionuclide activities. In the event it is noted that fishing is not performed from the shoreline, but is instead performed in the water (i.e., the use of waders), then the ground dose pathway (deposition) will not be evaluated.

The direct radiation gamma dose pathway includes any gamma doses from an overhead plume, submersion in the plume, possible radiation from the facility and ground plane dose (deposition). This general pathway will be evaluated by average environmental TLD readings. At least two environmental TLDs will be utilized at one location in the approximate area where fishing occurs. The TLDs will be placed in the field on approximately the beginning of each calendar quarter and removed on approximately the end of each calendar quarter (quarter 2, 3, and 4).

The average TLD readings will be adjusted by the average control TLD readings. This is accomplished by subtracting the average quarterly control TLD value from the average fishing location TLD value. The applicable quarterly control TLD values will be utilized after adjusting for the appropriate time period (as applicable). In the event of loss or theft of the TLDs, results from a TLD or TLDs in the area may be utilized.

5.0 ENVIRONMENTAL MONITORING PROGRAM

5.1 Sampling Stations

The current sampling locations are specified in Table 5-1 and Figures 5.1-1, 5.1-2. The meterological tower is shown in Figure 5.1-1. The location is shown as TLD location 17. The Radiological Environmental Monitoring Program is a joint effort between the Niagara Mohawk Power Corporation and the New York Power Authority, the owners and 4
operators of the Nine Mile Point Unit 1 and the James A. FitzPatrick Nuclear Power Plant, respectively. Sampling locations are chosen on the basis of historical average dispersion or deposition parameters from both units. The environmental sampling location coordinates, shown on Table 5-1 are based on the NMP-2 reactor centerline.

The average dispersion and deposition parameters have been calculated for a 5 year period, 1978 through 1982. These dispersion calculations are attached as Appendix C.

The calculated dispersion or deposition parameters will be compared to the results of the annual land use census. If it is determined that a milk sampling location exists at a location that yields a significantly higher (e.g. 50%) calculated D/Q rate, the new milk sampling location will be added to the monitoring program within 30 days.

If a new location is added, the old location that yields the lowest calculated D/Q may be dropped from the program after October 31 of that year.

5.2 Interlaboratory Comparison Program

Analyses shall be performed on samples containing known quantities of radioactive materials that are supplied as part of a Commission approved or sponsored Interlaboratory Comparison Program, such as the EPA Crosscheck Program. Participation shall be only for those media, e.g., air, milk, water, etc., that are included in the Nine Mile Point Environmental Monitoring Program and for which crosscheck samples are available. An attempt will be made to obtain a QC sample to program sample ratio of 5% or better. The site identification symbol or the actual Quality Control sample results shall be reported in the Annual Radiological Environmental Operating Report so that the Commission staff may evaluate the results. 4

Specific sample media for which EPA Cross Check Program samples are available include the following:

- gross beta in air particulate filters
- gamma emitters in air particulate filters
- I-131 in milk
- gamma emitters in milk
- gamma emitters in food product
- gamma emitters in water
- tritium in water
- I-131 in water

5.3 Capabilities for Thermoluninescent Dosimeters Used for Environmental Measurements

Required detection capabilities for thermoluminescent dosimeters used for environmental measurements required by Table 4.6.20-1, footnote b of the Technical Specifications are based on ANSI Standard N545, section 4.3. TLDs are defined as phosphors packaged for field use. In regard to the detection capabilities for thermoluminescent dosimeters, only one determination is required to evaluate the above capabilities per type of TLD. Furthermore, the above capabilities may be determined by the vendor who supplies the TLDs. Required detection capabilities are as follows:

5.3.1 Uniformity shall be determined by giving TLDs from the same batch an exposure equal to that resulting from an exposure rate of 10 uR/hr during the field cycle. The responses obtained shall have a relative standard deviation of less than 7.5%. A total of at least 5 TLDs shall be evaluated.

5.3.2 Reproducibility shall be determined by giving TLDs repeated exposures equal to that resulting from an exposure rate of 10 uR/hr during the field cycle. The average of the relative standard deviations of the responses shall be less than 3.0%. A total of at least 4 TLDs shall be evaluated.

5.3.3 Dependence of exposure interpretation on the length of a field cycle shall be examined by placing TLDs for a period equal to at least a field cycle and a period equal to half the same field cycle in an area where the exposure rate is known to be constant. This test shall be conducted under approximate average winter temperatures and approximate average summer temperatures. For these tests, the ratio of the response obtained in the field cycle to twice that obtained for half the field cycle shall not be less than 0.85. At least 6 TLDs shall be evaluated

5.3.4 Energy dependence shall be evaluated by the response of TLDs to photons for several energies between approximately 30 keV and 3 MeV. The response shall not differ from that obtained with the calibration source by more than 25% for photons with energies greater than 80 keV and shall not be enhanced by more than a factor of two for photons with energies less than 80 keV. A total of at least 8 TLDs shall be evaluated.

5.3.5 The directional dependence of the TLD response shall be determined by comparing the response of the TLD exposed in the routine orientation with respect to the calibration source with the response obtained for different orientations. To accomplish this, the TLD shall be rotated through at least two perpendicular planes. The response averaged over all directions shall not differ from the response obtained in the standard calibration position by more than 10%. A total of at least 4 TLDs shall be evaluated.

5.3.6 Light dependence shall be determined by placing TLDs in the field for a period equal to the field cycle under the four conditions found in ANSI N545, section 4.3.6. The results obtained for the unwrapped TLDs shall not differ from those obtained for the TLDs wrapped in aluminum foil by more than 10%. A total of at least 4 TLDs shall be evaluated for each of the four conditions.

5.3.7 Moisture dependence shall be determined by placing TLDs (that is, the phosphors packaged for field use) for a period equal to the field cycle in an area where the exposure rate is known to be constant. The TLDs shall be exposed under two conditions: (1) packaged in a thin, sealed plastic bag, and (2) packaged in a thin, sealed plastic bag with sufficient water to yield observable moisture throughout the field cycle. The TLD or phosphor, as appropriate, shall be dried before readout. The response of the TLD exposed in the plastic bag containing water shall not differ from that exposed in the regular plastic bag by more than 10%. A total of at least 4 TLDs shall be evaluated for each condition.

5.3.8 Self irradiation shall be determined by placing TLDs for a period equal to the field cycle in an area where the exposure rate is less than 10 uR/hr and the exposure during the field cycle is known. If necessary, corrections shall be applied for the dependence of exposure interpretation on the length of the field cycle (ANSI N545, section 4.3.3). The average exposure inferred from the responses of the TLDs shall not differ from the known exposure by more than an exposure equal to that resulting from an exposure rate of 10 uR/hr during the field cycle. A total of at least 3 TLDs shall be evaluated.

TABLE 1-1

R_{apji} VALUES FOR THE NINE MILE POINT UNIT 1 FACILITY

NUCLIDE	ADULT - TOTAL BODY R_{apji} (MREM/YR-Ci	TEEN - LIVER R_{apji}(MREM/YR-Ci	
^{89}Sr	2.05 E - 3	N/A	
^{90}Sr	4.37 E - 1	N/A	
^{134}Cs	1.89 E + 0	2.35 E + 0	
^{137}Cs	1.12 E + 0	1.78 E + 0	
^{58}Co	6.47 E - 4	2.87 E - 4	
^{60}Co	1.85 E - 3	8.38 E - 4	
^{54}Mn	2.72 E - 3	1.40 E - 2	4
^{3}H	7.40 E - 7	5.69 E - 7	
Cr-51	4.05 E - 6	N/A	4
Fe-59	3.01 E - 3	8.03 E - 3	
Zn-65	1.09 E - 1	2.37 E - 1	
Zr-95	1.69 E - 7	2.53 E - 7	3
I-131	3.64 E - 4	6.65 E - 4	
I-133	3.53 E - 5	1.22 E - 4	4
Cs-136	2.73 E - 1	3.80 E - 1	
Ba-140	3.92 E - 5	7.81 E - 7	
Ce-141	5.49 E - 9	5.17 E - 8	
Fe-55	3.47 E - 4	1.60 E - 3	
Ni-63	3.41 E - 3	7.46 E - 3	

TABLE 1-2

PARAMETERS FOR THE LIQUID EFFLUENT PATHWAY

PARAMETER	VALUE	REFERENCE (REG. GUIDE 1.109)
U_{ap}	Adult = 21.0 Kg/yr Teen = 16.0 Kg/yr	Table E-5
M_p	0.2	Site Specific
F	590 $ft.^3$/second	Site Specific
B_{ip}	Each Element	Table A-1
D_{aipi}	Each radionuclide	Tables E-11 to E-14
T_p	26.9 hours	Site Specific

TABLE 2-1
Average Energy Per Disintegration

ISOTOPE	$\bar{E}$ mev/dis	(Ref)	$\bar{E}\beta$mev/dis[4]	(Ref)
Ar-41	1.294	(3)	0.464	(3)
Kr-83m	0.00248	(1)	0.0371	(1)
Kr-85	0.0022	(1)	0.250	(1)
Kr-85m	0.159	(1)	0.253	(1)
Kr-87	0.793	(1)	1.32	(1)
Kr-88	1.95	(1)	0.377	(1)
Kr-89	2.22	(2)	1.37	(2)
Kr-90	2.10	(2)	1.01	(2)
Xe-131M	0.0201	(1)	0.143	(1)
Xe-133	0.0454	(1)	0.135	(1)
Xe-133m	0.042	(1)	0.19	(1)
Xe-135	0.247	(1)	0.317	(1)
Xe-135m	0.432	(1)	0.095	(1)
Xe-137	0.194	(1)	1.64	(1)
Xe-138	1.18	(1)	0.611	(1)

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(1) ORNL-4923, Radioactive Atoms - Supplement I, M.S. Martin, November 1973.

(2) NEDO-12037, "Summary of Gamma and Beta Emitters and Intensity Data"; M.E. Meek, R.S. Gilbert, January 1970. (The average energy was computed from the maximum energy using the ICRP II equation, not the 1/3 value assumption used in this reference).

(3) NCRP Report No. 58, "A Handbook of Radioactivity Measurements Procedures"; 1978

(4) The average energy includes conversion electrons.

TABLE 3-1
Critical Receptor Dispersion Parameters[a]
For Ground Level and Elevated Releases

LOCATION	DIR	MILES	ELEVATED X/Q (sec/m^3)	ELEVATED D/Q (m^{-2})	GROUND[e] X/Q(sec/m^3)	GROUND[e] D/Q (m^{-2})
Residences	E (98°)	1.4	1.8 E-07[b]	5.2 E-09[b]	4.02 E-07	8.58 E-09
Dairy Cows	SE (130°)	2.6	2.2 E-08[c]	7.0 E-10[c]	6.00 E-08	1.64 E-09
Milk Goats	E (88°)	7.9	1.3 E-08[c]	1.6 E-10[c]	2.57 E-08	6.10 E-10
Meat Animals	ESE (115°)	1.8	5.1 E-08[c]	1.7 E-09[c]	1.16 E-07	3.54 E-09
Gardens	E (97°)	1.8	1.0 E-07[c]	3.5 E-09[c]	2.53 E-07	5.55 E-09
Site Boundary	ENE (67°)	0.4	2.4 E-06[b,d]	4.4 E-08[c,d]	6.63 E-06	6.35 E-08

3

a. These values will be used in dose calculations beginning in April 1986 but may be revised periodically to account for changes in locations of farms, gardens or critical residences.

b. Values based on 5 year annual meteorological data (C.T. Main, Rev. 2)

c. Values based on 5 year average grazing season meteorological data (C.T. Main Rev. 2)

d. Value are based on most restrictive X/Q land-based sector (ENE). (C.T. Main, Rev. 2)

e. Values are based on average annual meteorological data for the year 1985.

4

TABLE 4-1
DOSE FACTORS FOR NOBLE GASES

Radionuclides	Gamma Air Dose Factor M_i $\frac{mr\text{-}m^3}{\mu Ci\text{-}yr}$	Beta Air Dose Factor N_i $\frac{mrad\text{-}m^3}{\mu Ci\text{-}yr}$
Kr-83m	1.93E+01	2.88E+02
Kr-85m	1.23E+03	1.97E+03
Kr-85	1.72E+01	1.95E+03
Kr-87	6.17E+03	1.03E+04
Kr-88	1.52E+04	2.93E+03
Kr-89	1.73E+04	1.06E+04
Kr-90	1.63E+04	7.83E+03
Xe-131m	1.56E+02	1.11E+03
Xe-133m	3.27E+02	1.48E+03
Xe-133	3.53E+02	1.05E+03
Xe-135m	3.36E+03	7.39E+02
Xe-135	1.92E+03	2.46E+03
Xe-137	1.51E+03	1.27E+04
Xe-138	9.21E+03	4.75E+03
Xe-139	5.28E+03	6.52E+04
Ar-41	9.30E+03	3.28E+03

* Regulatory Guide 1.109, "Calculation of Annual Doses to Man From Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," dated October 1977, page 1.109-21.

TABLE 4-2

R VALUES - COW'S MILK - INFANT

$$\frac{m^2\ mrem/yr}{uCi\text{-}sec}$$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	
H 3*	2.40E 03	2.40E 03		2.40E 03	2.40E 03	2.40E 03	2.40E 03	
Cr 51	7.46E 04	2.17E 06			1.06E04	4.87E 04	4.47E 04	
Mn 54	4.54E 06	7.36E 06		2.00E 07	4.44E 06			
Fe 55	1.45E 07	6.91E 06	8.43E 07	5.44E 07			2.66E 07	4
Fe 59	7.21E 07	8.74E 07	1.05E 08				5.41E 07	
Co 58	2.88E 07	2.88E 07		1.15E 07				
Co 60	1.11E 08	1.12E 08		4.71E 07				
Zn 65	5.26E 09	9.63E 09	3.32E 09	1.14E 10	5.53E 09			
Sr 80	1.70E 08	1.22E 08	5.94E 09					
Sr 90	1.79E 10	8.75E 08	7.01E 10					
Zr 95	5.58E 02	3.92E 05	3.23E 03	7.87E 02	8.48E 02			
I 131	6.92E 08	5.62E 07	1.34E 09	1.57E 09	1.84E 09	5.17E 11		
I 133	7.91E 06	4.57E 06	1.85E 07	2.70E 07	3.17E 07	4.91E 09		
Cs 134	3.59E 09	9.65E 07	1.90E 10	3.55E 10	9.14E 09		3.75E 09	
Cs 136	1.03E 09	4.19E 07	9.37E 08	2.76E 09	1.10E 09		2.25E 08	
Cs 137	2.37E 09	1.04E 08	2.85E 10	3.34E 10	8.96E 09		3.63E 09	
Ba 140	5.94E 06	2.83E 07	1.15E 08	1.15E 05	2.74E 04		7.03E 04	
Ce 141	1.44E 03	6.30E 06	2.00E 04	1.22E 04	3.76E 03			

$$*\frac{mrem/yr}{uCi/m^3}$$

TABLE 4-3

R VALUES - COW'S MILK - CHILD

$\frac{m^2 \text{mrem/yr}}{\text{uCi-sec}}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	1.58E 03	1.58E 03	1.58E 03	1.58E 03	1.58E 03	1.58E 03	1.58E 03
Cr 51	4.71E 04	2.50E 06			7.14E 03	2.61E 04	4.77E 04
Mn 54	2.87E 06	9.04E 06		1.08E 07	3.02E 06		
Fe 55	1.15E 07	6.85E 06	6.97E 07	3.07E 07			2.09E 07 4
Fe 59	4.52E 07	9.45E 07	5.61E 07	9.08E 07			2.63E 07
Co 58	1.77E 07	3.37E 07		5.77E 06			
Co 60	6.81E 07	1.28E 08		2.31E 07			
Zn 65	4.10E 09	1.16E 09	2.47E 09	6.59E 09	4.15E 09		
Sr 89	8.93E 07	1.21E 08	3.13E 09				
Sr 90	1.63E 10	8.68E 08	6.44E 10				
Zr 95	3.56E 02	4.17E 05	1.82E 03	4.00E 02	5.72E 02		
I 131	3.66E 08	5.73E 07	6.40E 08	6.44E 08	1.06E 09	2.13E 11	
I 133	4.11E 06	4.38E 06	8.78E 06	1.09E 07	1.81E 07	2.02E 09	
Cs 134	4.09E 09	1.05E 08	1.18E 10	1.94E 10	6.01E 09		2.16E 09
Cs 136	8.53E 08	4.63E 07	4.80E 08	1.32E 09	7.07E 08		1.05E 08
Cs 137	2.52E 09	1.07E 08	1.79E 10	1.71E 10	5.57E 09		2.00E 09
Ba 140	3.27E 06	2.84E 07	5.60E 07	4.91E 04	1.60E 04		2.93E 04
Ce 141	7.47E 02	6.28E 06	1.01E 04	5.03E 03	2.21E 03		

$* \frac{\text{mrem/yr}}{\text{uCi/m}^3}$

TABLE 4-4

R VALUES - COW'S MILK - TEEN

$$\frac{m^2\ mrem/yr}{uCi\text{-}sec}$$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	1.00E 03	1.00E 03	1.58E 03	1.00E 03	1.00E 03	1.00E 03	1.00E 03
Cr 51	2.31E 04	3.88E 06			5.06E 03	1.28E 04	3.30E 04
Mn 54	1.43E 06	1.48E 07		7.20E 06	2.15E 06		
Fe 55	4.59E 06	8.52E 06	2.78E 07	1.97E 07			1.25E 07
Fe 59	2.18E 07	1.34E 08	2.42E 07	5.65E 07			1.78E 07
Co 58	8.70E 06	5.21E 07		3.78E 06			
Co 60	3.35E 07	1.94E 08		1.49E 07			
Zn 65	2.04E 09	1.85E 09	1.26E 09	4.38E 09	2.80E 09		
Sr 89	3.62E 07	1.50E 08	1.26E 09				
Sr 90	9.42E 09	1.07E 09	3.81E 10				
Zr 95	1.70E 02	5.70E 05	7.83E 02	2.47E 02	3.63E 02		
I 131	1.98E 08	7.31E 07	2.64E 08	3.69E 08	6.36E 08	1.08E 11	
I 133	1.87E 06	4.64E 06	3.61E 06	6.13E 06	1.08E 07	8.56E 08	
Cs 134	5.60E 09	1.50E 08	5.12E 09	1.21E 10	3.83E 09		1.46E 09
Cs 136	5.62E 08	6.73E 07	2.13E 08	8.37E 08	4.55E 08		7.18E 07
Cs 137	3.44E 09	1.40E 08	7.42E 09	9.87E 09	3.36E 09		1.30E 09
Ba 140	1.58E 06	3.58E 07	2.32E 07	2.84E 04	9.65E 03		1.91E 04
Ce 141	3.14E 02	7.83E 06	4.10E 03	2.74E 03	1.29E 03		

$$*\frac{mrem/yr}{uCi/m^3}$$

TABLE 4-5

R VALUES - COW'S MILK - ADULT

$\dfrac{m^2\text{mrem/yr}}{\text{uCi-sec}}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	7.69E 02	7.69E 02		7.69E 02	7.69E 02	7.69E 02	7.69E 02
Cr 51	1.32E 04	3.32E 06			2.91E 03	7.90E 03	1.75E 04
Mn 54	8.25E 05	1.32E 07		4.32E 06	1.29E 06		
Fe 55	2.52E 06	6.21E 06	1.57E 07	1.08E 07			6.04E 06
Fe 59	1.25E 07	1.09E 08	1.39E 07	3.26E 07			9.10E 06
Co 58	5.03E 06	4.56E 07		2.24E 06			
Co 60	1.93E 07	1.65E 08		8.77E 07			
Zn 65	1.18E 09	1.65E 09	8.21E 08	2.81E 09	1.75E 09		
Sr 89	1.97E 07	1.10E 08	6.85E 08				
Sr 90	6.62E 09	7.80E 08	2.70E 10				
Zr 95	9.72E 01	4.55E 05	4.48E 02	1.44E 02	2.25E 02		
I 131	1.19E 08	5.49E 07	1.45E 08	2.08E 08	3.57E 08	6.82E 10	
I 133	1.05E 06	3.09E 06	1.98E 06	3.44E 06	6.01E 06	5.06E 08	
Cs 134	5.74E 09	1.23E 08	2.95E 09	7.02E 09	2.27E 09		7.54E 08
Cs 136	3.55E 08	5.60E 07	1.25E 08	4.93E 08	2.74E 08		3.76E 07
Cs 137	3.65E 09	1.08E 08	4.09E 09	5.59E 09	1.90E 09		6.31E 08
Ba 140	8.43E 05	2.65E 07	1.29E 07	1.62E 04	5.49E 03		9.25E 03
Ce 141	1.71E 02	5.78E 06	2.24E 03	1.51E 03	7.02E 02		

*$\dfrac{\text{mrem/yr}}{\text{uCi/m}^3}$

TABLE 4-6

R VALUES - GOAT'S MILK - INFANT

$\frac{m^2\text{mrem/yr}}{\text{uCi-sec}}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	4.90E 03	4.90E 03		4.90E 03	4.90E 03	4.90E 03	4.90E 03
Cr 51	8.95E 03	2.61E 05			1.28E 03	5.84E 03	1.14E 04
Mn 54	5.45E 05	8.83E 05		2.40E 06	5.33E 05		
Fe 55	1.89E 05	8.98E 04	1.10E 06	7.08E 05			3.46E 05
Fe 59	9.37E 05	1.14E 06	1.36E 06	2.38E 06			7.03E 05
Co 58	3.45E 06	3.45E 06		1.38E 06			
Co 60	1.34E 07	1.35E 07		5.65E 06			
Zn 65	6.31E 08	1.16E 09	3.99E 08	1.37E 09	6.63E 08		
Sr 89	3.58E 08	2.57E 08	1.25E 10				
Sr 90	3.57E 10	1.84E 09	1.47E 11				
Zr 95	6.70E 01	4.70E 04	3.88E 02	9.45E 01	1.02E 02		
I 131	8.31E 08	6.74E 07	1.60E 09	1.89E 09	2.21E 09	6.21E 11	
I 133	9.49E 06	5.48E 06	2.23E 07	3.24E 07	3.81E 07	5.89E 09	
Cs 134	1.08E 10	2.89E 08	5.71E 10	1.07E 11	2.74E 10		1.12E 10
Cs 136	3.09E 09	1.26E 08	2.81E 09	8.27E 09	3.30E 09		6.74E 08
Cs 137	7.10E 09	3.13E 08	8.55E 10	1.00E 11	2.69E 10		1.09E 10
Ba 140	7.13E 05	3.40E 06	1.38E 07	1.38E 04	3.29E 03		8.50E 03
Ce 141	1.72E 02	7.57E 05	2.40E 03	1.46E 03	4.52E 02		

*$\frac{\text{mrem/yr}}{\text{uCi/m}^3}$

TABLE 4-7

R VALUES - GOAT'S MILK - CHILD

$$\frac{m^2\,mrem/yr}{uCi\text{-}sec}$$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	3.23E 03	3.23E 03		3.23E 03	3.23E 03	3.23E 03	3.23E 03
Cr 51	5.65E 03	3.00E 05			8.57E 02	3.14E 03	5.73E 03
Mn 54	3.44E 05	1.08E 06		1.29E 06	3.62E 05		
Fe 55	1.49E 05	8.91E 04	9.06E 05	4.81E 05			2.72E 05
Fe 59	5.88E 05	1.23E 06	7.29E 05	1.18E 06			3.42E 05
Co 58	2.12E 06	4.04E 06		6.92E 05			
Co 60	8.17E 06	1.53E 07		2.77E 06			
Zn 65	4.92E 08	1.39E 08	2.97E 08	7.91E 08	4.98E 08		
Sr 89	1.87E 08	2.54E 08	6.56E 09				
Sr 90	3.43E 10	1.82E 09	1.35E 11				
Zr 95	4.27E 01	5.01E 04	2.18E 02	4.80E 01	6.87E 01		
I 131	4.39E 08	6.88E 07	7.68E 08	7.72E 08	1.27E 09	2.55E 11	
I 133	4.93E 06	5.25E 06	1.05E 07	1.30E 07	2.17E 07	2.42E 09	
Cs 134	1.23E 10	3.14E 08	3.55E 10	5.82E 10	1.80E 10		6.47E 09
Cs 136	2.56E 09	1.39E 08	1.44E 09	3.96E 09	2.11E 09		3.14E 08
Cs 137	7.57E 09	3.21E 08	5.36E 10	5.13E 10	1.67E 10		6.01E 09
Ba 140	3.92E 05	3.41E 06	6.72E 06	5.89E 03	1.92E 03		3.51E 03
Ce 141	8.97E 01	7.54E 05	1.21E 03	6.04E 02	2.65E 02		

$$*\frac{mrem/yr}{uCi/m^3}$$

TABLE 4-8

R VALUES - GOAT'S MILK - TEEN

$\frac{m^2 \text{mrem/yr}}{\text{uCi-sec}}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	2.04E 03	2.04E 03		2.04E 03	2.04E 03	2.04E 03	2.04E 03
Cr 51	2.77E 03	4.66E 05			6.07E 02	1.54E 03	3.95E 03
Mn 54	1.71E 05	1.77E 06		8.64E 05	2.58E 05		
Fe 55	5.97E 04	1.11E 05	3.61E 05	2.56E 05			1.62E 05
Fe 59	2.83E 05	1.74E 06	3.14E 05	7.34E 05			2.31E 05
Co 58	1.04E 06	6.25E 06		4.63E 05			
Co 60	4.02E 06	2.32E 07		1.78E 06			
Zn 65	2.45E 08	2.22E 08	1.51E 08	5.25E 08	3.36E 08		
Sr 89	7.59E 07	3.16E 08	2.65E 09				
Sr 90	1.98E 10	2.25E 09	8.81E 10				
Zr 95	2.04E 01	6.84E 04	9.40E 01	2.97E 01	4.36E 01		
I 131	2.38E 08	8.77E 07	3.17E 08	4.43E 08	7.63E 08	1.29E 11	
I 133	2.24E 06	5.57E 06	4.34E 06	7.36E 06	1.29E 07	1.03E 09	
Cs 134	1.68E 10	4.50E 08	1.54E 10	3.62E 10	1.15E 10		4.39E 09
Cs 136	1.69E 09	2.02E 08	6.38E 08	2.51E 09	1.37E 09		2.15E 08
Cs 137	1.03E 10	4.21E 08	2.22E 10	2.96E 10	1.01E 10		3.91E 09
Ba 140	1.80E 05	4.30E 06	2.97E 06	3.41E 03	1.16E 03		2.30E 03
Ce 141	3.77E 01	9.39E 05	4.92E 02	3.28E 02	1.55E 02		

*$\frac{\text{mrem/yr}}{\text{uCi/m}^3}$

TABLE 4-9

R VALUES - GOAT'S MILK - ADULT

$\dfrac{m^2\,mrem/yr}{uCi\text{-}sec}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	1.57E 03	1.57E 03		1.57E 03	1.57E 03	1.57E 03	1.57E 03
Cr 51	1.59E 03	3.99E 05			3.49E 02	9.48E 02	2.11E 03
Mn 54	9.89E 04	1.59E 06		5.19E 05	1.54E 05		
Fe 55	3.28E 04	8.07E 04	2.04E 05	1.41E 05			7.85E 04 4
Fe 59	1.62E 05	1.41E 06	1.80E 05	4.23E 05			1.18E 05
Co 58	6.03E 05	5.46E 06		2.69E 05			
Co 60	2.32E 06	1.98E 07		1.05E 06			
Zn 65	1.42E 08	1.97E 08	9.85E 07	3.14E 08	2.10E 08		
Sr 89	4.13E 07	2.31E 08	1.44E 09				
Sr 90	1.39E 10	1.64E 09	5.67E 10				
Zr 95	1.17E 01	5.46E 04	5.37E 01	1.72E 01	2.70E 01		
I 131	1.43E 08	6.59E 07	1.74E 08	2.50E 08	4.28E 08	8.18E 10	
I 133	1.26E 06	3.71E 06	2.37E 06	4.13E 06	7.21E 06	6.07E 08	
Cs 134	1.72E 10	3.69E 08	8.85E 09	2.11E 10	6.82E 09		2.26E 09
Cs 136	1.06E 09	1.68E 08	3.75E 08	1.48E 09	8.23E 08		1.13E 08
Cs 137	1.10E 10	3.25E 08	1.25E 10	1.68E 10	5.70E 09		1.89E 09
Ba 140	1.01E 05	3.18E 06	1.54E 06	1.94E 03	6.59E 02		1.11E 03
Ce 141	2.06E 01	6.94E 05	2.68E 02	1.81E 02	8.43E 01		

$^*\dfrac{mrem/yr}{uCi/m^3}$

TABLE 4-10

R VALUES - MEAT - CHILD

$$\frac{m^2\,\text{mrem/yr}}{\text{uCi-sec}}$$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	
H 3*	2.36E 02	2.36E 02		2.36E 02	2.36E 02	2.36E 02	2.36E 02	
Cr 51	4.07E 03	2.16E 05			6.17E 02	2.26E 03	4.12E 03	
Mn 54	1.09E 06	3.45E 06		4.11E 06	1.15E 06			
Fe 55	4.74E 07	2.84E 07	2.89E 08	1.53E 08			8.66E 07	4
Fe 59	1.42E 08	2.97E 08	1.76E 08	2.85E 08			8.26E 07	
Co 58	2.39E 07	4.56E 07		7.82E 06				
Co 60	1.09E 08	2.05E 08		3.70E 07				
Zn 65	3.72E 08	1.05E 08	2.25E 08	5.99E 08	3.77E 08			
Sr 89	6.55E 06	8.87E 06	2.29E 08					
Sr 90	1.52E 09	8.08E 07	6.00E 09					
Zr 95	2.48E 05	2.91E 08	1.27E 06	2.79E 05	3.99E 05			
I 131	4.64E 06	7.29E 05	8.14E 06	8.19E 06	1.34E 07	2.71E 09		
I 133	1.55E-01	1.66E-01	3.32E-01	4.11E-01	6.85E-01	7.63E-01		
Cs 134	1.67E 08	4.26E 06	4.81E 08	7.90E 08	2.45E 08		8.78E 07	
Cs 136	1.35E 07	7.34E 05	7.60E 06	2.09E 07	1.11E 07		1.66E 06	
Cs 137	1.04E 08	4.43E 06	7.39E 08	7.07E 08	2.30E 08		8.29E 07	
Ba 140	1.22E 06	1.06E 07	2.10E 07	1.84E 04	5.98E 03		1.10E 04	
Ce 141	7.57E 02	6.36E 06	1.02E 04	5.10E 03	2.24E 03			

$$*\frac{\text{mrem/yr}}{\text{uCi/m}^3}$$

TABLE 4-11

R VALUES - MEAT - TEEN

$\frac{m^2 \text{ mrem/yr}}{\text{uCi-sec}}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	1.95E 02	1.95E 02		1.95E 02	1.95E 02	1.95E 02	1.95E 02
Cr 51	2.61E 03	4.39E 05			5.72E 02	1.45E 03	3.73E 03
Mn 54	7.12E 05	7.37E 06		3.59E 06	1.07E 06		
Fe 55	2.49E 07	4.62E 07	1.50E 08	1.07E 08			6.77E 07
Fe 59	8.95E 07	5.48E 08	9.93E 07	2.32E 08			7.31E 07
Co 58	1.54E 07	9.22E 07		6.69E 06			
Co 60	7.03E 07	4.06E 08		3.12E 07			
Zn 65	2.43E 08	2.20E 08	1.50E 08	5.20E 08	3.33E 08		
Sr 89	3.47E 06	1.44E 07	1.21E 08				
Sr 90	1.15E 09	1.30E 08	4.64E 09				
Zr 95	1.55E 05	5.20E 08	7.15E 05	2.25E 05	3.31E 05		
I 131	3.30E 06	1.22E 06	4.39E 06	6.14E 06	1.06E 07	1.79E 09	
I 133	9.25E-02	2.30E-01	1.79E-01	3.03E-01	5.32E-01	4.23E 01	
Cs 134	2.98E 08	7.99E 06	2.73E 08	6.42E 08	2.04E 08		7.78E 07
Cs 136	1.16E 07	1.40E 06	4.41E 06	1.73E 07	9.44E 06		1.49E 06
Cs 137	1.86E 08	7.59E 06	4.01E 08	5.34E 08	1.82E 08		7.06E 07
Ba 140	7.33E 05	1.75E 07	1.14E 07	1.39E 04	4.72E 03		9.37E 03
Ce 141	4.14E 02	1.04E 07	5.43E 03	3.63E 03	1.71E 03		

$^*\frac{\text{mrem/yr}}{\text{uCi/m}^3}$

TABLE 4-12

R VALUES - MEAT - ADULT

$\dfrac{m^2\,mrem/yr}{uCi\text{-}sec}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	3.27E 02	3.27E 02		3.27E 02	3.27E 02	3.27E 02	3.27E 02
Cr 51	3.26E 03	8.21E 05			7.19E 02	1.95E 03	4.33E 03
Mn 54	8.98E 05	1.44E 07		4.71E 06	1.40E 06		
Fe 55	2.98E 07	7.34E 07	1.85E 08	1.28E 08			7.14E 07
Fe 59	1.12E 08	9.73E 08	1.24E 08	2.92E 08			8.16E 07
Co 58	1.95E 07	1.76E 08		8.68E 06			
Co 60	8.87E 07	7.56E 08		4.02E 07			
Zn 65	3.06E 08	4.27E 08	2.13E 08	6.78E 08	4.53E 08		
Sr 89	4.12E 06	2.30E 07	1.43E 08				
Sr 90	1.76E 09	2.07E 08	7.17E 09				
Zr 95	1.94E 05	9.07E 08	8.92E 05	2.86E 05	4.49E 05		
I 131	4.33E 06	1.99E 06	5.28E 06	7.55E 06	1.29E 07	2.48E 09	
I 133	1.13E-01	3.34E-01	2.14E-01	3.72E-01	6.49E-01	5.46E 01	
Cs 134	6.68E 08	1.43E 07	3.43E 08	8.15E 08	2.64E 08		8.78E 07
Cs 136	1.61E 07	2.53E 06	5.65E 06	2.23E 07	1.24E 07		1.70E 06
Cs 137	4.33E 08	1.28E 07	4.83E 08	6.61E 08	2.24E 08		7.46E 07
Ba 140	9.01E 05	2.83E 07	1.38E 07	1.73E 04	5.87E 03		9.89E 03
Ce 141	4.96E 02	1.67E 07	6.47E 03	4.38E 03	2.03E 03		

$^*\dfrac{mrem/yr}{uCi/m^3}$

TABLE 4-13

R VALUES - VEGETATION - CHILD

$\dfrac{m^2\text{mrem/yr}}{\text{uCi-sec}}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	
H 3*	4.04E 03	4.04E 03		4.04E 03	4.04E 03	4.04E 03	4.04E 03	
Cr 51	1.16E 05	6.15E 06			1.76E 04	6.44E 04	1.18E 05	
Mn 54	1.73E 08	5.44E 08		6.49E 08	1.82E 08			
Fe 55	1.25E 08	7.50E 07	7.63E 08	4.05E 08			2.29E 08	4
Fe 59	3.17E 08	6.62E 08	3.93E 08	6.36E 08			1.84E 08	
Co 58	1.92E 08	3.66E 08		6.27E 06				
Co 60	1.11E 09	2.08E 09		3.76E 08				
Zn 65	1.70E 09	4.81E 08	1.03E 09	2.74E 09	1.73E 09			
Sr 89	1.03E 09	1.40E 09	3.62E 10					
Sr 90	3.49E 11	1.86E 10	1.38E 12					
Zr 95	7.44E 05	8.71E 08	3.80E 06	8.35E 05	1.20E 06			
I 131	8.16E 07	1.28E 07	1.43E 08	1.44E 08	2.36E 08	4.75E 10		
I 133	1.67E 06	1.78E 06	3.57E 06	4.42E 06	7.36E 06	8.21E 08		
Cs 134	5.40E 09	1.38E 08	1.56E 10	2.56E 10	7.93E 09		2.84E 09	
Cs 136	1.43E 08	7.77E 06	8.04E 07	2.21E 08	1.18E 08		1.76E 07	
Cs 137	3.52E 09	1.50E 08	2.48E 10	2.39E 10	7.78E 09		2.80E 09	
Ba 140	1.61E 07	1.40E 08	2.76E 08	2.42E 05	7.87E 04		1.44E 05	
Ce 141	4.75E 04	3.99E 08	6.42E 05	3.20E 05	1.40E 05			

*$\dfrac{\text{mrem/yr}}{\text{uCi/m}^3}$

TABLE 4-14

R VALUES - VEGETATION - TEEN

$$\frac{m^2\,mrem/yr}{uCi\text{-}sec}$$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	2.61E 03	2.61E 03		2.61E 03	2.61E 03	2.61E 03	2.61E 03
Cr 51	6.11E 04	1.03E 07			1.34E 04	3.39E 04	8.72E 04
Mn 54	8.79E 07	9.89E 08		4.43E 08	1.32E 08		
Fe 55	5.13E 07	9.53E 07	3.10E 08	2.20E 08			1.40E 08
Fe 59	1.60E 08	9.78E 08	1.77E 08	4.14E 08			1.30E 08
Co 58	9.79E 07	5.85E 08		4.25E 07			
Co 60	5.57E 08	3.22E 09		2.47E 08			
Zn 65	8.68E 08	7.88E 08	5.36E 08	1.86E 09	1.19E 09		
Sr 89	4.36E 08	1.81E 09	1.52E 10				
Sr 90	2.05E 11	2.33E 10	8.32E 11				
Zr 95	3.68E 05	1.23E 09	1.69E 06	5.35E 05	7.86E 06		
I 131	5.77E 07	2.13E 07	7.68E 07	1.07E 08	1.85E 08	3.14E 10	
I 133	1.01E 06	2.51E 06	1.96E 06	3.32E 06	5.83E 06	4.64E 08	
Cs 134	7.54E 09	2.02E 08	6.96E 09	1.62E 10	5.16E 09		1.97E 09
Cs 136	1.13E 08	1.35E 07	4.28E 07	1.68E 08	9.16E 07		1.44E 07
Cs 137	4.90E 09	2.00E 08	1.06E 10	1.41E 10	4.78E 09		1.86E 09
Ba 140	8.88E 06	2.12E 08	1.38E 08	1.69E 05	5.72E 04		1.14E 05
Ce 141	2.12E 04	5.29E 08	2.77E 05	1.85E 05	8.70E 04		

$$*\frac{mrem/yr}{uCi/m^3}$$

TABLE 4-15

R VALUES - VEGETATION - ADULT

$\frac{m^2 \text{ mrem/yr}}{\text{uCi-sec}}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3*	2.28E 03	2.28E 03		2.28E 03	2.28E 03	2.28E 03	2.28E 03
Cr 51	4.60E 04	1.16E 07			1.01E 04	2.75E 04	6.10E 04
Mn 54	5.83E 07	9.36E 08		3.05E 08	9.09E 07		
Fe 55	3.22E 07	7.91E 07	2.00E 08	1.38E 08			7.69E 07
Fe 59	1.12E 08	9.75E 08	1.24E 08	2.93E 08			8.17E 07
Co 58	6.71E 07	6.07E 08		2.99E 07			
Co 60	3.67E 08	3.12E 09		1.66E 08			
Zn 65	5.77E 08	8.04E 08	4.01E 08	1.28E 09	8.54E 08		
Sr 89	2.87E 08	1.60E 09	1.08E 10				
Sr 90	1.64E 11	1.93E 10	6.70E 11				
Zr 95	2.51E 05	1.17E 09	1.16E 06	3.71E 05	5.82E 05		
I 131	6.61E 07	3.04E 07	8.07E 07	1.15E 08	1.98E 08	3.78E 10	
I 133	1.12E 06	3.30E 06	2.11E 06	3.67E 06	6.40E 06	5.39E 08	
Cs 134	8.83E 09	1.89E 08	4.54E 09	1.08E 10	3.49E 09		1.16E 09
Cs 136	1.19E 08	1.88E 07	4.19E 07	1.66E 08	9.21E 07		1.26E 07
Cs 137	5.94E 09	1.76E 08	6.63E 09	9.07E 09	3.08E 09		1.02E 09
Ba 140	8.40E 06	2.64E 08	1.28E 08	1.61E 05	5.47E 04		9.22E 04
Ce 141	1.48E 04	4.99E 08	1.93E 05	1.31E 05	6.07E 04		

*$\frac{\text{mrem/yr}}{\text{uCi/m}^3}$

TABLE 4-16

R VALUES - INHALATION - INFANT

$\frac{m^2 \text{mrem/yr}}{\text{uCi-sec}}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	
H 3*	6.46E 02	6.46E 02		6.46E 02	6.46E 02	6.46E 02	6.46E 02	
Cr 51	8.93E 01	3.56E 02			1.32E 01	5.75E 01	1.28E 04	
Mn 54	4.98E 03	7.05E 03		2.53E 04	4.98E 03		9.98E 05	
Fe 55	3.33E 03	1.09E 03	1.97E 04	1.17E 04			8.69E 04	4
Fe 59	9.46E 03	2.47E 04	1.35E 04	2.36E 04			1.01E 06	
Co 58	1.82E 03	1.11E 04		1.22E 03			7.76E 05	
Co 60	1.18E 04	3.18E 04		8.01E 03			4.50E 06	
Zn 65	3.10E 04	5.13E 04	1.93E 04	6.25E 04	3.24E 04		6.46E 05	
Sr 89	1.14E 04	6.39E 04	3.97E 05				2.03E 06	
Sr 90	2.59E 06	1.31E 05	4.08E 07				1.12E 07	
Zr 95	2.03E 04	2.17E 04	1.15E 05	2.78E 04	3.10E 04		1.75E 06	
I 131	1.96E 04	1.06E 03	3.79E 04	4.43E 04	5.17E 04	1.48E 07		
I 133	5.59E 03	2.15E 03	1.32E 04	1.92E 04	2.24E 04	3.55E 06		
Cs 134	7.44E 04	1.33E 03	3.96E 05	7.02E 05	1.90E 05		7.95E 04	
Cs 136	5.28E 04	1.43E 03	4.82E 04	1.34E 05	5.63E 04		1.17E 04	
Cs 137	4.54E 04	1.33E 03	5.48E 05	6.11E 05	1.72E 05		7.12E 04	
Ba 140	2.89E 03	3.83E 04	5.59E 01	5.59E 01	1.34E 01		1.59E 06	
Ce 141	1.99E 03	2.15E 04	2.77E 04	1.66E 04	5.24E 03		5.16E 05	

*$\frac{\text{mrem/yr}}{\text{uCi/m}^3}$

TABLE 4-17

R VALUES - INHALATION - CHILD

$\frac{\text{mrem/yr}}{\text{uCi/m}^3}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	
H 3	1.12E 03	1.12E 03		1.12E 03	1.12E 03	1.12E 03	1.12E 03	
Cr 51	1.54E 02	1.08E 03			2.43E 01	8.53E 01	1.70E 04	
Mn 54	9.50E 03	2.29E 04		4.29E 04	1.00E 04		1.57E 06	
Fe 55	7.77E 03	2.87E 03	4.74E 04	2.52E 04			1.11E 05	4
Fe 59	1.67E 04	7.06E 04	2.07E 04	3.34E 04			1.27E 06	
Co 58	3.16E 03	3.43E 04		1.77E 03			1.10E 06	
Co 60	2.26E 04	9.61E 04		1.31E 04			7.06E 06	
Zn 65	7.02E 04	1.63E 04	4.25E 04	1.13E 05	7.13E 04		9.94E 05	
Sr 89	1.72E 04	1.67E 05	5.99E 05				2.15E 06	
Sr 90	6.43E 06	3.43E 05	1.01E 08				1.47E 07	
Zr 95	3.69E 04	6.10E 04	1.90E 05	4.17E 04	5.95E 04		2.23E 06	
I 131	2.72E 04	2.84E 03	4.80E 04	4.80E 04	7.87E 04	1.62E 07		
I 133	7.68E 03	5.47E 03	1.66E 04	2.03E 04	3.37E 04	3.84E 06		
Cs 134	2.24E 05	3.84E 03	6.50E 05	1.01E 06	3.30E 05		1.21E 05	
Cs 136	1.16E 05	4.17E 03	6.50E 04	1.71E 05	9.53E 04		1.45E 04	
Cs 137	1.28E 05	3.61E 03	9.05E 05	8.24E 05	2.82E 05		1.04E 05	
Ba 140	4.32E 03	1.02E 05	7.39E 01	6.47E 01	2.11E 01		1.74E 06	
Ce 141	2.89E 03	5.65E 04	3.92E 04	1.95E 04	8.53E 03		5.43E 05	

TABLE 4-18

R VALUES - INHALATION - TEEN

$\frac{\text{mrem/yr}}{\text{uCi/m}^3}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG	
H 3	1.27E 03	1.27E 03		1.27E 03	1:27E 03	1.27E 03	1.27E 03	
Cr 51	1.35E 02	3.00E 03			3.07E 01	7.49E 01	2.09E 04	
Mn 54	8.39E 03	6.67E 04		5.10E 04	1.27E 04		1:98E 06	
Fe 55	5.54E 03	6.39E 03	3.34E 04	2.38E 04			1.24E 05	4
Fe 59	1.43E 04	1.78E 05	1.59E 04	3.69E 04			1.53E 06	
Co 58	2.77E 03	9.51E 04		2.07E 03			1.34E 06	
Co 60	1.98E 04	2.59E 05		1.51E 04			8.71E 06	
Zn 65	6.23E 04	4.66E 04	3.85E 04	1.33E 05	8.63E 04		1.24E 06	
Sr 89	1.25E 04	3.71E 05	4.34E 05				2.41E 06	
Sr 90	6.67E 06	7.64E 05	1.08E 08				1.65E 07	
Zr 95	3.15E 04	1.49E 05	1.45E 05	4.58E 04	6.73E 04		2.68E 06	
I 131	2.64E 04	6.48E 03	3.54E 04	4.90E 04	8.39E 04	1.46E 07		
I 133	6.21E 03	1.03E 04	1.21E 04	2.05E 04	3.59E 04	2.92E 06		
Cs 134	5.48E 05	9.75E 03	5.02E 05	1.13E 06	3.75E 05		1.46E 05	
Cs 136	1.37E 05	1.09E 04	5.14E 04	1.93E 05	1.10E 05		1.77E 04	
Cs 137	3.11E 05	8.47E 03	6.69E 05	8.47E 05	3.04E 05		1.21E 05	
Ba 140	3.51E 03	2.28E 05	5.46E 04	6.69E 01	2.24E 01		2.03E 06	
Ce 141	2.16E 03	1.26E 05	2.84E 04	1.89E 04	8.87E 03		6.13E 05	

TABLE 4-19

R VALUES - INHALATION - ADULT

$\frac{\text{mrem/yr}}{\text{uCi/m}^3}$

NUCLIDE	T. BODY	GI-TRACT	BONE	LIVER	KIDNEY	THYROID	LUNG
H 3	1.26E 03	1.26E 03		1.26E 03	1.26E 03	1.26E 03	1.26E 03
Cr 51	9.99E 01	3.32E 03			2.28E 01	5.94E 01	1.44E 04
Mn 54	6.29E 03	7.72E 04		3.95E 04	9.83E 03		1.40E 06
Fe 55	3.94E 03	6.03E 03	2.46E 04	1.70E 04			7.21E 04 4
Fe 59	1.05E 04	1.88E 05	1.17E 04	2.77E 04			1.01E 06
Co 58	2.07E 03	1.06E 05		1.58E 03			9.27E 05
Co 60	1.48E 04	2.84E 05		1.15E 04			5.96E 06
Zn 65	4.65E 04	5.34E 04	3.24E 04	1.03E 05	6.89E 04		8.63E 05
Sr 89	8.71E 03	3.49E 05	3.04E 05				1.40E 06
Sr 90	6.09E 06	7.21E 05	9.91E 07				9.59E 06
Zr 95	2.32E 04	1.50E 05	1.07E 05	3.44E 04	5.41E 04		1.77E 06
I 131	2.05E 04	6.27E 03	2.52E 04	3.57E 04	6.12E 04	1.19E 07	
I 133	4.51E 03	8.87E 03	8.63E 03	1.48E 04	2.58E 04	2.15E 06	
Cs 134	7.27E 05	1.04E 04	3.72E 05	8.47E 05	2.87E 05		9.75E 04
Cs 136	1.10E 04	1.17E 04	3.90E 04	1.46E 05	8.55E 04		1.20E 04
Cs 137	4.27E 05	8.39E 03	4.78E 05	6.20E 05	2.22E 05		7.51E 04
Ba 140	2.56E 03	2.18E 05	3.90E 04	4.90E 01	1.67E 01		1.27E 06
Ce 141	1.53E 03	1.20E 05	1.99E 04	1.35E 04	6.25E 03		3.61E 05

TABLE 4-20

R VALUES - GROUND - ALL AGE GROUPS

$\frac{M^2\text{-mrem/yr}}{\mu\text{Ci/sec}}$

NUCLIDE	T. BODY	
Cr 51	4.66E 06	
Mn 54	1.34E 09	
Fe 55	--------	4
Fe 59	2.75E 08	
Co 58	3.79E 08	
Co 60	2.15E 10	
Zn 65	7.49E 08	
Sr 89	2.23E 04	
Zr 95	2.49E 08	
I 131	1.72E 07	
I 133	2.47E 06	
Cs 134	6.82E 09	
Cs 136	1.49E 08	
Cs 137	1.03E 10	
Ba 140	2.05E 07	
Ce 141	1.36E 07	
I 135	Later	
Ba/La 140	Later	
Nb 95	Later	
Sb 125	Later	

Nine Mile Point Nuclear Station Unit 1
Radiological Environmental Monitoring Program
Sampling Locations

Table 5.1

Type of Sample	*Map Location	Collection Site	(Env. Program No.)	Location
Radioiodine and Particulates (air)	1	Nine Mile Point Road North	(R-1)	1.8 mi @ 88° E
Radioiodine and Particulates (air)	2	Co. Rt. 29 & Lake Road	(R-2)	1.1 mi @ 104° ESE
Radioiodine and Particulates (air)	3	Co. Rt. 29	(R-3)	1.5 mi @ 132° SE
Radioiodine and Particulates (air)	4	Village of Lycoming, NY	(R-4)	1.8 mi @ 143° SE
Radioiodine and Particulates (air)	5	Montario Point Road	(R-5)	16.4 mi @ 42° NE
Direct Radiation (TLD)	6	North Shoreline Area	(75)	0.1 mi @ 5° N
Direct Radiation (TLD)	7	North Shoreline Area	(76)	0.1 mi @ 25° NNE
Direct Radiation (TLD)	8	North Shoreline Area	(77)	0.2 mi @ 45° NE
Direct Radiation (TLD)	9	North Shoreline Area	(23)	0.8 mi @ 70° ENE
Direct Radiation (TLD)	10	JAF East Boundary	(78)	1.0 mi @ 90° E
Direct Radiation (TLD)	11	Rt. 29	(79)	1.1 mi @ 115° ESE
Direct Radiation (TLD)	12	Rt. 29	(80)	1.4 mi @ 133° SE
Direct Radiation (TLD)	13	Miner Road	(81)	1.6 mi @ 159° SSE
Direct Radiation (TLD)	14	Miner Road	(82)	1.6 mi @ 181° S
Direct Radiation (TLD)	15	Lakeview Road	(83)	1.2 mi @ 200° SSW
Direct Radiation (TLD)	16	Lakeview Road	(84)	1.1 mi @ 225° SW
Direct Radiation (TLD)	17	Site Meteorological Tower	(7)	0.7 mi @ 250° WSW
Direct Radiation (TLD)	18	Energy Information Center	(18)	0.4 mi @ 265° W

*Map - See Figures 5.1-1 and 5.1-2

Nine Mile Point Nuclear Station Unit 1
Radiological Environmental Monitoring Program
Sampling Locations

Table 5.1
(Continued)

Type of Sample	*Map Location	Collection Site (Env. Program No.)	Location
Direct Radiation (TLD)	19	North Shoreline (85)	0.2 mi @ 294° WNW
Direct Radiation (TLD)	20	North Shoreline (86)	0.1 mi @ 315° NW
Direct Radiation (TLD)	21	North Shoreline (87)	0.1 mi @ 341° NNW
Direct Radiation (TLD)	22	Hickory Grove (88)	4.5 mi @ 97° E
Direct Radiation (TLD)	23	Leavitt Road (89)	4.1 mi @ 111° ESE
Direct Radiation (TLD)	24	Rt. 104 (90)	4.2 mi @ 135° SE
Direct Radiation (TLD)	25	Rt. 51A (91)	4.8 mi @ 156° SSE
Direct Radiation (TLD)	26	Maiden Lane Road (90)	4.4 mi @ 183° S
Direct Radiation (TLD)	27	Co. Rt. 53 (93)	4.4 mi @ 205° SSW
Direct Radiation (TLD)	28	Co. Rt. 1 (94)	4.7 mi @ 223° SW
Direct Radiation (TLD)	29	Lake Shoreline (95)	4.1 mi @ 237° WSW
Direct Radiation (TLD)	30	Phoenix, NY Control (49)	19.8 mi @ 170° S
Direct Radiation (TLD)	31	S. W. Oswego, Control (14)	12.6 mi @ 226° SW
Direct Radiation (TLD)	32	Scriba, NY (96)	3.6 mi @ 199° SSW
Direct Radiation (TLD)	33	Alcan Aluminum, Rt. 1A (58)	3.1 mi @ 220° SW
Direct Radiation (TLD)	34	Lycoming, NY (97)	1.8 mi @ 143° SE
Direct Radiation (TLD)	35	New Haven, NY (56)	5.3 mi @ 123° ESE
Direct Radiation (TLD)	36	W. Boundary, Bible Camp (15)	0.9 mi @ 237° WSW
Direct Radiation (TLD)	37	Lake Road (98)	1.2 mi @ 101° E
Surface Water	38	OSS Inlet Canal (NA)	7.6 mi @ 235° SW
Surface Water	39	JAFNPP Inlet Canal (NA)	0.5 mi @ 70° ENE

(NA) = not applicable
*Map = See Figures 5.1-1 and 5.1-2

Nine Mile Point Nuclear Station Unit 1
Radiological Environmental Monitoring Program
Sampling Locations

Table 5.1
(Continued)

Type of Sample	*Map Location	Collection Site (Env. Program No.)	Location
Shoreline Sediment	40	Sunset Bay Shoreline (NA)	1.5 mi @ 80° E
Fish	41	NMP Site Discharge Area (NA)	0.3 mi @ 315° NW and/or
Fish	42	NMP Site Discharge Area (NA)	0.6 mi @ 55° NE
Fish	43	Oswego Harbor Area (NA)	6.2 mi @ 235° SW
Milk	44	Milk Location #50 (NA)	9.3 mi @ 93° E
Milk	45	Milk Location #7 (NA)	5.5 mi @ 107° ESE
Milk	46	Milk Location #16 (NA)	5.9 mi @ 190° S
Milk	47	Milk Location #65 (NA)	17.0 mi @ 220° SW
Food Product	48	Produce Location #6** (Bergenstock) (NA)	1.9 mi @ 143° SE
Food Product	49	Produce Location #1** (J. Parkhurst) (NA)	1.8 mi @ 96° E
Food Product	50	Produce Location #2** (Vitullo) (NA)	1.9 mi @ 101° E
Food Product	51	Produce Location #5** (C.S. Parkhurst) (NA)	1.5 mi @ 114° ESE
Food Product	52	Produce Location #3** (C. Narewski)	1.6 mi @ 84° E
Food Product	53	Produce Location #4** (S. Morris) (NA)	2.0 mi @ 120° ESE
Food Product (CR)	54	Produce Location #7** (Mc Millen) (NA)	15.0 mi @ 223° SW

Nine Mile Point Nuclear Station Unit 1

Radiological Environmental Monitoring Program

Sampling Locations

Table 5.1

(Continued)

Type of Sample	*Map Location	Collection Site	(Env. Program No.)	Location
Food Product (CR)	55	Produce Location #8** (Denman)	(NA)	12.6 mi @ 225° SW
Food Product	56	Produce Location #9** (O'Connor)	(NA)	1.6 mi @ 171° S
Food Product	57	Produce Location #10** (C. Lawton)	(NA)	2.2 mi @ 123° ESE
Food Product	58	Produce Location #11** (C. R. Parkhurst)	(NA)	2.0 mi @ 122° ESE

*Map - See Figures 5.1-1 and 5.1-2

**Food Product Samples need not necessarily be collected from all listed locations. Collected samples will be of the highest calculated site average D/Q.

(N/A) = not applicable

APPENDIX — A

DOSE PARAMETERS FOR IODINE 131 AND 133, PARTICULATES AND TRITIUM

APPENDIX A

DOSE PARAMETERS FOR IODINE - 131 AND - 133, PARTICULATES AND TRITIUM

This appendix contains the methodology which was used to calculate the dose parameters for I-131, I-133, particulates, and tritium. The dose parameter, R_i, was calculated using the methodology outlined in NUREG-0133 and Regulatory Guide 1.109, Revision 1. The radioiodine and particulate Technical Specification (Section 3.6.15) is applicable to the location in the unrestricted area where the combination of existing pathways and receptor age groups indicates the maximum potential exposure occurs, i.e., the critical receptor. The inhalation and ground plane exposure pathways are considered to exist at all locations but the critical location will be used for dose purposes. The grass-goat-milk, the grass-cow-milk, grass-cow-meat, and vegetation pathways are considered to exist at specific locations. R_i values have been calculated for the adult, teen, child and infant age groups for all pathways. The methodology used to calculate these values follows:

A.1 Inhalation Pathway

$$R = K(BR)_a\ (DFA_i)_a$$

where:

R	= dose factor for each identified radionuclide i of the organ of interest (units = mrem/hr per $\mu Ci/m^3$);
K'	= a constant of unit conversion:
	= 10^6 pCi/μCi;
$(BR)_a$	= Breathing rate of the receptor of age group a, (units = M^3/yr);
$(DFA_i)_a$	= organ inhalation dose factor for radionuclide i for the receptor of age group a, (units = mrem/pCi).

The breathing rates $(BR)_a$ for the various age groups, as given in Table E-5 of Regulatory Guide 1.109 Revision 1, are tabulated below.

Age Group (a)	Breathing Rate (m^3/yr)
Infant	1400
Child	3700
Teen	8000
Adult	8000

Inhalation dose factors $(DFA_i)_a$ for the various age groups are given in Tables E-7 through E-10 of Regulatory Guide 1.109 Revision 1.

A.2 Ground Plane Pathway

$$R_i^G = K'K''(SF)DFG_i \frac{(1-e^{-\lambda_i t})}{\lambda_i}$$

where:

R_i^G = dose factor for the ground plane pathway for each identified radionuclide i for the organ of interest (units = mrem/yr per uCi/sec per m^2)

K' = a constant of unit conversion;

= 10^6 pCi/uCi;

K" = a constant of unit conversion;

= 8760 hr/year;

λ_i = the radiological decay constant for radionuclide i, (units = sec^{-1})

t = the exposure time, sec;

= 4.73×10^8 sec (15 years);

DFG_i = the ground plane dose conversion factor for radionuclide i; (units = mrem/hr per pCi/m^2)

SF = the shielding factor (dimensionless);

A shielding factor of 0.7 is discussed in Table E-15 of Regulatory Guide 1.109 Revision 1. A tabulation of DFG_i values is presented in Table E-6 of Regulatory Guide 1.109 Revision 1.

A.3 Grass-Cow or Goat-Milk Pathway

$$R_i^M = K'Q_F U_{ap} F_m (DFL_i)_a e^{-\lambda_i t_f} \left[f_p f_s \left[\frac{r(1-e^{-\lambda_{E_i} t_e})}{Y_v \lambda_{E_i}} + \frac{B_{iv}(1-e^{-\lambda_i t_b})}{P\lambda_i} \right] + (1-f_p f_s) \left[\frac{r(1-e^{-\lambda_{E_i} t_e})}{Y_s \lambda_{E_i}} + \frac{B_{iv}(1-e^{-\lambda_i t_b})}{P_{\lambda_i}} \right] e^{-\lambda_i t_h} \right]$$

where:

R_i^M = dose factor for the cow milk or goat milk pathway, for each identified radionuclide i for the organ of interest, (units = mrem/yr per uCi/sec per m^{-2})

K' = a constant of unit conversion;

= 10^6 pCi/uCi

Q_F = The cow's or goat's feed consumption rate, (units = Kg/day-wet weight)

U_{ap} = the receptor's milk consumption rate for age group a, (units = liters/yr);

Y_v = the agricultural productivity by unit area of pasture feed grass, (units = kg/m^2);

Y_s = the agricultural productivity by unit area of stored feed, (units = kg/m^2);

F_m = the stable element transfer coefficients, (units = pCi/liter per pCi/day);

r = fraction of deposited activity retained on cow's feed grass;

$(DFL_i)_a$ = the organ ingestion dose factor for radionuclide i for the receptor in age group a, (units = mrem/pCi);

λ_{E_i} = $\lambda_i + \lambda_w$;

λ_i = the radiological decay constant for radionuclide i, (units = sec^{-1});

λ_w = the decay constant for removal of activity on leaf and plant surfaces by weathering

= 5.73×10^{-7} sec^{-1} (corresponding to a 14 day half-life);

t_f = the transport time from feed to cow or goat to milk, to receptor, (units = sec);

t_h = the transport time from harvest, to cow or goat, to consumption, (units = sec);

t_b = period of time that soil is exposed to gaseous effluents, (units = sec);

B_{iv} = concentration factor for uptake of radionuclide i from the soil by the edible parts of crops, (units = pCi/Kg (wet weight) per pCi/Kg (dry soil);

P = effective surface density for soil, (units = Kg (dry soil)/m²);

f_p = fraction of the year that the cow or goat is on pasture*;

f_s = fraction of the cow feed that is pasture grass while the cow is on pasture*;

t_e = period of pasture grass and crop exposure during the growing season, (units = sec);

*Milk cattle and goats are considered to be fed from two potential sources, pasture grass and stored feeds. Following the development in Regulatory Guide 1.109 Revision 1, the value of f_s was considered unity in lieu of site-specific information. The value of f_p was 0.667 based upon an 8-month grazing period.

Table A-1 contains the appropriate values and their source in Regulatory Guide 1.109 Revision 1.

The concentration of tritium in milk is based on the airborne concentration rather than the deposition. Therefore, the R_i is based on X/Q:

$$R_T^M = K'K'''F_m Q_F U_{ap} (DFL_i)_a \quad 0.75(0.5/H)$$

where:

R_T^M = dose factor for the cow or goat milk pathway for tritium for the organ of interest, (units = mrem/yr per uCi/m³);

K''' = a constant of unit conversion;
= 10^3 gm/kg;

H = absolute humidity of the atmosphere, (units = gm/m³);

0.75 = the fraction of total feed that is water;

0.5 = the ratio of the specific activity of the feed grass water to the atmospheric water.

Other values are given above. A value of H of 8 grams/meter³, was used in lieu of site-specific information.

A.4 Grass-Cow-Meat Pathway

$$R_i^B = K'Q_F\,U_{ap}F_F\,(DFL_i)_a\,e^{-\lambda_i t_f}\left[f_p f_s\left[\frac{r(1-e^{-\lambda_{E_i} t_e})}{Y_v\,\lambda_{E_i}} + \frac{B_{iv}(1-e^{-\lambda_i t_b})}{P\lambda_i}\right] + (1-f_p f_s)\left[\frac{r(1-e^{-\lambda_{E_i} t_e})}{Y_s\,\lambda_{E_i}} + \frac{B_{iv}\,(1-e^{-\lambda_i t_b})}{P\lambda_i}\right]e^{-\lambda_i t_h}\right]$$

R_i^B = dose factor for the meat ingestion pathway for radionuclide i for any organ of interest, (units = mrem/yr per uCi/sec per m^{-2});

F_F = the stable element transfer coefficients, (units = days/Kg);

U_{ap} = the receptor's meat consumption rate for age group a, (units = kg/year;

t_s =. the transport time from slaughter to consumption, (units = sec);

t_h = the transport time from harvest to animal consumption, (units = sec);

t_e = period of pasture grass and crop exposure during the growing season, (units = sec)

All other terms remain the same as defined for the milk pathway. Table A-2 contains the values which were used in calculating R_i^B.

The concentration of tritium in meat is based on airborne concentration rather than deposition. Therefore, the R_i is based on X/Q.

$$R_T^B = K'K'''F_fQ_FU_{ap}\ (DFL_i)_a\ [0.75(0.5/H)]$$

where:

R_T^B = dose factor for the meat ingestion pathway for tritium for any organ of interest, (units = mrem/yr per uCi/m³).

All terms are defined above.

A.5 Vegetation Pathway

The integrated concentration in vegetation consumed by man follows the expression developed for milk. Man is considered to consume two types of vegetation (fresh and stored) that differ only in the time period between harvest and consumption, therefore:

$$R_i^V = K'(DFL_i)_a \left[U_a^L f_L \, e^{-\lambda_i t_L} \left[\frac{r\left(1-e^{-\lambda_{E_i} t_e}\right)}{Y_v \lambda_{E_i}} + \frac{B_{iv}\left(1-e^{-\lambda_i t_b}\right)}{P\lambda_i} \right] + U_a^S f_g e^{-\lambda_i t_h} \left[\frac{r\left(1-e^{-\lambda_{E_i} t_e}\right)}{Y_v \lambda_{E_i}} + \frac{B_{iv}\left(1-e^{-\lambda_i t_b}\right)}{P\lambda_i} \right] \right]$$

where:

R_i^V = dose factor for vegetable pathway for radionuclide i for the organ of interest, (units = mrem/yr per uCi/sec per m^{-2});

K' = a constant of unit conversion;
= 10^6 pCi/uCi;

U_a^L = the consumption rate of fresh leafy vegetation by the receptor in age group a, (units = kg/yr);

f_L = the fraction of the annual intake of fresh leafy vegetation grown locally;

f_g = the fraction of the annual intake of stored vegetation grown locally;

t_L = the average time between harvest of leafy vegetation and its consumption, (units = sec);

t_h = the average time between harvest of stored vegetation and its consumption, (units = sec);

Y_v = the vegetation area density, (units = kg/m^2);

t_e = period of leafy vegetable exposure during growing season (units = sec);

All other factors are defined above.

Table A-3 presents the appropriate parameter values and their source in Regulatory Guide 1.109 Revision 1.

In lieu of site-specific data, values for f_L and f_g of, 1.0 and 0.76, respectively, were used in the calculation. These values were obtained from Table E-15 of Regulatory Guide 1.109 Revision 1.

The concentration of tritium in vegetation is based on the airborne concentration rather than the deposition. Therefore, the R_i is based on X/Q:

$$R_T^V = K'K''\left[U_a^L f_L + U_a^S f_g\right](DFL_i)_a \; 0.75(0.5/H)$$

where:

R_T^V = dose factor for the vegetable pathway for tritium for any organ of interest, (units = mrem/yr per uCi/m³).

All other terms are defined in preceeding sections.

TABLE A-1

Parameters for Cow and Goat Milk Pathways

Parameter	Value	Reference (Reg. Guide 1.109 Rev. 1)
Q_F (kg/day)	50 (cow) 6 (goat)	Table E-3 Table E-3
Y_v (kg/m²)	0.7	Table E-15
t_f (seconds)	1.73×10^5 (2 days)	Table E-15
r	1.0 (radioiodines) 0.2 (particulates)	Table E-15 Table E-15
$(DFL_i)_a$ (mrem/pCi)	Each radionuclide	Tables E-11 to E-14
F_m (pCi/day per pCi/liter)	Each stable element	Table E-1 (cow) Table E-2 (goat)
t_b (seconds)	4.73×10^8 (15 yr)	Table E-15
Y_s (kg/m²)	2.0	Table E-15
Y_v (kg/m²)	0.7	Table E-15
t_h (seconds)	7.78×10^6 (90 days)	Table E-15
U_{ap} (liters/yr)	330 infant 330 child 400 teen 310 adult	Table E-5 Table E-5 Table E-5 Table E-5
t_e (seconds)	2.59×10^6 (pasture) 5.18×10^6 (stored feed)	Table E-15
B_{iv} (pCi/Kg (wet weight) per pCi/Kg (dry soil))	Each stable element	Table E-1
P (Kg dry soil/m²)	240	Table E-15

TABLE A-2

Parameters for the Meat Pathway

Parameter	Value	Reference (Reg. Guide 1.109 Rev. 1)
r	1.0 (radioiodines) 0.2 (particulates)	Table E-15 Table E-15
F_f (pCi/Kg per pCi/day)	Each stable element	Table E-1
U_{ap} (Kg/yr)	0 infant 41 child 65 teen 110 adult	Table E-5 Table E-5 Table E-5 Table E-5
$(DFL_i)_a$ (mrem/pCi)	Each radionuclide	Tables E-11 to E-14
Y_v (kg/m²)	0.7	Table E-15
Y_s (kg/m²).	2.0	Table E-15
t_b (seconds)	4.73×10^8 (15 yr)	Table E-15
t_s (seconds)	1.73×10^6 (20 days)	Table E-15
t_h (seconds)	7.78×10^6 (90 days)	Table E-15
t_e (seconds)	2.59×10^6 (pasture) 5.18×10^6 (stored feed)	Table E-15
Q_F (kg/day)	50	Table E-3
B_{iv} (pCi/Kg (wet weight per pCi/Kg (dry soil))	Each stable element	Table E-1
P (Kg (dry soil)/m²)	240	Table E-15

TABLE A-3

Parameters for the Vegetable Pathway

Parameter	Value	Reference (Reg. Guide 1.109 Rev. 1
r (dimensionless)	1.0 (radioiodines)	Table E-1
	0.2 (particulates)	Table E-1
$(DFL_i)_a$ (mrem/Ci)	Each radionuclide	Tables E-11 to E-14
U_a^L (kg/yr) - infant	0	Table E-5
- child	26	Table E-5
- teen	42	Table E-5
- adult	64	Table E-5
U_a^S (kg/yr) - infant	0	Table E-5
- child	520	Table E-5
- teen	630	Table E-5
- adult	520	Table E-5
t_L (seconds)	8.6×10^4 (1 day)	Table E-15
t_h (seconds)	5.18×10^6 (60 days)	Table E-15
Y_v (kg/m²)	2.0	Table E-15
t_e (seconds)	5.18×10^6 (60 days)	Table E-15
t_b (seconds)	4.73×10^8 (15 yr)	Table E-15
P(Kg(dry soil)/m²)	240	Table E-15
B_{iv}(pCi/Kg (wet weight) per pCi/kg (dry soil))	Each stable element	Table E-1

APPENDIX — B

DIAGRAMS OF LIQUID AND GASEOUS RADWASTE TREATMENT SYSTEMS

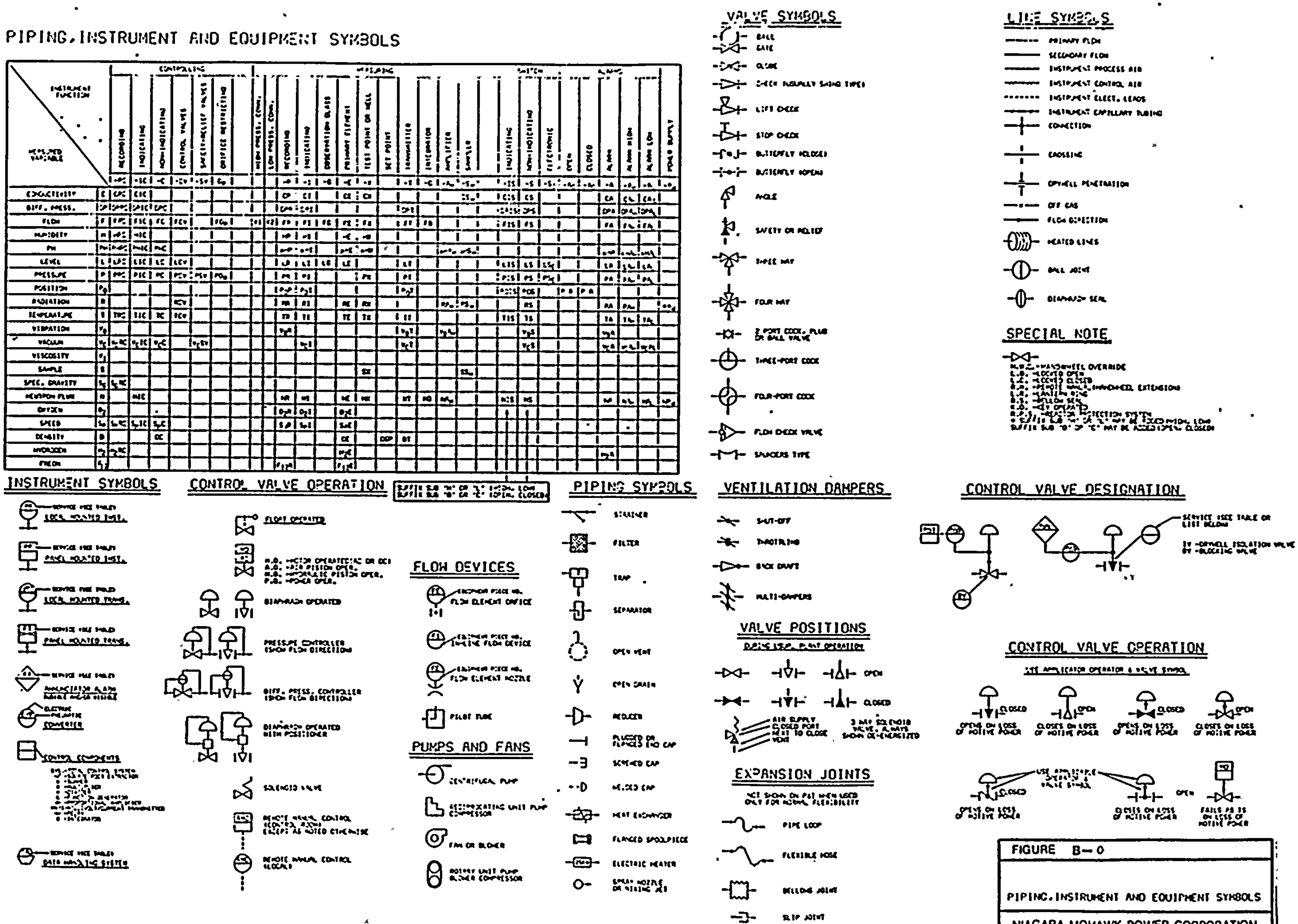


FIGURE B—0

PIPING, INSTRUMENT AND EQUIPMENT SYMBOLS

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 1
OFFSITE DOSE CALC. MANUAL

RADIOACTIVE WASTE DISPOSAL SYSTEM

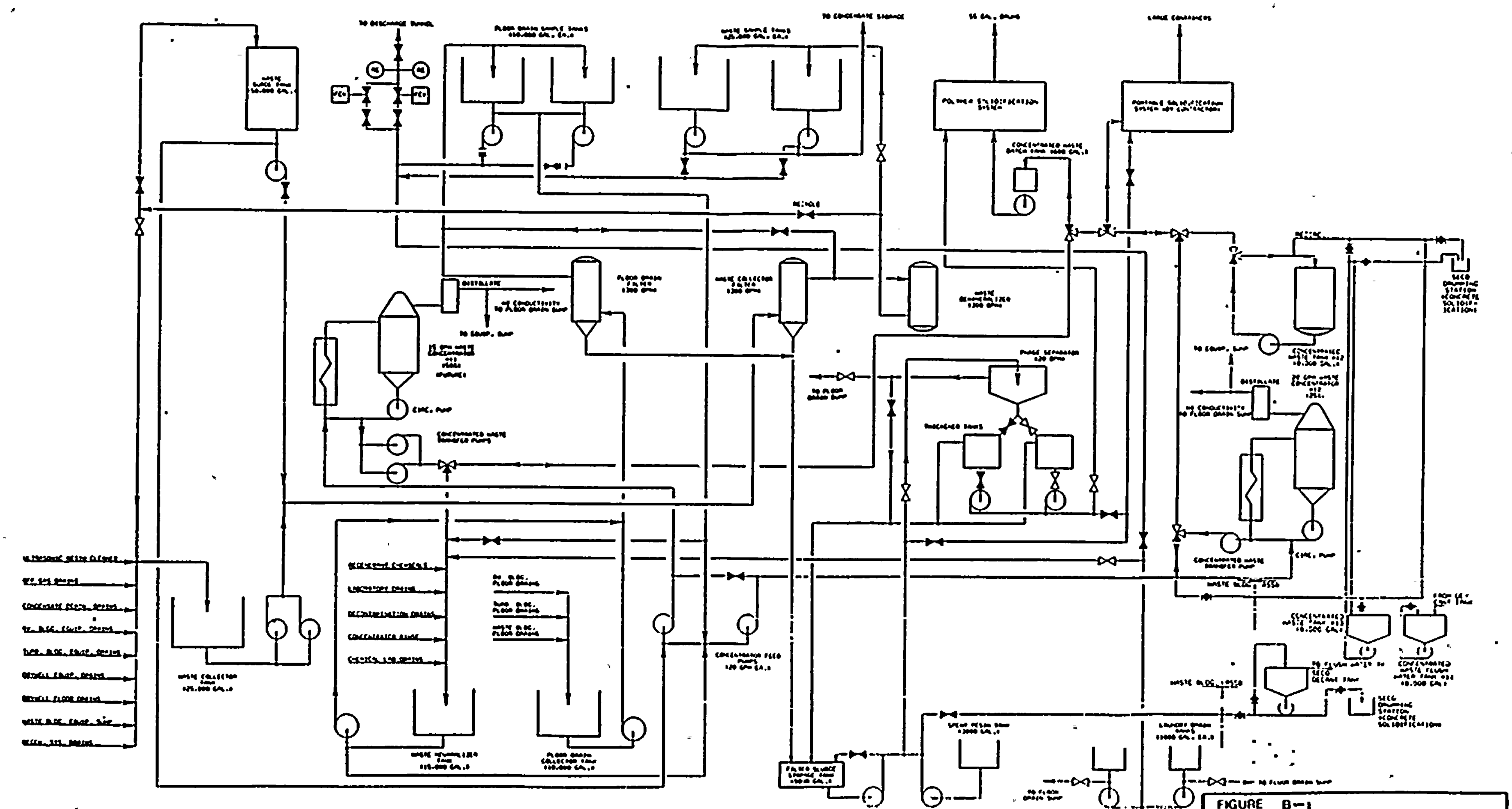


FIGURE B-1

Radioactive Waste Disposal System

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 1

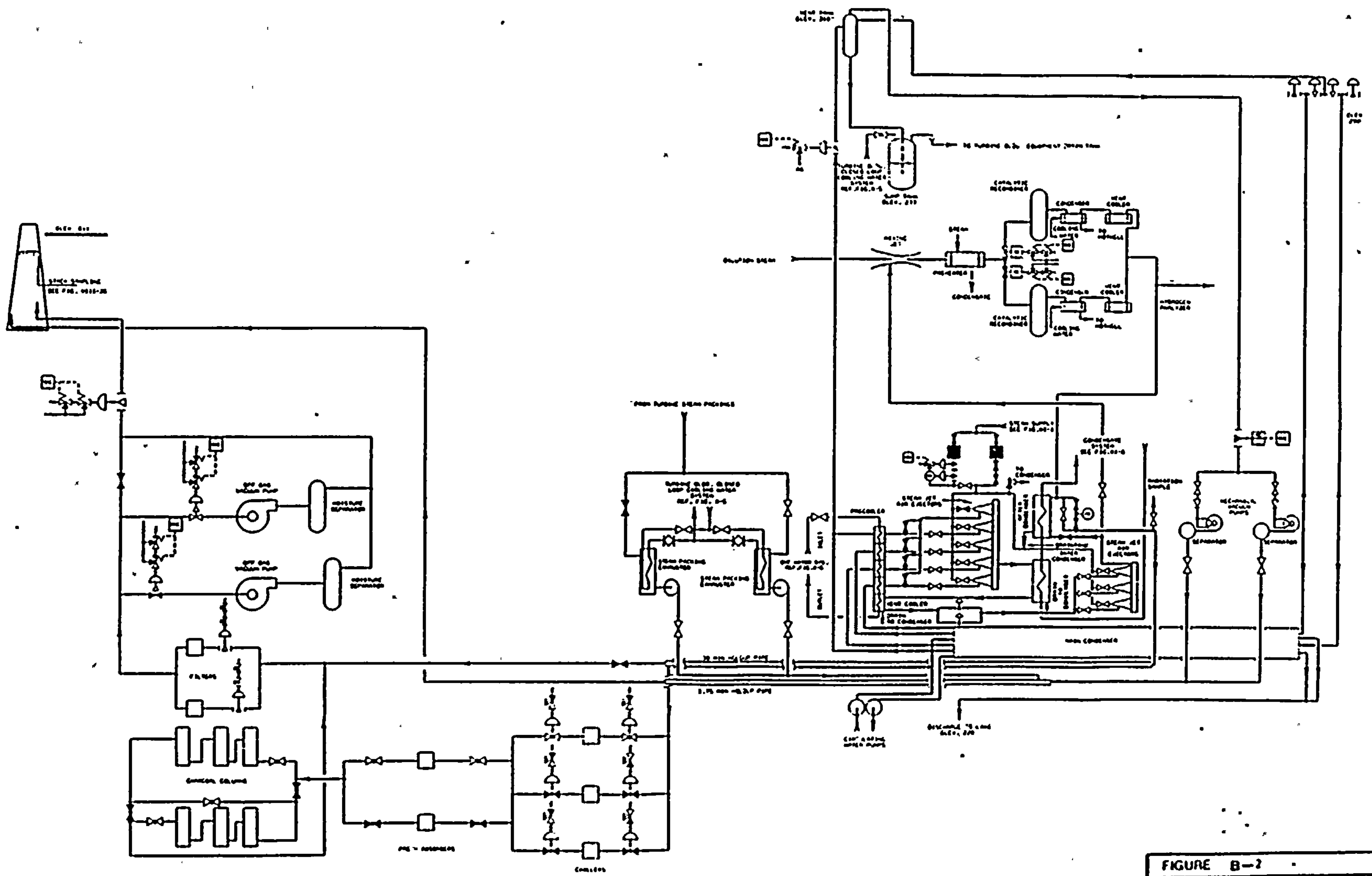


FIGURE B-2

Steam Packing Exhauster & Recombiner System

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 1
OFFSITE DOSE CALC. MANUAL

REACTOR BUILDING VENTILATION SYSTEM

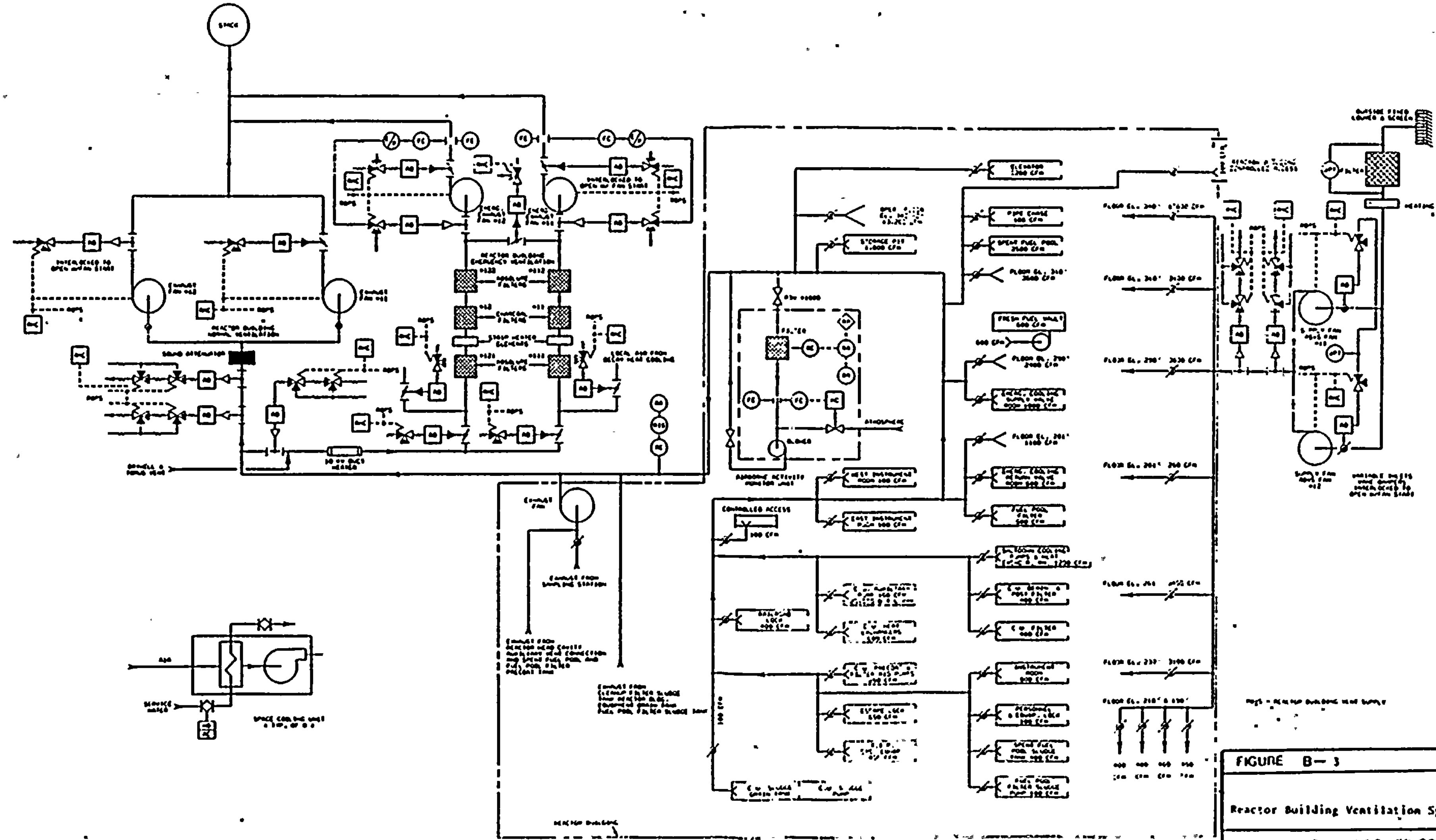


FIGURE B-3

Reactor Building Ventilation System

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 1
OFFSITE DOSE CALC. MANUAL

WASTE DISPOSAL BUILDING VENTILATION SYSTEM

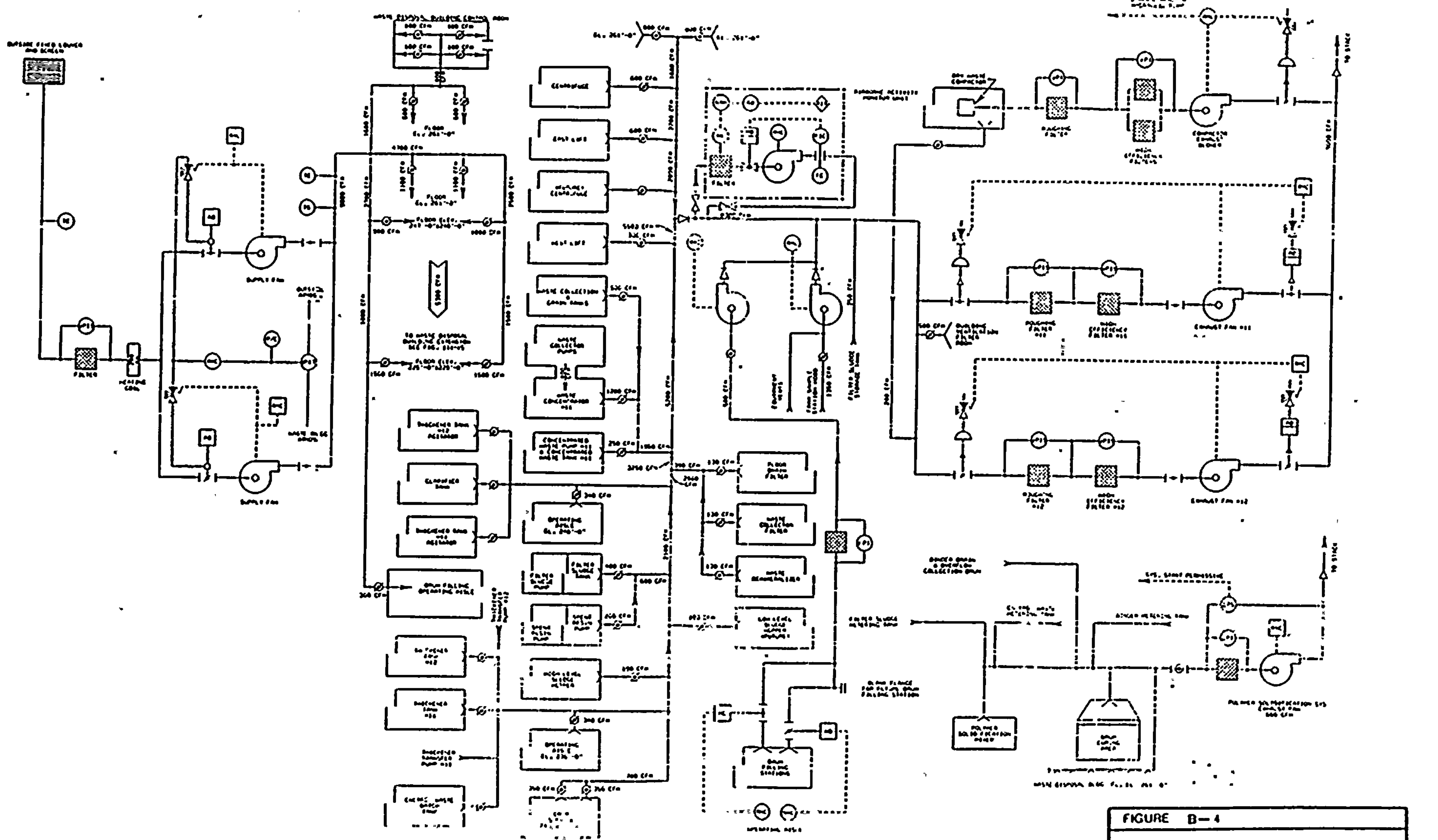
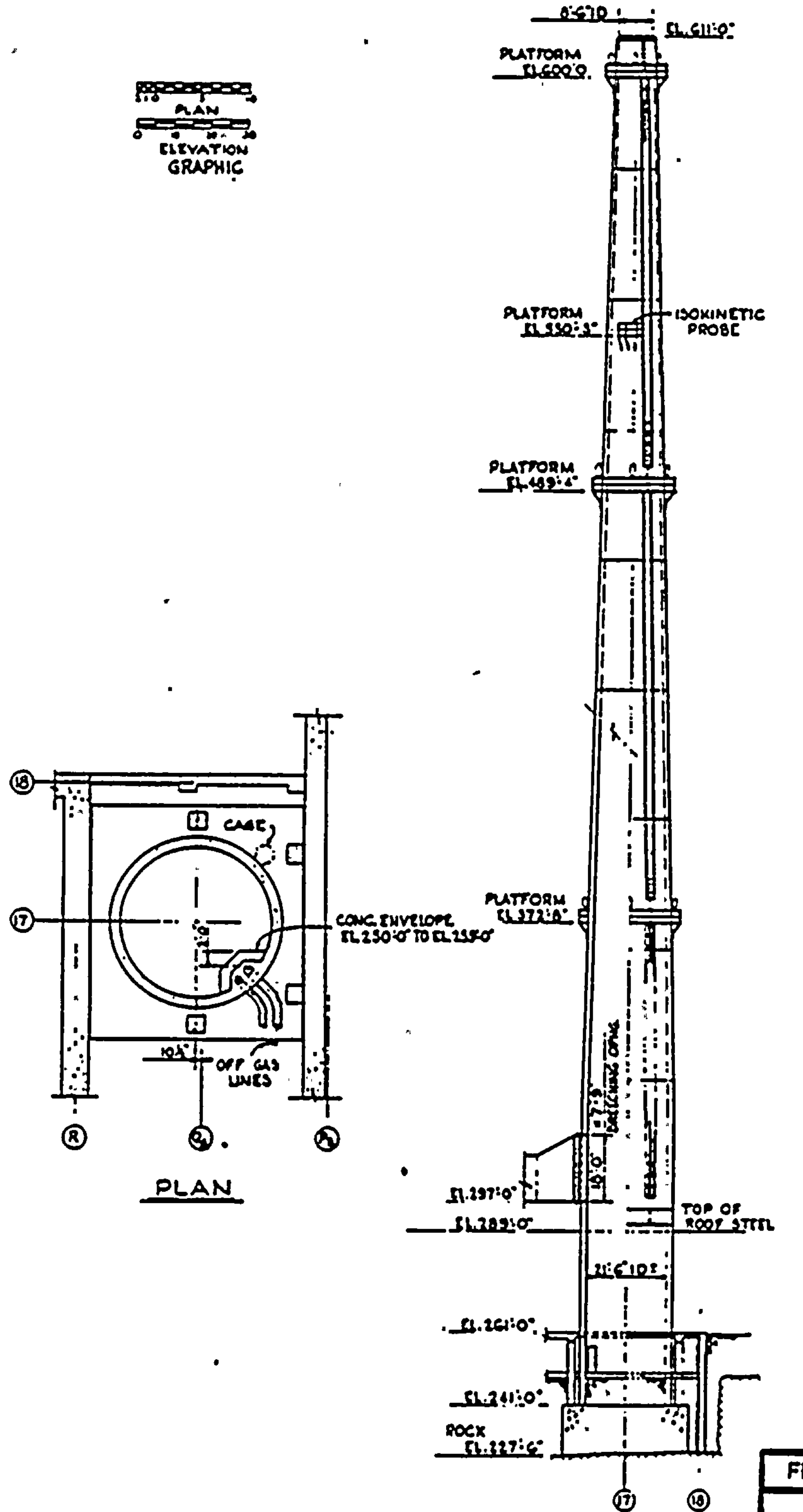


FIGURE B—4

Waste Disposal Bldg. Ventilation System

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 1
OFFSITE DOSE CALC. MANUAL

STACK - PLAN AND ELEVATION



PLAN

ELEVATION
LOOKING NORTH

FIGURE B-5

NMP-1 Stack

NIAGARA MOHAWK POWER CORPORATIC
NINE MILE POINT-UNIT 1
OFFSITE DOSE CALC. MANUAL

OFF GAS BUILDING VENTILATION SYSTEM

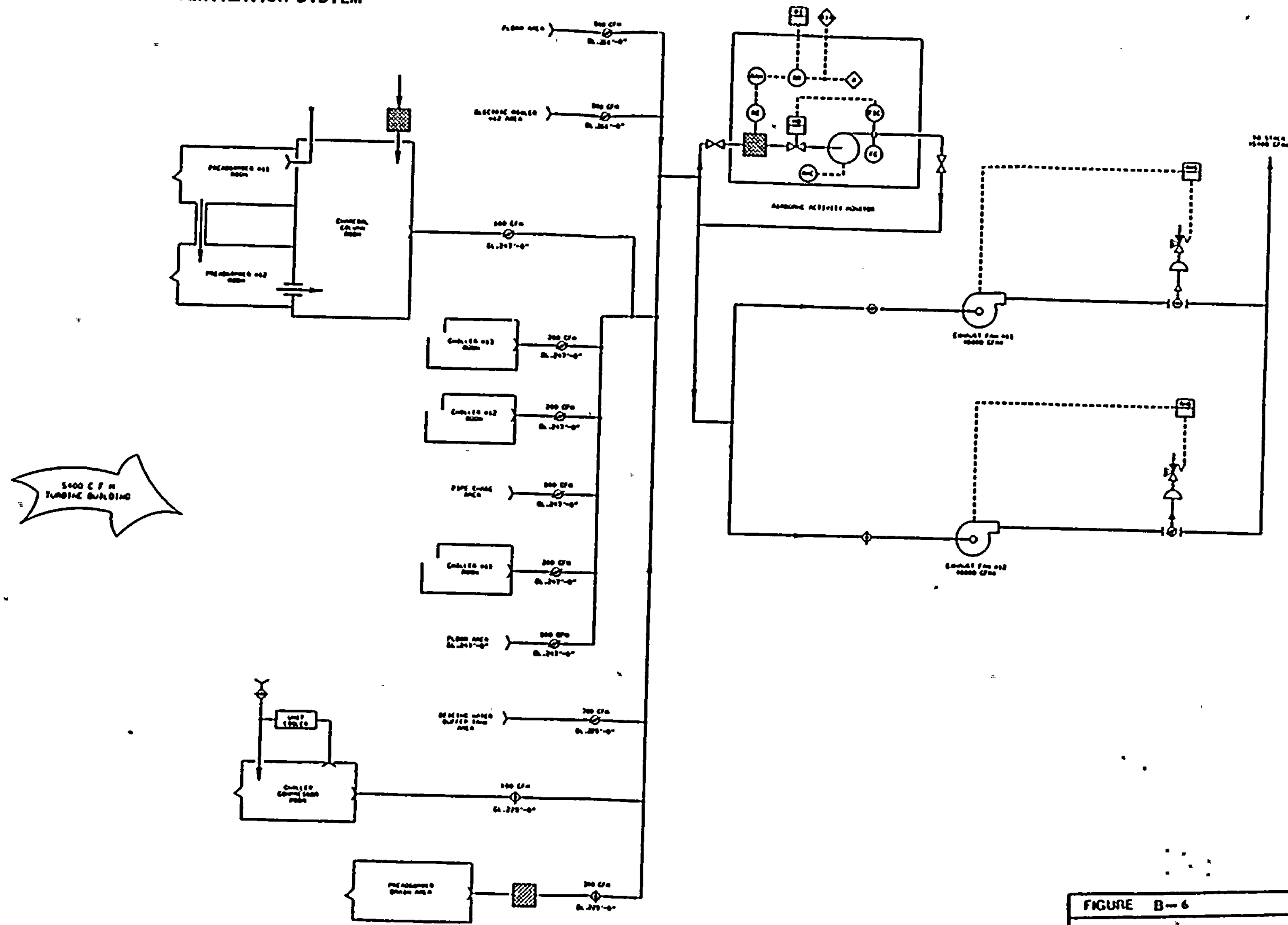


FIGURE B-6

Off-Gas Building Ventilation System

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 1
OFFSITE DOSE CALC. MANUAL

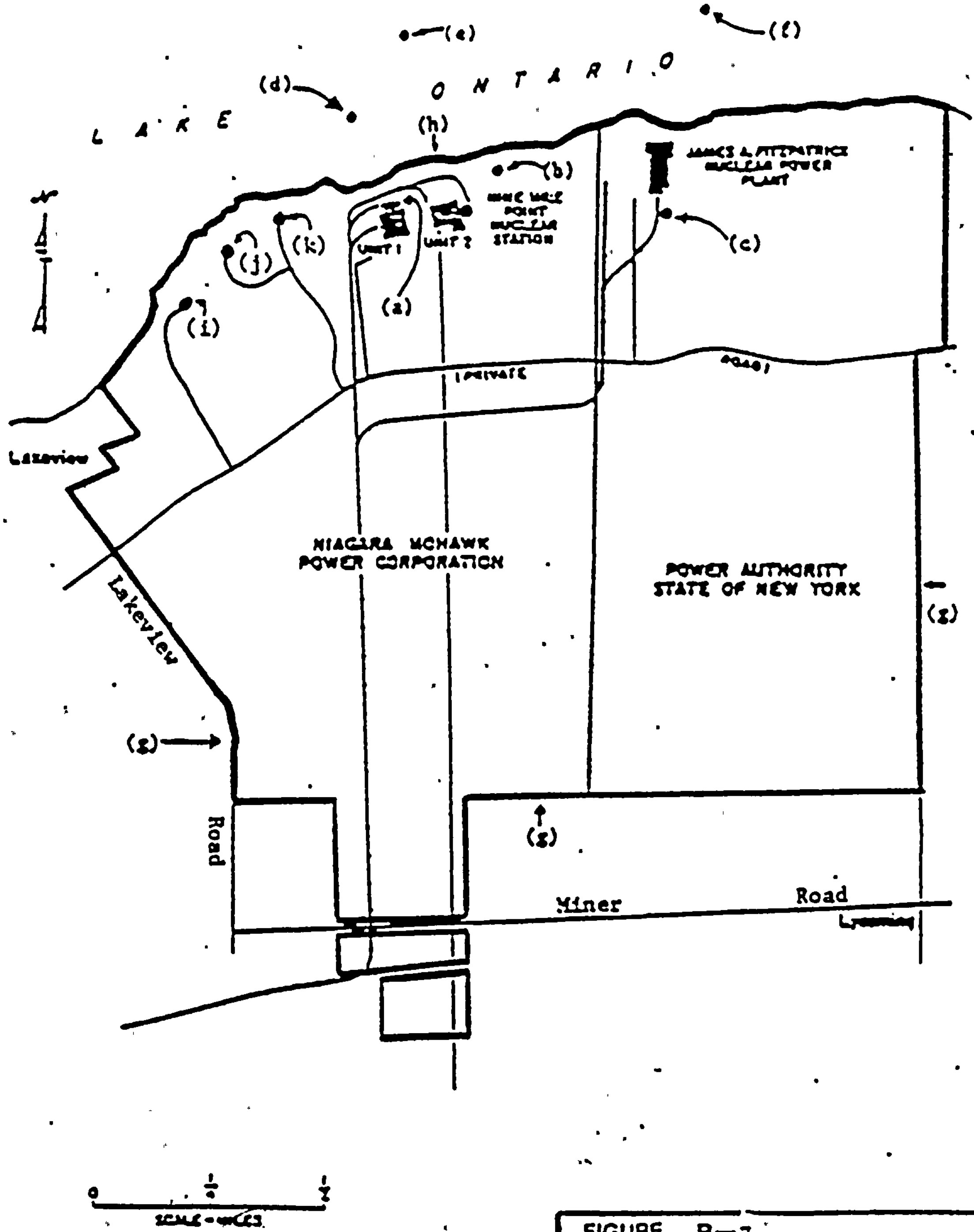


FIGURE B—7

Site Boundaries

NIAGARA MOHAWK POWER CORPORATIO
NINE MILE POINT-UNIT 1
OFFSITE DOSE CALC. MANUAL

NINE MILE POINT

NOTES TO FIGURE B—7

(a) NMP1 Stack (height is 350')
(b) NMP2 Stack (height is 430')
(c) JAFNPP Stack (height is 385')
(d) NMP1 Radioactive Liquid Discharge (Lake Ontario, bottom)
(e) NMP2 Radioactive Liquid Discharge (Lake Ontario, bottom)
(f) JAFNPP Radioactive Liquid Discharge (Lake Ontario, bottom)
(g) Site Boundary
(h) Lake Ontario Shoreline
(i) Meteorological Tower
(j) Training Center
(k) Energy Information Center

Additional Information:

- NMP2 Reactor Building Vent is located 187 feet above ground level
- JAFNPP Reactor and Turbine Building Vents are located 173 feet above ground level
- JAFNPP Radwaste Building Vent is 112 feet above ground level
- The Energy Information Center and adjoining picnic area are UNRESTRICTED AREAS within the SITE BOUNDARY that are accessible to MEMBERS OF THE PUBLIC
- Lake Road, a private road, is an UNRESTRICTED AREA within the SITE BOUNDARY accessible to MEMBERS OF THE PUBLIC

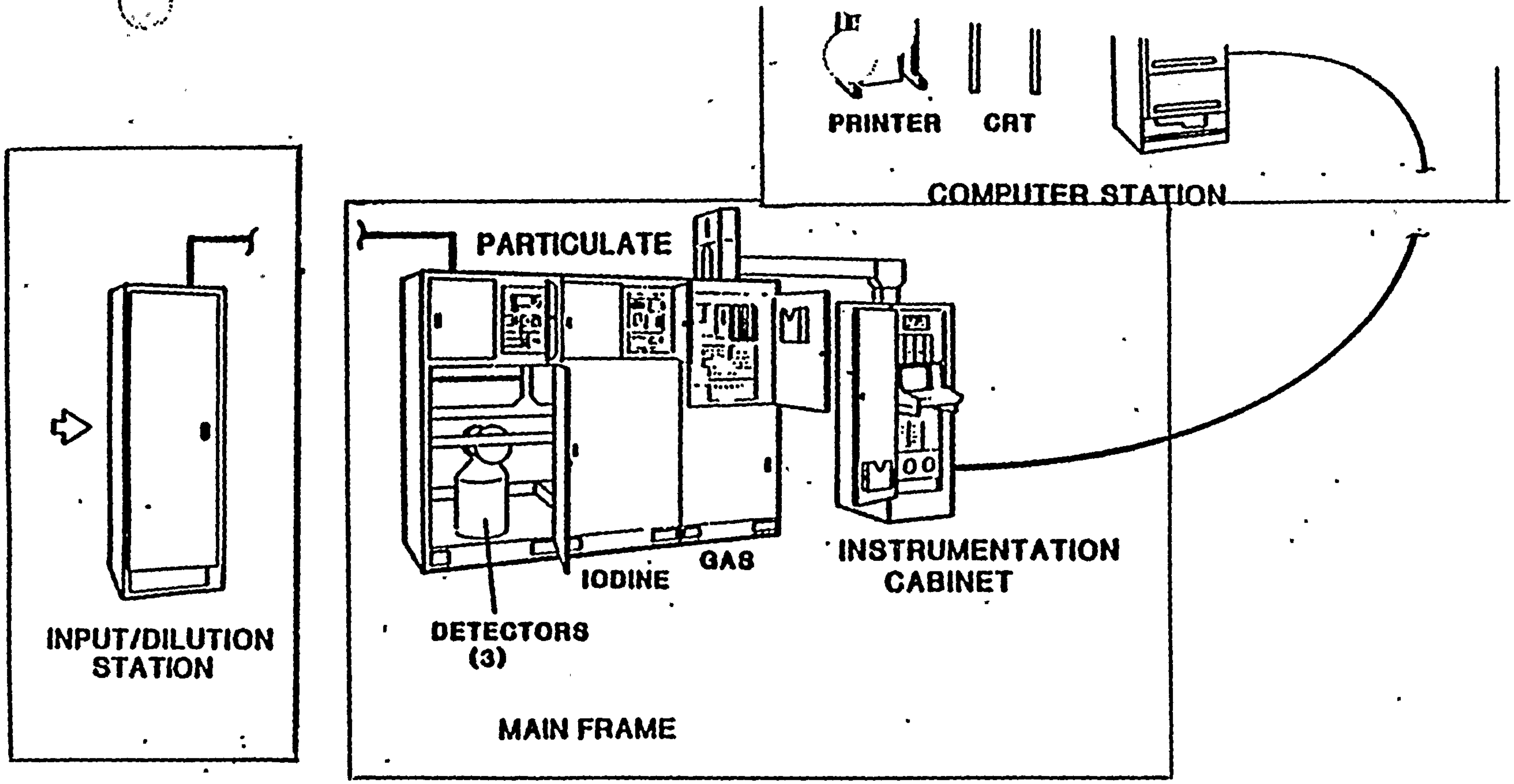


FIGURE B-8

Simplified View of Model 400 Stack Monitor

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 1
OFFSITE DOSE CALC. MANUAL

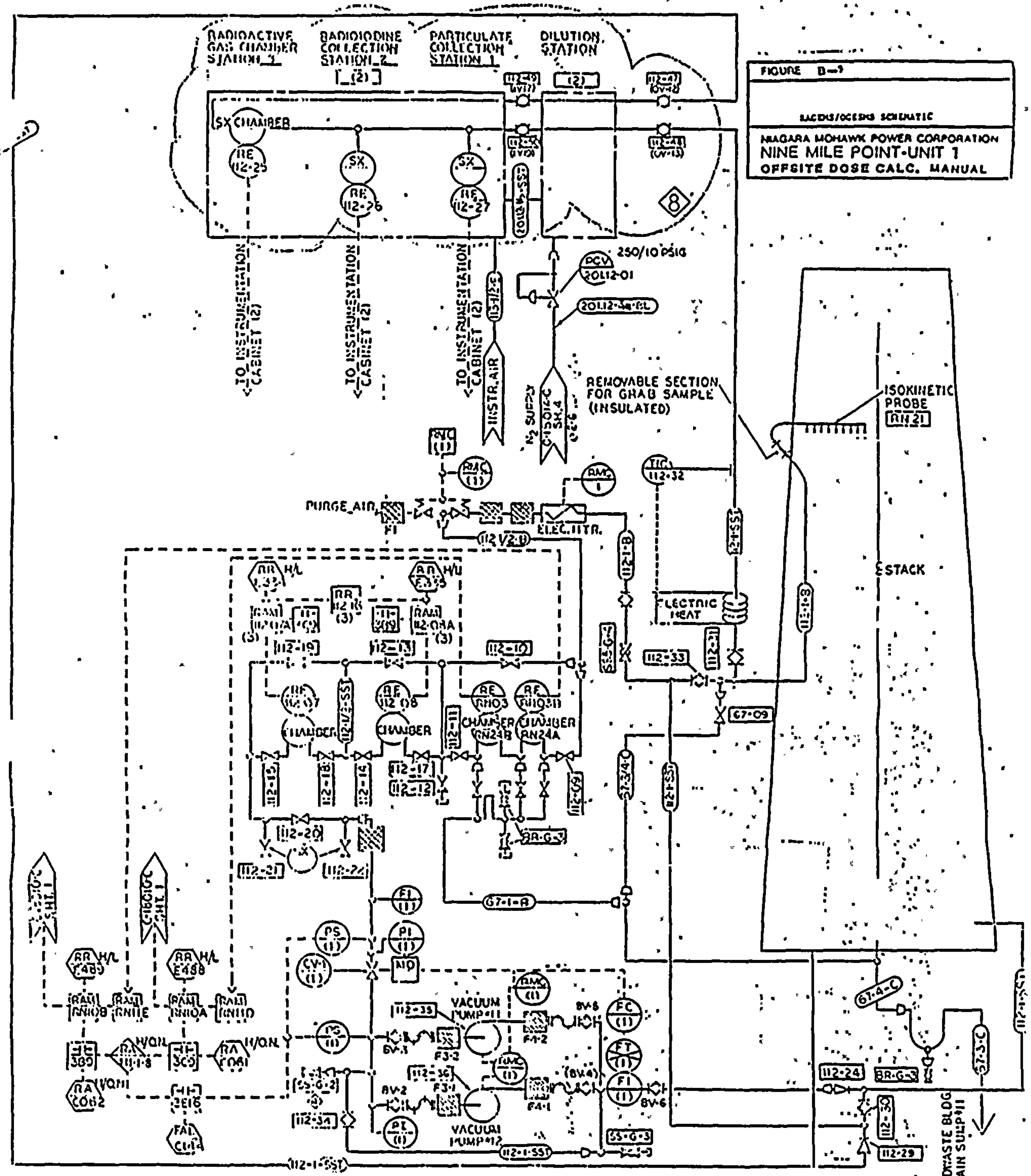


FIGURE B-?
NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT-UNIT 1
OFFSITE DOSE CALC. MANUAL
RADIOACTIVE GAS CHAMBER STATION 3
RADIOIODINE COLLECTION STATION 2
PARTICULATE COLLECTION STATION 1
DILUTION STATION
SX CHAMBER
TO INSTRUMENTATION CABINET (2)
INSTR. AIR
N2 SUPPLY
250/10 PSIG
REMOVABLE SECTION FOR GRAB SAMPLE (INSULATED)
ISOKINETIC PROBE
STACK
PURGE AIR
ELEC. HTR.
ELECTRIC HEAT
CHAMBER
VACUUM PUMP #11
VACUUM PUMP #12
RADWASTE BLDG DRAIN SUMP #11

APPENDIX –C

DISPERSION CALCULATION TABLES

TABLE C-1

D/Q TABLE

(ANNUAL METEOROLOGICAL DATA)

NMP UNIT #1 STACK
CORRECTED FOR OPEN TERRAIN RECIRCULATION
******************** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS ********************

DIRECTION FROM SITE	DISTANCES IN MILES .50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50
S	1.040E-08	3.260E-09	1.264E-09	6.781E-10	4.229E-10	2.891E-10	2.101E-10	1 594E-10	1.251E-10	1.007E-10	8.272E-11
SSW	1.206E-08	3.727E-09	1.462E-09	7.871E-10	4.921E-10	3.367E-10	2.447E-10	1.856E-10	1.454E-10	1.168E-10	9.586E-11
SW	7.441E-09	2.403E-09	9.852E-10	5.443E-10	3.459E-10	2.390E-10	1.747E-10	1.328E-10	1.042E-10	8.366E-11	6.851E-11
WSW	2.169E-09	7.632E-10	3.243E-10	1.835E-10	1.184E-10	8.260E-11	6.074E-11	4.638E-11	3.645E-11	2.932E-11	2.402E-11
W	2.456E-09	8.591E-10	3.688E-10	2.088E-10	1.349E-10	9.420E-11	6.927E-11	5.288E-11	4.155E-11	3.339E-11	2.734E-11
WNW	5.076E-09	1.744E-09	7.438E-10	4.205E-10	2.711E-10	1.890E-10	1.389E-10	1.059E-10	8.318E-11	6.682E-11	5.469E-11
NW	1.666E-08	4.947E-09	1.961E-09	1.057E-09	6.605E-10	4.514E-10	3.274E-10	2.477E-10	1.936E-10	1.552E-10	1.269E-10
NNW	1.582E-08	4.662E-09	1.814E-09	9.669E-10	6.003E-10	4.086E-10	2.957E-10	2.236E-10	1.747E-10	1.401E-10	1.148E-10
N	1.517E-08	4.701E-09	1.883E-09	1.024E-09	6.446E-10	4.427E-10	3.222E-10	2.445E-10	1.914E-10	1.537E-10	1.259E-10
NNE	6.572E-09	2.130E-09	8.904E-10	4.964E-10	3.172E-10	2.198E-10	1.609E-10	1.224E-10	9.592E-11	7.696E-11	6.294E-11
NE	8.968E-09	2.651E-09	1.076E-09	5.056E-10	3.684E-10	2.527E-10	1.835E-10	1.389E-10	1.084E-10	8.678E-11	7.083E-11
ENE	3.003E-08	8.677E-09	3.400E-09	1.815E-09	1.128E-09	7.674E-10	5.549E-10	4.191E-10	3.271E-10	2.619E-10	2.141E-10
E	4.315E-08	1.213E-08	4.694E-09	2.481E-09	1.531E-09	1.037E-09	7.472E-10	5.630E-10	4.387E-10	3.510E-10	2.868E-10
ESE	2.837E-08	7.971E-09	3.072E-09	1.620E-09	9.982E-10	6.755E-10	4.867E-10	3.667E-10	2.857E-10	2.287E-10	1.869E-10
SE	2.122E-08	6.252E-09	2.430E-09	1.295E-09	8.035E-10	5.469E-10	3.957E-10	2.992E-10	2.338E-10	1.875E-10	1.536E-10
SSE	1.073E-08	3.302E-09	1.278E-09	6.832E-10	4.251E-10	2.901E-10	2.105E-10	1.596E-10	1.251E-10	1.006E-10	8.261E-11

DIRECTION FROM SITE	DISTANCES IN MILES 6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	15.00	20.00
S	6.917E-11	5.999E-11	5.298E-11	4.718E-11	4.232E-11	3.821E-11	3.470E-11	3.167E-11	2.904E-11	1.533E-11	9.664E-12
SSW	8.001E-11	6.934E-11	6.121E-11	5.449E-11	4.886E-11	4.409E-11	4.001E-11	3.650E-11	3.344E-11	1.754E-11	1.099E-11
SW	5.704E-11	4 963E-11	4.379E-11	3.896E-11	3.492E-11	3.149E-11	2.856E-11	2.604E-11	2.384E-11	1.242E-11	7.742E-12
WSW	2.000E-11	1.749E-11	1.544E-11	1.373E-11	1.231E-11	1.110E-11	1.007E-11	9.183E-12	8.412E-12	4.393E-12	2.746E-12
W	2 274E-11	1.988E-11	1.754E-11	1.561E-11	1.398E-11	1.261E-11	1.144E-11	1.042E-11	9.546E-12	4.968E-12	3.097E-12
WNW	4.547E-11	3.973E-11	3.505E-11	3.118E-11	2.794E-11	2.519E-11	2.284E-11	2.082E-11	1.906E-11	9.907E-12	6.168E-12
NW	1.056E-10	9.127E-11	8.052E-11	7.163E-11	6.417E-11	5.785E-11	5.245E-11	4.779E-11	4.375E-11	2.266E-11	1.405E-11
NNW	9.565E-11	8.256E-11	7.286E-11	6.483E-11	5.810E-11	5.240E-11	4.753E-11	4.333E-11	3.968E-11	2.066E-11	1.286E-11
N	1.048E-10	9.092E-11	8.023E-11	7.139E-11	6.398E-11	5.770E-11	5.234E-11	4.771E-11	4.369E-11	2.276E-11	1.418E-11
NNE	5.231E-11	4.555E-11	4.018E-11	3.573E-11	3.201E-11	2.886E-11	2.616E-11	2.384E-11	2.182E-11	1.130E-11	7.012E-12
NE	5.879E-11	5.083E-11	4.482E-11	3.985E-11	3.568E-11	3.214E-11	2 912E-11	2.652E-11	2.425E-11	1.245E-11	7.663E-12
ENE	1.781E-10	1.535E-10	1.354E-10	1.205E-10	1.079E-10	9.728E-11	8.818E-11	8.034E-11	7.352E-11	3.799E-11	2.351E-11
E	2.385E-10	2.050E-10	1.808E-10	1.608E-10	1.440E-10	1.298E-10	1.176E-10	1.072E-10	9.805E-11	5.054E-11	3.119E-11
ESE	1.555E-10	1.336E-10	1.179E-10	1.048E-10	9.390E-11	8.464E-11	7.672E-11	6.989E-11	6.395E-11	3.301E-11	2.040E-11
SE	1.280E-10	1.105E-10	9.751E-11	8.677E-11	7.776E-11	7.014E-11	6.362E-11	5.799E-11	5.311E-11	2.765E-11	1.722E-11
SSE	6.903E-11	5.979E-11	5.279E-11	4.701E-11	4.216E-11	3.806E-11	3.455E-11	3.153E-11	2.890E-11	1.522E-11	9.569E-12

TABLE C-2

D/Q TABLE

(GRAZING SEASON METEOROLOGICAL DATA)

NMP UNIT #1 STACK
CORRECTED FOR OPEN TERRAIN RECIRCULATION
******************** RELATIVE DEPOSITION PER UNIT AREA (M**-2) AT FIXED POINTS BY DOWNWIND SECTORS ********************

DIRECTION FROM SITE	DISTANCES IN MILES .50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50
S	1.079E-08	3.324E-09	1.270E-09	6.748E-10	4.182E-10	2.848E-10	2.064E-10	1.565E-10	1.227E-10	9.876E-11	8.120E-11
SSW	1.030E-08	3.242E-09	1.270E-09	6.849E-10	4.287E-10	2.936E-10	2.136E-10	1.622E-10	1.272E-10	1.023E-10	8.401E-11
SW	5.999E-09	1.974E-09	8.074E-10	4.464E-10	2.839E-10	1 964E-10	1.436E-10	1.093E-10	8.580E-11	6.898E-11	5.655E-11
WSW	1.658E-09	5.939E-10	2.526E-10	1.432E-10	9.253E-11	6.463E-11	4.757E-11	3.635E-11	2.859E-11	2.300E-11	1.886E-11
W	1.872E-09	6.736E-10	2.912E-10	1.662E-10	1.078E-10	7.548E-11	5.560E-11	4.249E-11	3.340E-11	2.686E-11	2.200E-11
WNW	4.629E-09	1.579E-09	6.677E-10	3.760E-10	2.418E-10	1.683E-10	1.236E-10	9.423E-11	7.398E-11	5.945E-11	4.867E-11
NW	1.586E-08	4.782E-09	1.906E-09	1.032E-09	6.468E-10	4.430E-10	3.217E-10	2.437E-10	1.906E-10	1.528E-10	1.251E-10
NNW	1.556E-08	4.658E-09	1.818E-09	9.728E-10	6.055E-10	4.129E-10	2.993E-10	2.265E-10	1.772E-10	1.422E-10	1.165E-10
N	1.631E-08	5.076E-09	2.031E-09	1.105E-09	6.953E-10	4.776E-10	3.477E-10	2.639E-10	2.067E-10	1.659E-10	1.360E-10
NNE	6.522E-09	2.113E-09	8.802E-10	4.899E-10	3.127E-10	2.167E-10	1.585E-10	1.206E-10	9.451E-11	7.585E-11	6.205E-11
NE	7.276E-09	2.222E-09	9.141E-10	5.028E-10	3.185E-10	2.194E-10	1.598E-10	1.212E-10	9.478E-11	7.591E-11	6.199E-11
ENE	2.955E-08	8.799E-09	3.489E-09	1.880E-09	1.176E-09	8.036E-10	5.829E-10	4.412E-10	3.448E-10	2.764E-10	2.261E-10
E	3.971E-08	1.143E-08	4.461E-09	2.375E-09	1.473E-09	1.001E-09	7.236E-10	5.463E-10	4.263E-10	3.414E-10	2.792E-10
ESE	2.305E-08	6.595E-09	2.553E-09	1.353E-09	8.361E-10	5.672E-10	4.094E-10	3.089E-10	2.410E-10	1.930E-10	1.579E-10
SE	1.880E-08	5.557E-09	2.143E-09	1.138E-09	7.045E-10	4.789E-10	3.464E-10	2.619E-10	2.048E-10	1.644E-10	1.347E-10
SSE	1.120E-08	3.361E-09	1.277E-09	6.743E-10	4.161E-10	2.824E-10	2.042E-10	1.545E-10	1.210E-10	9.728E-11	7.993E-11

2

DIRECTION FROM SITE	DISTANCES IN MILES 6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	15.00	20.00
S	6.796E-11	5.884E-11	5.197E-11	4.628E-11	4.153E-11	3.750E-11	3.406E-11	3.109E-11	2.851E-11	1.508E-11	9.521E-12
SSW	7.018E-11	6.090E-11	5.377E-11	4.787E-11	4.294E-11	3.876E-11	3.518E-11	3.210E-11	2.943E-11	1.549E-11	9.741E-12
SW	4.712E-11	4.105E-11	3.623E-11	3.224E-11	2.890E-11	2.607E-11	2.366E-11	2.157E-11	1.976E-11	1.034E-11	6.467E-12
WSW	1.571E-11	1.375E-11	1.214E-11	1.080E-11	9.682E-12	8.734E-12	7.925E-12	7.227E-12	6.621E-12	3.465E-12	2.170E-12
W	1.830E-11	1.603E-11	1.414E-11	1.258E-11	1.127E-11	1.017E-11	9.220E-12	8.405E-12	7.698E-12	4.012E-12	2.504E-12
WNW	4.049E-11	3.536E-11	3.120E-11	2.776E-11	2.487E-11	2.243E-11	2.034E-11	1.854E-11	1.698E-11	8.838E-12	5.509E-12
NW	1.041E-10	9.007E-11	7.947E-11	7.069E-11	6.334E-11	5.711E-11	5.178E-11	4.719E-11	4.320E-11	2.241E-11	1.392E-11
NNW	9.714E-11	8.397E-11	7.411E-11	6.595E-11	5.911E-11	5.332E-11	4.837E-11	4.411E-11	4.040E-11	2.108E-11	1.315E-11
N	1.133E-10	9.828E-11	8.673E-11	7.717E-11	6.917E-11	6.239E-11	5.659E-11	5.160E-11	4.726E-11	2.465E-11	1.538E-11
NNE	5.158E-11	4.491E-11	3.962E-11	3.524E-11	3.157E-11	2.846E-11	2.580E-11	2.351E-11	2.152E-11	1.116E-11	6.930E-12
NE	5.146E-11	4.462E-11	3.935E-11	3.499E-11	3.133E-11	2.823E-11	2.558E-11	2.330E-11	2.131E-11	1.097E-11	6.766E-12
ENE	1.882E-10	1.627E-10	1.435E-10	1.277E-10	1.144E-10	1.031E-10	9.350E-11	8.520E-11	7.799E-11	4.042E-11	2.508E-11
E	2.323E-10	2.001E-10	1.765E-10	1.570E-10	1.407E-10	1.268E-10	1.150E-10	1.047E-10	9.587E-11	4.957E-11	3.069E-11
ESE	1.314E-10	1.131E-10	9.982E-11	8.879E-11	7.955E-11	7.172E-11	6.502E-11	5.925E-11	5.424E-11	2.808E-11	1.740E-11
SE	1.124E-10	9.702E-11	8.564E-11	7.622E-11	6.833E-11	6.165E-11	5.593E-11	5.101E-11	4.673E-11	2.442E-11	1.525E-11
SSE	6.684E-11	5.774E-11	5.099E-11	4.540E-11	4.073E-11	3.677E-11	3.338E-11	3.047E-11	2.793E-11	1.473E-11	9.268E-12

TABLE C-3

X/Q

(ANNUAL METEOROLOGICAL DATA)

NMP UNIT #1 STACK
NO DECAY, UNDEPLETED
CORRECTED FOR OPEN TERRAIN RECIRCULATION

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

SECTOR	.500	1.000	1.500	2.000	2.500	3.000	3.500	4.000	4.500	5.000	5.500
S	4.107E-07	9.970E-08	4.264E-08	2.558E-08	1.802E-08	1.386E-08	1.124E-08	9.449E-09	8.144E-09	7.158E-09	6.388E-09
SSW	4.880E-07	1.209E-07	5.133E-08	3.052E-08	2.132E-08	1.626E-08	1 309E-08	1.092E-08	9.348E-09	8.166E-09	7.244E-09
SW	3.857E-07	9.486E-08	4.046E-08	2.463E-08	1.766E-08	1.377E-08	1.128E-08	9.545E-09	8.260E-09	7.276E-09	6.497E-09
WSW	2.014E-07	4.984E-08	2.092E-08	1.273E-08	9.289E-09	7.436E-09	6.265E-09	5.444E-09	4.829E-09	4.349E-09	3.961E-09
W	2.802E-07	6.731E-08	2.787E-08	1.678E-08	1.211E-08	9.590E-09	8.008E-09	6.908E-09	6.091E-09	5.457E-09	4.948E-09
WNW	4.206E-07	1.028E-07	4.326E-08	2.617E-08	1.870E-08	1.456E-08	1.192E-08	1.008E-08	8.719E-09	7.677E-09	6.851E-09
NW	1.119E-06	2.695E-07	1.087E-07	6.292E-08	4.340E-08	3.292E-08	2.643E-08	2.203E-08	1.885E-08	1.644E-08	1.457E-08
NNW	1.062E-06	2.555E-07	1.027E-07	5.898E-08	4.041E-08	3.052E-08	2.445E-08	2.037E-08	1.743E-08	1.522E-08	1.351E-08
N	1.113E-06	2.705E-07	1.101E-07	6.422E-08	4.459E-08	3.403E-08	2.747E-08	2.301E-08	1.977E-08	1.732E-08	1.540E-08
NNE	6.664E-07	1.611E-07	6.560E-08	3.859E-08	2.711E-08	2.092E-08	1.706E-08	1.441E-08	1.247E-08	1.099E-08	9.816E-09
NE	7.774E-07	1.855E-07	7.430E-08	4.275E-08	2.939E-08	2.228E-08	1.792E-08	1.498E-08	1.287E-08	1.128E-08	1.004E-08
ENE	1.390E-06	3.376E-07	1.367E-07	7.877E-08	5.381E-08	4.036E-08	3.205E-08	2.644E-08	2.242E-08	1.942E-08	1.710E-08
E	1.550E-06	3.789E-07	1.541E-07	8.870E-08	6.036E-08	4.507E-08	3.564E-08	2.930E-08	2.477E-08	2.140E-08	1.880E-08
ESE	8.385E-07	2.044E-07	8.386E-08	4.862E-08	3.323E-08	2.486E-08	1.967E-08	1.617E-08	1.366E-08	1.179E-08	1.035E-08
SE	5.927E-07	1.459E-07	6.182E-08	3.679E-08	2.559E-08	1.936E-08	1.544E-08	1.275E-08	1.081E-08	9.365E-09	8.241E-09
SSE	3.647E-07	8.798E-08	3.762E-08	2.260E-08	1.593E-08	1.225E-08	9.926E-09	8.333E-09	7.173E-09	6.300E-09	5.617E-09

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

BEARING	6.000	6.500	7.000	7.500	8.000	8.500	9.000	9.500	10.000	15.000	20.000
S	5.765E-09	5.277E-09	4.899E-09	4.568E-09	4.275E-09	4.014E-09	3.780E-09	3.570E-09	3.380E-09	2.269E-09	1.689E-09
SSW	6.503E-09	5.923E-09	5.473E-09	5.080E-09	4.735E-09	4.429E-09	4.155E-09	3.910E-09	3.690E-09	2.414E-09	1.764E-09
SW	5.863E-09	5.363E-09	4.975E-09	4.633E-09	4.330E-09	4.060E-09	3.818E-09	3.600E-09	3.403E-09	2.254E-09	1.659E-09
WSW	3.640E-09	3.384E-09	3.184E-09	3.005E-09	2.842E-09	2.695E-09	2.560E-09	2.436E-09	2.323E-09	1.635E-09	1.247E-09
W	4.529E-09	4.197E-09	3.939E-09	3.708E-09	3.500E-09	3.312E-09	3.141E-09	2.985E-09	2.842E-09	1.983E-09	1.506E-09
WNW	6.181E-09	5.653E-09	5.242E-09	4.881E-09	4.562E-09	4.277E-09	4,022E-09	3.792E-09	3.585E-09	2.375E-09	1.748E-09
NW	1.306E-08	1.189E-08	1.097E-08	1.018E-08	9.477E-09	8.858E-09	8.307E-09	7.813E-09	7.368E-09	4.802E-09	3.498E-09
NNW	1.213E-08	1.105E-08	1.022E-08	9.496E-09	8.859E-09	8.294E-09	7.790E-09	7.338E-09	6.931E-09	4.573E-09	3.362E-09
N	1.386E-08	1.265E-08	1.171E-08	1.089E-08	1.017E-08	9.526E-09	8.953E-09	8.437E-09	7.972E-09	5.270E-09	3.876E-09
NNE	8.867E-09	8.122E-09	7.542E-09	7.033E-09	6.582E-09	6.179E-09	5.818E-09	5.493E-09	5.198E-09	3.474E-09	2.570E-09
NE	9.039E-09	8.263E-09	7.664E-09	7.141E-09	6.681E-09	6.273E-09	5.908E-09	5.580E-09	5.284E-09	3.566E-09	2.666E-09
ENE	1.525E-08	1.381E-08	1.270E-08	1.174E-08	1.090E-08	1.016E-08	9.507E-09	8.924E-09	8.402E-09	5.429E-09	3.950E-09
E	1.673E-08	1.512E-08	1.388E-08	1.281E-08	1.187E-08	1.105E-08	1.033E-08	9.678E-09	9.099E-09	5.810E-09	4.191E-09
ESE	9 199E-09	8.308E-09	7.618E-09	7.023E-09	6.505E-09	6.050E-09	5 648E-09	5.290E-09	4.970E-09	3.159E-09	2.275E-09
SE.	7.344E-09	6.644E-09	6.102E-09	5.633E-09	5.223E-09	4.863E-09	4.544E-09	4.259E-09	4.004E-09	2.560E-09	1.852E-09
SSE	5.065E-09	4.633E-09	4.297E-09	4.004E-09	3.744E-09	3.513E-09	3.306E-09	3.119E-09	2.951E-09	1.969E-09	1.457E-09

2