



Portland General Electric Company

Bart D. Withers Vice President

August 28, 1985

Trojan Nuclear Plant  
Docket 50-344  
License NPF-1

Mr. John B. Martin  
Regional Administrator, Region V  
U.S. Nuclear Regulatory Commission  
Creekside Oaks Office Park  
1450 Maria Lane, Suite 210  
Walnut Creek CA 94596-5368

Dear Sir:

TROJAN NUCLEAR PLANT  
Semiannual Radioactive Effluent and Waste Disposal Report

In accordance with Trojan Nuclear Plant Technical Specifications, attached is the semiannual Radioactive Effluent and Waste Disposal Report for the period January 1, 1985 through June 30, 1985. This information will also be included in the 1985 annual operating report.

Sincerely,

*CP Yundt for*

Bart D. Withers  
Vice President  
Nuclear

Attachment

c: Mr. Lynn Frank, Director  
State of Oregon  
Department of Energy

Mr. E. J. Butcher, Jr., Acting Chief  
Operating Reactors Branch No. 3  
Division of Licensing  
U.S. Nuclear Regulatory Commission

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#### A. EFFLUENT AND WASTE DISPOSAL REPORT

This section contains a summary of the liquid and gaseous release limits; a listing of the maximum permissible concentrations of the isotopes released; a summary of batch and abnormal release data; a summary of total liquid and gaseous releases; listings of isotopes released classified by pathway, gaseous or liquid, and type, continuous or batch; and a summary of solid radioactive waste shipments. This section represents all releases during the period January 1, 1985 through June 30, 1985.

TABLE A-1

PART A-1  
SUPPLEMENTAL INFORMATION

January 1, 1985 through June 30, 1985

REGULATORY LIMITS

<u>Fission and Activation Gas Release Rate Limits</u>	<u>Unit</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>
1. Tech. Spec. 3.11.2.1(a), Instantaneous			
$Q_{TV} \leq \frac{1}{2.0 \bar{K}_V}$	Ci/sec	1.60E-1	1.65E-1
$Q_{TV} \leq \frac{1}{0.33 (\bar{L}_V + 1.1 \bar{N}_V)}$	Ci/sec	4.07E-1	4.14E-1
2. Tech. Spec. 3.11.2.2, Quarterly Average			
$Q_{TV} \leq \frac{1}{50 \bar{N}_V}$	Ci/sec	5.35E-3	5.48E-3
$Q_{TV} \leq \frac{1}{25 \bar{M}_V}$	Ci/sec	3.85E-3	3.88E-3
3. Tech. Spec. 3.11.2.4(1), Quarterly Average Requiring Use of the Gaseous Radwaste Treatment System			
$Q_{TV} \leq \frac{1}{100 \bar{N}_V}$	Ci/sec	2.67E-3	2.74E-3
$Q_{TV} \leq \frac{1}{50 \bar{M}_V}$	Ci/sec	1.92E-3	1.94E-3

TABLE A-2

PART A-2  
SUPPLEMENTAL INFORMATION

January 1, 1985 through June 30, 1985

REGULATORY LIMITS

Gaseous Iodine 131, Tritium, and Particulates  
With > 8 Day T<sub>1/2</sub> Limits

	<u>Unit</u>	<u>1st</u> <u>Quarter</u>	<u>2nd</u> <u>Quarter</u>
1. Tech. Spec. 3.11.2.1(b) Instantaneous			
$Q_{Tv} \leq \frac{1}{.67 \overline{Ri}}$	Ci/sec	8.88E-4	4.44E-3
2. Tech. Spec. 3.11.2.3 Quarterly Average			
$Q_{Tv} \leq \frac{1}{100 \overline{Ri}}$	Ci/sec	5.95E-6	2.98E-5
3. Tech. Spec 3.11.2.4(2) Quarterly Average Requiring use of Ventilation Treatment System			
$Q_{Tv} \leq \frac{1}{200 \overline{Ri}}$	Ci/sec	2.98E-6	1.49E-5



TABLE A-3

PART A-3  
SUPPLEMENTAL INFORMATION

January 1, 1985 through June 30, 1985

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REGULATORY LIMITS

LIQUID EFFLUENT LIMITS

- |   |   |
|---|---|
| 1.    Tech. Spec 3.11.1.1<br>Instantaneous  | Instantaneous discharge concentrations less than the maximum permissible concentrations listed in 10CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases the concentration is limited to $2 \times 10^{-4}$ ci/ml total activity.                  |
| 2.    Tech. Spec 3.11.1.2<br>Quarterly average  | Gross release limit of 2.5 Ci per quarter excluding tritium and dissolved noble gases. If this limit is exceeded, cumulative dose due to liquid effluents will be limited to<br>$\leq 1.5$ mrem to the whole body and to<br>$\leq 2.5$ mrem to any organ, using isotope specific methodology in the plant offsite dose calculation manual (ODCM). |
| 3.    Tech. Spec. 3.11.1.3<br>Quarterly average requiring<br>use of the liquid radwaste<br>treatment system | The liquid radwaste treatment system shall be maintained and used when activity discharged (excluding tritium and dissolved noble gas) would exceed 1.25 Ci/Qtr.  |

## TABLE A-4

Sheet 1 of 2

PART A-4  
SUPPLEMENTAL INFORMATION

January 1, 1985 through June 30, 1985

MAXIMUM PERMISSIBLE CONCENTRATIONSLiquid

<u>Isotope</u>	<u>MPC (uCi/cc)</u>
Chromium 51	2 X 10 <sup>-3</sup>
Manganese 54	1 X 10 <sup>-4</sup>
Iron 55	8 X 10 <sup>-4</sup>
Cobalt 57	4 X 10 <sup>-4</sup>
Cobalt 58	9 X 10 <sup>-5</sup>
Iron 59	5 X 10 <sup>-5</sup>
Cobalt 60	3 X 10 <sup>-5</sup>
Strontium 89	3 X 10 <sup>-6</sup>
Strontium 90	3 X 10 <sup>-7</sup>
Zirconium 95	6 X 10 <sup>-5</sup>
Niobium 95	1 X 10 <sup>-4</sup>
Molybdenum 99	4 X 10 <sup>-5</sup>
Technetium 99m	3 X 10 <sup>-3</sup>
Ruthenium 103	8 X 10 <sup>-5</sup>
Ruthenium 106	1 X 10 <sup>-5</sup>
Silver 110m	3 X 10 <sup>-5</sup>
Tin 113	8 X 10 <sup>-5</sup>
Antimony 124	2 X 10 <sup>-5</sup>
Antimony 125	1 X 10 <sup>-4</sup>
Iodine 131	3 X 10 <sup>-7</sup>
Iodine 132	8 X 10 <sup>-6</sup>
Tellurium 132	2 X 10 <sup>-5</sup>
Iodine 133	1 X 10 <sup>-6</sup>
Cesium 134	9 X 10 <sup>-6</sup>
Iodine 135	4 X 10 <sup>-6</sup>
Cesium 136	6 X 10 <sup>-5</sup>
Cesium 137	2 X 10 <sup>-5</sup>
Barium 140	2 X 10 <sup>-5</sup>
Lanthanum 140	2 X 10 <sup>-5</sup>
Cerium 141	9 X 10 <sup>-5</sup>
Cerium 144	1 X 10 <sup>-5</sup>

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<u>Isotope</u>	<u>MPC (uCi/cc)</u>
Alpha	3 X 10 <sup>-8</sup>
Unidentified	3 X 10 <sup>-8</sup>
Tritium	3 X 10 <sup>-3</sup>
Krypton 85m	2 X 10 <sup>-4</sup>
Xenon 133	2 X 10 <sup>-4</sup>
Xenon 133m	2 X 10 <sup>-4</sup>
Xenon 135	2 X 10 <sup>-4</sup>

Gaseous

Gaseous MPC's are not used in calculating technical specifications at Trojan.

PART A-5  
SUPPLEMENTAL INFORMATION

January 1, 1985 through June 30, 1985

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AVERAGE ENERGY

Effluent release limits are not based upon  $\bar{E}$ , hence, reporting  $\bar{E}$  is not required.

MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITYGaseous Releases

Fission and Activation Gases: Gamma spectrometric analysis of gaseous grab samples define radionuclide distribution at least monthly on monitored gaseous release points. Using the known nuclide distributions and process radiation monitor readings, the actual quantities of gaseous releases are calculated.

Iodines: Weekly composite filter and iodine cartridge samples are analyzed by gamma spectroscopy to determine the concentration of particulate and iodine isotopes. Weekly composite samples are analyzed for beta and alpha emitting isotopes by counting with a gas flow proportional counter. Quarterly composite filters are analyzed for Sr-89/90 using chemical separation and gas proportional beta counting using chemical separation techniques when necessary.

Tritium: Tritium is collected on dry silica gel in monthly composite samples, and counted using liquid scintillation spectroscopy.

Liquid Releases

Fission and Activation Products: Gamma spectrometric analysis of each batch is performed. Weekly composite samples are maintained for continuous releases and the composites are analyzed for specific nuclides as required. Monthly and quarterly composites are prepared for both batch and continuous releases for specified activity determinations.

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MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY (Continued)Liquid Releases

Tritium: Monthly composite samples are distilled and deionized as necessary to remove contamination and counted by liquid scintillation techniques.

Dissolved and Entrained Gases: Gaseous isotopes are determined by gamma spectrometric analysis of each batch, and on a minimum frequency of once per month for continuous releases.

TABLE A-6

PART A-6  
SUPPLEMENTAL INFORMATION

January 1, 1985 through June 30, 1985

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BATCH RELEASES

	<u>Unit</u>	<u>Liquid</u>	<u>Gaseous</u>
Number of Batch Releases		63	82
Total time period for Batch Releases	Hours	289.2	2527
Maximum time period for Batch Releases	Hours	21.5	711.8
Average time period for Batch Releases	Hours	4.6	30.8
Minimum time period for Batch Releases	Hours	0.6	0.6
Average dilution flow during Batch Releases	GPM	28140	N/A

ABNORMAL RELEASES

Number of Abnormal Releases		0	3
Total Activity Released	Ci		1.12E+1

TABLE A-7

Sheet 1 of 2

Part B-1  
GASEOUS EFFLUENTS  
SUMMATION OF ALL RELEASES

January 1, 1985 through June 30, 1985

<u>FISSION AND ACTIVATION GASES</u>	<u>Unit</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>Estimated Error %</u>
Total Activity Released	Ci	3.40E+2	2.77E+2	+3.5E1
Average Release Rate for Quarter	μCi/sec	4.38E+1	3.53E+1	
Percent of Limit				
Tech. Spec 3.11.2.1(a) - Instantaneous	%	4.44E-2	1.34E-1	
Tech. Spec 3.11.2.2 - Quarterly Average	%	1.14E0	9.10E-1	
Tech. Spec. 3.11.2.4(1) - Quarterly Average Requiring Processing	%	2.28E0	1.82E0	
<u>IODINE 131</u>				
Total Iodine 131 Released	Ci	2.44E-3	1.81E-3	+3.5E1
Average Release Rate for Quarter	μCi/sec	3.15E-4	2.31E-4	
<u>PARTICULATES</u>				
Total with Half-Lives >8 days	Ci	2.03E-4	2.45E-5	+3.5E1
Average Release Rate for Quarter	μCi/sec	2.62E-5	3.12E-6	
Total Gross Alpha Released	Ci	1.30E-5	2.87E-5	
<u>TRITIUM</u>				
Total Released	Ci	2.79E0	6.13E0	+3.0E1
Average Release Rate for Quarter	μCi/sec	3.60E-1	7.81E-1	

TABLE A-7

Sheet 2 of 2

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<u>IODINE 131, PARTICULATES WITH &gt;8 day T<sub>1/2</sub>, and TRITIUM</u>	<u>Unit</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>Estimated Error %</u>
Total Released	Ci	2.79	6.13	+3.5E1
Average Release Rate for Quarter	uCi/sec	3.60E-1	7.81E-1	
Percent of Limit				
Tech. Spec. 3.11.2.1(b)				
Instantaneous	%	1.26E-1	5.09E-2	
Tech. Spec 3.11.2.3				
Quarterly Average	%	6.04E0	2.62E0	
Tech. Spec. 3.11.2.4(2)				
Quarterly Average Requiring Processing	%	1.21E+1	5.24E0	



TABLE A-8

PART B-2  
GASEOUS EFFLUENTS  
GROUND LEVEL RELEASES

January 1, 1985 through June 30, 1985

NUCLIDES RELEASED	Unit	Continuous Mode		Batch Mode	
		1st Quarter	2nd Quarter	1st Quarter	2nd Quarter
FISSION GASES					
Krypton - 85m	Ci	3.81E-2	1.99E-2	7.08E-2	1.11E-2
Krypton - 85	Ci			1.06E0	1.69E0
Krypton - 87	Ci	7.94E-2	4.29E-2	3.02E-2	
Krypton - 88	Ci	9.55E-2	5.03E-2	3.66E-2	
Krypton - 89	Ci				
Xenon - 131m	Ci	1.15E-2		2.23E0	1.59E0
Xenon - 133m	Ci	1.08E-3		2.32E0	1.92E0
Xenon - 133	Ci	8.38E+1	5.46E+1	2.43E+2	2.12E+2
Xenon - 135m	Ci	4.27E-1	2.40E-1	3.82E-2	
Xenon - 135	Ci	2.74E0	2.18E0	2.77E0	1.61E0
Xenon - 137	Ci	9.09E-2	5.37E-2		
Xenon - 138	Ci	2.05E-1	1.04E-1		
Argon - 41	Ci	3.71E-3		2.49E-1	2.76E-1
TOTAL FOR QUARTER	Ci	8.75E+1	5.73E+1	2.52E+2	2.19E+2
IODINES					
Iodine - 131	Ci	2.43E-3	1.29E-3	6.84E-6	5.21E-4
Iodine - 132	Ci	5.63E-8			1.96E-3
Iodine - 133	Ci	2.98E-3	1.06E-3	2.32E-4	2.81E-6
Iodine - 135	Ci	1.56E-7		5.12E-5	
TOTAL FOR QUARTER	Ci	5.41E-3	2.35E-3	2.90E-4	2.48E-3
PARTICULATES >8 DAY T <sub>1/2</sub>					
Strontium - 89	Ci	1.36E-4	1.40E-8	4.87E-7	ND
Strontium - 90	Ci	6.58E-5	1.03E-8	2.36E-7	ND
Cesium - 137	Ci		8.69E-6	3.18E-8	9.32E-6
Cobalt - 60	Ci			1.84E-8	6.44E-6
TOTAL FOR QUARTER	Ci	2.02E-4	8.71E-6	7.73E-7	1.58E-5

TABLE A-9

PART B-3  
GASEOUS EFFLUENTS  
ELEVATED RELEASES

January 1, 1985 through June 30, 1985

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No Elevated Release Points

TABLE A-10

PART C-1  
LIQUID EFFLUENTS  
SUMMATION OF ALL RELEASES

January 1, 1985 through June 30, 1985

<u>FISSION AND ACTIVATION PRODUCTS</u>	<u>Unit</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>Estimated Error %</u>
Total Activity Released (Excluding gases, tritium and alpha)	Ci	7.57E-2	1.54E-1	+3.5E+1
Average Diluted Concentration	μCi/ml	5.29E-9	1.09E-8	
Percent of Limit				
Tech. Spec. 3.11.1.1 - Instantaneous	%	6.03E-1	3.17E-1	
Tech. Spec 3.11.1.2 Quarterly Limit	%	3.03E0	6.15E0	
Tech. Spec. 3.11.1.3 Quarterly Limit Requiring Processing	%	6.06E0	1.23E+1	
<u>TRITIUM</u>				
Total Released	Ci	8.89E+1	6.07E+1	+3.0E+1
Average Diluted Concentration	μCi/ml	6.22E-6	4.31E-6	
Fraction of MPC	%	2.07E-1	1.44E-1	
<u>DISSOLVED AND ENTRAINED GASES</u>				
Total Activity Released	Ci	5.28E-2	1.17E-2	+3.5E+1
Average Diluted Concentration	μCi/ml	3.69E-9	8.27E-10	
Fraction of MPC	%	1.85E-3	4.14E-4	
<u>GROSS ALPHA RADIOACTIVITY</u>				
Total Released	Ci	3.82E-5	7.21E-5	+3.0E+1
<u>UNDILUTED VOLUME OF WASTE RELEASED</u>	Liters	8.20E+5	1.65E6	+5.0E0
<u>VOLUME OF DILUTION WATER</u>	Liters	1.43E+10	1.41E10	+1.5E+1

TABLE A-11

Sheet 1 of 2

PART C-2  
LIQUID EFFULENTS

January 1, 1985 through June 30, 1985

NUCLIDES RELEASED	Unit	Continuous Mode		Batch Mode	
		1st Quarter	2nd Quarter	1st Quarter	2nd Quarter
Iodine - 132	Ci				1.64E-5
Chromium - 51	Ci				3.68E-3
Cobalt - 58	Ci			3.22E-3	1.11E-2
Cobalt - 60	Ci			1.28E-2	3.68E-2
Iron - 59	Ci			2.28E-4	3.23E-4
Manganese - 54	Ci			3.94E-4	1.57E-3
Zirconium - 95	Ci			5.04E-4	1.26E-3
Niobium - 95	Ci			1.17E-3	3.58E-3
Iodine - 131	Ci			1.53E-2	4.31E-3
Iodine - 133	Ci			1.60E-3	1.54E-4
Cesium - 134	Ci			1.53E-3	1.11E-2
Cesium - 137	Ci			2.15E-3	1.27E-2
Lanthanum - 140	Ci			1.02E-2	7.37E-3
Antimony - 124	Ci			1.33E-4	
Antimony - 125	Ci			2.02E-3	3.37E-3
Ruthenium - 103	Ci			1.94E-4	9.46E-4
Cerium - 144	Ci			1.89E-3	5.69E-3
Cobalt - 57	Ci			6.99E-6	1.19E-5
Ruthenium - 106	Ci			6.69E-3	1.80E-2
Strontium - 89	Ci	ND	ND	3.46E-4	1.54E-4
Strontium - 90	Ci	ND	ND	1.08E-5	3.33E-5
Tellurium - 132	Ci				2.80E-5
Unidentified	Ci		2.13E-6		2.88E-5
Silver - 110m	Ci			3.63E-5	5.57E-4
Iodine - 135	Ci			6.74E-5	
Cerium - 141	Ci				6.36E-5
Tin - 113	Ci			6.97E-5	4.33E-5
Molybdenum - 99	Ci			5.53E-5	3.64E-5
Technetium - 99m	Ci			6.06E-5	3.82E-5
Barium - 140	Ci			7.29E-4	2.26E-3
Cesium - 136	Ci			1.84E-4	3.47E-4
Iron - 55	Ci	ND	ND	1.41E-2	2.83E-2
TOTAL FOR QUARTER	Ci	ND	2.13E-6	7.57E-2	1.54E-1

(Continued)

TABLE A-11

Sheet 2 of 2

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<u>NUCLIDES RELEASED</u>	<u>Unit</u>	<u>Continuous Mode</u>		<u>Batch Mode</u>	
		<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>
Xenon - 133	Ci			4.86E-2	1.07E-2
Xenon - 135	Ci			3.29E-3	9.13E-4
Xenon - 133m	Ci			8.83E-4	4.82E-5
Krypton - 85m	Ci			2.19E-5	
TOTAL FOR QUARTER	Ci	ND	ND	5.28E-2	1.17E-2

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## Part D

## SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

January 1, 1985 through June 30, 1985

<u>SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL</u> <u>(Not Irradiated Fuel) - Type of Waste</u>	<u>Activity</u> <u>During</u> <u>6 Months</u>	<u>Volume</u> <u>During</u> <u>6 Months</u>	<u>Estimate</u> <u>Total</u> <u>Error %</u>
1. Spent Resin, Filter Sludges, Evaporator Bottoms, Filters, Etc.	3487.161 Ci	57.773 m <sup>3</sup>	25%
2. Dry Compressible Waste, Contaminated Equipment, Etc.	8.615 Ci	120.431 m <sup>3</sup>	25%
3. Irradiated Components, Control Rods, Etc.	0	0	
4. Other	0	0	

<u>ESTIMATE OF MAJOR NUCLIDE DISTRIBUTION BY TYPE OF WASTE</u>	<u>Ci</u>	<u>Ci</u>
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Nuclide

1. See attached sheet.
2. See attached sheet.
- 3.
- 4.

SOLID WASTE DISPOSITION

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
11	Exclusive Truck	U.S. Ecology, Inc. PO Box 638 Richland WA 99352

IRRADIATED FUEL SHIPMENT DISPOSITION

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
0	N/A	N/A

ESTIMATE OF MAJOR NUCLIDE DISTRIBUTION BY TYPE OF WASTE

<u>Category 1</u>		<u>Category 2</u>	
Total Curies = 3487.161		Total Curies = 8.615	
Total Volume = 2040 ft <sup>3</sup> = 57.773 m <sup>3</sup>		Total Volume = 4252.5 ft <sup>3</sup> = 120.431 m <sup>3</sup>	
<u>Nuclide Distribution (Ci)</u>		<u>Nuclide Distribution (Ci)</u>	
H-3	4.851	H-3	0.542
C-14	0.872	C-14	0.001
Cr-51	0.193	Cr-51	0.036
Mn-54	5.960	Mn-54	0.081
Fe-55	193.561	Fe-55	2.913
Co-57	4.560	Co-58	0.656
Co-58	23.373	Fe-59	0.014
Ni-59	0.878	Co-60	2.037
Co-60	1378.112	Ni-63	1.018
Ni-63	1001.275	Sr-89	0.049
Sr-89	1.775	Sr-90	0.100
Sr-90	35.670	Nb-95	0.025
Nb-95	0.018	Zr-95	0.024
Zr-95	0.009	Ru-103	0.005
Tc-99	0.002	Ru-106	0.241
Ru-106	0.087	Sb-125	0.037
Sb-125	2.179	Cs-134	0.276
I-129	0.004	Cs-136	0.005
I-131	0.006	Cs-137	0.354
Cs-134	202.806	Ba-140	0.021
Cs-137	614.960	Ce-144	0.138
Ba-140	0.004	Pu-241	0.042
Ce-144	8.993		
Pu-238	0.042	Total	8.615
Pu-239/240	0.152		
Am-241	0.088		
Pu-241	6.687		
Cm-242	0.024		
Cm-243	0.020		
Total	3487.161		

## B. OFFSITE RADIATION DOSES

Offsite radiation doses from gaseous and liquid effluents for the first and second quarters of 1985 are presented in this section. Included are quarterly doses to individuals at locations of maximum actual exposure and quarterly doses to the 50-mile population. Doses are presented separately for batch and continuous releases and for noble gas, gaseous iodine and particulate, and liquid effluents.

Exposure locations are based on the land-use survey presented in Topical Report PGE-1021, "Offsite Dose Calculation Manual". These locations were determined in the annual land use survey, effective October 1, 1984. Meteorological data used in the analyses are presented in Section C of this report.

Models and assumptions used in performing the dose analyses for 1985 are presented in the Offsite Dose Calculation Manual. Additional assumptions are given in this section.

The calculation in Appendix D of the Offsite Dose Calculation Manual remains valid. This Appendix shows that the radiation dose from radioactive effluents to individuals utilizing the recreational areas (inside the restricted area boundary) are less than the doses at the nearest residence.



PARAMETERS USED IN CALCULATING DOSES FROM GASEOUS EFFLUENTS  
(First Half 1985)

Parameter	Value
Accumulation and Decay Times (days)	
Harvest of leafy vegetables to consumption by man	1.0
Harvest of pasture grass to consumption by animals	0.0
Harvest of stored feed to consumption by animals	90.0
Harvest of produce to consumption by man	60.0
Animal butchering to consumption	20.0
Food ingestion by animal to milking	2.0
Accumulation time on ground	7,300.0
Human Consumption Rates (kg/yr)	
Leafy vegetables by adult	64.0
Produce by adult	456.0
Meat by adult	110.0
Milk by adult	310.0
Milk by infant	330.0
Breathing Rates (m <sup>3</sup> /yr)	
Adult	8,000.0
Infant	1,400.0
Animal Consumption Rates (kg/day)	
Animal feed by meat animal	50.0
Animal feed by milk cow	50.0
Animal feed by milk goat	6.0
Exposure Periods During Growing Season (days)	
Leafy vegetables	60.0
Pasture vegetation	30.0
Produce	60.0
Residential Structure Shielding Factor	0.7
Fraction of Particulates Initially Deposited on Leafy Vegetation	0.2
Fraction of Particulates Initially Deposited on Produce	0.2
Fraction of Iodine Deposited on Leafy Vegetation	1.0
Fraction of Iodine Deposited on Produce	1.0
Surface Density of Soil for Root Zone (kg/m <sup>2</sup> )	240.0
Field Decay Half Life (days)	14.0

TABLE B-1

Sheet 2 of 2

<u>Parameter</u>	<u>Value</u>
Agricultural Productivity (kg/m <sup>2</sup> )	
Leafy vegetables	2.0
Pasture grass	0.7
Produce	2.0
Period of Long-Term Buildup for Activity in Soil (days)	7,300.0
Fraction of Leafy Vegetables Grown in Garden of Interest	1.0
Fraction of Produce Grown in Garden of Interest	0.76
Fraction of Year Animal Grazes on Pasture	0.5
Fraction of Daily Feed that is Pasture Grass when Animal Grazes	1.0

TABLE B-2

Sheet 1 of 2

## PARAMETERS USED IN CALCULATING DOSES FROM LIQUID EFFLUENTS

Parameter	Value	
	1st Qtr. 1985	2nd Qtr. 1985
Plant Dilution Flow Rate (gpm)	29,100.0	28,400.0
Columbia River Flow Rate (cfs)	144,000.0	406,901.0
Dilution Factors		
Drinking water	2,219.0	6,428.0
Swimming water	488.0	1,414.0
Aquatic biota	488.0	1,414.0
Shoreline sediment	488.0	1,414.0
Irrigation water	2,219.0	6,428.0
Milk and meat animal water	2,219.0	6,428.0
Decay Times (days)		
Discharge to drinking water	0.74	0.58
Discharge to swimming water	0.0	0.0
Discharge to aquatic biota consumption	1.0	1.0
Discharge to deposition on shoreline sediment	0.0	0.0
Discharge to irrigation water withdrawal	0.74	0.58
Discharge to milk and meat animal water withdrawal	0.74	0.58
Leafy vegetable harvest to consumption by man		1.0
Produce harvest to consumption by man		60.0
Stored feed harvest to consumption by animals		90.0
Pasture grass to consumption by animals		0.0
Animal butchering to consumption		20.0
Food and water ingestion by cow/goat to milking		2.0
Accumulation Times (days)		
Shoreline sediment	7,300.0	
Irrigated soil	7,300.0	
Irrigated vegetables	60.0	
Pasture grass	30.0	
Adult Consumption Rates (kg/yr)		
Drinking water	730.0	
Fish	21.0	
Invertebrates (crayfish)	5.0	
Irrigated leafy vegetables	64.0	
Irrigated produce	456.0	
Cow's milk from irrigated pastureland	310.0	
Goat's milk from irrigated pastureland	310.0	
Meat from irrigated pastureland	110.0	

TABLE B-2

Sheet 2 of 2

Parameter	Value	
	1st Qtr. 1985	2nd Qtr. 1985
Annual Exposure Times (hr/yr)		
Swimming and boating	12.0	
Shoreline activities	12.0	
Irrigated pasture	2,190.0	
Infant Consumption Rates (kg/yr)		
Drinking water	330.0	
Cow's milk from irrigated pastureland	330.0	
Fraction of Year Animals Graze on Pasture	0.5	
Fraction of Year Crops are Irrigated	0.5	
Field (Weathering) Half-Life (days)	14.0	
Irrigation Rate (liters/m <sup>2</sup> -hr)	0.104	
Fractional Concentration of Water in Soil (g/g)	0.2	
Fraction of Leafy Vegetables Grown in Garden of Interest	1.0	
Fraction of Produce Grown in Garden of Interest	0.76	
Irrigated Soil Self-Shielding Factor	2.5	
Fraction of Isotope in Irrigation Water That is Initially Retained by Leafy Vegetables	0.25	
Fraction of Isotope in Irrigation Water That is Initially Retained by Produce	0.25	
Pasture Grass Yield (kg/m <sup>2</sup> )	0.7	
Vegetable Yield (kg/m <sup>2</sup> )	2.0	
Surface Density of Soil (kg/m <sup>2</sup> )	240.0	
Animal Consumption Rates (kg/day)		
Water by milk cow	60.0	
Water by milk goat	8.0	
Water by beef	50.0	
Pasture vegetation by milk cow	50.0	
Pasture vegetation by milk goat	6.0	
Pasture vegetation by beef	50.0	

TABLE B-3

■ 1 QUARTER 1985

DOSES FROM LIQUID EFFLUENTS  
(MREM)

EXPOSURE PATHWAY	TOTAL BODY	SKIN	LUNG	BONE	ADULT THYROID	INFANT THYROID	OTHER INTERNAL ORGANS
AQUATIC AT MAXIMUM LOCATION							
DRINKING WATER	5.6E-05	5.6E-05	5.4E-05	5.7E-05	2.2E-04	5.9E-04	7.0E-05
FISH CONSUMPTION	5.2E-04	5.2E-04	8.7E-05	4.2E-04	8.2E-04	0.0	6.0E-04
INVERTEBRATE CONSUMPTION	7.4E-05	7.4E-05	2.8E-05	8.4E-05	9.9E-05	0.0	3.5E-04
EXPOSURE TO SHORELINE SEDIMENT	3.8E-06	4.5E-06	3.8E-06	3.8E-06	3.8E-06	0.0	3.8E-06
SWIMMING AND BOATING	6.6E-08	2.3E-07	6.6E-08	6.6E-08	6.6E-08	0.0	6.6E-08
AQUATIC TOTAL	6.5E-04	6.5E-04	1.7E-04	5.6E-04	1.1E-03	5.9E-04	1.0E-03
AQUATIC AT AGRICULTURAL LOCATION							
DRINKING WATER	5.6E-05	5.6E-05	5.4E-05	5.7E-05	2.2E-04	5.9E-04	7.0E-05
FISH CONSUMPTION	1.1E-04	1.1E-04	1.9E-05	9.1E-05	1.8E-04	0.0	1.3E-04
INVERTEBRATE CONSUMPTION	1.6E-05	1.6E-05	6.1E-06	1.8E-05	2.2E-05	0.0	7.8E-05
EXPOSURE TO SHORELINE SEDIMENT	8.4E-07	9.9E-07	8.4E-07	8.4E-07	8.4E-07	0.0	8.4E-07
SWIMMING AND BOATING	1.4E-08	5.1E-08	1.4E-08	1.4E-08	1.4E-08	0.0	1.4E-08
IRRIGATION AND LIVESTOCK WATERING							
EXPOSURE TO AGRICULTURAL SOIL	1.1E-05	1.3E-05	1.1E-05	1.1E-05	1.1E-05	0.0	1.1E-05
LEAFY VEGETABLE CONSUMPTION	6.2E-06	6.2E-06	5.3E-06	6.6E-06	1.3E-04	0.0	1.1E-05
PRODUCE CONSUMPTION	3.0E-05	3.0E-05	2.6E-05	3.1E-05	3.3E-05	0.0	5.2E-05
MEAT CONSUMPTION	1.2E-05	1.2E-05	1.9E-05	1.6E-05	2.1E-05	0.0	2.8E-04
MILK CONSUMPTION (COW)	3.3E-05	3.3E-05	2.6E-05	3.2E-05	2.8E-04	2.0E-03	2.7E-05
MILK CONSUMPTION (GOAT)	7.6E-05	7.6E-05	5.8E-05	7.2E-05	3.8E-04	2.5E-03	5.5E-05
AGRICULTURAL TOTAL							
EXCLUDING COW MILK CONSUMPTION	3.2E-04	3.2E-04	2.0E-04	3.0E-04	9.9E-04	3.1E-03	6.9E-04
EXCLUDING GOAT MILK CONSUMPTION	2.8E-04	2.8E-04	1.7E-04	2.6E-04	9.0E-04	2.6E-03	6.6E-04

TABLE B-4

FIRST QUARTER 1985

POPULATION DOSE (50-MILE) FROM  
LIQUID EFFLUENTS  
(MAN-REM)

EXPOSURE PATHWAY	TOTAL BODY	THYROID
AQUATIC		
DRINKING WATER	2.2E-04	8.9E-04
FISH CONSUMPTION	4.9E-02	7.8E-02
INVERTEBRATE CONSUMPTION	3.3E-05	4.3E-05
EXPOSURE TO CONTAMINATED SEDIMENT	1.9E-05	1.9E-05
SWIMMING AND BOATING	1.6E-07	1.6E-07
IRRIGATION AND LIVESTOCK WATERING		
LEAFY VEGETABLE CONSUMPTION	4.8E-07	9.9E-06
PRODUCE CONSUMPTION	2.3E-06	2.6E-06
MEAT CONSUMPTION	1.6E-05	2.8E-05
MILK CONSUMPTION	1.7E-04	1.6E-03
EXPOSURE TO CONTAMINATED SOIL	1.6E-06	1.6E-06
TOTAL	5.0E-02	8.1E-02
AVERAGE DOSE (MREM/PERSON)	2.4E-05	3.9E-05

TABLE B-5

FIRST QUARTER 1985  
BATCH RELEASES

DOSES FROM NOBLE GASES AT  
SITE BOUNDARY AND RESIDENCE OF  
HIGHEST CONCENTRATION

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	<u>Site</u> <u>Boundary</u> <sup>[a]</sup>	<u>Residence</u> <sup>[b]</sup>
Beta Air Dose (mrad)	9.5E-2	5.6E-2
Gamma Air Dose (mrad)	3.3E-2	1.4E-2
Beta + Gamma Skin Dose (mrem)	-	3.3E-2
Gamma Total Body Dose (mrem)	-	1.2E-2

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[a] North sector at 663 meters.

[b] North sector at 965 meters.

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TABLE B-6

FIRST QUARTER 1985  
CONTINUOUS RELEASES

DOSES FROM NOBLE GASES AT  
SITE BOUNDARY AND RESIDENCE OF  
HIGHEST CONCENTRATION

---

	<u>Site</u> <u>Boundary</u> [a]	<u>Residence</u> [b]
Beta Air Dose (mrad)	3.7E-2	2.2E-2
Gamma Air Dose (mrad)	1.5E-2	6.2E-3
Beta + Gamma Skin Dose (mrem)	-	1.4E-2
Gamma Total Body Dose (mrem)	-	5.3E-3

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[a] NNW sector at 674 meters.

[b] NNW sector at 965 meters.

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TABLE B-7

FIRST QUARTER 1985  
BATCH + CONTINUOUS RELEASES

DOSES FROM NOBLE GASES AT  
SITE BOUNDARY AND RESIDENCE OF  
HIGHEST CONCENTRATION

---

	Site Boundary [a]	Residence [b]
Beta Air Dose (mrad)	1.3E-1	7.7E-2
Gamma Air Dose (mrad)	4.9E-2	2.0E-2
Beta + Gamma Skin Dose (mrem)	-	4.7E-2
Gamma Total Body Dose (mrem)	-	1.7E-2

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[a] Maximum site boundary location.

[b] Maximum residence location.

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TABLE B-8

## # 1 QUARTER 1985 BATCH RELEASES

DOSES FROM GASEOUS EFFLUENTS (EXCLUDING  
NOBLE GASES) AT MAXIMUM OFFSITE EXPOSURE LOCATIONS  
(MREM)

EXPOSURE LOCATION AND PATHWAY	TOTAL BODY	SKIN	LUNG	BONE	ADULT THYROID	INFANT THYROID	OTHER INTERNAL ORGANS
GARDEN (NNW SECTOR AT 965. METERS)							
AIR INHALATION	1.82E-05	1.82E-05	1.85E-05	2.22E-05	1.27E-04	1.83E-04	1.67E-05
EXPOSURE TO SOIL	1.82E-06	2.17E-06	1.82E-06	1.82E-06	1.82E-06	1.82E-06	1.82E-06
LEAFY VEGETABLE CONSUMPTION	1.16E-05	1.16E-05	1.15E-05	3.20E-05	2.12E-04	0.0	1.21E-05
PRODUCE CONSUMPTION	6.03E-05	6.03E-05	6.02E-05	1.66E-04	6.49E-05	0.0	6.04E-05
TOTAL	9.19E-05	9.22E-05	9.20E-05	2.22E-04	4.06E-04	1.85E-04	9.29E-05
MEAT ANIMAL (NNW SECTOR AT 3379. METERS)							
AIR INHALATION	2.51E-06	2.51E-06	2.55E-06	3.06E-06	1.83E-05	2.65E-05	2.59E-06
EXPOSURE TO SOIL	1.98E-07	2.36E-07	1.98E-07	1.98E-07	1.98E-07	1.98E-07	1.98E-07
LEAFY VEGETABLE CONSUMPTION	1.47E-06	1.47E-06	1.46E-06	3.69E-06	2.33E-05	0.0	1.52E-06
PRODUCE CONSUMPTION	7.70E-06	7.70E-06	7.69E-06	1.92E-05	8.20E-06	0.0	7.71E-06
MEAT CONSUMPTION	8.48E-07	8.48E-07	8.46E-07	1.08E-06	1.86E-06	0.0	8.51E-07
TOTAL	1.27E-05	1.28E-05	1.27E-05	2.72E-05	5.19E-05	2.67E-05	1.29E-05
MILK COW (NORTH SECTOR AT 8045. METERS)							
AIR INHALATION	8.09E-07	8.09E-07	8.22E-07	9.87E-07	6.16E-06	8.95E-06	8.34E-07
EXPOSURE TO SOIL	4.48E-08	5.33E-08	4.48E-08	4.48E-08	4.48E-08	4.48E-08	4.48E-08
LEAFY VEGETABLE CONSUMPTION	4.26E-07	4.26E-07	4.26E-07	9.29E-07	5.36E-06	0.0	4.38E-07
PRODUCE CONSUMPTION	2.25E-06	2.25E-06	2.25E-06	4.85E-06	2.36E-06	0.0	2.25E-06
MEAT CONSUMPTION	2.89E-07	2.89E-07	2.88E-07	3.41E-07	5.17E-07	0.0	2.89E-07
COW MILK CONSUMPTION	7.19E-07	7.19E-07	7.15E-07	9.24E-07	8.44E-06	6.39E-05	7.37E-07
TOTAL	4.54E-06	4.55E-06	4.54E-06	8.07E-06	2.29E-05	7.29E-05	4.60E-06
MILK GOAT (SSE SECTOR AT 2574. METERS)							
AIR INHALATION	2.21E-06	2.21E-06	2.24E-06	2.69E-06	1.59E-05	2.30E-05	2.27E-06
EXPOSURE TO SOIL	1.93E-07	2.29E-07	1.93E-07	1.93E-07	1.93E-07	1.93E-07	1.93E-07
LEAFY VEGETABLE CONSUMPTION	1.34E-06	1.34E-06	1.34E-06	3.51E-06	2.26E-05	0.0	1.39E-06
PRODUCE CONSUMPTION	7.02E-06	7.02E-06	7.01E-06	1.82E-05	7.51E-06	0.0	7.03E-06
MEAT CONSUMPTION	7.36E-07	7.36E-07	7.34E-07	9.62E-07	1.72E-06	0.0	7.38E-07
GOAT MILK CONSUMPTION	3.86E-06	3.86E-06	3.82E-06	5.70E-06	4.37E-05	3.30E-04	3.97E-06
TOTAL	1.54E-05	1.54E-05	1.53E-05	3.12E-05	9.16E-05	3.53E-04	1.56E-05

TABLE B-9

## # 1 QUARTER 1985 CONTINUOUS RELEASES

DOSES FROM GASEOUS EFFLUENTS (EXCLUDING  
NOBLE GASES) AT MAXIMUM OFFSITE EXPOSURE LOCATIONS  
(MREM)

EXPOSURE LOCATION AND PATHWAY	TOTAL BODY	SKIN	LUNG	BONE	ADULT THYROID	INFANT THYROID	OTHER INTERNAL ORGANS
GARDEN (NNW SECTOR AT 965. METERS)							
AIR INHALATION	7.67E-04	7.67E-04	8.49E-04	1.99E-03	8.10E-03	1.01E-02	7.81E-04
EXPOSURE TO SOIL	5.59E-05	6.79E-05	5.59E-05	5.59E-05	5.59E-05	5.59E-05	5.59E-05
LEAFY VEGETABLE CONSUMPTION	2.06E-03	2.06E-03	2.06E-03	7.90E-03	5.27E-02	0.0	2.12E-03
PRODUCE CONSUMPTION	1.06E-02	1.06E-02	1.06E-02	4.09E-02	1.23E-02	0.0	1.06E-02
TOTAL	1.35E-02	1.35E-02	1.35E-02	5.08E-02	7.31E-02	1.01E-02	1.35E-02
MEAT ANIMAL (NNW SECTOR AT 3379. METERS)							
AIR INHALATION	1.01E-04	1.01E-04	1.12E-04	2.62E-04	1.12E-03	1.40E-03	1.03E-04
EXPOSURE TO SOIL	5.90E-06	7.17E-06	5.90E-06	5.90E-06	5.90E-06	5.90E-06	5.90E-06
LEAFY VEGETABLE CONSUMPTION	2.24E-04	2.24E-04	2.24E-04	8.41E-04	5.57E-03	0.0	2.32E-04
PRODUCE CONSUMPTION	1.16E-03	1.16E-03	1.16E-03	4.35E-03	1.33E-03	0.0	1.16E-03
MEAT CONSUMPTION	4.89E-05	4.89E-05	4.89E-05	1.13E-04	4.07E-04	0.0	4.93E-05
TOTAL	1.54E-03	1.54E-03	1.55E-03	5.58E-03	8.43E-03	1.40E-03	1.55E-03
MILK COW (NNW SECTOR AT 8045. METERS)							
AIR INHALATION	2.88E-05	2.88E-05	3.18E-05	7.44E-05	3.32E-04	4.15E-04	2.93E-05
EXPOSURE TO SOIL	1.27E-06	1.55E-06	1.27E-06	1.27E-06	1.27E-06	1.27E-06	1.27E-06
LEAFY VEGETABLE CONSUMPTION	5.10E-05	5.10E-05	5.10E-05	1.84E-04	1.20E-03	0.0	5.26E-05
PRODUCE CONSUMPTION	2.64E-04	2.64E-04	2.64E-04	9.53E-04	3.02E-04	0.0	2.64E-04
MEAT CONSUMPTION	1.32E-05	1.32E-05	1.32E-05	2.71E-05	9.05E-05	0.0	1.33E-05
COW MILK CONSUMPTION	4.06E-05	4.06E-05	4.06E-05	9.44E-05	2.18E-03	1.64E-02	4.35E-05
TOTAL	3.98E-04	3.99E-04	4.02E-04	1.33E-03	4.11E-03	1.68E-02	4.04E-04
MILK GOAT (SSE SECTOR AT 2574. METERS)							
AIR INHALATION	8.41E-05	8.41E-05	9.31E-05	2.18E-04	9.18E-04	1.14E-03	8.57E-05
EXPOSURE TO SOIL	5.59E-06	6.79E-06	5.59E-06	5.59E-06	5.59E-06	5.59E-06	5.59E-06
LEAFY VEGETABLE CONSUMPTION	2.09E-04	2.09E-04	2.09E-04	7.93E-04	5.27E-03	0.0	2.16E-04
PRODUCE CONSUMPTION	1.08E-03	1.08E-03	1.08E-03	4.10E-03	1.24E-03	0.0	1.08E-03
MEAT CONSUMPTION	4.24E-05	4.24E-05	4.24E-05	1.04E-04	3.82E-04	0.0	4.29E-05
GOAT MILK CONSUMPTION	2.80E-04	2.80E-04	2.80E-04	7.72E-04	1.16E-02	8.67E-02	2.95E-04
TOTAL	1.70E-03	1.70E-03	1.71E-03	6.00E-03	1.94E-02	8.78E-02	1.72E-03

TABLE B-10

## # 1 QUARTER 1985 BATCH + CONTINUOUS RELEASES

DOSES FROM GASEOUS EFFLUENTS (EXCLUDING  
NOBLE GASES) AT MAXIMUM OFFSITE EXPOSURE LOCATIONS  
(MREM)

EXPOSURE LOCATION AND PATHWAY	TOTAL BODY	SKIN	LUNG	BONE	ADULT THYROID	INFANT THYROID	OTHER INTERNAL ORGANS
GARDEN MAXIMUM LOCATION							
AIR INHALATION	7.85E-04	7.85E-04	8.67E-04	2.01E-03	8.23E-03	1.03E-02	8.00E-04
EXPOSURE TO SOIL	5.77E-05	7.01E-05	5.77E-05	5.77E-05	5.77E-05	5.77E-05	5.77E-05
LEAFY VEGETABLE CONSUMPTION	2.07E-03	2.07E-03	2.07E-03	7.93E-03	5.29E-02	0.0	2.13E-03
PRODUCE CONSUMPTION	1.07E-02	1.07E-02	1.07E-02	4.11E-02	1.24E-02	0.0	1.07E-02
TOTAL	1.36E-02	1.36E-02	1.36E-02	5.10E-02	7.35E-02	1.03E-02	1.36E-02
MEAT ANIMAL MAXIMUM LOCATION							
AIR INHALATION	1.04E-04	1.04E-04	1.15E-04	2.65E-04	1.14E-03	1.43E-03	1.06E-04
EXPOSURE TO SOIL	6.10E-06	7.41E-06	6.10E-06	6.10E-06	6.10E-06	6.10E-06	6.10E-06
LEAFY VEGTABLE CONSUMPTION	2.25E-04	2.25E-04	2.25E-04	8.45E-04	5.59E-03	0.0	2.34E-04
PRODUCE CONSUMPTION	1.17E-03	1.17E-03	1.17E-03	4.37E-03	1.34E-03	0.0	1.17E-03
MEAT CONSUMPTION	4.97E-05	4.97E-05	4.97E-05	1.14E-04	4.09E-04	0.0	5.02E-05
TOTAL	1.55E-03	1.55E-03	1.56E-03	5.61E-03	8.48E-03	1.43E-03	1.56E-03
MILK COW MAXIMUM LOCATION							
AIR INHALATION	2.96E-05	2.96E-05	3.26E-05	7.54E-05	3.38E-04	4.24E-04	3.01E-05
EXPOSURE TO SOIL	1.31E-06	1.60E-06	1.31E-06	1.31E-06	1.31E-06	1.31E-06	1.31E-06
LEAFY VEGETABLE CONSUMPTION	5.14E-05	5.14E-05	5.14E-05	1.85E-04	1.21E-03	0.0	5.30E-05
PRODUCE CONSUMPTION	2.66E-04	2.66E-04	2.66E-04	9.58E-04	3.04E-04	0.0	2.66E-04
MEAT CONSUMPTION	1.35E-05	1.35E-05	1.35E-05	2.74E-05	9.10E-05	0.0	1.36E-05
COW MILK CONSUMPTION	4.13E-05	4.13E-05	4.13E-05	9.53E-05	2.19E-03	1.65E-02	4.42E-05
TOTAL	4.03E-04	4.04E-04	4.07E-04	1.34E-03	4.13E-03	1.69E-02	4.09E-04
MILK GOAT MAXIMUM LOCATION							
AIR INHALATION	8.63E-05	8.63E-05	9.53E-05	2.21E-04	9.34E-04	1.16E-03	8.80E-05
EXPOSURE TO SOIL	5.78E-06	7.02E-06	5.78E-06	5.78E-06	5.78E-06	5.78E-06	5.78E-06
LEAFY VEGETABLE CONSUMPTION	2.10E-04	2.10E-04	2.10E-04	7.97E-04	5.29E-03	0.0	2.17E-04
PRODUCE CONSUMPTION	1.09E-03	1.09E-03	1.09E-03	4.12E-03	1.25E-03	0.0	1.09E-03
MEAT CONSUMPTION	4.31E-05	4.31E-05	4.31E-05	.05E-04	3.84E-04	0.0	4.36E-05
GOAT MILK CONSUMPTION	2.84E-04	2.84E-04	2.84E-04	7.78E-04	1.16E-02	8.70E-02	2.99E-04
TOTAL	1.72E-03	1.72E-03	1.73E-03	6.03E-03	1.95E-02	8.82E-02	1.74E-03

TABLE B-11

FIRST QUARTER 1985  
BATCH + CONTINUOUS RELEASESPOPULATION DOSE (50-MILE) FROM  
GASEOUS EFFLUENTS  
(MAN-REM)

EXPOSURE PATHWAY	TOTAL BODY	THYROID
AIR SUBMERSION	4.7E-02	4.7E-02
AIR INHALATION	3.0E-03	3.2E-02
EXPOSURE TO SOIL	8.6E-05	8.6E-05
LEAFY VEGETABLE CONSUMPTION	1.0E-04	2.4E-03
PRODUCE CONSUMPTION	5.4E-04	6.1E-04
MEAT CONSUMPTION	2.4E-04	1.4E-03
MILK CONSUMPTION	2.9E-03	1.6E-01
TOTAL	5.4E-02	2.4E-01
AVERAGE DOSE (MREM/PERSON)	2.6E-05	1.2E-04

TABLE B-12

# 2 QUARTER 1985

DOSES FROM LIQUID EFFLUENTS  
(MREM)

EXPOSURE PATHWAY	TOTAL BODY	SKIN	LUNG	BONE	ADULT THYROID	INFANT THYROID	OTHER INTERNAL ORGANS
AQUATIC AT MAXIMUM LOCATION							
DRINKING WATER	1.8E-05	1.8E-05	1.4E-05	1.8E-05	3.4E-05	7.2E-05	2.6E-05
FISH CONSUMPTION	1.2E-03	1.2E-03	1.8E-04	9.0E-04	1.2E-03	0.0	6.5E-04
INVERTEBRATE CONSUMPTION	1.6E-04	1.6E-04	3.8E-05	1.4E-04	1.6E-04	0.0	3.1E-04
EXPOSURE TO SHORELINE SEDIMENT	9.7E-07	1.1E-06	9.7E-07	9.7E-07	9.7E-07	0.0	9.7E-07
SWIMMING AND BOATING	5.0E-08	5.8E-08	5.0E-08	5.0E-08	5.0E-08	0.0	5.0E-08
AQUATIC TOTAL	1.4E-03	1.4E-03	2.3E-04	1.1E-03	1.4E-03	7.2E-05	9.9E-04
AQUATIC AT AGRICULTURAL LOCATION							
DRINKING WATER	1.8E-05	1.8E-05	1.4E-05	1.8E-05	3.4E-05	7.2E-05	2.6E-05
FISH CONSUMPTION	2.6E-04	2.6E-04	4.0E-05	2.0E-04	2.7E-04	0.0	1.4E-04
INVERTEBRATE CONSUMPTION	3.4E-05	3.4E-05	8.4E-06	3.0E-05	3.5E-05	0.0	6.8E-05
EXPOSURE TO SHORELINE SEDIMENT	9.7E-07	1.1E-06	9.7E-07	9.7E-07	9.7E-07	0.0	9.7E-07
SWIMMING AND BOATING	1.1E-08	1.3E-08	1.1E-08	1.1E-08	1.1E-08	0.0	1.1E-08
IRRIGATION AND LIVESTOCK WATERING							
EXPOSURE TO AGRICULTURAL SOIL	1.3E-05	1.5E-05	1.3E-05	1.3E-05	1.3E-05	0.0	1.3E-05
LEAFY VEGETABLE CONSUMPTION	3.8E-06	3.8E-06	1.8E-06	3.6E-06	1.6E-05	0.0	7.5E-06
PRODUCE CONSUMPTION	1.8E-05	1.8E-05	8.8E-06	1.8E-05	1.9E-05	0.0	3.4E-05
MEAT CONSUMPTION	5.4E-06	5.4E-06	1.1E-05	9.0E-06	6.3E-06	0.0	2.6E-04
MILK CONSUMPTION (COW)	2.3E-05	2.3E-05	8.7E-06	1.9E-05	4.8E-05	2.2E-04	8.6E-06
MILK CONSUMPTION (GOAT)	6.4E-05	6.4E-05	2.1E-05	5.3E-05	9.5E-05	3.1E-04	1.5E-05
AGRICULTURAL TOTAL							
EXCLUDING COW MILK CONSUMPTION	4.2E-04	4.2E-04	1.2E-04	3.4E-04	4.9E-04	3.8E-04	5.7E-04
EXCLUDING GOAT MILK CONSUMPTION	3.8E-04	3.8E-04	1.1E-04	3.1E-04	4.4E-04	2.9E-04	5.6E-04

TABLE B-13

SECOND QUARTER 1985

POPULATION DOSE (50-MILE) FROM  
LIQUID EFFLUENTS  
(MAN-REM)

EXPOSURE PATHWAY	TOTAL BODY	THYROID
AQUATIC		
DRINKING WATER	7.2E-05	1.4E-04
FISH CONSUMPTION	1.1E-01	1.2E-01
INVERTEBRATE CONSUMPTION	6.8E-05	6.9E-05
EXPOSURE TO CONTAMINATED SEDIMENT	2.2E-05	2.2E-05
SWIMMING AND BOATING	1.3E-07	1.3E-07
IRRIGATION AND LIVESTOCK WATERING		
LEAFY VEGETABLE CONSUMPTION	2.9E-07	1.2E-06
PRODUCE CONSUMPTION	1.4E-06	1.4E-06
MEAT CONSUMPTION	7.5E-06	8.7E-06
MILK CONSUMPTION	1.2E-04	2.6E-04
EXPOSURE TO CONTAMINATED SOIL	1.8E-06	1.8E-06
TOTAL	1.1E-01	1.2E-01
AVERAGE DOSE (MREM/PERSON)	5.5E-05	5.7E-05



TABLE B-14

SECOND QUARTER 1985  
BATCH RELEASES

DOSES FROM NOBLE GASES AT  
SITE BOUNDARY AND RESIDENCE OF  
HIGHEST CONCENTRATION

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	<u>Site</u> <u>Boundary</u> <sup>[a]</sup>	<u>Residence</u> <sup>[b]</sup>
Beta Air Dose (mrad)	4.5E-2	2.5E-2
Gamma Air Dose (mrad)	1.6E-2	6.1E-3
Beta + Gamma Skin Dose (mrem)	-	1.5E-2
Gamma Total Body Dose (mrem)	-	5.1E-3

---

[a] North sector at 663 meters.

[b] North sector at 965 meters.

---



TABLE B-15

SECOND QUARTER 1985  
CONTINUOUS RELEASES

DOSES FROM NOBLE GASES AT  
SITE BOUNDARY AND RESIDENCE OF  
HIGHEST CONCENTRATION

---

	<u>Site</u> <u>Boundary</u> <sup>[a]</sup>	<u>Residence</u> <sup>[b]</sup>
Beta Air Dose (mrad)	1.2E-2	7.0E-3
Gamma Air Dose (mrad)	5.0E-3	2.0E-3
Beta + Gamma Skin Dose (mrem)	-	4.6E-3
Gamma Total Body Dose (mrem)	-	1.7E-3

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[a] North sector at 663 meters.

[b] North sector at 965 meters.

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TABLE B-16

SECOND QUARTER 1985  
BATCH + CONTINUOUS RELEASESDOSES FROM NOBLE GASES AT  
SITE BOUNDARY AND RESIDENCE OF  
HIGHEST CONCENTRATION

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	Site <u>Boundary</u> <sup>[a]</sup>	<u>Residence</u> <sup>[b]</sup>
Beta Air Dose (mrad)	5.7E-2	3.2E-2
Gamma Air Dose (mrad)	2.1E-2	8.1E-3
Beta + Gamma Skin Dose (mrem)	-	1.9E-2
Gamma Total Body Dose (mrem)	-	6.9E-3

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[a] Maximum site boundary location.

[b] Maximum residence location.

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TABLE B-17

## # 2 QUARTER 1985 BATCH RELEASES

DOSES FROM GASEOUS EFFLUENTS (EXCLUDING  
NOBLE GASES) AT MAXIMUM OFFSITE EXPOSURE LOCATIONS  
(MREM)

EXPOSURE LOCATION AND PATHWAY	TOTAL BODY	SKIN	LUNG	BONE	ADULT THYROID	INFANT THYROID	OTHER INTERNAL ORGANS
GARDEN (NNW SECTOR AT 965. METERS)							
AIR INHALATION	2.82E-04	2.82E-04	2.84E-04	2.82E-04	6.50E-04	6.06E-04	2.83E-04
EXPOSURE TO SOIL	1.07E-04	1.26E-04	1.07E-04	1.07E-04	1.07E-04	1.07E-04	1.07E-04
LEAFY VEGETABLE CONSUMPTION	8.79E-05	8.79E-05	8.54E-05	8.96E-05	3.64E-03	0.0	9.40E-05
PRODUCE CONSUMPTION	4.42E-04	4.42E-04	4.29E-04	4.44E-04	5.62E-04	0.0	4.50E-04
TOTAL	9.19E-04	9.38E-04	9.05E-04	9.23E-04	4.96E-03	7.13E-04	9.34E-04
MEAT ANIMAL (SOUTH SECTOR AT 2735. METERS)							
AIR INHALATION	8.45E-05	8.45E-05	8.50E-05	8.45E-05	1.99E-04	1.87E-04	8.47E-05
EXPOSURE TO SOIL	4.65E-05	5.45E-05	4.65E-05	4.65E-05	4.65E-05	4.65E-05	4.65E-05
LEAFY VEGETABLE CONSUMPTION	2.93E-05	2.93E-05	2.82E-05	3.00E-05	1.57E-03	0.0	3.19E-05
PRODUCE CONSUMPTION	1.44E-04	1.44E-04	1.38E-04	1.45E-04	1.96E-04	0.0	1.47E-04
MEAT CONSUMPTION	2.72E-05	2.72E-05	2.64E-05	2.74E-05	1.32E-04	0.0	2.78E-05
TOTAL	3.31E-04	3.39E-04	3.24E-04	3.33E-04	2.14E-03	2.33E-04	3.38E-04
MILK COW (SSE SECTOR AT 8045. METERS)							
AIR INHALATION	1.86E-05	1.86E-05	1.87E-05	1.86E-05	4.53E-05	4.31E-05	1.86E-05
EXPOSURE TO SOIL	7.60E-06	8.92E-06	7.60E-06	7.60E-06	7.60E-06	7.60E-06	7.60E-06
LEAFY VEGETABLE CONSUMPTION	6.86E-06	6.86E-06	6.69E-06	6.98E-06	2.59E-04	0.0	7.30E-06
PRODUCE CONSUMPTION	3.48E-05	3.48E-05	3.38E-05	3.49E-05	4.33E-05	0.0	3.54E-05
MEAT CONSUMPTION	6.58E-06	6.58E-06	6.45E-06	6.61E-06	2.38E-05	0.0	6.68E-06
COW MILK CONSUMPTION	1.72E-05	1.72E-05	1.61E-05	1.75E-05	4.89E-04	3.64E-03	1.85E-05
TOTAL	9.15E-05	9.29E-05	8.93E-05	9.22E-05	8.68E-04	3.69E-03	9.40E-05
MILK GOAT (SSE SECTOR AT 2574. METERS)							
AIR INHALATION	1.14E-04	1.14E-04	1.14E-04	1.14E-04	2.67E-04	2.51E-04	1.14E-04
EXPOSURE TO SOIL	5.72E-05	6.71E-05	5.72E-05	5.72E-05	5.72E-05	5.72E-05	5.72E-05
LEAFY VEGETABLE CONSUMPTION	3.89E-05	3.89E-05	3.76E-05	3.98E-05	1.94E-03	0.0	4.21E-05
PRODUCE CONSUMPTION	1.93E-04	1.93E-04	1.85E-04	1.94E-04	2.56E-04	0.0	1.97E-04
MEAT CONSUMPTION	3.64E-05	3.64E-05	3.54E-05	3.66E-05	1.66E-04	0.0	3.71E-05
GOAT MILK CONSUMPTION	2.05E-04	2.05E-04	1.80E-04	2.10E-04	4.47E-03	3.30E-02	2.26E-04
TOTAL	6.44E-04	6.53E-04	6.10E-04	6.51E-04	7.15E-03	3.33E-02	6.74E-04

TABLE B-18

## # 2 QUARTER 1985 CONTINUOUS RELEASES

DOSES FROM GASEOUS EFFLUENTS (EXCLUDING  
NOBLE GASES) AT MAXIMUM OFFSITE EXPOSURE LOCATIONS  
(MREM)

EXPOSURE LOCATION AND PATHWAY	TOTAL BODY	SKIN	LUNG	BONE	ADULT THYROID	INFANT THYROID	OTHER INTERNAL ORGANS
GARDEN (NNW SECTOR AT 965. METERS)							
AIR INHALATION	1.63E-04	1.63E-04	1.63E-04	1.64E-04	1.33E-03	1.60E-03	1.65E-04
EXPOSURE TO SOIL	6.56E-05	7.71E-05	6.56E-05	6.56E-05	6.56E-05	6.56E-05	6.56E-05
LEAFY VEGETABLE CONSUMPTION	6.81E-05	6.81E-05	6.53E-05	7.34E-05	1.12E-02	0.0	8.49E-05
PRODUCE CONSUMPTION	2.64E-04	2.64E-04	2.48E-04	2.68E-04	6.34E-04	0.0	2.74E-04
TOTAL	5.61E-04	5.72E-04	5.42E-04	5.71E-04	1.32E-02	1.67E-03	5.90E-04
MEAT ANIMAL (SOUTH SECTOR AT 2735. METERS)							
AIR INHALATION	4.09E-05	4.09E-05	4.09E-05	4.11E-05	3.44E-04	4.15E-04	4.15E-05
EXPOSURE TO SOIL	2.19E-05	2.57E-05	2.19E-05	2.19E-05	2.19E-05	2.19E-05	2.19E-05
LEAFY VEGETABLE CONSUMPTION	1.98E-05	1.98E-05	1.88E-05	2.15E-05	3.73E-03	0.0	2.54E-05
PRODUCE CONSUMPTION	7.20E-05	7.20E-05	6.69E-05	7.35E-05	1.96E-04	0.0	7.55E-05
MEAT CONSUMPTION	1.37E-05	1.37E-05	1.30E-05	1.39E-05	2.64E-04	0.0	1.45E-05
TOTAL	1.68E-04	1.72E-04	1.61E-04	1.72E-04	4.56E-03	4.37E-04	1.79E-04
MILK COW (SSE SECTOR AT 8045. METERS)							
AIR INHALATION	8.67E-06	8.67E-06	8.66E-06	8.72E-06	7.71E-05	9.33E-05	8.80E-06
EXPOSURE TO SOIL	3.28E-06	3.85E-06	3.28E-06	3.28E-06	3.28E-06	3.28E-06	3.28E-06
LEAFY VEGETABLE CONSUMPTION	4.02E-06	4.02E-06	3.88E-06	4.28E-06	5.61E-04	0.0	4.86E-06
PRODUCE CONSUMPTION	1.65E-05	1.65E-05	1.57E-05	1.67E-05	3.50E-05	0.0	1.70E-05
MEAT CONSUMPTION	3.14E-06	3.14E-06	3.03E-06	3.17E-06	4.07E-05	0.0	3.26E-06
COW MILK CONSUMPTION	9.85E-06	9.85E-06	8.95E-06	1.04E-05	1.05E-03	7.92E-03	1.18E-05
TOTAL	4.55E-05	4.61E-05	4.35E-05	4.66E-05	1.76E-03	8.01E-03	4.90E-05
MILK GOAT (SSE SECTOR AT 2574. METERS)							
AIR INHALATION	5.27E-05	5.27E-05	5.26E-05	5.30E-05	4.43E-04	5.34E-04	5.34E-05
EXPOSURE TO SOIL	2.45E-05	2.88E-05	2.45E-05	2.45E-05	2.45E-05	2.45E-05	2.45E-05
LEAFY VEGETABLE CONSUMPTION	2.42E-05	2.42E-05	2.31E-05	2.61E-05	4.18E-03	0.0	3.05E-05
PRODUCE CONSUMPTION	9.17E-05	9.17E-05	8.59E-05	9.33E-05	2.30E-04	0.0	9.55E-05
MEAT CONSUMPTION	1.75E-05	1.75E-05	1.66E-05	1.77E-05	2.98E-04	0.0	1.83E-05
GOAT MILK CONSUMPTION	1.18E-04	1.18E-04	9.74E-05	1.24E-04	9.41E-03	7.10E-02	1.43E-04
TOTAL	3.28E-04	3.32E-04	3.00E-04	3.39E-04	1.46E-02	7.15E-02	3.65E-04

TABLE B-19

## # 2 QUARTER 1985 BATCH + CONTINUOUS RELEASES

DOSES FROM GASEOUS EFFLUENTS (EXCLUDING  
NOBLE GASES) AT MAXIMUM OFFSITE EXPOSURE LOCATIONS  
(MREM)

EXPOSURE LOCATION AND PATHWAY	TOTAL BODY	SKIN	LUNG	BONE	ADULT THYROID	INFANT THYROID	OTHER INTERNAL ORGANS
GARDEN MAXIMUM LOCATION							
AIR INHALATION	4.45E-04	4.45E-04	4.47E-04	4.46E-04	1.98E-03	2.21E-03	4.48E-04
EXPOSURE TO SOIL	1.73E-04	2.03E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04
LEAFY VEGETABLE CONSUMPTION	1.56E-04	1.56E-04	1.51E-04	1.63E-04	1.48E-02	0.0	1.79E-04
PRODUCE CONSUMPTION	7.06E-04	7.06E-04	6.77E-04	7.12E-04	1.20E-03	0.0	7.24E-04
TOTAL	1.48E-03	1.51E-03	1.45E-03	1.49E-03	1.82E-02	2.38E-03	1.52E-03
MEAT ANIMAL MAXIMUM LOCATION							
AIR INHALATION	1.25E-04	1.25E-04	1.26E-04	1.26E-04	5.43E-04	6.02E-04	1.26E-04
EXPOSURE TO SOIL	6.84E-05	8.02E-05	6.84E-05	6.84E-05	6.84E-05	6.84E-05	6.84E-05
LEAFY VEGETABLE CONSUMPTION	4.91E-05	4.91E-05	4.70E-05	5.15E-05	5.30E-03	0.0	5.73E-05
PRODUCE CONSUMPTION	2.16E-04	2.16E-04	2.05E-04	2.19E-04	3.92E-04	0.0	2.22E-04
MEAT CONSUMPTION	4.09E-05	4.09E-05	3.94E-05	4.13E-05	3.96E-04	0.0	4.23E-05
TOTAL	4.99E-04	5.11E-04	4.85E-04	5.05E-04	6.70E-03	6.70E-04	5.17E-04
MILK COW MAXIMUM LOCATION							
AIR INHALATION	2.73E-05	2.73E-05	2.74E-05	2.73E-05	1.22E-04	1.36E-04	2.74E-05
EXPOSURE TO SOIL	1.09E-05	1.28E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05	1.09E-05
LEAFY VEGETABLE CONSUMPTION	1.09E-05	1.09E-05	1.06E-05	1.13E-05	8.20E-04	0.0	1.22E-05
PRODUCE CONSUMPTION	5.13E-05	5.13E-05	4.95E-05	5.16E-05	7.83E-05	0.0	5.24E-05
MEAT CONSUMPTION	9.72E-06	9.72E-06	9.48E-06	9.78E-06	6.45E-05	0.0	9.94E-06
COW MILK CONSUMPTION	2.70E-05	2.70E-05	2.51E-05	2.79E-05	1.54E-03	1.16E-02	3.03E-05
TOTAL	1.37E-04	1.39E-04	1.33E-04	1.39E-04	2.63E-03	1.17E-02	1.43E-04
MILK GOAT MAXIMUM LOCATION							
AIR INHALATION	1.67E-04	1.67E-04	1.67E-04	1.67E-04	7.10E-04	7.85E-04	1.67E-04
EXPOSURE TO SOIL	8.17E-05	9.59E-05	8.17E-05	8.17E-05	8.17E-05	8.17E-05	8.17E-05
LEAFY VEGETABLE CONSUMPTION	6.31E-05	6.31E-05	6.07E-05	6.59E-05	6.12E-03	0.0	7.26E-05
PRODUCE CONSUMPTION	2.85E-04	2.85E-04	2.71E-04	2.87E-04	4.86E-04	0.0	2.92E-04
MEAT CONSUMPTION	5.39E-05	5.39E-05	5.20E-05	5.43E-05	4.64E-04	0.0	5.54E-05
GOAT MILK CONSUMPTION	3.23E-04	3.23E-04	2.77E-04	3.34E-04	1.39E-02	1.04E-01	3.69E-04
TOTAL	9.72E-04	9.85E-04	9.10E-04	9.90E-04	2.18E-02	1.05E-01	1.04E-03

TABLE B-20

SECOND QUARTER 1985  
BATCH + CONTINUOUS RELEASESPOPULATION DOSE (50-MILE) FROM  
GASEOUS EFFLUENTS  
(MAN-REM)

EXPOSURE PATHWAY	TOTAL BODY	THYROID
AIR SUBMERSION	2.4E-02	2.4E-02
AIR INHALATION	3.4E-03	1.5E-02
EXPOSURE TO SOIL	6.7E-04	6.7E-04
LEAFY VEGETABLE CONSUMPTION	3.1E-05	1.7E-03
PRODUCE CONSUMPTION	1.5E-04	2.1E-04
MEAT CONSUMPTION	2.3E-04	1.1E-03
MILK CONSUMPTION	2.5E-03	1.2E-01
TOTAL	3.1E-02	1.6E-01
AVERAGE DOSE (MREM/PERSON)	1.5E-05	7.7E-05

### C. METEOROLOGICAL DATA

Meteorological data for the first and second quarters of 1985 are presented in this section. Included are quarterly joint frequency distributions of ground-level wind and atmospheric stability for batch and continuous releases. Also included are quarterly tables of atmospheric dispersion, deposition, and depletion factors that have been calculated from these joint frequency distributions. Meteorological models and assumptions used in performing the analyses are presented in Topical Report PGE-1021, "Offsite Dose Calculation Manual".



TABLE C-1  
DISTANCES FOR GASEOUS RADIOACTIVE  
EFFLUENT EVALUATION  
(meters)

<u>Receptor Direction</u>	<u>Site Boundary</u>	<u>Nearest Residence</u>	<u>Nearest Garden</u>	<u>Nearest Meat Animal</u>	<u>Nearest Milk Cow</u>	<u>Nearest Milk Goat</u>
N	663	965	6758	6758	>8045	6919
NNE	683	2514	3057	4344	8045	3057
NE	820	2735	2574	2574	5792	5792
ENE	688	2253	6919	2414	>8045	>8045
E	677	965	2414	2414	>8045	4183
ESE	805	2574	3379	3701	>8045	3701
SE	1006	3701	3862	6919	>8045	>8045
SSE	1649	2253	2574	7723	>8045	2574
S	1332	1770	3379	2735	8045	>8045
SSW	1241	1609	4505	4023	7241	4344
SW	1320	2092	4023	3218	5310	5471
WSW	1394	2253	4988	2414	5310	2414
W	951	2735	5632	3218	3218	>8045
WNW	1021	2735	3701	3701	>8045	5310
WW	814	1931	1770	3701	6597	>8045
NNW	674	965	965	3379	>8045	>8045

NOTE: The distances presented in this table are based on the 1984 Annual Survey of Agricultural Production.



TABLE C-2

TROJAN NUCLEAR PLANT  
1ST QUARTER 1985 CONTINUOUS RELEASE

AVERAGE X/Q VALUES (SEC/M\*\*3)

RECEPTOR DIRECTION	DOWNWIND DISTANCE FROM RELEASE (MILES)										
	0.5	1.5	2.5	3.5	4.5	7.5	15.0	25.0	35.0	45.0	55.0
N	7.9E-06	1.7E-06	8.0E-07	5.0E-07	3.5E-07	1.7E-07	6.6E-08	3.3E-08	2.1E-08	1.5E-08	1.1E-08
NNE	5.8E-06	1.2E-06	5.3E-07	3.4E-07	2.4E-07	1.2E-07	4.8E-08	2.4E-08	1.6E-08	1.1E-08	8.7E-09
NE	6.1E-06	1.3E-06	4.9E-07	3.1E-07	2.2E-07	1.1E-07	4.3E-08	2.2E-08	1.4E-08	1.0E-08	7.8E-09
ENE	4.3E-06	9.0E-07	3.0E-07	1.6E-07	1.1E-07	5.5E-08	2.2E-08	1.1E-08	7.0E-09	5.1E-09	3.9E-09
E	4.6E-06	9.9E-07	4.1E-07	2.0E-07	1.1E-07	5.2E-08	2.0E-08	1.0E-08	6.4E-09	4.6E-09	3.5E-09
ESE	4.9E-06	1.0E-06	4.3E-07	2.2E-07	1.1E-07	5.5E-08	2.1E-08	1.0E-08	6.6E-09	4.7E-09	3.6E-09
SE	7.9E-06	1.8E-06	8.1E-07	4.3E-07	2.8E-07	1.4E-07	5.3E-08	2.7E-08	1.7E-08	1.2E-08	9.4E-09
SSE	4.4E-06	8.9E-07	4.2E-07	2.6E-07	1.8E-07	8.7E-08	3.3E-08	1.6E-08	1.0E-08	7.2E-09	5.5E-09
S	2.5E-06	5.1E-07	2.4E-07	1.5E-07	1.0E-07	4.9E-08	1.8E-08	8.8E-09	5.5E-09	3.9E-09	2.9E-09
SSW	9.4E-07	1.9E-07	9.2E-08	5.7E-08	4.0E-08	1.9E-08	7.3E-09	3.6E-09	2.3E-09	1.6E-09	1.2E-09
SW	2.4E-07	4.8E-08	1.9E-08	1.3E-08	8.4E-09	4.1E-09	1.6E-09	7.7E-10	4.8E-10	3.4E-10	2.6E-10
WSW	1.6E-07	2.5E-08	9.3E-09	6.0E-09	4.4E-09	2.3E-09	9.3E-10	4.9E-10	3.2E-10	2.3E-10	1.8E-10
W	1.8E-07	3.1E-08	1.0E-08	6.2E-09	4.4E-09	2.1E-09	8.2E-10	4.0E-10	2.6E-10	1.8E-10	1.4E-10
WNW	8.9E-07	1.5E-07	5.4E-08	3.4E-08	2.2E-08	1.1E-08	4.2E-09	2.1E-09	1.3E-09	9.4E-10	7.2E-10
NW	4.2E-06	8.8E-07	3.3E-07	2.1E-07	1.3E-07	6.4E-08	2.4E-08	1.2E-08	7.5E-09	5.3E-09	4.0E-09
NNW	9.0E-06	1.8E-06	8.2E-07	5.1E-07	3.6E-07	1.8E-07	7.0E-08	3.5E-08	2.2E-08	1.6E-08	1.2E-08

TABLE C-3

TROJAN NUCLEAR PLANT  
1ST QUARTER 1985 CONTINUOUS RELEASE

AVERAGE D/Q VALUES (1/M\*\*2)

RECEPTOR DIRECTION	DOWNWIND DISTANCE FROM RELEASE (MILES)										
	0.5	1.5	2.5	3.5	4.5	7.5	15.0	25.0	35.0	45.0	55.0
N	4.1E-08	6.4E-09	2.6E-09	1.5E-09	9.3E-10	3.8E-10	1.2E-10	4.8E-11	2.6E-11	1.6E-11	1.1E-11
NNE	1.2E-08	1.8E-09	6.8E-10	3.8E-10	2.4E-10	9.7E-11	3.1E-11	1.3E-11	6.7E-12	4.2E-12	2.8E-12
NE	8.4E-09	1.3E-09	4.1E-10	2.3E-10	1.5E-10	5.9E-11	1.9E-11	7.6E-12	4.1E-12	2.5E-12	1.7E-12
ENE	5.0E-09	7.9E-10	2.2E-10	9.9E-11	6.3E-11	2.6E-11	8.2E-12	3.3E-12	1.8E-12	1.1E-12	7.5E-13
E	6.6E-09	1.0E-09	3.6E-10	1.5E-10	7.5E-11	3.0E-11	9.6E-12	3.9E-12	2.1E-12	1.3E-12	8.9E-13
ESE	1.1E-08	1.7E-09	6.0E-10	2.7E-10	1.2E-10	5.0E-11	1.6E-11	6.4E-12	3.5E-12	2.1E-12	1.5E-12
SE	2.1E-08	3.6E-09	1.4E-09	6.4E-10	3.7E-10	1.5E-10	4.7E-11	1.9E-11	1.0E-11	6.4E-12	4.4E-12
SSE	2.5E-08	4.0E-09	1.6E-09	9.0E-10	5.8E-10	2.3E-10	7.4E-11	3.0E-11	1.6E-11	1.0E-11	6.8E-12
S	1.8E-08	2.8E-09	1.1E-09	6.3E-10	4.0E-10	1.6E-10	5.2E-11	2.1E-11	1.1E-11	7.0E-12	4.8E-12
SSW	4.3E-09	6.8E-10	2.8E-10	1.5E-10	9.8E-11	4.0E-11	1.3E-11	5.1E-12	2.7E-12	1.7E-12	1.2E-12
SW	6.1E-10	8.9E-11	3.0E-11	1.8E-11	1.1E-11	4.3E-12	1.4E-12	5.6E-13	3.0E-13	1.9E-13	1.3E-13
WSW	1.5E-10	2.0E-11	5.9E-12	3.2E-12	2.1E-12	8.3E-13	2.6E-13	1.1E-13	5.8E-14	3.6E-14	2.4E-14
W	3.6E-10	4.3E-11	1.2E-11	6.5E-12	4.1E-12	1.7E-12	5.3E-13	2.1E-13	1.2E-13	7.2E-14	4.9E-14
WNW	2.1E-09	2.6E-10	7.9E-11	4.3E-11	2.5E-11	1.0E-11	3.2E-12	1.3E-12	7.0E-13	4.4E-13	3.0E-13
NW	2.4E-08	3.7E-09	1.2E-09	6.6E-10	3.8E-10	1.5E-10	4.9E-11	2.0E-11	1.1E-11	6.6E-12	4.5E-12
NNW	4.8E-08	7.6E-09	2.8E-09	1.6E-09	9.9E-10	4.0E-10	1.3E-10	5.2E-11	2.8E-11	1.7E-11	1.2E-11

TABLE C-4

TROJAN NUCLEAR PLANT  
1ST QUARTER 1985 CONTINUOUS RELEASE

AVERAGE X/Q VALUES (SEC/M\*\*3), DEPOSITION (1/M\*\*2) &  
PLUME DEPLETION FACTOR AT OFFSITE EXPOSURE LOCATIONS

SECTOR DIR.	WIND DIR.		SITE BOUNDARY	NEAREST RESIDENCE	NEAREST GARDEN	NEAREST MEAT ANIMAL	NEAREST MILK COW	NEAREST MILK GOAT
N	S	X/Q	1.1E-05	6.1E-06	3.9E-07	3.9E-07	3.0E-07	3.7E-07
		D/Q	5.6E-08	3.0E-08	1.1E-09	1.1E-09	7.7E-10	1.0E-09
		PDF	0.92	0.90	0.76	0.76	0.75	0.76
NNE	SSW	X/Q	7.6E-06	1.1E-06	8.5E-07	4.8E-07	2.1E-07	8.5E-07
		D/Q	1.5E-08	1.6E-09	1.2E-09	6.0E-10	2.0E-10	1.2E-09
		PDF	0.92	0.84	0.83	0.80	0.75	0.83
NE	SW	X/Q	5.9E-06	1.1E-06	1.2E-06	1.2E-06	3.0E-07	3.0E-07
		D/Q	8.1E-09	1.1E-09	1.2E-09	1.2E-09	2.2E-10	2.2E-10
		PDF	0.91	0.84	0.85	0.85	0.78	0.78
ENE	WSW	X/Q	5.6E-06	9.9E-07	1.2E-07	9.0E-07	9.6E-08	9.6E-08
		D/Q	6.5E-09	8.9E-10	6.9E-11	7.9E-10	5.2E-11	5.2E-11
		PDF	0.92	0.85	0.76	0.85	0.75	0.75
E	W	X/Q	6.1E-06	3.6E-06	9.9E-07	9.9E-07	9.2E-08	3.9E-07
		D/Q	8.7E-09	4.9E-09	1.0E-09	1.0E-09	6.2E-11	3.4E-10
		PDF	0.92	0.90	0.85	0.85	0.75	0.81
ESE	WNW	X/Q	4.9E-06	9.5E-07	5.5E-07	4.9E-07	9.6E-08	4.9E-07
		D/Q	1.1E-08	1.5E-09	8.1E-10	6.9E-10	1.0E-10	6.9E-10
		PDF	0.91	0.84	0.82	0.82	0.75	0.82
SE	NW	X/Q	5.7E-06	9.1E-07	8.6E-07	3.0E-07	2.4E-07	2.4E-07
		D/Q	1.5E-08	1.6E-09	1.5E-09	4.0E-10	3.1E-10	3.1E-10
		PDF	0.90	0.82	0.81	0.76	0.75	0.75
SSE	NNW	X/Q	1.5E-06	9.8E-07	8.1E-07	1.6E-07	1.6E-07	8.1E-07
		D/Q	7.7E-09	4.5E-09	3.6E-09	5.1E-10	4.8E-10	3.6E-09
		PDF	0.87	0.85	0.84	0.75	0.75	0.84
S	N	X/Q	1.2E-06	8.0E-07	3.1E-07	4.2E-07	8.8E-08	8.8E-08
		D/Q	7.7E-09	4.8E-09	1.6E-09	2.2E-09	3.3E-10	3.3E-10
		PDF	0.89	0.87	0.82	0.84	0.75	0.75
SSW	NNE	X/Q	4.9E-07	3.4E-07	7.8E-08	9.2E-08	4.0E-08	8.2E-08
		D/Q	2.1E-09	1.4E-09	2.3E-10	2.8E-10	9.8E-11	2.4E-10
		PDF	0.89	0.88	0.80	0.81	0.76	0.80
SW	NE	X/Q	1.2E-07	5.9E-08	1.9E-08	3.2E-08	1.4E-08	1.4E-08
		D/Q	2.7E-10	1.1E-10	3.0E-11	5.4E-11	2.0E-11	1.9E-11
		PDF	0.89	0.86	0.81	0.83	0.79	0.78
WSW	ENE	X/Q	6.0E-08	2.7E-08	7.0E-09	2.5E-08	6.5E-09	2.5E-08
		D/Q	6.2E-11	2.3E-11	4.0E-12	2.0E-11	3.6E-12	2.0E-11
		PDF	0.88	0.85	0.79	0.85	0.79	0.85
W	E	X/Q	1.5E-07	2.6E-08	6.2E-09	2.0E-08	2.0E-08	3.8E-09
		D/Q	2.8E-10	3.5E-11	6.5E-12	2.6E-11	2.6E-11	3.4E-12
		PDF	0.90	0.84	0.78	0.83	0.83	0.75
WNW	ESE	X/Q	6.4E-07	1.3E-07	6.1E-08	6.1E-08	1.9E-08	3.7E-08
		D/Q	1.4E-09	2.1E-10	9.1E-11	9.1E-11	2.1E-11	4.8E-11
		PDF	0.90	0.84	0.82	0.82	0.75	0.79
NW	SE	X/Q	4.2E-06	1.2E-06	1.4E-06	3.8E-07	1.5E-07	1.1E-07
		D/Q	2.3E-08	5.4E-09	6.3E-09	1.4E-09	4.5E-10	3.2E-10
		PDF	0.91	0.86	0.87	0.82	0.77	0.75
NNW	SSE	X/Q	1.2E-05	6.9E-06	6.9E-06	1.0E-06	3.1E-07	3.1E-07
		D/Q	6.4E-08	3.6E-08	3.6E-08	3.8E-09	8.2E-10	8.2E-10
		PDF	0.92	0.90	0.90	0.82	0.75	0.75

TABLE C-5

Sheet 1 of 4

FIRST QUARTER  
CONTINUOUS RELEASE  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34-0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01-1.50	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1.51-2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.01-3.00	3	2	0	0	0	2	1	0	0	0	0	0	0	0	0	0	9
3.01-5.00	6	0	2	0	0	0	4	1	0	0	0	0	0	0	0	1	22
5.01-7.00	12	0	0	0	0	0	3	3	0	0	0	0	0	0	0	20	38
7.01-10.00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	25	2	2	0	0	2	8	4	1	0	0	0	0	0	0	33	77

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## STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34-0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76-1.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1.01-1.50	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3
1.51-2.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2.01-3.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3
3.01-5.00	5	4	0	0	0	0	1	4	0	0	0	0	0	0	0	4	22
5.01-7.00	2	0	0	0	0	0	2	2	0	0	0	0	0	0	0	5	9
7.01-10.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	10	4	0	0	0	0	3	7	4	0	0	0	1	0	0	12	41

TABLE C-5

Sheet 2 of 4

FIRST QUARTER  
CONTINUOUS RELEASE  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS C

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76- 1.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3
1.01- 1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4
1.51- 2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
2.01- 3.00	2	1	0	0	0	0	2	0	0	0	0	0	0	0	1	5	11
3.01- 5.00	7	3	0	0	0	0	1	7	3	0	0	0	0	0	0	8	29
5.01- 7.00	3	0	0	0	0	0	0	4	0	0	0	0	0	0	0	6	13
7.01-10.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	12	4	0	0	0	0	3	12	3	0	1	0	0	0	6	22	63

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## STABILITY CLASS D

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	1	1	2	1	1	1	1	0	1	0
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51- 0.75	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
0.76- 1.00	2	1	0	0	0	0	0	3	2	0	1	2	1	2	0	2	12
1.01- 1.50	3	2	1	0	0	2	2	5	3	5	2	0	0	4	2	7	23
1.51- 2.00	15	2	0	0	0	0	11	9	5	4	2	0	0	5	11	13	53
2.01- 3.00	34	11	0	0	0	1	31	15	39	16	3	1	0	5	9	10	72
3.01- 5.00	46	8	0	0	0	0	39	115	150	7	0	0	0	2	10	28	191
5.01- 7.00	8	0	0	0	0	0	7	90	33	0	0	0	0	2	9	35	411
7.01-10.00	0	0	0	0	0	0	0	15	6	0	0	0	0	0	1	20	159
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	25
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	109	24	1	0	0	3	91	253	239	35	9	6	5	18	43	119	955

TABLE C-5

Sheet 3 of 4

FIRST QUARTER  
CONTINUOUS RELEASE  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS E

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

## JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	9
0.34- 0.50	1	1	1	0	0	1	0	4	5	4	8	7	7	3	3	1	46
0.51- 0.75	2	1	0	0	1	0	1	5	11	11	9	2	4	4	10	2	63
0.76- 1.00	3	0	0	0	0	3	12	11	13	9	16	2	8	8	14	10	109
1.01- 1.50	3	2	0	0	1	1	6	17	15	14	3	2	7	10	25	14	120
1.51- 2.00	3	1	1	0	0	0	9	19	18	4	3	0	0	4	21	11	94
2.01- 3.00	8	3	0	0	0	0	16	24	33	12	1	1	0	7	22	19	146
3.01- 5.00	12	4	0	0	0	0	16	49	72	6	2	0	0	0	11	19	191
5.01- 7.00	2	0	0	0	0	0	6	14	9	0	0	0	0	0	0	10	41
7.01-10.00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	4
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	34	12	2	0	2	5	66	145	176	60	42	14	26	36	106	88	823

C-8

## STABILITY CLASS F

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

## JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	4
0.34- 0.50	0	1	0	0	0	0	0	0	2	3	5	2	0	1	3	1	18
0.51- 0.75	2	0	0	1	0	0	0	7	4	8	7	2	1	1	7	1	41
0.76- 1.00	1	0	0	0	0	1	2	5	2	4	3	2	1	2	7	0	30
1.01- 1.50	1	0	0	0	0	1	6	18	6	0	1	1	0	1	4	0	39
1.51- 2.00	0	0	0	0	0	0	2	12	2	0	0	1	0	0	1	0	18
2.01- 3.00	0	0	0	0	0	0	3	9	6	1	0	0	0	0	0	2	21
3.01- 5.00	1	0	0	0	0	0	1	3	2	0	0	0	0	0	0	0	7
5.01- 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	1	0	1	0	2	14	54	24	16	16	8	2	5	23	4	179



TABLE C-5

FIRST QUARTER  
CONTINUOUS RELEASE  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS G

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.0 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
0.34- 0.50	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0
0.51- 0.75	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	3
0.76- 1.00	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	4
1.01- 1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1.51- 2.00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1
2.01- 3.00	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2
3.01- 5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5.01- 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	7	2	4	0	0	1	0	0	1	16

C-5

## STABILITY CLASS ALL

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.0 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
0.34- 0.50	1	2	1	0	0	1	0	5	8	11	14	10	8	5	6	4	13
0.51- 0.75	5	1	0	1	1	0	2	13	17	20	16	6	9	7	17	5	76
0.76- 1.00	6	1	0	0	0	4	14	20	17	15	21	7	10	12	25	17	120
1.01- 1.50	8	4	1	1	1	4	14	41	26	19	6	3	8	15	43	28	169
1.51- 2.00	19	3	1	0	0	0	22	42	25	8	5	1	0	9	31	25	221
2.01- 3.00	47	17	0	0	0	3	54	51	29	29	4	2	0	9	33	55	191
3.01- 5.00	77	19	2	0	0	0	63	179	230	13	2	0	0	2	20	75	382
5.01- 7.00	27	0	0	0	0	0	16	113	42	0	0	0	0	0	2	61	261
7.01-10.00	5	0	0	0	0	0	0	18	6	0	0	0	0	0	1	9	39
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	195	47	5	1	2	12	185	482	449	115	68	29	35	59	178	279	2154

TABLE C-6

TROJAN NUCLEAR PLANT  
1ST QUARTER 1985 BATCH RELEASES

AVERAGE X/Q VALUES (SEC/M\*\*3)

RECEPTOR DIRECTION	DOWNWIND DISTANCE FROM RELEASE (MILES)										
	0.5	1.5	2.5	3.5	4.5	7.5	15.0	25.0	35.0	45.0	55.0
N	8.4E-06	1.8E-06	8.6E-07	5.3E-07	3.7E-07	1.8E-07	6.9E-08	3.4E-08	2.1E-08	1.5E-08	1.2E-08
NNE	3.5E-06	7.4E-07	3.3E-07	2.0E-07	1.4E-07	7.1E-08	2.7E-08	1.4E-08	8.7E-09	6.2E-09	4.7E-09
NE	4.0E-06	8.8E-07	3.3E-07	2.1E-07	1.5E-07	7.4E-08	2.9E-08	1.4E-08	9.2E-09	6.6E-09	5.0E-09
ENE	5.8E-06	1.2E-06	4.0E-07	2.1E-07	1.5E-07	7.8E-08	3.1E-08	1.6E-08	1.0E-08	7.5E-09	5.8E-09
E	4.7E-06	1.0E-06	4.2E-07	2.0E-07	1.1E-07	5.5E-08	2.2E-08	1.1E-08	7.1E-09	5.1E-09	4.0E-09
ESE	3.9E-06	8.5E-07	3.5E-07	1.8E-07	8.9E-08	4.3E-08	1.6E-08	8.1E-09	5.1E-09	3.6E-09	2.7E-09
SE	9.2E-06	2.1E-06	9.6E-07	5.1E-07	3.3E-07	1.6E-07	6.4E-08	3.2E-08	2.1E-08	1.5E-08	1.1E-08
SSE	4.1E-06	8.6E-07	4.1E-07	2.5E-07	1.7E-07	8.2E-08	3.1E-08	1.5E-08	9.3E-09	6.5E-09	4.9E-09
S	2.8E-06	5.7E-07	2.8E-07	1.7E-07	1.2E-07	5.8E-08	2.2E-08	1.1E-08	7.0E-09	5.0E-09	3.8E-09
SSW	5.5E-07	1.1E-07	5.0E-08	3.0E-08	2.1E-08	9.5E-09	3.4E-09	1.6E-09	9.6E-10	6.7E-10	5.0E-10
SW	4.6E-07	9.6E-08	3.9E-08	2.7E-08	1.7E-08	8.4E-09	3.2E-09	1.6E-09	1.0E-09	7.1E-10	5.4E-10
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	3.1E-07	5.2E-08	1.7E-08	1.1E-08	7.4E-09	3.6E-09	1.4E-09	6.9E-10	4.4E-10	3.1E-10	2.4E-10
WNW	7.7E-07	1.3E-07	4.6E-08	2.9E-08	1.9E-08	9.1E-09	3.5E-09	1.8E-09	1.1E-09	8.1E-10	6.2E-10
NW	4.7E-06	9.7E-07	3.7E-07	2.3E-07	1.5E-07	7.2E-08	2.8E-08	1.4E-08	8.7E-09	6.2E-09	4.7E-09
NNW	8.0E-06	1.6E-06	7.1E-07	4.4E-07	3.1E-07	1.5E-07	5.9E-08	3.0E-08	1.9E-08	1.4E-08	1.0E-08



TABLE C-7

TROJAN NUCLEAR PLANT  
1ST QUARTER 1985 BATCH RELEASES

AVERAGE D/Q VALUES (1/M\*\*2)

RECEPTOR DIRECTION	DOWNWIND DISTANCE FROM RELEASE (MILES)										
	0.5	1.5	2.5	3.5	4.5	7.5	15.0	25.0	35.0	45.0	55.0
N	4.6E-08	7.2E-09	3.0E-09	1.6E-09	1.0E-09	4.2E-10	1.3E-10	5.4E-11	2.9E-11	1.8E-11	1.2E-11
NNE	9.8E-09	1.5E-09	5.7E-10	3.1E-10	2.0E-10	8.1E-11	2.6E-11	1.0E-11	5.6E-12	3.5E-12	2.4E-12
NE	6.5E-09	1.0E-09	3.2E-10	1.8E-10	1.1E-10	4.6E-11	1.4E-11	5.9E-12	3.2E-12	2.0E-12	1.3E-12
ENE	4.4E-09	7.0E-10	1.9E-10	8.7E-11	5.6E-11	2.3E-11	7.2E-12	2.9E-12	1.6E-12	9.7E-13	6.6E-13
E	6.7E-09	1.1E-09	3.7E-10	1.5E-10	7.6E-11	3.1E-11	9.7E-12	4.0E-12	2.1E-12	1.3E-12	9.0E-13
ESE	1.1E-08	1.7E-09	5.9E-10	2.7E-10	1.2E-10	4.9E-11	1.6E-11	6.4E-12	3.4E-12	2.1E-12	1.4E-12
SE	2.2E-08	3.8E-09	1.4E-09	6.7E-10	3.9E-10	1.6E-10	5.0E-11	2.0E-11	1.1E-11	6.8E-12	4.6E-12
SSE	2.6E-08	4.1E-09	1.7E-09	9.3E-10	6.0E-10	2.4E-10	7.7E-11	3.1E-11	1.7E-11	1.0E-11	7.0E-12
S	1.7E-08	2.6E-09	1.1E-09	5.9E-10	3.8E-10	1.5E-10	4.9E-11	2.0E-11	1.1E-11	6.6E-12	4.5E-12
SSW	3.5E-09	5.5E-10	2.2E-10	1.2E-10	7.9E-11	3.2E-11	1.0E-11	4.1E-12	2.2E-12	1.4E-12	9.3E-13
SW	6.4E-10	9.3E-11	3.2E-11	1.9E-11	1.1E-11	4.5E-12	1.4E-12	5.8E-13	3.1E-13	2.0E-13	1.3E-13
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	4.7E-10	5.5E-11	1.5E-11	8.3E-12	5.3E-12	2.1E-12	6.8E-13	2.7E-13	1.5E-13	9.2E-14	6.2E-14
WNW	1.8E-09	2.2E-10	6.6E-11	3.6E-11	2.1E-11	8.5E-12	2.7E-12	1.1E-12	5.9E-13	3.7E-13	2.5E-13
NW	2.2E-08	3.5E-09	1.1E-09	6.3E-10	3.6E-10	1.5E-10	4.7E-11	1.9E-11	1.0E-11	6.3E-12	4.3E-12
NNW	4.8E-08	7.5E-09	2.8E-09	1.5E-09	9.8E-10	4.0E-10	1.3E-10	5.1E-11	2.8E-11	1.7E-11	1.2E-11

TABLE C-8

TROJAN NUCLEAR PLANT  
1ST QUARTER 1985 BATCH RELEASES

AVERAGE X/Q VALUES (SEC/M\*\*3), DEPOSITION (1/M\*\*2) &  
PLUME DEPLETION FACTOR AT OFFSITE EXPOSURE LOCATIONS

SECTOR DIR.	WIND DIR.		SITE BOUNDARY	NEAREST RESIDENCE	NEAREST GARDEN	NEAREST MEAT ANIMAL	NEAREST MILK COW	NEAREST MILK GOAT
N	S	X/Q	1.1E-05	6.5E-06	4.1E-07	4.1E-07	3.2E-07	4.0E-07
		D/Q	6.3E-08	3.4E-08	1.2E-09	1.2E-09	8.6E-10	1.1E-09
		PDF	0.92	0.90	0.76	0.76	0.75	0.76
NNE	SSW	X/Q	4.6E-06	6.7E-07	5.3E-07	2.9E-07	1.2E-07	5.3E-07
		D/Q	1.3E-08	1.4E-09	1.0E-09	5.0E-10	1.7E-10	1.0E-09
		PDF	0.92	0.84	0.83	0.80	0.75	0.83
NE	SW	X/Q	3.9E-06	7.4E-07	8.0E-07	8.0E-07	2.0E-07	2.0E-07
		D/Q	6.3E-09	8.2E-10	9.1E-10	9.1E-10	1.7E-10	1.7E-10
		PDF	0.91	0.84	0.84	0.84	0.78	0.78
ENE	WSW	X/Q	7.6E-06	1.3E-06	1.6E-07	1.2E-06	1.3E-07	1.3E-07
		D/Q	5.7E-09	7.8E-10	6.0E-11	7.0E-10	4.6E-11	4.6E-11
		PDF	0.92	0.85	0.76	0.85	0.75	0.75
E	W	X/Q	6.3E-06	3.7E-06	1.0E-06	1.0E-06	9.6E-08	4.0E-07
		D/Q	8.8E-09	5.0E-09	1.1E-09	1.1E-09	6.3E-11	3.4E-10
		PDF	0.92	0.90	0.85	0.85	0.75	0.81
ESE	WNW	X/Q	3.9E-06	7.7E-07	4.5E-07	3.9E-07	7.6E-08	3.9E-07
		D/Q	1.1E-08	1.5E-09	8.0E-10	6.8E-10	1.0E-10	6.8E-10
		PDF	0.91	0.84	0.82	0.82	0.75	0.82
SE	NW	X/Q	6.6E-06	1.1E-06	1.0E-06	3.5E-07	2.8E-07	2.8E-07
		D/Q	1.6E-08	1.7E-09	1.5E-09	4.2E-10	3.2E-10	3.2E-10
		PDF	0.90	0.82	0.81	0.76	0.75	0.75
SSE	NNW	X/Q	1.5E-06	9.5E-07	7.8E-07	1.6E-07	1.5E-07	7.8E-07
		D/Q	8.0E-09	4.7E-09	3.7E-09	5.3E-10	4.9E-10	3.7E-09
		PDF	0.87	0.85	0.84	0.75	0.75	0.84
S	N	X/Q	1.3E-06	8.8E-07	3.5E-07	4.8E-07	1.0E-07	1.0E-07
		D/Q	7.3E-09	4.5E-09	1.5E-09	2.1E-09	3.1E-10	3.1E-10
		PDF	0.89	0.87	0.82	0.84	0.75	0.75
SSW	NNE	X/Q	2.9E-07	2.0E-07	4.2E-08	5.0E-08	2.1E-08	4.5E-08
		D/Q	1.7E-09	1.1E-09	1.8E-10	2.2E-10	7.9E-11	2.0E-10
		PDF	0.89	0.88	0.80	0.81	0.76	0.80
SW	NE	X/Q	2.4E-07	1.2E-07	3.9E-08	6.4E-08	2.9E-08	2.8E-08
		D/Q	2.8E-10	1.2E-10	3.2E-11	5.7E-11	2.1E-11	2.0E-11
		PDF	0.89	0.86	0.81	0.83	0.79	0.78
WSW	ENE	X/Q	0.0	0.0	0.0	0.0	0.0	0.0
		D/Q	0.0	0.0	0.0	0.0	0.0	0.0
		PDF	***	***	***	***	***	***
W	E	X/Q	2.5E-07	4.4E-08	1.1E-08	3.5E-08	3.5E-08	6.4E-09
		D/Q	3.5E-10	4.4E-11	8.3E-12	3.3E-11	3.3E-11	4.4E-12
		PDF	0.90	0.84	0.78	0.83	0.83	0.75
WNW	ESE	X/Q	5.4E-07	1.1E-07	5.2E-08	5.2E-08	1.6E-08	3.1E-08
		D/Q	1.2E-09	1.8E-10	7.6E-11	7.6E-11	1.7E-11	4.0E-11
		PDF	0.90	0.84	0.82	0.82	0.75	0.79
NW	SE	X/Q	4.6E-06	1.3E-06	1.5E-06	4.2E-07	1.7E-07	1.3E-07
		D/Q	2.2E-08	5.2E-09	6.0E-09	1.3E-09	4.3E-10	3.0E-10
		PDF	0.91	0.86	0.87	0.82	0.77	0.75
NNW	SSE	X/Q	1.1E-05	6.0E-06	6.0E-06	9.1E-07	2.7E-07	2.7E-07
		D/Q	6.3E-08	3.5E-08	3.5E-08	3.8E-09	8.1E-10	8.1E-10
		PDF	0.92	0.90	0.90	0.82	0.75	0.75

TABLE C-9

FIRST QUARTER  
BATCH RELEASES  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76- 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01- 1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51- 2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.01- 3.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
3.01- 5.00	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	8
5.01- 7.00	4	0	0	0	0	0	1	2	0	0	0	0	0	0	0	13	20
7.01-10.00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	11	0	0	0	0	0	2	2	0	0	0	0	0	0	0	19	34

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## STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76- 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01- 1.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
1.51- 2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
2.01- 3.00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
3.01- 5.00	0	2	0	0	0	0	0	1	1	0	0	0	0	0	0	1	5
5.01- 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
7.01-10.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	2	0	0	0	0	1	1	1	0	0	0	1	0	0	5	12

TABLE C-9

Sheet 2 of 4

FIRST QUARTER  
BATCH RELEASES  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS C

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.0 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76- 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01- 1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51- 2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.01- 3.00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
3.01- 5.00	3	0	0	0	0	0	1	3	0	0	0	0	0	0	0	2	5
5.01- 7.00	3	0	0	0	0	0	0	4	0	0	0	0	0	0	0	3	7
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	0	0	0	0	0	3	7	0	0	0	0	0	0	3	6	25

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## STABILITY CLASS D

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.0 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76- 1.00	0	1	0	0	0	0	0	3	1	0	0	0	0	0	0	2	4
1.01- 1.50	1	1	0	0	0	1	0	3	0	1	0	0	0	0	0	3	8
1.51- 2.00	5	1	0	0	0	0	5	3	0	1	1	0	0	3	5	1	11
2.01- 3.00	10	5	0	0	0	0	12	8	14	7	0	0	0	3	4	11	29
3.01- 5.00	18	3	0	0	0	0	18	41	70	3	0	0	0	0	4	12	71
5.01- 7.00	1	0	0	0	0	0	0	47	23	0	0	0	0	2	0	10	171
7.01-10.00	0	0	0	0	0	0	0	12	5	0	0	0	0	0	1	2	81
10.01-13.00	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	20
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	35	11	0	0	0	1	35	117	114	14	1	1	0	8	14	46	397

TABLE C-9

Sheet 3 of 4

FIRST QUARTER  
BATCH RELEASES  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS E

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

## JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
-----																	-----
CALM																	2
0.34- 0.50	0	0	1	0	0	0	0	0	2	1	3	2	3	1	2	1	16
0.51- 0.75	2	0	0	0	1	0	0	2	6	2	4	1	3	1	4	2	28
0.76- 1.00	1	0	0	0	0	2	7	1	5	3	6	1	2	4	8	5	45
1.01- 1.50	2	1	0	0	0	0	3	4	10	4	1	0	3	5	12	5	50
1.51- 2.00	2	0	1	0	0	0	3	10	6	0	0	0	0	3	10	6	41
2.01- 3.00	5	0	0	0	0	0	4	5	13	5	0	0	0	0	7	5	44
3.01- 5.00	3	1	0	0	0	0	2	15	28	4	2	0	0	0	2	6	63
5.01- 7.00	0	0	0	0	0	0	1	1	3	0	0	0	0	0	0	5	10
7.01-10.00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	3
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-----																	-----
TOTAL	15	2	2	0	1	2	20	39	73	19	16	4	11	14	45	37	302

## STABILITY CLASS F

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

## JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
-----																	-----
CALM																	2
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3
0.51- 0.75	2	0	0	0	0	0	0	5	4	3	2	1	0	0	3	0	20
0.76- 1.00	1	0	0	0	0	0	2	2	1	1	1	1	1	0	3	0	13
1.01- 1.50	1	0	0	0	0	1	3	8	1	0	1	0	0	1	3	0	19
1.51- 2.00	0	0	0	0	0	0	2	1	1	0	0	0	0	0	1	0	5
2.01- 3.00	0	0	0	0	0	0	1	1	2	1	0	0	0	0	0	0	5
3.01- 5.00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
5.01- 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-----																	-----
TOTAL	4	0	0	0	0	1	8	18	10	5	4	4	1	1	11	0	69

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TABLE C-10  
TROJAN NUCLEAR PLANT  
2ND QUARTER 1985 CONTINUOUS RELEASE

AVERAGE X/Q VALUES (SEC/M\*\*3)

RECEPTOR DIRECTION	DOWNWIND DISTANCE FROM RELEASE (MILES)										
	0.5	1.5	2.5	3.5	4.5	7.5	15.0	25.0	35.0	45.0	55.0
N	4.4E-06	9.1E-07	4.4E-07	2.8E-07	1.9E-07	9.5E-08	3.6E-08	1.8E-08	1.2E-08	8.2E-09	6.3E-09
NNE	4.4E-06	9.3E-07	4.1E-07	2.6E-07	1.8E-07	9.0E-08	3.5E-08	1.8E-08	1.1E-08	8.0E-09	6.2E-09
NE	3.6E-06	7.5E-07	2.8E-07	1.8E-07	1.2E-07	6.1E-08	2.4E-08	1.2E-08	7.5E-09	5.3E-09	4.1E-09
ENE	2.4E-06	5.1E-07	1.6E-07	8.5E-08	5.9E-08	2.9E-08	1.1E-08	5.3E-09	3.3E-09	2.4E-09	1.8E-09
E	2.8E-06	5.8E-07	2.3E-07	1.1E-07	5.9E-08	2.8E-08	1.1E-08	5.2E-09	3.2E-09	2.3E-09	1.7E-09
ESE	3.7E-06	7.9E-07	3.2E-07	1.7E-07	8.3E-08	4.0E-08	1.5E-08	7.5E-09	4.7E-09	3.3E-09	2.5E-09
SE	4.4E-06	9.9E-07	4.4E-07	2.3E-07	1.4E-07	6.9E-08	2.6E-08	1.3E-08	8.0E-09	5.6E-09	4.3E-09
SSE	4.2E-06	8.3E-07	3.9E-07	2.3E-07	1.6E-07	7.5E-08	2.7E-08	1.3E-08	8.2E-09	5.7E-09	4.3E-09
S	3.8E-06	7.2E-07	3.3E-07	2.0E-07	1.3E-07	6.2E-08	2.2E-08	1.1E-08	6.6E-09	4.6E-09	3.5E-09
SSW	2.4E-06	4.6E-07	2.1E-07	1.2E-07	8.4E-08	3.8E-08	1.4E-08	6.4E-09	3.9E-09	2.7E-09	2.0E-09
SW	1.2E-06	2.2E-07	8.4E-08	5.5E-08	3.5E-08	1.6E-08	5.8E-09	2.8E-09	1.7E-09	1.2E-09	9.0E-10
WSW	3.7E-07	5.6E-08	1.8E-08	1.1E-08	7.2E-09	3.3E-09	1.1E-09	5.4E-10	3.3E-10	2.3E-10	1.7E-10
W	4.7E-07	6.5E-08	2.0E-08	1.2E-08	7.8E-09	3.5E-09	1.2E-09	5.8E-10	3.6E-10	2.5E-10	1.9E-10
WNW	8.7E-07	1.3E-07	4.5E-08	2.7E-08	1.7E-08	7.8E-09	2.8E-09	1.3E-09	8.1E-10	5.6E-10	4.2E-10
NW	2.1E-06	4.2E-07	1.5E-07	9.4E-08	5.9E-08	2.8E-08	1.0E-08	4.8E-09	3.0E-09	2.1E-09	1.6E-09
NNW	2.9E-06	5.8E-07	2.5E-07	1.5E-07	1.0E-07	4.8E-08	1.8E-08	8.5E-09	5.2E-09	3.7E-09	2.8E-09

TABLE C-11

TROJAN NUCLEAR PLANT  
2ND QUARTER 1985 CONTINUOUS RELEASE

AVERAGE D/Q VALUES (1/M\*\*2)

RECEPTOR DIRECTION	DOWNWIND DISTANCE FROM RELEASE (MILES)										
	0.5	1.5	2.5	3.5	4.5	7.5	15.0	25.0	35.0	45.0	55.0
N	1.4E-08	2.2E-09	9.0E-10	5.0E-10	3.2E-10	1.3E-10	4.1E-11	1.7E-11	8.9E-12	5.5E-12	3.7E-12
NNE	1.1E-08	1.8E-09	6.6E-10	3.6E-10	2.3E-10	9.4E-11	3.0E-11	1.2E-11	6.5E-12	4.0E-12	2.7E-12
NE	7.9E-09	1.2E-09	3.9E-10	2.2E-10	1.4E-10	5.6E-11	1.8E-11	7.2E-12	3.9E-12	2.4E-12	1.6E-12
ENE	5.6E-09	8.9E-10	2.4E-10	1.1E-10	7.1E-11	2.9E-11	9.1E-12	3.7E-12	2.0E-12	1.2E-12	8.4E-13
E	8.4E-09	1.3E-09	4.6E-10	1.9E-10	9.5E-11	3.9E-11	1.2E-11	5.0E-12	2.7E-12	1.7E-12	1.1E-12
ESE	1.4E-08	2.3E-09	7.9E-10	3.6E-10	1.6E-10	6.6E-11	2.1E-11	8.5E-12	4.6E-12	2.8E-12	1.9E-12
SE	2.2E-08	3.8E-09	1.4E-09	6.7E-10	3.9E-10	1.6E-10	5.0E-11	2.0E-11	1.1E-11	6.8E-12	4.6E-12
SSE	4.0E-08	6.3E-09	2.6E-09	1.4E-09	9.1E-10	3.7E-10	1.2E-10	4.7E-11	2.5E-11	1.6E-11	1.1E-11
S	4.0E-08	6.2E-09	2.6E-09	1.4E-09	9.0E-10	3.6E-10	1.2E-10	4.7E-11	2.5E-11	1.6E-11	1.1E-11
SSW	1.9E-08	2.9E-09	1.2E-09	6.6E-10	4.2E-10	1.7E-10	5.4E-11	2.2E-11	1.2E-11	7.3E-12	5.0E-12
SW	5.2E-09	7.6E-10	2.6E-10	1.6E-10	9.1E-11	3.7E-11	1.2E-11	4.8E-12	2.6E-12	1.6E-12	1.1E-12
WSW	2.0E-09	2.6E-10	7.5E-11	4.1E-11	2.6E-11	1.1E-11	3.4E-12	1.4E-12	7.4E-13	4.6E-13	3.1E-13
W	2.0E-09	2.3E-10	6.4E-11	3.5E-11	2.2E-11	9.1E-12	2.9E-12	1.2E-12	6.3E-13	3.9E-13	2.6E-13
WNW	4.1E-09	5.1E-10	1.5E-10	8.4E-11	4.9E-11	2.0E-11	6.3E-12	2.5E-12	1.4E-12	8.5E-13	5.8E-13
NW	1.3E-08	2.0E-09	6.5E-10	3.6E-10	2.1E-10	8.4E-11	2.7E-11	1.1E-11	5.8E-12	3.6E-12	2.4E-12
NNW	2.0E-08	3.1E-09	1.2E-09	6.4E-10	4.1E-10	1.7E-10	5.2E-11	2.1E-11	1.1E-11	7.1E-12	4.8E-12



TABLE C-12

TROJAN NUCLEAR PLANT  
2ND QUARTER 1985 CONTINUOUS RELEASE

AVERAGE X/Q VALUES (SEC/M\*\*3), DEPOSITION (1/M\*\*2) &  
PLUME DEPLETION FACTOR AT OFFSITE EXPOSURE LOCATIONS

SECTOR DIR.	WIND DIR.		SITE BOUNDARY	NEAREST RESIDENCE	NEAREST GARDEN	NEAREST MEAT ANIMAL	NEAREST MILK COW	NEAREST MILK GOAT
N	S	X/Q	6.0E-06	3.4E-06	2.1E-07	2.1E-07	1.7E-07	2.1E-07
		D/Q	1.9E-08	1.0E-08	3.6E-10	3.6E-10	2.6E-10	3.4E-10
		PDF	0.92	0.90	0.76	0.76	0.75	0.76
NNE	SSW	X/Q	5.7E-06	8.5E-07	6.7E-07	3.7E-07	1.6E-07	6.7E-07
		D/Q	1.5E-08	1.6E-09	1.2E-09	5.8E-10	1.9E-10	1.2E-09
		PDF	0.92	0.84	0.83	0.80	0.75	0.83
NE	SW	X/Q	3.5E-06	6.3E-07	6.8E-07	6.8E-07	1.7E-07	1.7E-07
		D/Q	7.7E-09	1.0E-09	1.1E-09	1.1E-09	2.1E-10	2.1E-10
		PDF	0.91	0.84	0.84	0.84	0.78	0.78
ENE	WSW	X/Q	3.0E-06	5.6E-07	6.3E-08	5.1E-07	5.1E-08	5.1E-08
		D/Q	7.3E-09	1.0E-09	7.7E-11	8.9E-10	5.9E-11	5.9E-11
		PDF	0.92	0.85	0.76	0.85	0.75	0.75
E	W	X/Q	3.6E-06	2.1E-06	5.8E-07	5.8E-07	5.1E-08	2.2E-07
		D/Q	1.1E-08	6.3E-09	1.3E-09	1.3E-09	7.9E-11	4.3E-10
		PDF	0.92	0.90	0.85	0.85	0.75	0.81
ESE	WNW	X/Q	3.7E-06	7.2E-07	4.2E-07	3.7E-07	7.1E-08	3.7E-07
		D/Q	1.4E-08	2.0E-09	1.1E-09	9.1E-10	1.3E-10	9.1E-10
		PDF	0.91	0.84	0.82	0.82	0.75	0.82
SE	NW	X/Q	3.2E-06	5.0E-07	4.7E-07	1.5E-07	1.2E-07	1.2E-07
		D/Q	1.6E-08	1.7E-09	1.5E-09	4.2E-10	3.2E-10	3.2E-10
		PDF	0.90	0.82	0.81	0.76	0.75	0.75
SSE	NNW	X/Q	1.5E-06	9.2E-07	7.6E-07	1.5E-07	1.4E-07	7.6E-07
		D/Q	1.2E-08	7.1E-09	5.6E-09	8.1E-10	7.5E-10	5.6E-09
		PDF	0.87	0.85	0.84	0.75	0.75	0.84
S	N	X/Q	1.8E-06	1.1E-06	4.3E-07	5.9E-07	1.1E-07	1.1E-07
		D/Q	1.7E-08	1.1E-08	3.5E-09	5.0E-09	7.4E-10	7.4E-10
		PDF	0.89	0.87	0.82	0.84	0.75	0.75
SSW	NNE	X/Q	1.3E-06	8.5E-07	1.7E-07	2.1E-07	8.4E-08	1.8E-07
		D/Q	9.1E-09	5.9E-09	9.8E-10	1.2E-09	4.2E-10	1.0E-09
		PDF	0.89	0.88	0.80	0.81	0.76	0.80
SW	NE	X/Q	5.7E-07	2.7E-07	8.4E-08	1.4E-07	6.1E-08	5.8E-08
		D/Q	2.3E-09	9.7E-10	2.6E-10	4.6E-10	1.8E-10	1.7E-10
		PDF	0.89	0.86	0.81	0.83	0.79	0.78
WSW	ENE	X/Q	1.6E-07	6.2E-08	1.3E-08	5.6E-08	1.2E-08	5.6E-08
		D/Q	8.0E-10	2.9E-10	5.1E-11	2.6E-10	4.6E-11	2.6E-10
		PDF	0.88	0.85	0.79	0.85	0.79	0.85
W	E	X/Q	3.7E-07	5.4E-08	1.1E-08	4.2E-08	4.2E-08	6.6E-09
		D/Q	1.5E-09	1.9E-10	3.5E-11	1.4E-10	1.4E-10	1.8E-11
		PDF	0.90	0.84	0.78	0.83	0.83	0.75
WNW	ESE	X/Q	6.1E-07	1.1E-07	5.1E-08	5.1E-08	1.4E-08	2.9E-08
		D/Q	2.8E-09	4.1E-10	1.8E-10	1.8E-10	4.0E-11	9.3E-11
		PDF	0.90	0.84	0.82	0.82	0.75	0.79
NW	SE	X/Q	2.1E-06	5.9E-07	6.7E-07	1.8E-07	6.7E-08	5.0E-08
		D/Q	1.3E-08	3.0E-09	3.4E-09	7.5E-10	2.4E-10	1.7E-10
		PDF	0.91	0.86	0.87	0.82	0.77	0.75
NNW	SSE	X/Q	3.8E-06	2.2E-06	2.2E-06	3.2E-07	8.8E-08	8.8E-08
		D/Q	2.6E-08	1.5E-08	1.5E-08	1.6E-09	3.4E-10	3.4E-10
		PDF	0.92	0.90	0.90	0.82	0.75	0.75

TABLE C-13

Sheet 1 of 4

SECOND QUARTER  
CONTINUOUS RELEASE  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS A

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34-0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01-1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51-2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.01-3.00	6	0	1	2	1	3	1	1	0	0	0	0	0	0	0	0	9
3.01-5.00	27	4	0	0	0	0	8	0	0	0	0	0	0	0	0	2	17
5.01-7.00	35	0	0	0	0	1	4	5	0	0	0	0	0	0	2	44	87
7.01-10.00	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	25	61
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	19
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	73	4	2	2	1	5	15	8	0	0	1	0	0	0	2	85	198

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## STABILITY CLASS B

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34-0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01-1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51-2.00	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	6
2.01-3.00	0	2	1	1	0	0	4	1	0	0	0	0	0	0	2	4	15
3.01-5.00	19	12	0	0	0	0	2	3	0	0	0	0	0	0	1	10	47
5.01-7.00	10	1	0	0	0	0	0	0	0	0	0	0	0	0	1	7	19
7.01-10.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	32	17	2	2	1	1	6	4	0	0	1	0	0	0	5	25	96

TABLE C-13

SECOND QUARTER  
CONTINUOUS RELEASE  
JOINT FREQUENCY DISTRIBUTIONS

STABILITY CLASS C

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34-0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01-1.50	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1.51-2.00	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2.01-3.00	11	5	0	2	0	0	3	1	1	0	0	0	0	0	0	5	11
3.01-5.00	25	11	0	0	0	0	0	8	0	0	0	0	0	0	0	10	35
5.01-7.00	9	1	0	0	0	0	0	0	0	0	0	0	0	0	2	11	58
7.01-10.00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	15
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	49	21	2	2	1	0	4	12	3	0	0	0	0	1	5	31	131

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STABILITY CLASS D

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34-0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.75	3	0	2	0	1	1	1	1	4	1	1	1	2	0	1	1	27
0.76-1.00	6	4	2	2	1	1	1	2	3	3	1	3	2	3	5	1	40
1.01-1.50	9	8	7	2	2	2	8	4	9	3	3	3	3	15	19	23	99
1.51-2.00	11	16	7	2	2	1	9	6	4	2	1	2	2	5	2	27	93
2.01-3.00	5	40	6	0	0	3	13	14	15	7	1	7	4	7	13	54	196
3.01-5.00	1	46	1	0	0	0	2	40	16	2	1	2	4	2	26	42	262
5.01-7.00	1	2	0	0	0	0	0	16	4	0	0	0	0	6	0	21	90
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	158	116	25	6	6	10	35	87	56	18	12	8	17	24	68	188	834

TABLE C-13

Sheet 3 of 4

SECOND QUARTER  
CONTINUOUS RELEASE  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS E

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

## JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	6
0.34- 0.50	0	0	0	0	0	0	0	0	4	1	2	0	0	0	0	0	7
0.51- 0.75	0	0	0	0	0	0	1	0	6	6	1	4	1	2	0	3	24
0.76- 1.00	0	0	0	0	0	0	0	2	7	12	5	6	3	2	2	4	43
1.01- 1.50	2	1	3	0	0	2	5	7	12	14	11	3	3	15	17	7	102
1.51- 2.00	6	1	0	0	0	0	2	2	4	3	3	2	1	4	17	7	52
2.01- 3.00	10	7	3	0	1	0	2	2	1	4	0	2	1	1	12	5	51
3.01- 5.00	14	4	1	0	0	0	0	1	5	0	0	0	0	6	8	11	50
5.01- 7.00	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	15	20
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	35	13	7	0	1	2	10	14	39	40	22	17	9	31	57	53	350

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## STABILITY CLASS F

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

## JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	0	0	3	2	0	0	0	1	0	0	6
0.76- 1.00	1	0	0	0	0	0	0	0	5	4	4	1	0	1	0	0	16
1.01- 1.50	0	0	0	0	0	0	0	2	3	4	2	1	0	0	1	1	14
1.51- 2.00	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	1	5
2.01- 3.00	1	0	0	0	0	0	0	1	0	0	0	0	0	1	9	1	13
3.01- 5.00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4
5.01- 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	1	0	0	0	0	0	3	13	10	7	2	0	4	11	4	58

TABLE C-13

Sheet 4 of 4

SECOND QUARTER  
CONTINUOUS RELEASE  
JOINT FREQUENCY DISTRIBUTIONS

STABILITY CLASS G																	
STABILITY BASED ON: DELTA T																	
BETWEEN 200.0 AND 33.0 FEET																	
WIND MEASURED AT: 33.0 FEET																	
WIND THRESHOLD AT: 0.75 MPH																	
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET																	
SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34-0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.75	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0.76-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01-1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51-2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.01-3.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.01-5.00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
5.01-7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	3

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STABILITY CLASS ALL																	
STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET																	
WIND MEASURED AT: 33.0 FEET																	
WIND THRESHOLD AT: 0.75 MPH																	
JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET																	
SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	1	1	1	5	1	2	1	0	0	0	0	0
0.34-0.50	3	0	2	0	1	1	2	4	13	10	7	5	3	3	1	4	59
0.51-0.75	7	4	2	2	2	2	2	4	16	19	11	9	5	6	7	5	103
0.76-1.00	11	13	12	2	2	6	14	15	24	21	16	6	3	18	35	27	228
1.01-1.50	20	19	9	5	4	4	12	10	11	5	5	10	3	10	20	37	176
1.51-2.00	73	54	11	3	1	3	30	21	17	11	1	3	5	9	37	49	328
2.01-3.00	153	78	2	0	0	1	8	57	22	2	1	1	4	9	40	131	509
3.01-5.00	73	4	0	0	0	0	1	16	4	0	0	0	0	5	9	93	205
5.01-7.00	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	50
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	350	172	38	12	10	18	70	128	112	69	43	27	26	60	149	386	1670



TABLE C-14

TROJAN NUCLEAR PLANT  
2ND QUARTER 1985 BATCH RELEASES

AVERAGE X/Q VALUES (SEC/M\*\*3)

RECEPTOR DIRECTION	DOWNWIND DISTANCE FROM RELEASE (MILES)										
	0.5	1.5	2.5	3.5	4.5	7.5	15.0	25.0	35.0	45.0	55.0
N	4.4E-06	9.2E-07	4.5E-07	2.8E-07	1.9E-07	9.5E-08	3.6E-08	1.8E-08	1.1E-08	8.1E-09	6.2E-09
NNE	3.8E-06	8.0E-07	3.6E-07	2.2E-07	1.6E-07	7.8E-08	3.0E-08	1.5E-08	9.8E-09	7.0E-09	5.4E-09
NE	2.8E-06	5.9E-07	2.2E-07	1.4E-07	9.6E-08	4.7E-08	1.8E-08	9.0E-09	5.7E-09	4.1E-09	3.1E-09
ENE	2.4E-06	5.2E-07	1.7E-07	8.7E-08	6.1E-08	2.9E-08	1.1E-08	5.5E-09	3.4E-09	2.4E-09	1.9E-09
E	1.8E-06	3.7E-07	1.5E-07	6.9E-08	3.7E-08	1.7E-08	6.4E-09	3.1E-09	1.9E-09	1.3E-09	9.9E-10
C-24 ESE	3.7E-06	7.9E-07	3.3E-07	1.7E-07	8.3E-08	4.0E-08	1.5E-08	7.5E-09	4.7E-09	3.4E-09	2.6E-09
SE	4.5E-06	9.9E-07	4.4E-07	2.3E-07	1.4E-07	7.0E-08	2.6E-08	1.3E-08	8.0E-09	5.7E-09	4.3E-09
SSE	4.6E-06	9.0E-07	4.2E-07	2.5E-07	1.7E-07	8.2E-08	3.0E-08	1.4E-08	8.9E-09	6.3E-09	4.8E-09
S	3.9E-06	7.4E-07	3.4E-07	2.0E-07	1.4E-07	6.5E-08	2.3E-08	1.1E-08	7.0E-09	4.9E-09	3.7E-09
SSW	2.6E-06	4.9E-07	2.2E-07	1.3E-07	8.9E-08	4.1E-08	1.4E-08	6.7E-09	4.1E-09	2.8E-09	2.1E-09
SW	1.3E-06	2.3E-07	8.9E-08	5.8E-08	3.6E-08	1.7E-08	6.0E-09	2.8E-09	1.7E-09	1.2E-09	8.9E-10
WSW	4.3E-07	6.4E-08	2.1E-08	1.2E-08	8.2E-09	3.7E-09	1.3E-09	6.2E-10	3.8E-10	2.6E-10	2.0E-10
W	5.8E-07	8.1E-08	2.4E-08	1.4E-08	9.8E-09	4.5E-09	1.6E-09	7.3E-10	4.5E-10	3.1E-10	2.3E-10
WNW	9.5E-07	1.5E-07	5.0E-08	3.0E-08	1.9E-08	8.7E-09	3.1E-09	1.5E-09	9.0E-10	6.3E-10	4.7E-10
NW	2.0E-06	3.9E-07	1.4E-07	8.5E-08	5.3E-08	2.5E-08	9.0E-09	4.3E-09	2.7E-09	1.9E-09	1.4E-09
NNW	2.5E-06	4.9E-07	2.1E-07	1.3E-07	8.6E-08	4.0E-08	1.5E-08	7.0E-09	4.3E-09	3.0E-09	2.3E-09

TABLE C-15

TROJAN NUCLEAR PLANT  
2ND QUARTER 1985 BATCH RELEASES

AVERAGE D/Q VALUES (1/M\*\*2)

RECEPTOR DIRECTION	DOWNWIND DISTANCE FROM RELEASE (MILES)										
	0.5	1.5	2.5	3.5	4.5	7.5	15.0	25.0	35.0	45.0	55.0
N	1.3E-08	2.1E-09	8.5E-10	4.7E-10	3.0E-10	1.2E-10	3.8E-11	1.6E-11	8.3E-12	5.2E-12	3.5E-12
NNE	8.9E-09	1.4E-09	5.2E-10	2.9E-10	1.8E-10	7.4E-11	2.4E-11	9.6E-12	5.1E-12	3.2E-12	2.2E-12
NE	6.6E-09	1.0E-09	3.2E-10	1.8E-10	1.1E-10	4.6E-11	1.5E-11	6.0E-12	3.2E-12	2.0E-12	1.4E-12
ENE	5.7E-09	9.0E-10	2.4E-10	1.1E-10	7.2E-11	2.9E-11	9.2E-12	3.7E-12	2.0E-12	1.3E-12	8.5E-13
E	6.1E-09	9.6E-10	3.3E-10	1.4E-10	6.9E-11	2.8E-11	8.9E-12	3.6E-12	1.9E-12	1.2E-12	8.2E-13
ESE	1.4E-08	2.2E-09	7.7E-10	3.5E-10	1.6E-10	6.5E-11	2.0E-11	8.3E-12	4.5E-12	2.8E-12	1.9E-12
SE	2.3E-08	3.8E-09	1.5E-09	6.8E-10	4.0E-10	1.6E-10	5.1E-11	2.1E-11	1.1E-11	6.9E-12	4.7E-12
SSE	4.5E-08	7.1E-09	2.9E-09	1.6E-09	1.0E-09	4.2E-10	1.3E-10	5.3E-11	2.9E-11	1.8E-11	1.2E-11
S	4.1E-08	6.5E-09	2.6E-09	1.5E-09	9.3E-10	3.8E-10	1.2E-10	4.8E-11	2.6E-11	1.6E-11	1.1E-11
SSW	2.0E-08	3.2E-09	1.3E-09	7.2E-10	4.6E-10	1.9E-10	5.9E-11	2.4E-11	1.3E-11	8.0E-12	5.4E-12
SW	5.8E-09	8.4E-10	2.9E-10	1.7E-10	1.0E-10	4.1E-11	1.3E-11	5.3E-12	2.8E-12	1.8E-12	1.2E-12
WSW	2.4E-09	3.1E-10	9.1E-11	5.0E-11	3.2E-11	1.3E-11	4.1E-12	1.7E-12	8.9E-13	5.6E-13	3.8E-13
W	2.3E-09	2.8E-10	7.6E-11	4.2E-11	2.7E-11	1.1E-11	3.4E-12	1.4E-12	7.5E-13	4.6E-13	3.1E-13
WNW	4.0E-09	5.0E-10	1.5E-10	8.2E-11	4.8E-11	1.9E-11	6.1E-12	2.5E-12	1.3E-12	8.3E-13	5.7E-13
NW	1.1E-08	1.8E-09	5.8E-10	3.2E-10	1.9E-10	7.5E-11	2.4E-11	9.7E-12	5.2E-12	3.2E-12	2.2E-12
NNW	1.7E-08	2.6E-09	9.7E-10	5.3E-10	3.4E-10	1.4E-10	4.4E-11	1.8E-11	9.5E-12	5.9E-12	4.0E-12

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TABLE C-16

TROYAN NUCLEAR PLANT  
2ND QUARTER 1985 BATCH RELEASES

AVERAGE X/Q VALUES (SEC/M\*\*3), DEPOSITION (1/M\*\*2) &  
PLUME DEPLETION FACTOR AT OFFSITE EXPOSURE LOCATIONS

SECTOR DIR.	WIND DIR.		SITE BOUNDARY	NEAREST RESIDENCE	NEAREST GARDEN	NEAREST MEAT ANIMAL	NEAREST MILK COW	NEAREST MILK GOAT
N	S	X/Q	6.0E-06	3.4E-06	2.1E-07	2.1E-07	1.7E-07	2.1E-07
		D/Q	1.8E-08	9.8E-09	3.4E-10	3.4E-10	2.5E-10	3.2E-10
		PDF	0.92	0.90	0.76	0.76	0.75	0.76
NNE	SSW	X/Q	4.9E-06	7.3E-07	5.7E-07	3.2E-07	1.4E-07	5.7E-07
		D/Q	1.2E-08	1.3E-09	9.3E-10	4.6E-10	1.5E-10	9.3E-10
		PDF	0.92	0.84	0.83	0.80	0.75	0.83
NE	SW	X/Q	2.7E-06	4.9E-07	5.4E-07	5.4E-07	1.3E-07	1.3E-07
		D/Q	6.4E-09	8.3E-10	9.2E-10	9.2E-10	1.7E-10	1.7E-10
		PDF	0.91	0.84	0.84	0.84	0.78	0.78
ENE	WSW	X/Q	3.1E-06	5.8E-07	6.5E-08	5.2E-07	5.2E-08	5.2E-08
		D/Q	7.3E-09	1.0E-09	7.8E-11	9.0E-10	5.9E-11	5.9E-11
		PDF	0.92	0.85	0.76	0.85	0.75	0.75
E	W	X/Q	2.3E-06	1.4E-06	3.7E-07	3.7E-07	3.2E-08	1.4E-07
		D/Q	8.0E-09	4.5E-09	9.6E-10	9.6E-10	5.7E-11	3.1E-10
		PDF	0.92	0.90	0.85	0.85	0.75	0.81
ESE	WNW	X/Q	3.7E-06	7.2E-07	4.2E-07	3.7E-07	7.1E-08	3.7E-07
		D/Q	1.4E-08	2.0E-09	1.0E-09	8.9E-10	1.3E-10	8.9E-10
		PDF	0.91	0.84	0.82	0.82	0.75	0.82
SE	NW	X/Q	3.3E-06	5.0E-07	4.7E-07	1.5E-07	1.2E-07	1.2E-07
		D/Q	1.6E-08	1.7E-09	1.6E-09	4.3E-10	3.3E-10	3.3E-10
		PDF	0.90	0.82	0.81	0.76	0.75	0.75
SSE	NNW	X/Q	1.6E-06	1.0E-06	8.2E-07	1.6E-07	1.5E-07	8.2E-07
		D/Q	1.4E-08	8.0E-09	6.4E-09	9.1E-10	8.5E-10	6.4E-09
		PDF	0.87	0.85	0.84	0.75	0.75	0.84
S	N	X/Q	1.3E-06	1.2E-06	4.4E-07	6.1E-07	1.2E-07	1.2E-07
		D/Q	1.8E-08	1.1E-08	3.6E-09	5.2E-09	7.7E-10	7.7E-10
		PDF	0.89	0.87	0.82	0.84	0.75	0.75
SSW	NNE	X/Q	1.3E-06	9.1E-07	1.8E-07	2.2E-07	8.9E-08	2.0E-07
		D/Q	9.9E-09	6.4E-09	1.1E-09	1.3E-09	4.6E-10	1.1E-09
		PDF	0.89	0.88	0.80	0.81	0.76	0.80
SW	NE	X/Q	6.2E-07	2.9E-07	8.9E-08	1.5E-07	6.4E-08	6.1E-08
		D/Q	2.6E-09	1.1E-09	2.9E-10	5.1E-10	1.9E-10	1.8E-10
		PDF	0.89	0.86	0.81	0.83	0.79	0.78
WSW	ENE	X/Q	1.8E-07	7.1E-08	1.5E-08	6.4E-08	1.3E-08	6.4E-08
		D/Q	9.6E-10	3.5E-10	6.2E-11	3.1E-10	5.5E-11	3.1E-10
		PDF	0.88	0.85	0.79	0.85	0.79	0.85
W	E	X/Q	4.5E-07	6.7E-08	1.4E-08	5.2E-08	5.2E-08	8.3E-09
		D/Q	1.8E-09	2.2E-10	4.2E-11	1.7E-10	1.7E-10	2.2E-11
		PDF	0.90	0.84	0.78	0.83	0.83	0.75
WNW	ESE	X/Q	6.7E-07	1.2E-07	5.7E-08	5.7E-08	1.6E-08	3.3E-08
		D/Q	2.7E-09	4.0E-10	1.7E-10	1.7E-10	4.0E-11	9.2E-11
		PDF	0.90	0.84	0.82	0.82	0.75	0.79
NW	SE	X/Q	1.9E-06	5.4E-07	6.2E-07	1.6E-07	6.1E-08	4.5E-08
		D/Q	1.1E-08	2.7E-09	3.1E-09	6.7E-10	2.2E-10	1.5E-10
		PDF	0.91	0.86	0.87	0.82	0.77	0.75
NNW	SSE	X/Q	3.2E-06	1.9E-06	1.9E-06	2.7E-07	7.4E-08	7.4E-08
		D/Q	2.2E-08	1.2E-08	1.2E-08	1.3E-09	2.8E-10	2.8E-10
		PDF	0.92	0.90	0.90	0.82	0.75	0.75



TABLE C-17

Sheet 1 of 4

SECOND QUARTER  
BATCH RELEASES  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS A

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34-0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01-1.50	0	0	0	0	0	1	1	3	0	0	1	0	0	0	0	0	1
1.51-2.00	0	1	2	2	1	3	1	1	0	0	0	0	0	0	0	0	5
2.01-3.00	7	1	3	0	0	2	10	0	1	0	0	0	0	0	0	0	11
3.01-5.00	33	4	0	0	0	1	5	9	0	0	1	0	0	0	0	2	26
5.01-7.00	38	0	0	0	0	0	3	1	0	0	0	0	0	0	2	48	103
7.01-10.00	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	67
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	19
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	83	6	5	2	1	7	20	14	1	0	2	0	0	0	2	89	232

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## STABILITY CLASS B

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET

WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34-0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51-0.75	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0.76-1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01-1.50	0	1	1	0	0	2	0	0	0	1	0	0	0	0	0	0	6
1.51-2.00	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	7
2.01-3.00	0	6	1	1	0	0	4	1	0	0	0	0	0	0	0	2	19
3.01-5.00	27	12	1	0	0	0	2	7	0	0	0	0	0	0	2	10	60
5.01-7.00	11	1	0	0	0	0	1	0	0	0	0	0	0	0	1	8	22
7.01-10.00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	42	21	3	2	1	2	7	8	0	1	1	0	0	0	5	27	120

TABLE C-17

Sheet 2 of 4

SECOND QUARTER  
BATCH RELEASES  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS C

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

## JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76- 1.00	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	0	4
1.01- 1.50	0	3	1	0	1	0	0	0	1	0	0	0	0	0	2	0	8
1.51- 2.00	2	1	1	0	0	0	1	1	1	0	0	0	0	0	1	6	14
2.01- 3.00	17	8	0	2	0	0	3	3	2	0	0	0	0	0	0	11	46
3.01- 5.00	29	12	0	0	0	0	0	11	0	0	0	0	0	1	2	15	70
5.01- 7.00	11	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4	17
7.01-10.00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	62	25	2	2	2	0	5	15	5	0	1	0	0	1	6	37	163

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## STABILITY CLASS D

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

## JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	0
0.34- 0.50	0	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	5
0.51- 0.75	3	1	2	0	1	1	1	5	4	2	6	1	3	0	2	2	34
0.76- 1.00	6	5	2	2	1	2	1	3	3	3	2	2	3	3	5	1	44
1.01- 1.50	12	9	8	3	2	3	9	8	10	8	5	3	7	5	17	22	131
1.51- 2.00	16	20	7	2	2	3	13	9	6	3	1	3	4	9	5	30	133
2.01- 3.00	61	48	6	0	0	3	18	20	24	14	2	1	6	9	20	38	270
3.01- 5.00	94	51	1	0	0	0	8	57	24	5	1	1	5	4	32	67	350
5.01- 7.00	21	3	0	0	0	0	0	30	4	0	0	0	0	6	8	50	122
7.01-10.00	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	21	24
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	214	137	26	7	6	13	51	135	76	35	17	12	28	36	89	231	1113

SECOND QUARTER  
BATCH RELEASES  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS E

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
0.34- 0.50	0	0	1	0	0	0	0	0	4	2	3	0	0	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	2	0	8	8	4	7	1	2	0	3	10
0.76- 1.00	0	0	0	0	0	0	0	5	8	16	7	6	5	4	3	6	35
1.01- 1.50	3	2	4	0	0	2	6	10	14	18	17	4	8	17	23	8	60
1.51- 2.00	6	2	0	0	0	0	4	4	10	5	3	2	2	6	19	7	136
2.01- 3.00	11	7	3	0	1	0	5	4	5	9	1	2	1	2	20	7	70
3.01- 5.00	15	6	1	0	0	0	1	1	5	3	1	0	0	6	9	12	60
5.01- 7.00	3	0	0	0	0	0	0	1	0	0	0	0	0	1	3	15	23
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	38	17	9	0	1	2	18	25	54	61	36	21	17	38	77	59	473

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## STABILITY CLASS F

STABILITY BASED ON: DELTA T BETWEEN 200.0 AND 33.0 FEET  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM																	
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	0	0	3	5	0	0	0	1	0	0	3
0.76- 1.00	1	0	0	0	0	0	0	1	7	5	0	1	0	2	1	0	9
1.01- 1.50	0	0	0	0	0	0	0	2	6	6	3	1	0	0	1	1	24
1.51- 2.00	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	1	20
2.01- 3.00	1	0	0	0	0	0	1	1	0	0	0	1	0	1	0	1	5
3.01- 5.00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	14
5.01- 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	1	0	0	0	0	1	4	18	16	11	2	2	5	12	4	79

TABLE C-17

Sheet 4 of 4

SECOND QUARTER  
BATCH RELEASES  
JOINT FREQUENCY DISTRIBUTIONS

## STABILITY CLASS G

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.34- 0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.51- 0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.76- 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.01- 1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.51- 2.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.01- 3.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.01- 5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.01- 7.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	2	1	0	0	0	0	1	0	4

C-30

## STABILITY CLASS ALL

STABILITY BASED ON: DELTA T  
WIND MEASURED AT: 33.0 FEET  
WIND THRESHOLD AT: 0.75 MPH

JOINT FREQUENCY DISTRIBUTION OF WIND SPEED AND DIRECTION IN HOURS AT 33.00 FEET

SPEED (M/S)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
CALM	0	0	1	0	0	1	1	1	5	2	5	1	1	0	0	0	0
0.34- 0.50	0	0	1	0	0	1	1	1	5	2	5	1	1	0	0	0	18
0.51- 0.75	3	1	2	0	1	3	2	5	15	16	11	8	4	3	2	5	80
0.76- 1.00	7	5	14	2	3	16	8	23	20	24	16	9	9	9	7	7	134
1.01- 1.50	15	15	25	3	3	19	6	15	31	33	25	8	15	22	44	31	306
1.51- 2.00	26	25	10	5	1	19	5	15	19	8	5	16	6	16	25	46	240
2.01- 3.00	97	70	13	3	1	41	1	29	32	23	3	3	7	12	52	63	648
3.01- 5.00	199	86	3	0	0	16	0	85	30	8	3	1	5	11	47	153	251
5.01- 7.00	84	5	0	0	0	4	0	32	4	0	0	0	0	7	13	102	53
7.01-10.00	11	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
10.01-13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	442	207	45	13	11	24	102	201	156	114	68	35	47	80	192	447	2184

#### D. CHANGES TO THE OFFSITE DOSE CALCULATION MANUAL

This section contains the details of Amendment 2 to PGE-1021, "Offsite Dose Calculation Manual". Included are the reasons for the change as well as the new pages.

LICENSING DOCUMENT CHANGE REQUEST

LDCR/Date 84-23/12-21-84

WDC/Date \_\_\_\_\_

I. Initiation

A. Identification

Originator J. L. Thale Dept. NSRD Telephone 226-8123

Subject Updates to PGE-1021, Amendment 1

Schedule Requirement Date December 31, 1984

Licensing Documents Affected: PSAR \_\_\_\_\_ LTR X NSRP \_\_\_\_\_

PSAR \_\_\_\_\_ SCA \_\_\_\_\_ SP \_\_\_\_\_

B. Reason for Change: See Attachment A

C. Description of Change/Proposed Replacement Pages: See Attachment A

II. Nuclear Safety & Regulation Department Review

A. In compliance with NSR/PCB requirements? Yes X No \_\_\_\_\_

B. Safety Evaluation (use attachment from NSP 100-5): - attached

C. Approved [Signature] 12/21/84  
Nuclear Regulation Branch Date

III. Cognizant Organization Approval\*

Organization	Approve**	Signature	Date
Manager of NSRD	<u>Yes</u>	<u>[Signature]</u>	<u>12-21-84</u>
PRB Chairman	<u>Yes</u>	<u>[Signature]</u>	<u>12/24/84</u>
Gen. Mgr., TNP	<u>Yes</u>	<u>[Signature]</u>	<u>12-28-84</u>

\* Attach review documentation if not formally distributed for review.

\*\* Indicate approval by "Yes" and rejection by "No".

IV. Amendment Completion

Document \_\_\_\_\_

Date \_\_\_\_\_

\_\_\_\_\_, Manager

NSRD

D-2

Date \_\_\_\_\_



#### REASON FOR CHANGE

The specific reason for each change is listed below. The index numbers correspond to the side bar numbers in this attachment.

1. This change clarifies that nuclides which require analysis of monthly or quarterly composite samples (eg, H-3, Fe-55, Sr-89, Sr-90) are not considered in the MPC determination at the time of liquid discharge. When the results of these analyses are available, the results will be used to confirm that those nuclides averaged over the sample period did not cause a violation of Technical Specification 3.11.1.1.

This change is identical to the clarification already existing in Technical Specification 3.11.2.1 (Gaseous Effluents).

2. Editorial corrections.

#### DESCRIPTION OF CHANGE

Proposed replacement pages are attached.



Nuclides which require analysis of monthly or quarterly composite samples (eg, H-3, Fe-55, Sr-89, Sr-90) are not considered in the calculation required by Technical Specification 3.11.1.1 at the time of the release. When the results from these analyses are available, they will be used to confirm that those nuclides, averaged over the sample period, did not cause violation of Technical Specification 3.11.1.1.

(1)

Ground Plane Pathway Factor  $R_i^G$

$$R_i^G = (10^{12})(8760)(SF)(DFG_i) \left[ (1 - e^{-\lambda_i t}) / \lambda_i \right] \quad (B-3)$$

where

$10^{12}$  = constant, pCi/Ci

8760 = constant, hr/yr

$\lambda_i$  = decay constant for nuclide i,  $\text{sec}^{-1}$

$t$  = exposure time,  $4.73 \times 10^8$  sec (15 yr)

$(DFG_i)$  = ground plane total body dose conversion factor for  
nuclide i, mrem/hr per pCi/m<sup>2</sup> (Regulatory Guide 1.109, Rev. 1,  
10/77, Table E-6)

SF = shielding factor for residential structures, 0.7.

Vegetation Pathway Factor  $R_i^V$

Man is considered to consume two types of vegetation, fresh leafy vegetables and produce. The vegetation dose factor combines these two pathways using the following equation:

$$R_i^V = 10^{12} \left[ \frac{(r) f_e}{Y_v (\lambda_i + \lambda_w)} \right] (DFL_i) \left[ U_a^L f_{Le}^{-\lambda_i t_L} + U_a^S f_{ge}^{-\lambda_i t_h} \right] \quad (B-4)$$

where

$U_a^L$  = consumption rate of fresh leafy vegetation by the  
child receptor, 26 kg/yr (Regulatory Guide 1.109, Rev. 1,  
10/77, Table E-5)

$$10^{12} = \text{constant, pCi/Ci}$$

and all other terms have been defined previously.

The concentration of tritium in meat is based on its airborne concentration rather than the deposition. Therefore, the  $R_i^M$  for tritium is based on  $\lambda/Q$ :

$$R_{H-3}^M = (10^{12})(10^3)F_f Q_F U_{ap} (DFL_i) [0.75(0.5/H)] \quad (B-7)$$

where all terms have been defined previously.

Grass-Goat-Milk Pathway Factor  $R_i^C$

$$R_i^C = 10^{12} \frac{Q_F (U_{ap})}{\lambda_i + \lambda_w} (F_m)(r)(f_e)(DFL_i) \left[ \frac{f_p f_s}{Y_p} + \frac{(1-f_p f_s)e^{-\lambda_i t_h}}{Y_s} \right] e^{-\lambda_i t_f} \quad (B-8)$$

(2)

where

$Q_F$  = goat's consumption rate of feed, 6 kg/day (Regulatory Guide 1.109, Rev. 1, 10/77, Table E-3)

$U_{ap}$  = child receptor's milk consumption rate, 330 l/yr  
(Regulatory Guide 1.109, Rev. 1, 10/77, Table E-5)

$Y_s$  = agricultural productivity by unit area of stored feed, 2.0 kg/m<sup>2</sup> (Regulatory Guide 1.109, Rev. 1, 10/77, Table E-15)

$F_m$  = stable element transfer coefficient for milk, in days/l (Regulatory Guide 1.109, Rev. 1, 10/77, Tables E-1 and E-2)