REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:7905080414 DOC.DATE: 79/05/01 NOTARIZED: NO DOCKET #
FACIL:50-220 NINE MILE POINT NUCLEAR STATION, UNIT 1, NIAGARA POWE 05000220
AUTH.NAME AUTHOR AFFILIATION
RHODE,G.K. NIAGARA MOHAWK POWER CORP.
RECIP.NAME RECIPIENT AFFILIATION
IPPOLITO,T.A. OPERATING REACTORS BRANCH 3

SUBJECT: FORWARDS RESPONSES TO HYDROLOGY-METEOROLOGY BRANCH QUESTIONS Q372.2 & Q372.3 PER 790108 LTR.DESIGN INTERFACES BETWEEN RADWASTE REDUCTION & SOLIDIFICATION SYS ARE NOT COMPLETE. ACCIDENT ANALYSIS TO BE RECALCULATED.

DISTRIBUTION CODE: A001S COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 22
TITLE: GENERAL DISTRIBUTION FOR AFTER ISSUANCE OF OPERATING LIC

NOTES: ADD: Hydro Meteor Br w/encl, Rad Asmt Br w/encl

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
ACTION:	05 BC ORB #3	7	7			
INTERNAL:	01 REG FILE	1	1	02 NRC PDR	1	1
	12 I&E	2	2	14 TA/EDO	1	1
	15 CORE PERF BR	1	1	16 AD SYS/PROJ	1	1
	17 ENGR BR	1	1	18 REAC SFTY BR	1	1
	19 PLANT SYS BR	1	1	20 EEB	1	1
	21 EFLT TRT SYS	1	1	22 BRINKMAN	1	1
EXTERNAL:	03 LPDR	1	1	04 NSIC	1	1
	23 ACRS	16	16			

TRW CCP

MAY 9 1979

TOTAL NUMBER OF COPIES REQUIRED: LTTR 38 ENCL 38

NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

May 1, 1979

Director of Nuclear Reactor Regulation
Attn: Mr. Thomas Ippolito, Chief
Operating Reactors/Branch #3
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Ippolito:

Re: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Attached are responses to Hydrology-Meteorology Branch Questions Q372.2 and Q372.3 enclosed in your January 8, 1979 letter.

The final design involving the interfaces between the Radwaste Reduction and Solidification System is not complete at this time. Upon finalization, complete answers to Radiological Assessment Branch Questions 1 and 2, of your January 8, 1979 letter, and Question 6, of your January 16, 1979 letter, will be provided. In addition, the accident analysis will be recalculated using the site specific X/Q values and an inventory consistent with the final design.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

Gerald K. Rhode, Vice President
System Project Management

LMM/szd

Attachment

A001 S 1/1 AOD: HYDRO-METEOR BR w/ENCL RAD ASMT BR w/ENCL

7905080414

Question 372.2

In your evaluation of the maximum credible accident, you used the model described in Regulatory Guide 1.3 and assumed an elevated release. As stated in Regulatory Guide 1.3, the guide's model should be used only until adequate site meteorological data are obtained. It is our position that you should either (1) provide relative concentration (X/Q) values based on site data for both elevated and ground-level releases for the maximum credible accident, or (2) justify that your FSAR or latest assessment of short-term diffusion estimates is conservative. If you undertake to justify your recent assessment, describe the atmospheric dispersion model which you have used to estimate X/Q values for the maximum credible accident. (Also see Question 372.3.) Provide (or reference) the meteorological data that you have used and justify that it is either representative of the air layers into which the effluents will be released or provides for a conservative assessment. Include a discussion on the marine-air/land-air transition as it relates to the meteorological tower data and the atmospheric diffusion model.

Response 372.2

INTRODUCTION

The maximum credible accident has been assessed using Draft Regulatory Guide 1.XXX, "Atmospheric Dispersion Models For Potential Accident Consequence Assessments at Nuclear Power Plants" (10/26/78 version) and Regulatory Guide 1.111, "Methods of Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases From Light Water-Cooled Reactors." Relative concentration (X/Q) values were computed based on elevated and ground-level releases.

METEOROLOGICAL DATA

The Nine Mile Point meteorological tower data from January, 1974 through December, 1976 and January through December, 1978 were employed in the analysis. The meteorological data from 1977 were not used. The delta temperature data during that period was not usable due to faulty equipment.

The location of the meteorological tower in relationship to the Nine Mile Point Nuclear Generating Station No. 1 is shown in Figure 1. The data collected at the tower are representative of the meteorological conditions under which effluents are released. The proximity of the 200 foot tower to the plant and the Lake Ontario shore assures that the data are representative of the conditions used in an accident evaluation, both at ground level and for an elevated release.

Response 372.2 (cont'd)

The tower was located with the marine-air/land-air transition zone in mind. As the tower is situated on the Lake Ontario shoreline, the data reflect the turbulence of the air from the direction from which the wind blows. Therefore, the transition from a stable case over the lake to an unstable case over the land has been accounted for in the diffusion model by conservatively assuming fumigation for the 2-hour accident X/Q for the stack. The reverse flow of stable air over the land flowing into unstable air over the water has also been treated conservatively by the 2-hour fumigation calculation.

The wind data from the 200 foot Aerovane, coupled with the 200-27 foot delta temperature data, were used to compute composite 22-1/2 degree sector stability wind roses. The delta temperature stability classification outlined in Regulatory Guide 1.23, "Onsite Meteorological Program," was utilized. The wind rose for each stability in 22-1/2 degree sectors is shown in Appendix A.

It should be noted that if the 200 foot Aerovane direction data were missing, the 100 foot Aerovane direction data were substituted. The calm hours denoted by a zero speed were distributed in the calm category based on the frequency of winds in the 1-3 mile per hour category by sector and stability prior to being used in the dispersion models. The 200 foot Aerovane wind roses in Appendix A show the number of calms per stability class, but do not show how they have been distributed.

Response 372.2 (cont'd)

The peak wind speeds in each wind speed grouping were chosen as input into the dispersion models. For conservatism, a threshold wind speed of the Aerovane was assumed to be 1 mile per hour. This wind speed was assigned to the calm category. In addition, the top wind speed group was assigned a speed of 40 miles per hour.

Prior to the computation of X/Q calculations for the stack, all wind speeds were adjusted to the Nine Mile Point Nuclear Generating Station No. 1 stack height of 350 feet. The power laws utilized in the United States Environmental Protection Agency climatological dispersion model were used prior to the calculations outlined in Draft Regulatory Guide 1.XXX and Regulatory Guide 1.111.

Likewise, the onsite meteorological data from the 30 foot level were utilized in the computations for a vent release. The 30 foot Climatronics F-460 cup anemometer and vane and the 200-27 foot delta temperature data were used to define composite stability wind roses. These wind roses are also included in Appendix A.

If the 30 foot vane direction data were missing, the 30 foot Aerovane direction data were substituted. The same procedures were employed to assign peak wind speeds and distribute the calm hours. However, a threshold wind speed of 0.58 miles per hour has been assigned to the calm category.

Response 372.2 (cont'd)

Furthermore, since the elevation of the wind sensors on the meteorological tower is approximately 10 meters, no adjustment was made to the wind speeds prior to the calculation of X/Q values for the vent release mode.

STACK X/Q'S

The stack accident X/Q values were computed for the Nine Mile Point Nuclear Generating Station No. 1 according to the guidelines outlined in Draft Regulatory Guide 1.XXX, Section C.1.3.2 "stack releases" and Regulatory Guide 1.111. The 350 foot stack was treated the same way in both programs. No plume rise was assumed and stack downwash, if present, was calculated for the annual X/Q values. Since the terrain around the plant in the area of interest is nearly flat, no terrain values were assigned to the sector distances. Calculations of X/Q were made at several distances, including the exclusion area boundary of 0.78 miles, the Low Population Zone of 4.0 miles and at quarter mile increments from 0.50 miles to 5.75 miles.

The two-hour accident X-Q values were computed with Equation 4 of Draft Regulatory Guide 1.XXX and these values were compared with the calculated fumigation values from Equation 5. The fumigation values assuming F stability and a 2 meters/second wind were controlling. The ground-level X/Q values for fumigation were not higher than those produced by the non-fumigation stable atmospheric conditions, (from Equation 4 assuming F stability and a wind speed of 2 meters/second and an $h_e = 0$).

Response 372.2 (cont'd)

Since Nine Mile Point 1 is within 3,200 meters of Lake Ontario, fumigation was assumed to last for the entire two-hour period at the exclusion area boundary. The non-fumigation X/Q values were computed for all wind speed and stability combinations. These values were then ranked from highest to lowest and assigned the appropriate sector percentages based on the 200 foot wind roses. The 0.5% level sector dependent X/Q values were determined by plotting a cumulative probability distribution of X/Q values being exceeded in that sector during the entire time period. An upper bound curve was drawn and the 0.5% level X/Q value was abstracted for each sector.

This value was then compared by sector to the fumigation X/Q calculations from Equation 5 and the larger value was chosen. The fumigation calculations were controlling in every sector at 0.78 miles. The X/Q value for the exclusion area boundary of 0.78 miles is 4.12E-5 at the 0.5% probability level. In addition, we have provided the X/Q values at the exclusion area boundary for the remaining time periods of interest, 8, 16, 72, and 624 hours, in Figure 2. These were obtained by logarithmic interpolation between the calculated sector dependent non-fumigation X/Q values and the annual sector dependent X/Q values.

The X/Q values which are exceeded no more than 5% of the total time were obtained from the upper bound curve of a cumulative probability distribution for all directions combined. The X/Q value at the 5% level is 1.20E-6 at the exclusion area boundary. Figure 3 gives the logarithmic interpolation between the 5% value and the maximum annual sector X/Q.

Response 372.2 (cont'd)

Based on computer computations for the distances between the exclusion area boundary and the Low Population Zone, the 2.0 mile distance was determined to have the highest values for the intermediate time frames, as well as the annual case. The results for the stack X/Q values at the 0.5% level are listed in Figure 4 and the overall 5% values at 2.0 miles are given in Figure 5.

The same technique was used to calculate X/Q values at the Low Population Zone. However, the 8-hour X/Q values were determined by a weighted average of the 2-hour fumigation value for 4 hours and the logarithmically-derived 8-hour values based on the non-fumigation 2-hour X/Q value for 4 hours and the annual X/Q for each sector. The sector X/Q values at the 0.5% probability level for each of the time periods of interest are given in Figure 6. The overall 5% X/Q values at the Low Population Zone are given in Figure 7.

Vent X/Q'S

The maximum credible accident due to a vent release has also been assessed at the Nine Mile Point Nuclear Generating Station No. 1. Short term, 0-2 hour, accident X/Q values were determined according to Section C.1.3.1, "Releases Through Vents or Other Building Penetrations," of Draft Regulatory Guide 1.XXX. The annual X/Q concentrations were assessed with the disperion model in Regulatory Guide 1.111. The release height was assumed to be ground level and no terrain was used in the Guide 1.111 model. A minimum building cross-sectional area of 4,338 square meters was employed in the dispersion calculations.

Response 372.2 (cont'd)

The accident X/Q values at a 0.5% and 5% probability levels for the exclusion area boundary and the Low Population Zone were determined in a similar fashion as those for the stack release.

Figures 8 and 9 list the X/Q values at the 0.5% and 5% probability levels at the exclusion area boundary of 0.78 miles. Figures 10 and 11 list the 0.5% and 5% probability level X/Q values at 4.0 miles, the Low Population Zone.

Question 372.3

In your response to part 1 of 372.2 above, we suggest you consider Draft Regulatory Guide 1.XXX, "Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants" (9/23/77), which is attached. The Draft describes a procedure for calculating short-term relative concentration (X/Q) values. This method considers 1) lateral plume meander; 2) atmospheric dispersion conditions as a function of direction; 3) wind direction frequencies; and 4) exclusion area boundary distances as a function of direction. Also enclosed is an interim branch technical position concerning the use of the Draft and the model described in Standard Review Plan. 2.3.4.

Response 372.3

Response 372.2 has used the Draft Regulatory Guide 1.XXX to determine short-term relative X/Q values.

FIGURE 1

LOCATION OF THE METEOROLOGICAL TOWER

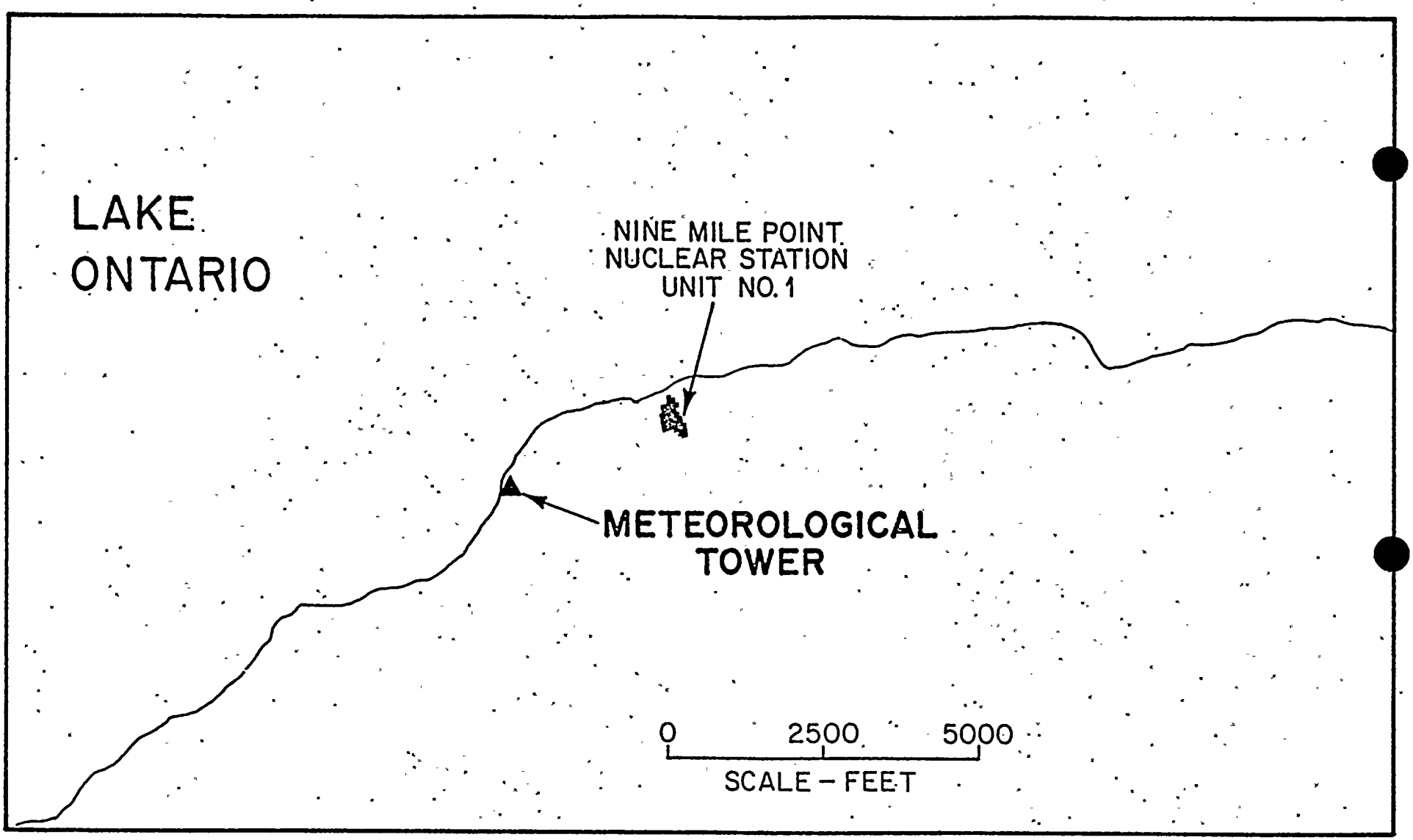

FIGURE 2

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

STACK RELEASE

SEC/M^3

DISTANCE: EXCLUSION AREA BOUNDARY - 0.78 MILES PROBABILITY LEVEL: 0.5%

Bearing	2 Hour*	8 Hour	16 Hour	72 Hour	624 Hour	Annual
SSW	4.12E-5	2.77E-7	1.96E-7	9.32E-8	3.20E-8	8.65E-9
SW	4.12E-5	2.63E-7	1.84E-7	8.52E-8	2.81E-8	7.26E-9
WSW	4.12E-5	1.01E-7	7.17E-8	3.41E-8	1.18E-8	3.19E-9
W	4.12E-5	1.03E-7	7.32E-8	3.48E-8	1.19E-8	3.23E-9
WNW	4.12E-5	1.74E-7	1.21E-7	5.49E-8	1.77E-8	4.41E-9
NW	4.12E-5	2.95E-7	2.05E-7	9.31E-8	3.00E-8	7.50E-9
NNW	4.12E-5	2.96E-7	2.05E-7	9.27E-8	2.97E-8	7.35E-9
N	4.12E-5	3.78E-7	2.59E-7	1.14E-7	3.50E-8	8.27E-9
NNE	4.12E-5	1.54E-7	1.07E-7	4.80E-8	1.52E-8	3.74E-9
NE	4.12E-5	1.20E-7	8.18E-8	3.54E-8	1.07E-8	2.45E-9
ENE	4.12E-5	4.92E-7	3.39E-7	1.51E-7	4.70E-8	1.13E-8
E	4.12E-5	6.58E-7	4.56E-7	2.06E-7	6.58E-8	1.63E-8
ESE	4.12E-5	5.33E-7	3.71E-7	1.69E-7	5.48E-8	1.38E-8
SE	4.12E-5	5.43E-7	3.78E-7	1.73E-7	5.60E-8	1.41E-8
SSE	4.12E-5	3.83E-7	2.69E-7	1.24E-7	4.11E-8	1.06E-8
S	4.12E-5	5.07E-7	3.55E-7	1.65E-7	5.45E-8	1.41E-8

* Fumigation

FIGURE 3

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

STACK RELEASE

SEC/M^3

DISTANCE: EXCLUSION AREA BOUNDARY - 0.78 MI. PROBABILITY LEVEL: 5.0%

Bearing	2 Hour	8 Hour	16 Hour	72 Hour	624 Hour	Annual
OVERALL	1.20E-6	5.90E-7	4.13E-7	1.91E-7	6.32E-8	1.63E-8

FIGURE 4

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

STACK RELEASE

SEC/M^3

DISTANCE: 2.0 MILES PROBABILITY LEVEL: 0.5%

Bearing	2 Hour*	8 Hour	16 Hour	72 Hour	624 Hour	Annual
SSW	1.76E-5	5.57E-7	3.76E-7	1.61E-7	4.73E-7	1.06E-8
SW	1.76E-5	6.61E-7	4.42E-7	1.84E-7	5.25E-8	1.13E-8
WSW	1.76E-5	4.37E-7	2.84E-7	1.12E-7	2.94E-8	5.74E-9
W	1.76E-5	4.76E-7	3.13E-7	1.26E-7	3.41E-8	6.90E-9
WNW	1.76E-5	5.70E-7	3.83E-7	1.62E-7	4.71E-8	1.04E-8
NW	1.76E-5	7.31E-7	5.02E-7	2.22E-7	6.90E-8	1.65E-8
NNW	1.76E-5	5.77E-7	3.95E-7	1.74E-7	5.34E-8	1.26E-8
N	1.76E-5	7.49E-7	5.16E-7	2.29E-7	7.17E-8	1.73E-8
NNE	1.76E-5	6.18E-7	4.11E-7	1.69E-7	4.73E-8	9.96E-9
NE	1.76E-5	5.28E-7	3.55E-7	1.50E-7	4.34E-8	9.53E-9
ENE	1.76E-5	7.69E-7	5.41E-7	2.53E-7	8.49E-8	2.23E-8
E	1.76E-5	9.45E-7	6.63E-7	3.07E-7	1.02E-7	2.64E-8
ESE	1.76E-5	7.43E-7	5.13E-7	2.29E-7	7.23E-8	1.76E-8
SE	1.76E-5	6.69E-7	4.56E-7	1.99E-7	6.03E-8	1.40E-8
SSE	1.76E-5	4.78E-7	3.23E-7	1.38E-9	4.04E-8	9.04E-9
S	1.76E-5	6.21E-7	4.23E-7	1.84E-7	5.54E-8	1.28E-8

*Fumigation

FIGURE 5

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

STACK RELEASE

SEC/M^3

DISTANCE: 2.0 MILES PROBABILITY LEVEL: 5.0%

Bearing	2 Hour	8 Hour	16 Hour	72 Hour	624 Hour	Annual
OVERALL	2.00E-6	9.78E-7	6.83E-7	3.14E-7	1.03E-7	2.64E-8

FIGURE 6

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

STACK RELEASE

SEC/M^3

DISTANCE: LPZ - 4.0 MILES PROBABILITY LEVEL: 0.5%

Bearing	2 Hour*	8 Hour	16 Hour	72 Hour	624 Hour	Annual
SSW	9.41E-6	4.94E-6	3.07E-7	1.27E-7	3.58E-8	7.61E-9
SW	9.41E-6	4.96E-6	3.49E-7	1.45E-7	4.08E-8	8.69E-9
WSW	9.41E-6	4.93E-6	2.86E-7	1.08E-7	2.67E-8	4.83E-9
W	9.41E-6	4.94E-6	3.13E-7	1.22E-7	3.13E-8	5.93E-9
WNW	9.41E-6	4.97E-6	3.49E-7	1.44E-7	4.07E-7	8.64E-9
NW	9.41E-6	5.01E-6	4.17E-7	1.87E-7	5.95E-8	1.46E-8
NNW	9.41E-6	5.11E-6	4.23E-7	1.78E-7	5.13E-8	1.12E-8
N	9.41E-6	5.01E-6	4.19E-7	1.90E-7	6.13E-8	1.53E-8
NNE	9.41E-6	4.95E-6	3.40E-7	1.43E-7	4.15E-8	9.12E-9
NE	9.41E-6	4.98E-6	3.68E-7	1.52E-7	4.27E-8	9.02E-9
ENE	9.41E-6	5.10E-6	5.46E-7	2.40E-7	7.40E-8	1.75E-8
E	9.41E-6	5.11E-6	5.62E-7	2.50E-7	7.83E-8	1.89E-8
ESE	9.41E-6	4.98E-6	3.71E-7	1.63E-7	4.98E-8	1.17E-8
SE	9.41E-6	4.94E-6	3.21E-7	1.36E-7	3.99E-8	8.86E-9
SSE	9.41E-6	4.85E-6	2.59E-7	1.05E-7	2.87E-8	5.89E-9
S	9.41E-6	4.96E-6	3.38E-7	1.40E-7	3.96E-8	8.45E-9

* Fumigation

FIGURE 7

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

STACK RELEASE

SEC/M^3

DISTANCE: LPZ - 4.0 MILES PROBABILITY LEVEL: 5.0%

Bearing	2 Hour	8 Hour	16 Hour	72 Hour	624 Hour	Annual
OVERALL	1.40E-6	6.87E-7	4.81E-7	2.22E-7	7.34E-8	1.89E-8

FIGURE 8

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

VENT RELEASE

SEC/M^3

DISTANCE: EXCLUSION AREA BOUNDARY - 0.78 MI. PROBABILITY LEVEL: 0.5%

Bearing	2 Hour	8 Hour	16 Hour	72 Hour	624 Hour	Annual
SSW	6.35E-4	1.93E-4	1.07E-4	2.94E-5	4.62E-6	4.80E-7
SW	8.50E-4	2.68E-4	1.50E-4	4.30E-5	7.11E-6	7.88E-7
WSW	8.00E-4	2.41E-4	1.32E-4	3.59E-5	5.53E-6	5.61E-7
W	2.10E-3	6.05E-4	3.25E-4	8.41E-5	1.21E-5	1.13E-6
WNW	2.32E-3	6.98E-4	3.83E-4	1.04E-4	1.61E-5	1.63E-6
NW	2.30E-3	7.20E-4	4.03E-4	1.14E-4	1.87E-5	2.05E-6
NNW	6.15E-4	2.37E-4	1.47E-4	5.22E-5	1.18E-5	1.92E-6
N	1.81E-3	5.82E-4	3.30E-4	9.65E-5	1.65E-5	1.90E-6
NNE	9.60E-4	2.97E-4	1.65E-4	4.62E-5	7.42E-6	7.93E-7
NE	7.05E-4	2.15E-4	1.19E-4	3.26E-5	5.12E-6	5.32E-7
ENE	7.65E-4	2.48E-4	1.41E-4	4.17E-5	7.22E-6	8.46E-7
E	9.70E-4	3.05E-4	1.71E-4	4.88E-5	8.06E-6	8.90E-7
ESE	6.45E-4	2.01E-4	1.12E-4	3.16E-5	5.12E-6	5.54E-7
SE	6.95E-4	2.16E-4	1.20E-4	3.37E-5	5.44E-6	5.84E-7
SSE	7.70E-4	2.16E-4	1.15E-4	2.89E-5	4.00E-6	3.56E-7
S	5.60E-4	1.66E-4	9.07E-5	2.43E-5	3.67E-6	3.63E-7

FIGURE 9

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

VENT RELEASE

SEC/M^3

DISTANCE: EXCLUSION AREA BOUNDARY-0.78 MILES PROBABILITY LEVEL: 5.0%

Bearing	2 Hour	8 Hour	16 Hour	72 Hour	624 Hour	Annual
OVERALL	1.80E-4	8.59E-5	5.93E-5	2.65E-5	8.40E-6	2.05E-6

FIGURE 10

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

VENT RELEASE

SEC/M^3

DISTANCE: LPZ - 4.0 MILES PROBABILITY LEVEL: 0.5%

Bearing	2 Hour	8 Hour	16 Hour	72 Hour	624 Hour	Annual
SSW	9.40E-5	2.55E-5	1.35E-5	3.45E-6	4.75E-7	4.20E-8
SW	1.30E-4	3.95E-5	2.05E-5	5.30E-6	7.55E-7	7.15E-8
WSW	1.30E-4	3.60E-5	1.88E-5	4.67E-6	6.10E-6	5.27E-8
W	2.18E-4	6.00E-5	3.12E-5	8.00E-6	1.12E-6	1.06E-7
WNW	5.55E-4	1.40E-4	7.05E-5	1.65E-5	1.95E-6	1.51E-7
NW	5.25E-4	1.42E-4	7.50E-5	1.80E-5	2.28E-6	1.92E-7
NNW	4.90E-4	1.27E-4	6.60E-5	1.62E-5	2.08E-6	1.80E-7
N	4.05E-4	1.11E-4	6.00E-5	1.49E-5	2.00E-6	1.80E-7
NNE	1.69E-4	4.75E-5	2.50E-5	6.10E-6	8.70E-7	7.57E-8
NE	1.10E-4	3.10E-5	1.65E-5	4.15E-6	6.00E-7	5.09E-8
ENE	1.30E-4	4.00E-5	2.17E-5	5.60E-6	8.00E-7	7.84E-8
E	1.80E-4	5.20E-5	2.65E-5	6.50E-6	8.85E-7	7.96E-8
ESE	1.11E-4	3.05E-5	1.62E-5	4.00E-6	5.50E-7	4.90E-8
SE	1.21E-4	3.12E-5	1.68E-5	4.10E-6	5.60E-7	5.06E-8
SSE	1.32E-4	3.40E-5	1.68E-5	3.75E-6	4.50E-7	3.17E-8
S	1.19E-4	3.05E-5	1.55E-5	3.50E-6	4.15E-7	3.23E-8

FIGURE 11

NINE MILE POINT NUCLEAR GENERATING STATION NO. 1

ACCIDENT X/Q VALUES

VENT RELEASE

SEC/M^3

DISTANCE: LPZ - 4.0 MILES PROBABILITY LEVEL: 5.0%

Bearing	2 Hour	8 Hour	16 Hour	72 Hour	624 Hour	Annual
OVERALL	3.70E-5	1.55E-5	1.00E-5	3.91E-6	1.01E-6	1.92E-7