

Donald C. Cook Nuclear Plant • Units 1 & 2

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Semi-Annual Radioactive Effluent Release Report

July 1, through December 31, 1990

**Indiana & Michigan Electric Company
Bridgman, Michigan**

Docket Nos. 50-315 & 50-316

License Nos. DPR-58 & DPR-74

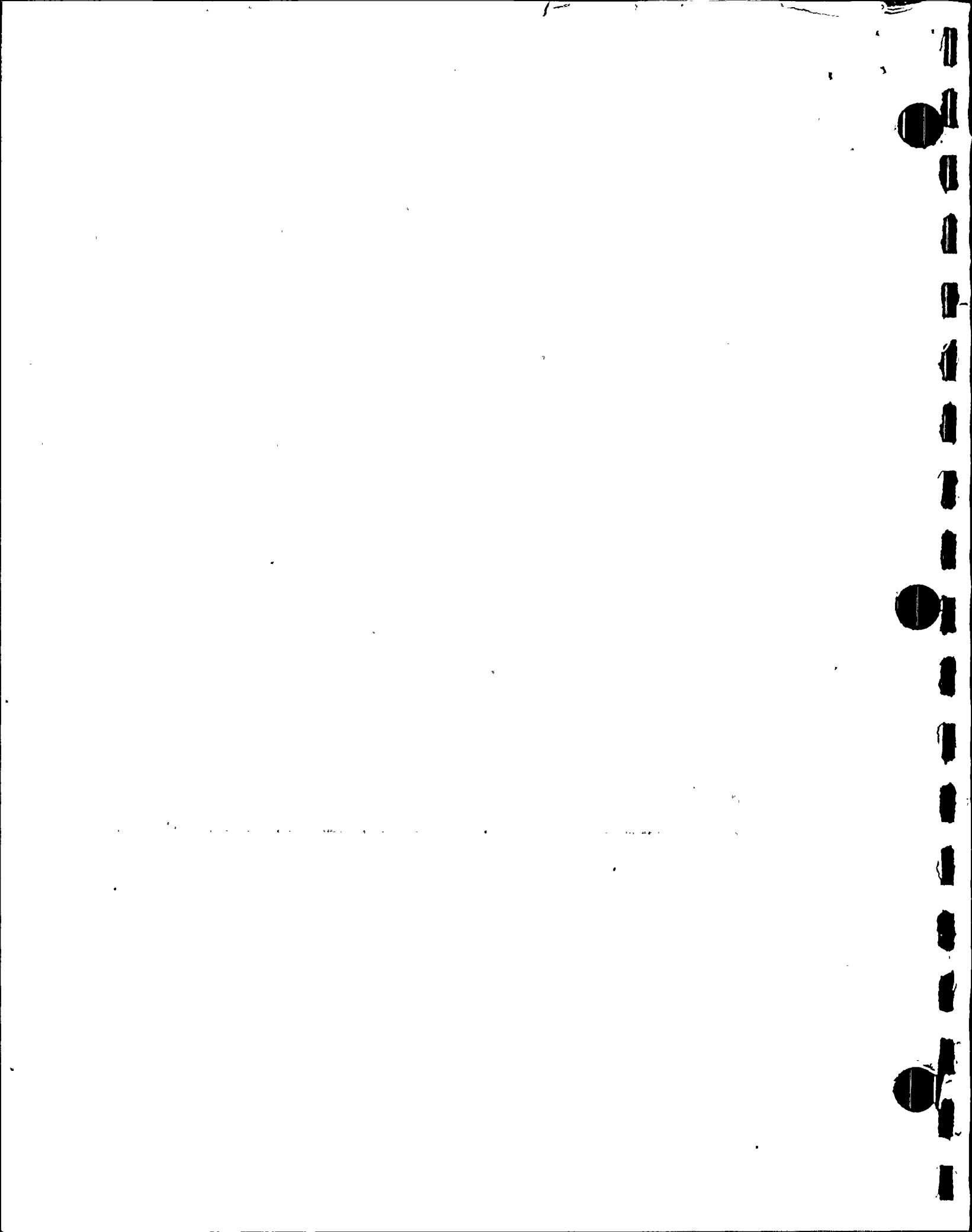
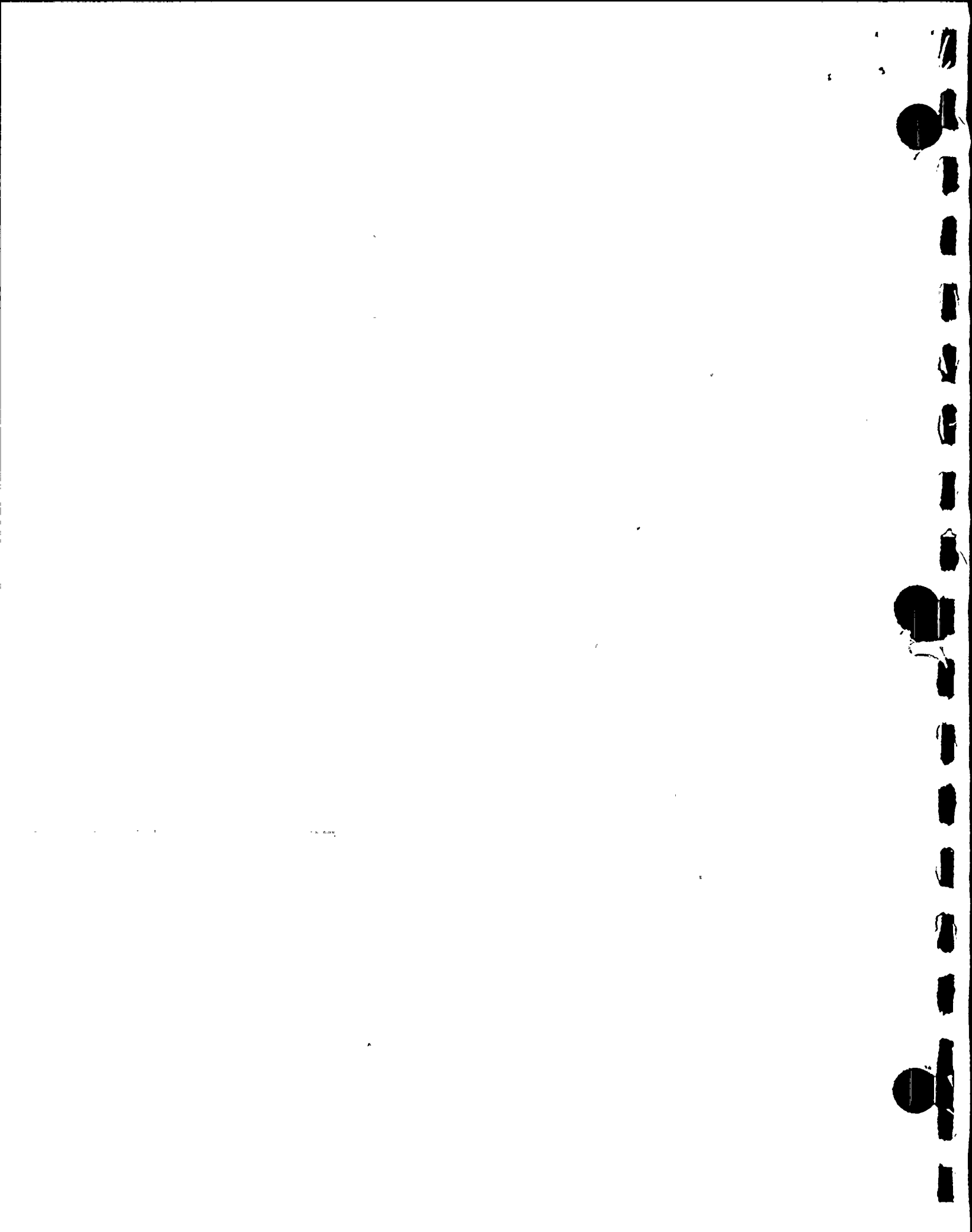


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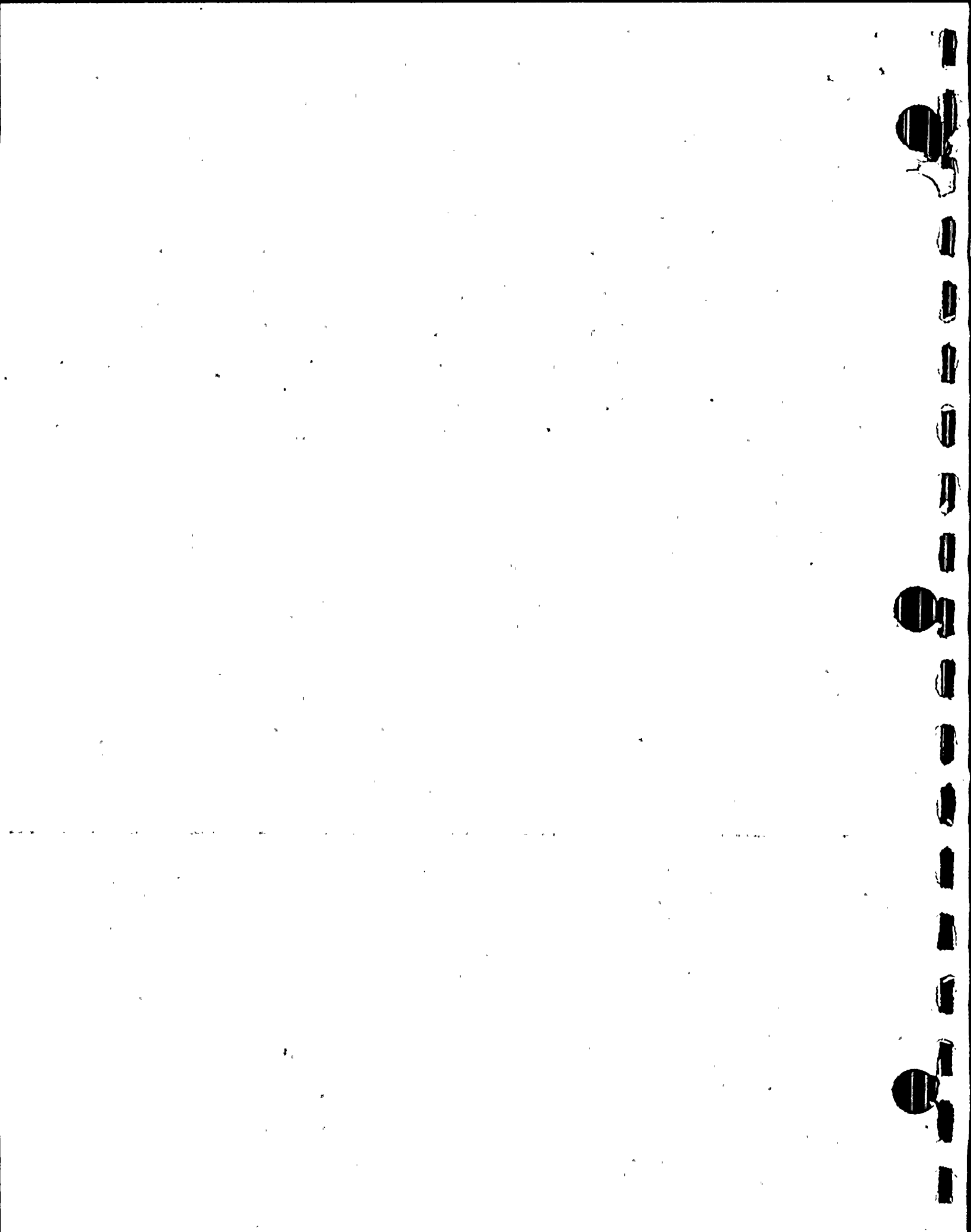


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I. INTRODUCTION

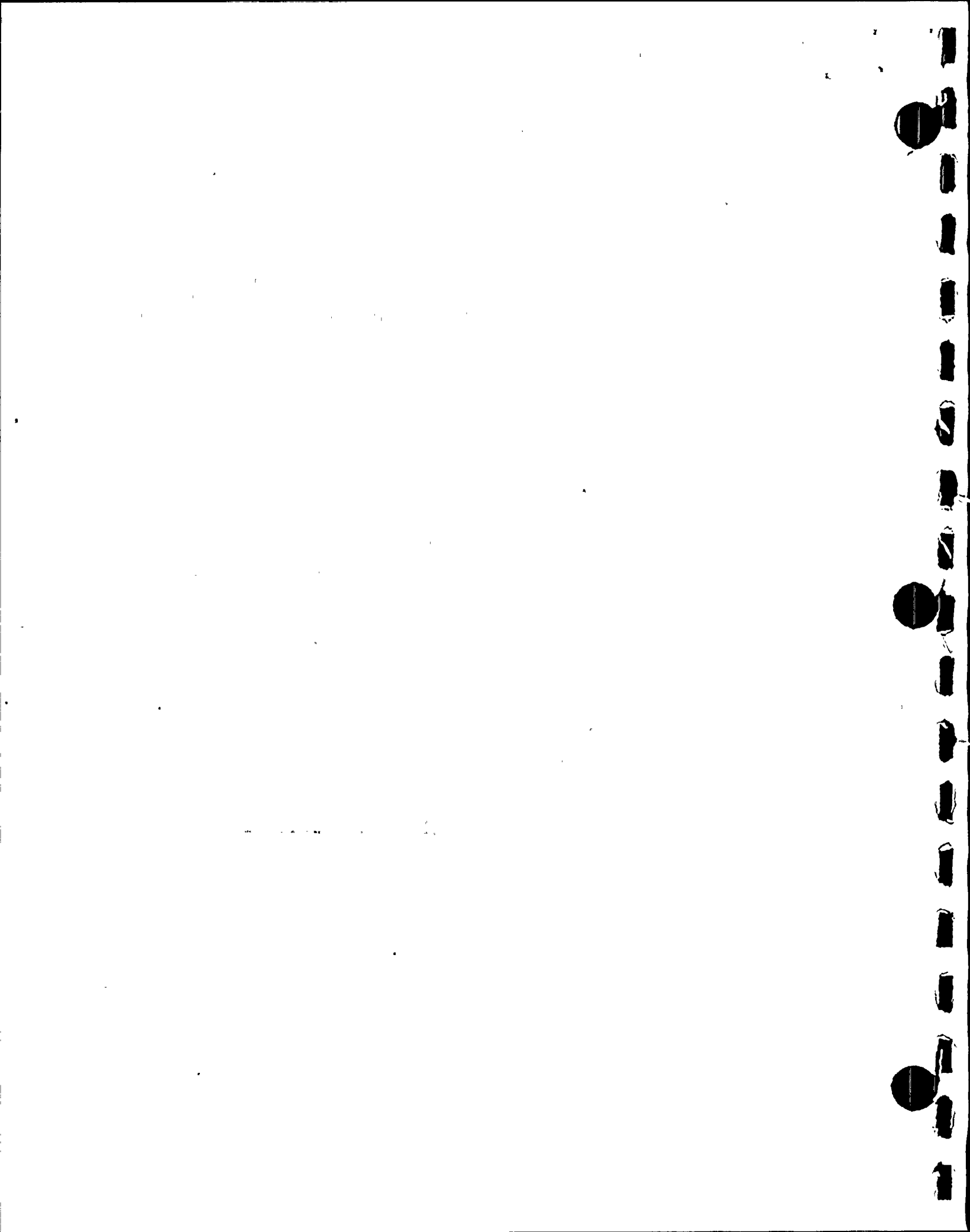
This report discusses the radioactive discharges from Unit 1 and Unit 2 of the Donald C. Cook Nuclear Plant during the second half of 1990 in accordance with the requirements of Cook Nuclear Plant Technical Specifications Sections 6.9.1.8 and 6.9.1.9.

The table below summarizes the pertinent statistics concerning the Plant's operation during the period from July 1, 1990 to December 31, 1990. The data in this table and the descriptive information on plant operation are based upon the respective Unit's Monthly Operating Report for this reporting period.

<u>Parameter</u>	<u>Unit 1</u>	<u>Unit 2</u>
Gross Electrical Generation (MWhr)	2545490	1050480
Unit Service Factor (%)	60.3	25.1
Unit Capacity Factor - MDC* Net (%)	54.2	21.6
* Maximum Dependable Capacity		

Unit 1 entered the reporting period at 70.5% Rated Thermal Power (RTP). The unit power was increased to 100% beginning on July 5, 1990 to meet system load demand. On September 8, 1990 the unit power was reduced to 42% RTP when a steam generator main steam stop valve started drifting closed during routine surveillance testing. The valve was repaired and the unit power was returned to 100% RTP on September 10, 1990. On October 19, 1990 the unit commenced shutdown and entered mode five on October 21, 1990. On November 4, 1990 the unit entered mode six. The unit returned to mode five on December 14, 1990 where it remained the rest of the report period.

Unit 2 entered the reporting period in mode four. A cooldown to mode five was entered on July 1, 1990. An unusual event was declared on July 13, 1990 due to an explosion and fire in the unit two 4kv switchgear room. Mode six was entered on July 18, 1990. Core unloading began on July 26 and was completed on July 29, 1990. An unusual event was declared on July 29, 1990 when both emergency diesel generators were made inoperable. The reactor criticality was achieved on November 8, 1990. The unit was parallel to the power grid on November 10, 1990 and increased to 48% RTP. November 14, 1990 the unit power was increased to 62% RTP and was increased to 90% RTP on November 18, 1990. November 20, 1990 the unit power was increased to 100% RTP. On December 12, 1990 the unit tripped due to low feedwater flow coincident with low level on a steam generator loop. The unit was returned to service on December 14, 1990 and 100% RTP was reached on December 15, 1990. A forced unit shutdown commenced on December 15, 1990 due to the AB train battery being inoperable. The reactor tripped during the shutdown due to an incorrect AMSAC system initiation. The main generator was paralleled to the grid on December 20, 1990. The unit reached 100% RTP on December 25, 1990 where it remained for the rest of this reporting period.



II. RADIOACTIVE RELEASES AND RADIOLOGICAL IMPACT UPON MAN

Since a number of release points are common to both Units, the release data from both Units are combined to form this two unit, Semi-Annual Radioactive Effluent Release Report. Appendix 1 of this report presents the information in accordance with section 6.9.1.9 of Appendix A to the Facility Operating Licenses, as specified in the Technical Specification and 10 CFR Part 50, Appendix I. The "Midas System" by Pickard, Lowe and Garrick, Inc., is a computer code that calculates doses for all isotopes that were released by the Plant.

All liquid and gaseous releases were well within Technical Specifications.

There were no abnormal liquid or gaseous releases during this reporting period.

Liquid Releases

During the third quarter of 1990, there were 56 liquid batch releases. There were 61 liquid batches released during the fourth quarter.

There were no abnormal liquid releases during the second half of 1990. For the purpose of dose assessment, the batch releases were treated as continuous releases. The estimated dose (in millirem) to maximally exposed individuals via the liquid release pathway are given in appendices 1.2 and 1.3 of this report.

Gaseous Releases

During the third quarter of 1990, there were 79 gaseous batch releases. There were 81 gaseous batches released during the fourth quarter.

The containment pressure reliefs (CPR) continue to be listed as batch releases in accordance with NRC inspections 50-315/89016 (DRSS) and 50-316/89017 (DRSS). There were 138 CPR's during the reporting period compared to 178 CPR's during the first half of 1990.

There were 15 waste gas decay tank releases during the reporting period compared to one during the first half of 1990.

There were no abnormal gaseous releases during this reporting period. In calculating the dose consequences for continuous and batch gaseous releases during the second half of 1990, the meteorological data measured at the time of these releases was used. The estimated dose (in millirem) to maximally exposed individuals via the gaseous release pathway are given in Appendices 1.2 and 1.3 of this report.



Solid Waste Disposition

There were 52 shipments of radioactive waste made during this reporting period.

III. METEOROLOGICAL

Appendices 2.1 and 2.2 of this report contain the cumulative joint frequency distributions of wind speed and wind direction, corresponding to the various atmospheric stability classes for the third and fourth quarter of 1990. Hourly meteorological data are filed at American Electric Power Service Corporation and at the Donald C. Cook Nuclear Plant for review and/or inspection upon request.

IV. PROCESS CONTROL PROGRAM (PCP) CHANGES

The Radioactive Waste Process Control Manual 12 PMP 3150 PCP.001 and PCP.100 were not revised during this reporting period.

V. OFFSITE DOSE CALCULATION MANUAL (ODCM) CHANGES

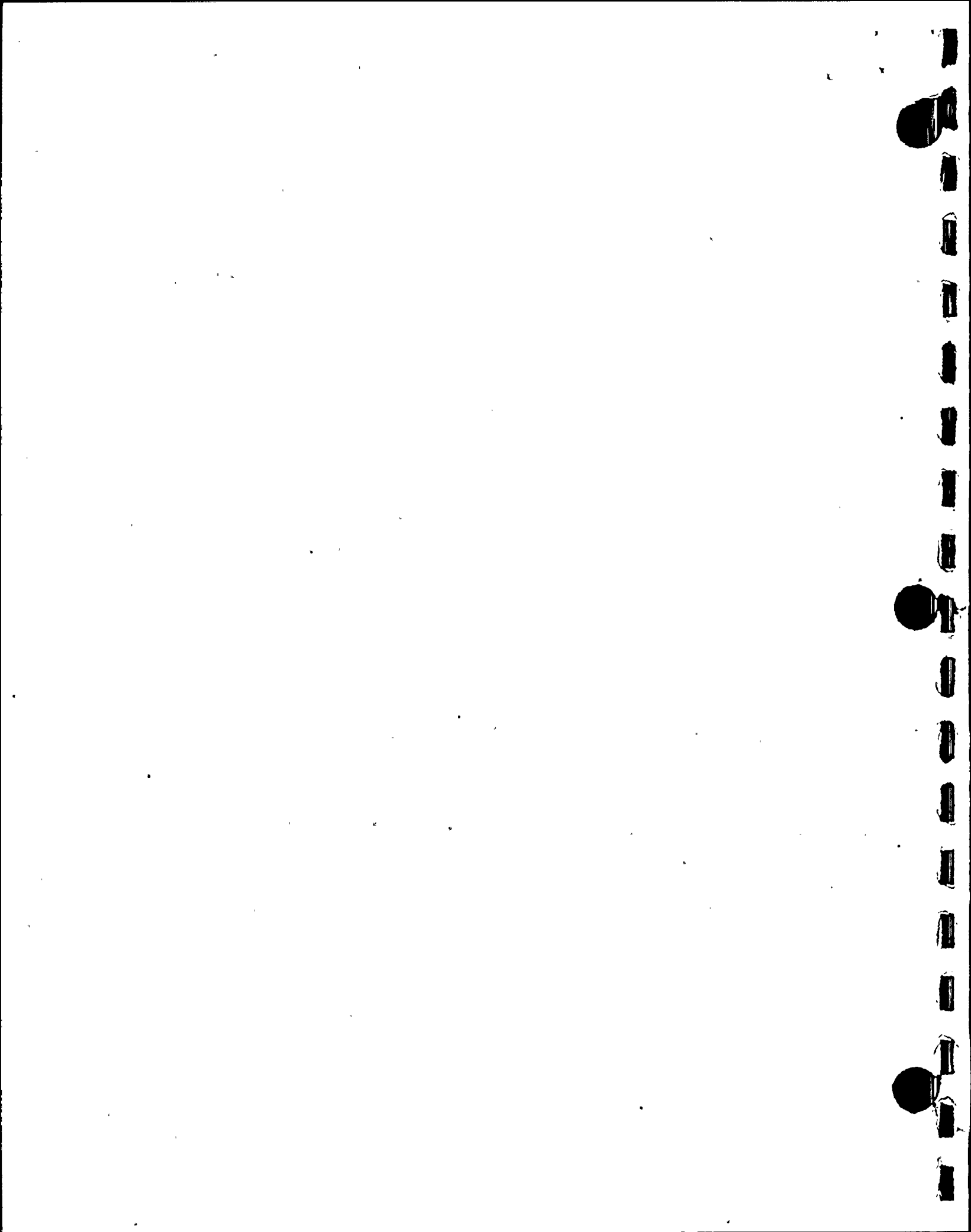
The Offsite Dose Calculation Manual, PMP 6010.OSD.001 was changed during this report period. The reasons for the changes and the PNSRC approval are documented on the procedure cover sheet and can be found in Appendix 4.0 of this report.

VI. TOTAL DOSE

Technical Specification 3.11.4 requires that the dose or dose commitment to a real individual from all uranium fuel cycle sources be limited to no more than twenty-five (25) millirem to the total body or any organ over a period of twelve (12) consecutive months to show conformance with the requirements of 40 CFR Part 190. The maximum cumulative dose to an individual from liquid and gaseous effluents during 1990 were well within Technical Specification 3.11.4 limits. Measurements using thermoluminescent dosimeters at ten (10) offsite background stations indicate that the dose due to direct radiation is negligible.

VII. CONCLUSION

Based on the information presented in this report, it is concluded that the Donald C. Cook Units 1 and 2 performed their intended design function with no demonstrable hazard to the health and safety of the general public.



APPENDIX 1.1

Radioactive Release Data
July 1 - December 31, 1990



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT - 2ND HALF 1990

Supplemental Information

Facility: Donald C. Cook Plant
Licensee: Indiana Michigan Power Company

1. Regulatory Limits

A. Noble Gases

The air dose in unrestricted areas due to noble gases released in gaseous effluents shall be limited to the following:

1. During any calendar quarter, to ≤ 5 mrad for gamma radiation and ≤ 10 mrad for beta radiation;
2. During any calendar year, to ≤ 10 mrad for gamma radiation and ≤ 20 mrad for beta radiation.

B. Iodines - Particulates

The dose to a member of the public from radioiodines, radioactive materials in particulate form, and radionuclides other than noble gases with half-lives greater than 8 days in gaseous effluents released to unrestricted areas shall be limited to the following:

1. During any calendar quarter to ≤ 7.5 mrem to any organ;
2. During any calendar year to ≤ 15 mrem to any organ.

C. Liquid Effluents

The dose or dose commitment to an individual from radioactive material in liquid effluents released to unrestricted areas shall be limited:

1. During any calendar quarter to ≤ 1.5 mrem to the total body and to ≤ 5 mrem to any organ;
2. During any calendar year to ≤ 3 mrem to the total body and to ≤ 10 mrem to any organ.

D. Total Dose

The dose or dose commitment to a real individual from all uranium fuel cycle sources is limited to ≤ 25 mrem to the total body or any organ (except the thyroid, which is limited to ≤ 75 mrem) over a period of 12 consecutive months.

2. Maximum Permissible Concentrations

A. Gaseous Effluents

The dose rate due to radioactive materials released in gaseous effluents from the site shall be limited to the following:

1. For noble gases: ≤ 500 mrem/yr to the total body and ≤ 3000 mrem/yr to the skin;
2. For all radioiodines and for all radioactive materials in particulate form and radionuclides (other than noble gases) with half-lives greater than 8 days: ≤ 1500 mrem/yr to any organ.

The above limits are provided to insure that radioactive material discharged in gaseous effluents will not result in the exposure of an individual in an unrestricted area to annual average concentrations exceeding the limits in 10 CFR Part 20, Appendix B, Table II.

B. Liquid Effluents

The concentration of radioactive material released at any time from the site to unrestricted areas shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} $\mu\text{Ci/ml}$ total activity.

3. Average Energy

The average energy (\bar{E}) of the radionuclide mixture in releases of fission and activation gases is not applicable per Regulatory Guide 1.21 Appendix B Section A.3.

4. Measurements and Approximations of Total Radioactivity

A. Fission and Activation Gases

Sampled and analyzed on a 4096 channel analyzer and HpGe detector.

B. Iodines

Sampled on iodine adsorbing media and analyzed on a 4096 channel analyzer and HpGe detector.

C. Particulates

Sampled on a glass filter and analyzed on a 4096 channel analyzer and HpGe detector.

D. Liquid Effluents

Sampled and analyzed on a 4096 channel analyzer and HpGe detector.

5. Batch Releases

A. Liquid

1. Number of batch releases:

56 releases in the 3rd quarter, 1990
61 releases in the 4th quarter, 1990

2. Total time period for batch releases:

21160 minutes

3. Maximum time for a batch release:

814 minutes

4. Average time period for batch release:

181 minutes

5. Minimum time period for a batch release:

1 minutes

6. Average stream flow during periods of release of effluent into a flowing stream:

8.17⁵ gpm circulating water

B. Gaseous

1. Number of batch releases:

79 in 3rd quarter, 1990
81 in 4th quarter, 1990

2. Total time period of batch releases:
7812 minutes
3. Maximum time period for a batch release:
2553 minutes
4. Average time period for batch releases:
49 minutes
5. Minimum time period for a batch release:
17 minutes

6. Abnormal Releases

A. Liquid

1. Number of Releases:

<u>3rd</u> <u>Quarter</u>	<u>4th</u> <u>Quarter</u>
0	0
2. Total activity released:

<u>3rd</u> <u>Quarter</u>	<u>4th</u> <u>Quarter</u>
0	0

B. Gaseous

1. Number of Releases:

<u>3rd</u> <u>Quarter</u>	<u>4th</u> <u>Quarter</u>
0	0
2. Total activity released:

<u>3rd</u> <u>Quarter</u>	<u>4th</u> <u>Quarter</u>
0	0

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT - 2ND HALF 1990

GASEOUS EFFLUENTS - GROUND-LEVEL RELEASES

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 3RD	Quarter 4TH	Quarter 3RD	Quarter 4TH
1. FISSION GASES					
Krypton-85	Ci	1.86E-1		7.61E-1	2.19E+0
Krypton-85m	Ci				
Krypton-87	Ci	2.26E-4	1.49E-5		
Krypton-88	Ci				
Xenon-135m	Ci	3.44E-5	3.47E-6		
Xenon-133	Ci	1.71E+1	2.39E+0	1.27E+0	4.40E+0
Xenon-131m	Ci	2.87E-2		7.85E-2	5.38E-2
Argon-41	Ci	8.58E-2	9.07E-3	7.83E-1	2.73E-1
Xenon-135	Ci	9.95E-3	7.63E-1	8.50E-3	3.85E-2
Xenon-133m	Ci	7.46E-4		1.04E-4	2.36E-2
	Ci				
Total for Period	Ci	1.74E+1	3.16E+0	2.90E+0	6.98E+0
2. IODINES					
Iodine-131	Ci	1.06E-3	3.49E-4	6.23E-6	9.55E-6
Iodine-133	Ci	1.80E-5	6.85E-5	1.50E-6	1.47E-5
Iodine-135	Ci				
Total for Period	Ci	1.08E-3	4.18E-4	7.73E-6	2.43E-5
3. PARTICULATES					
Strontium-89	Ci		4.05E-6		
Strontium-90	Ci	5.07E-6			
Cesium-134	Ci		4.93E-5		7.68E-6
Cesium-137	Ci	3.47E-8	1.90E-4		2.83E-5
Cobalt-58	Ci		2.44E-5		4.03E-7
Cobalt-60	Ci	1.57E-7	1.08E-4		3.26E-6
Manganese-54	Ci				
Sodium-24	Ci	2.24E-5	4.74E-6		2.61E-5
Ruthenium-103	Ci		2.24E-7		
Cadmium-109	Ci		4.10E-6		
Zirconium-95	Ci				4.27E-8
Chromium-51	Ci		2.28E-5		
Molybdenum-99	Ci		8.46E-7		
Total for Period	Ci	2.77E-5	4.08E-4		6.58E-5

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND HALF 199
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	Units	Quarter 3rd	Quarter 4th	Est. Total Error, %
A. FISSION AND ACTIVATION GASES				
1. Total release.	Ci	2.03E+1	1.01E+1	13.6%
2. Average release rate for period.	μCi/sec	2.55E+0	1.27E+0	
3. Percent of applicable limit. (T/S 3.11.2.2. limit)	γ % β	5.70E-2 4.73E-2	1.25E-2 9.91E-3	
B. IODINES				
1. Total Iodine-131.	Ci	1.07E-3	3.59E-4	8.89%
2. Average release rate for period.	μCi/sec	1.35E-4	4.52E-5	
3. Percent of applicable limit. (T/S 3.11.2.3 limit)	%	6.85E-1	3.15E-1	
C. PARTICULATES				
1. Particulates with half-lives > 8 days.	Ci	5.26E-6	4.03E-4	21%
2. Average release rate for period.	μCi/sec	6.62E-7	5.02E-5	
3. *Percent of applicable limit.	%	6.85E-1	3.15E-1	
4. Gross alpha radio-activity. *(T/S 3.11.2.3 limit)	Ci	<1.23E-6	<1.35E-6	
D. TRITIUM				
1. Total release.	Ci	9.59E-1	2.00E+0	4.69E-1%
2. Average release rate for period.	μCi/sec	1.21E-1	2.52E-1	
3. Percent of applicable limit. (10 CFR 20 limit)	%	8.75E-1	5.59E-1	

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND HALF 1990

LIQUID EFFLUENTS

Nuclides Released		BATCH MODE		CONTINUOUS MODE	
		Quarter 3rd	Quarter 4th	Quarter 3rd	Quarter 4th
Strontium-89	Ci	2.05E-4		6.68E-1	9.81E-2
Strontium-90	Ci	4.13E-5		1.02E-1	
Cesium-134	Ci	7.22E-3	1.17E-3	2.67E-4	1.89E-4
Cesium-137	Ci	9.88E-3	2.59E-3	7.79E-4	1.43E-3
Iodine-131	Ci	1.27E-4	2.74E-4		2.06E-4
Strontium-85	Ci	2.40E-4			
Zinc-65	Ci	1.44E-4	1.79E-4		
Cobalt-58	Ci	2.85E-2	1.55E-1	4.16E-6	6.06E-4
Cobalt-60	Ci	8.99E-3	1.55E-2		1.29E-3
Iron-59	Ci	5.22E-4	1.74E-3		
Manganese-54	Ci	4.03E-3	1.95E-3		1.52E-6
Chromium-51	Ci	4.94E-3	1.39E-2		5.85E-5
Iron-55	Ci	3.46E-2		7.35E-3	2.05E-2
Antimony-125	Ci	1.05E-2	2.29E-2		
Tin-113	Ci		2.49E-4		
Zirconium-Niobium-95	Ci	5.63E-5	1.32E-3		
Barium-Lanthanum-140	Ci		2.45E-5		
Molybdenum-99	Ci				2.17E-6
Tellurium-132	Ci		1.21E-5		
Antimony-124	Ci	8.87E-3	2.22E-2		
Antimony-122	Ci	5.88E-4	1.70E-3	3.32E-5	
Selenium-75	Ci		5.67E-5		
Cesium-136	Ci	1.56E-3	3.37E-3		
Sodium-24	Ci	7.93E-5	4.83E-4	2.13E-3	1.65E-4
Iodine-133	Ci			2.19E-4	1.31E-4
Cobalt-57	Ci	3.24E-5	4.81E-4		
Zirconium-97	Ci	5.59E-4	1.88E-3		
Silver-110M	Ci	2.40E-2	1.27E-1		
Arsenic-76	Ci		4.04E-5		
Cadmium-109	Ci		8.62E-4		
Xenon-133	Ci	2.11E-1	6.13E-3		
Xenon-131m	Ci	4.02E-3	8.81E-5		
Xenon-133m	Ci	1.82E-3			
Xenon-135	Ci	1.58E-3	8.49E-7	2.91E-5	
Argon-41	Ci				
Krypton-85	Ci	5.49E-2	8.75E-4		
Xenon-135m	Ci				8.93E-6

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND HALF 1990

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	UNIT	BATCH		CONTINUOUS		Est. Total Error, %
		Quarter 3rd	Quarter 4th	Quarter 3rd	Quarter 4th	
A. FISSION AND ACTIVATION PRODUCTS						
1. Total Release (Not including Tritium, Alpha, Gases)	Ci	1.46E-1	3.75E-1	7.81E-1	1.23E-1	5.54%
2. Average diluted concen- tration during period.	µCi/ml	6.58E-9	1.03E-8	1.80E-9	8.97E-12	
3. Percent of applicable limit.	%	5.48E-2	2.55E-2	1.35E-1	2.12E-4	
B. TRITIUM						
1. Total Release	Ci	4.82E+2	3.20E+2	1.19E+0	4.04E-1	1.92E-
2. Average diluted concen- tration during period.	µCi/ml	2.17E-5	8.79E-6	2.86E-9	8.88E-10	
3. Percent of applicable limit.	%	7.23E-1	2.93E-1	9.53E-5	2.96E-5	
C. DISSOLVED AND ENTRAINED GASES						
1. Total Release	Ci	2.73E-1	7.09E-3	2.91E-5	8.93E-6	2.19%
2. Average diluted concen- tration during period.	µCi/ml	1.23E-8	1.95E-10	7.00E-14	1.96E-14	
3. Percent of applicable limit.	%	6.15E-3	9.75E-5	3.50E-8	9.80E-9	

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND HALF 1990

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	<u>UNIT</u>	<u>BATCH</u>		<u>CONTINUOUS</u>		Est. Total Error, %
		Quarter 3rd	Quarter 4th	Quarter 3rd	Quarter 4th	
D. GROSS ALPHA RADIOACTIVITY						
1. Total Release	Ci	<9.60E-5	<1.09E-4			N/A
E. VOLUME OF WASTE RELEASED	Liters	3.23E+6	3.69E+6	1.85E+8	9.60E+7	2.00E+0
F. VOLUME OF DILUTION WATER USED DURING PERIOD	Liters	2.22E+10	3.64E+10	4.16E+11	4.55E+11	3.48E+0

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND HALF 199

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. Solid Waste Shipped Offsite for Burial or Disposal

1.	Type of Waste	Unit	6 month Period	Est. Total Error, %
a.	Spent resins, filter sludges, evaporator bottoms, etc.	m ³ Ci	1.79E+1 1.77E+1	1.0E+0 2.0E+1
b.	Dry compressible waste, contaminated equipment, etc.	m ³ Ci	1.21E+2 6.80E+1	1.0E+0 2.0E+1
c.	Irradiated components, control rods, etc.	m ³ Ci		
d.	Other	m ³ Ci		

2. Estimate of Major Nuclide Composition

a.	CS-137	45 %	H-3	1 %
	CS-134	49 %	Ni-63	1 %
	CO-58	2 %	Fe-55	1 %
	CO-60	1 %		
b.	CO-60	8 %	Fe-55	45 %
	CO-58	3 %	Ni-63	30 %
	CS-137	8 %	H-3	2 %
	CS-134	1 %	C-14	3 %

3. Solid Waste Disposition

<u>No. of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
51	Truck	Barnwell, SC
1	Truck	Richland, WA

4. Type of Containers Used for Shipment

High Integrity Containers, strong, tight, metal boxes and drums.

5. Solidification Agent

There were no solidifications performed during the reporting period.

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND HALF 1990
YEARLY RELEASE RATES

I. Gases

A. Fission and Activation Gases

Units

1.	Total Release	Ci	1.88E+2
2.	Average Release Rate	uCi/sec	5.96E+0
3.	% of applicable Limits	γ %	1.06E-1
		β %	1.15E-1

B. Iodines

1.	Total Iodine-131 Released	Ci	3.18E-3
2.	Average Release Rate	uCi/sec	1.01E-4
3.	% of applicable Limit	%	6.00E+0

C. Particulates

1.	Total Release	Ci	7.03E-2
2.	Average Release Rate	uCi/sec	2.23E-3
3.	% of applicable Limit	%	6.00E+0

II. Liquids

A. Fission and Activation Products

1.	Total Release	Ci	1.61E+0
2.	Average Diluted Concentration	uCi/ml	6.08E-10
3.	% of applicable Limit	Total Body %	7.88E+0
		Liver & Bone %	7.82E+0

RELEASE NUMBER	START DATE STOP DATE	START TIME STOP TIME	Xel131m	Xel133	Xel135	Ar41							
1-CPR-90-111	7/2/90 7/2/90	1839 1902	5.21E-4	1.42E-2	9.52E-5	8.96E-3							
1-CPR-90-112	7/3/90 7/3/90	1722 1744	2.83E-3	7.71E-2	5.16E-4	4.86E-2							
1-CPR-90-113	7/7/90 7/7/90	1530 1552	5.15E-4	1.40E-2	9.40E-5	8.85E-3							
1-CPR-90-114	7/8/90 7/8/90	1251 1317	4.86E-4	1.33E-2	8.88E-5	8.36E-3							
1-CPR-90-115	7/10/90 7/10/90	1716 1741	5.58E-4	1.52E-2	1.02E-4	9.60E-3							
1-CPR-90-116	7/13/90 7/13/90	2054 2120	7.75E-4	2.12E-2	1.42E-4	1.33E-2							
1-CPR-90-117	7/14/90 7/14/90	1627 1649	4.77E-4	1.30E-2	8.72E-5	8.21E-3							
1-CPR-90-118	7/15/90 7/15/90	1817 1845	4.36E-4	1.19E-2	7.96E-5	7.49E-3							
1-CPR-90-119	7/17/90 7/17/90	1810 1830	3.22E-4	8.79E-3	5.88E-5	5.53E-3							
1-CPR-90-120	7/19/90 7/19/90	1414 1439	6.57E-4	1.79E-2	1.20E-4	1.13E-2							
1-CPR-90-121	7/21/90 7/21/90	2208 2230	4.64E-4	1.27E-2	8.48E-5	7.98E-3							
1-CPR-90-122	7/24/90 7/24/90	1500 1527	6.31E-4	1.72E-2	1.15E-4	1.08E-2							
1-CPR-90-123	7/26/90 7/26/90	1617 1639	3.83E-4	1.05E-2	7.00E-5	6.59E-3							
1-CPR-90-124	7/27/90 7/27/90	1604 1624	4.49E-4	1.23E-2	8.20E-5	7.72E-3							
1-CPR-90-125	7/28/90 7/28/90	1444 1509	4.97E-4	1.36E-2	9.08E-5	8.54E-3							
1-CPR-90-126	7/29/90 7/29/90	1317 1337	4.36E-4	1.19E-2	7.96E-5	7.49E-3							
1-CPR-90-127	8/2/90 8/2/90	1330 1351	4.14E-4	1.13E-2	7.56E-5	7.11E-3							
1-CPR-90-128	8/3/90 8/3/90	1605 1630	5.67E-4	1.55E-2	1.04E-4	9.75E-3							
1-CPR-90-129	8/4/90 8/4/90	2051 2114	5.26E-4	1.43E-2	9.60E-5	9.03E-3							
1-CPR-90-130	8/8/90 8/8/90	0425 0452	6.33E-4	1.73E-2	1.16E-4	1.09E-2							
1-CPR-90-131	8/9/90 8/9/90	1409 1426	3.70E-4	1.01E-2	6.76E-5	6.36E-3							
1-CPR-99-132	8/11/90 8/11/90	0255 0322	6.24E-4	1.70E-2	1.14E-4	1.07E-2							
1-CPR-90-133	8/12/90 8/12/90	1539 1608	5.87E-4	1.60E-2	1.07E-4	1.01E-2							
1-CPR-90-134	8/13/90 8/13/90	1230 1330	1.34E-3	3.66E-2	2.45E-4	2.30E-2							
1-CPR-90-135	8/14/90 8/14/90	1729 1753	3.96E-4	1.08E-2	7.24E-5	6.81E-3							
1-CPR-90-136	8/15/90 8/15/90	0727 0750	4.29E-4	1.17E-2	7.84E-5	7.38E-3							
1-CPR-90-137	8/16/90 8/16/90	0028 0054	6.64E-4	1.81E-2	1.21E-4	1.14E-2							
1-CPR-90-138	8/16/90 8/16/90	1517 1543	4.88E-4	1.33E-2	8.92E-5	8.39E-3							

RELEASE NUMBER	START DATE STOP DATE	START TIME STOP TIME	Xel31m	Xel33	Xel35	Ar41														
1-CPR-90-139	8/17/90 8/17/90	0827 0850	4.12E-4	1.12E-2	7.52E-5	7.08E-3														
1-CPR-90-140	8/17/90 8/17/90	1617 1639	3.44E-4	9.39E-3	6.28E-5	5.91E-3														
1-CPR-90-141	8/18/90 8/18/90	1312 1332	2.80E-4	7.65E-3	5.12E-5	4.82E-3														
1-CPR-90-142	8/19/90 8/19/90	0340 0407	6.07E-4	1.66E-2	1.11E-4	1.04E-2														
1-CPR-90-143	8/20/90 8/20/90	0535 0558	3.64E-4	9.92E-3	6.64E-5	6.25E-3														
1-CPR-90-144	8/20/90 8/20/90	1823 1845	4.16E-4	1.14E-2	7.60E-5	7.15E-3														
1-CPR-90-145	8/21/90 8/21/90	1609 1639	6.04E-4	1.65E-2	1.10E-4	1.04E-2														
1-CPR-90-146	8/23/90 8/23/90	0031 0055	5.83E-4	1.59E-2	1.06E-4	1.00E-2														
1-CPR-90-147	8/23/90 8/23/90	1600 1624	3.39E-4	9.27E-3	6.20E-5	5.83E-3														
1-CPR-90-148	8/24/90 8/24/90	1244 1305	3.48E-4	9.51E-3	6.36E-5	5.98E-3														
1-CPR-90-149	8/25/90 8/25/90	0630 0655	1.87E-4	5.10E-3	3.41E-5	3.21E-3														
1-CPR-90-150	8/26/90 8/26/90	0310 0333	5.78E-4	1.58E-2	1.06E-4	9.94E-3														
1-CPR-90-151	8/26/90 8/26/90	2007 2042	1.23E-3	3.37E-2	2.25E-4	2.12E-2														
1-CPR-90-152	8/27/90 8/27/90	1915 1940	6.85E-4	1.87E-2	1.25E-4	1.18E-2														
1-CPR-90-153	8/28/90 8/28/90	1306 1327	3.35E-4	9.15E-3	6.12E-5	5.76E-3														
1-CPR-90-154	8/29/90 8/29/90	1801 1827	4.99E-4	1.36E-2	9.12E-5	8.58E-3														
1-CPR-90-155	8/31/90 8/31/90	1420 1447	8.89E-4	2.43E-2	1.62E-4	1.53E-2														
1-CPR-90-156	9/1/90 9/1/90	1610 1638	6.75E-4	1.84E-2	1.23E-4	1.16E-2														
1-CPR-90-157	9/3/90 9/3/90	1411 1431	5.04E-4	1.37E-2	9.20E-5	8.66E-3														
1-CPR-90-158	9/4/90 9/4/90	0841 0900	4.51E-4	1.23E-2	8.24E-5	7.75E-3														
1-CPR-90-159	9/5/90 9/5/90	0041 0102	4.66E-4	1.27E-2	8.52E-5	8.02E-3														
1-CPR-90-160	9/5/90 9/5/90	1942 2002	2.76E-4	7.53E-3	5.04E-5	4.74E-3														
1-CPR-90-161	9/6/90 9/6/90	1245 1312	6.66E-4	1.82E-2	1.22E-4	1.14E-2														
1-CPR-90-162	9/7/90 9/7/90	0512 0535	5.56E-4	1.52E-2	1.02E-4	9.56E-3														
1-CPR-90-163	9/8/90 9/8/90	1704 1728	8.45E-4	2.31E-2	1.54E-4	1.45E-2														
1-CPR-90-164	9/9/90 9/9/90	1427 1508	9.48E-4	2.59E-2	1.73E-4	1.63E-2														
1-CPR-90-165	9/10/90 9/10/90	1851 1913	9.04E-4	2.47E-2	1.65E-4	1.55E-2														
1-CPR-90-166	9/11/90 9/11/90	2000 2021	4.03E-4	1.10E-2	7.36E-5	6.93E-3														

RELEASE NUMBER	START DATE STOP DATE	START TIME STOP TIME	Xel131m	Xel133	Xel135	Ar41							
1-CPR-90-167	9/12/90 9/12/90	1340 1405	6.39E-4	1.75E-2	1.17E-4	1.10E-2							
1-CPR-90-168	9/13/90 9/13/90	0852 0915	4.97E-4	1.36E-2	9.08E-5	8.54E-3							
1-CPR-90-169	9/13/90 9/13/90	2023 2046	6.77E-4	1.85E-2	1.24E-4	1.16E-2							
1-CPR-90-170	9/14/90 9/14/90	0727 0753	7.91E-4	2.16E-2	1.44E-4	1.36E-2							
1-CPR-90-171	9/15/90 9/15/90	1256 1318	5.78E-4	1.58E-2	1.06E-4	9.94E-3							
1-CPR-90-172	9/16/90 9/16/90	0200 0235	9.88E-4	2.70E-2	1.80E-4	1.70E-2							
1-CPR-90-173	9/18/90 9/18/90	0838 0905	6.29E-4	1.72E-2	1.15E-4	1.08E-2							
1-CPR-90-174	9/18/90 9/18/90	2314 2338	5.45E-4	1.49E-2	9.96E-5	9.37E-3							
1-CPR-90-175	9/20/90 9/20/90	1059 1125	6.55E-4	1.79E-2	1.20E-4	1.13E-2							
1-CPR-90-176	9/21/90 9/21/90	0224 0251	7.05E-4	1.92E-2	1.29E-4	1.21E-2							
1-CPR-90-177	9/21/90 9/21/90	1906 1937	7.49E-4	2.04E-2	1.37E-4	1.29E-2							
1-CPR-90-178	9/23/90 9/23/90	0221 0248	7.31E-4	2.00E-2	1.34E-4	1.26E-2							
1-CPR-90-179	9/24/90 9/24/90	0337 0358	6.37E-4	1.74E-2	1.16E-4	1.10E-2							
1-CPR-90-180	9/25/90 9/25/90	0121 0145	7.42E-4	2.03E-2	1.36E-4	1.28E-2							
1-CPR-90-181	9/25/90 9/25/90	1521 1543	5.30E-4	1.45E-2	9.68E-5	9.11E-3							
1-CPR-90-182	9/27/90 9/27/90	0246 0310	6.26E-4	1.71E-2	1.14E-4	1.08E-2							
1-CPR-90-183	9/28/90 9/28/90	0416 0440	6.79E-4	1.85E-2	1.24E-4	1.17E-2							
1-CPR-90-184	9/29/90 9/29/90	0313 0338	5.41E-4	1.48E-2	9.88E-5	9.30E-3							
1-CPR-90-185	9/30/90 9/30/90	0213 0239	7.34E-4	2.00E-2	1.34E-4	1.26E-2							
1-CPR-90-186	10/1/90 10/1/90	0203 0228	2.48E-4	2.05E-2	7.65E-4	1.16E-2							
1-CPR-90-187	10/1/90 10/1/90	1900 1923	1.66E-4	1.37E-2	5.11E-4	7.74E-3							
1-CPR-90-188	10/2/90 10/2/90	1923 1945	1.78E-4	1.47E-2	5.47E-4	8.30E-3							
1-CPR-90-189	10/3/90 10/3/90	1217 1243	2.25E-4	1.86E-2	6.93E-4	1.05E-2							
1-CPR-90-190	10/4/90 10/4/90	1615 1638	1.55E-4	1.28E-2	4.76E-4	7.21E-3							
1-CPR-90-191	10/5/90 10/5/90	1509 1546	2.96E-4	2.44E-2	9.10E-4	1.38E-2							
1-CPR-90-192	10/7/90 10/7/90	1014 1110	4.46E-4	3.68E-2	1.37E-3	2.08E-2							
1-CPR-90-193	10/8/90 10/8/90	1852 1916	2.48E-4	2.04E-2	7.62E-4	1.16E-2							
1-CPR-90-194	10/10/90 10/10/90	0130 0150	1.11E-4	1.16E-2	3.4E-4	6.5E-3							

RELEASE NUMBER	START DATE STOP DATE	START TIME STOP TIME	Xel31m	Xel33	Xe	Ar41	Xel33m	Kr85				
1-CPR-90-195	10/10/90 10/10/90	1256 1324	2.68E-4	2.21E-2	8.25E-4	1.25E-2						
1-CPR-90-196	10/12/90 10/12/90	0745 0806	2.15E-4	1.77E-2	6.61E-4	1.00E-2						
1-CPR-90-197	10/13/90 10/13/90	0407 0432	2.08E-4	1.72E-2	6.40E-4	9.70E-3						
1-CPR-90-198	10/13/90 10/13/90	2332 2355	2.45E-4	2.03E-2	7.55E-4	1.14E-2						
1-CPR-90-199	10/14/90 10/14/90	1550 1615	2.38E-4	1.96E-2	7.32E-4	1.11E-2						
1-CPR-90-200	10/16/90 10/16/90	1350 1414	2.10E-4	1.73E-2	6.47E-4	9.80E-3						
1-CPR-90-201	10/17/90 10/17/90	0138 0158	1.72E-4	1.42E-2	5.29E-4	8.02E-3						
1-CPR-90-202	10/17/90 10/17/90	1620 1718	6.49E-4	5.36E-2	2.00E-3	3.03E-2						
1-CPR-90-203	10/20/90 10/20/90	0318 0343	2.99E-4	2.47E-2	9.22E-4	1.40E-2						
1-CPR-90-204	10/20/90 10/20/90	2106 2138	2.56E-4	2.11E-2	7.88E-4	1.19E-2						
1-CPR-90-205	10/20/90 10/20/90	2154 2218	2.80E-4	2.31E-2	8.62E-4	1.31E-2						
1-CPR-90-206	10/20/90 10/20/90	2251 2317	3.60E-4	2.97E-2	1.11E-3	1.68E-2						
1-CPR-90-207	10/21/90 10/21/90	0040 0103	3.18E-4	2.63E-2	9.79E-4	1.48E-2						
2-CPR-90-69	10/6/90 10/6/90	1746 1807	6.78E-5	4.16E-3	8.13E-5	1.71E-5	3.68E-5	1.28E-4				
2-CPR-90-70	10/9/90 10/9/90	0205 0226	2.48E-5	1.52E-3	2.97E-5	6.23E-6	1.34E-5	4.69E-5				
2-CPR-90-71	10/10/90 10/10/90	0845 0911	8.32E-5	5.10E-3	9.97E-5	2.09E-5	4.52E-5	1.58E-4				
2-CPR-90-72	10/12/90 10/12/90	1710 1736	4.17E-5	2.56E-3	5.00E-5	1.05E-5	2.26E-5	7.89E-5				
2-CPR-90-73	10/14/90 10/14/90	1232 1258	8.89E-5	5.45E-3	1.07E-4	2.24E-5	4.83E-5	1.68E-4				
2-CPR-90-74	10/20/90 10/20/90	1311 1337	4.24E-5	2.60E-3	5.09E-5	1.07E-5	2.30E-5	8.04E-5				
2-CPR-90-75	10/23/90 10/23/90	0742 0803	5.13E-5	3.15E-3	6.15E-5	1.29E-5	2.79E-5	9.72E-5				
2-CPR-90-76	10/31/90 10/31/90	1213 1242	1.11E-4	6.80E-3	1.33E-4	2.79E-5	6.02E-5	2.10E-4				
2-CPR-90-77	11/1/90 11/1/90	1430 1458	8.68E-5	5.33E-3	1.04E-4	2.19E-5	4.72E-5	1.64E-4				
2-CPR-90-78	11/3/90 11/3/90	1427 1453	4.65E-5	2.85E-3	5.57E-5	1.17E-5	2.53E-5	8.81E-5				
2-CPR-90-79	11/4/90 11/4/90	1929 1950	7.29E-5	4.47E-3	8.74E-5	1.84E-5	3.96E-5	1.38E-4				
2-CPR-90-80	11/5/90 11/5/90	0546 0615	8.43E-5	5.17E-3	1.01E-4	2.12E-5	4.58E-5	1.60E-4				
2-CPR-90-81	11/8/90 11/8/90	1715 1736	2.61E-6	1.60E-4	3.13E-6	6.57E-7	1.42E-6	4.95E-6				

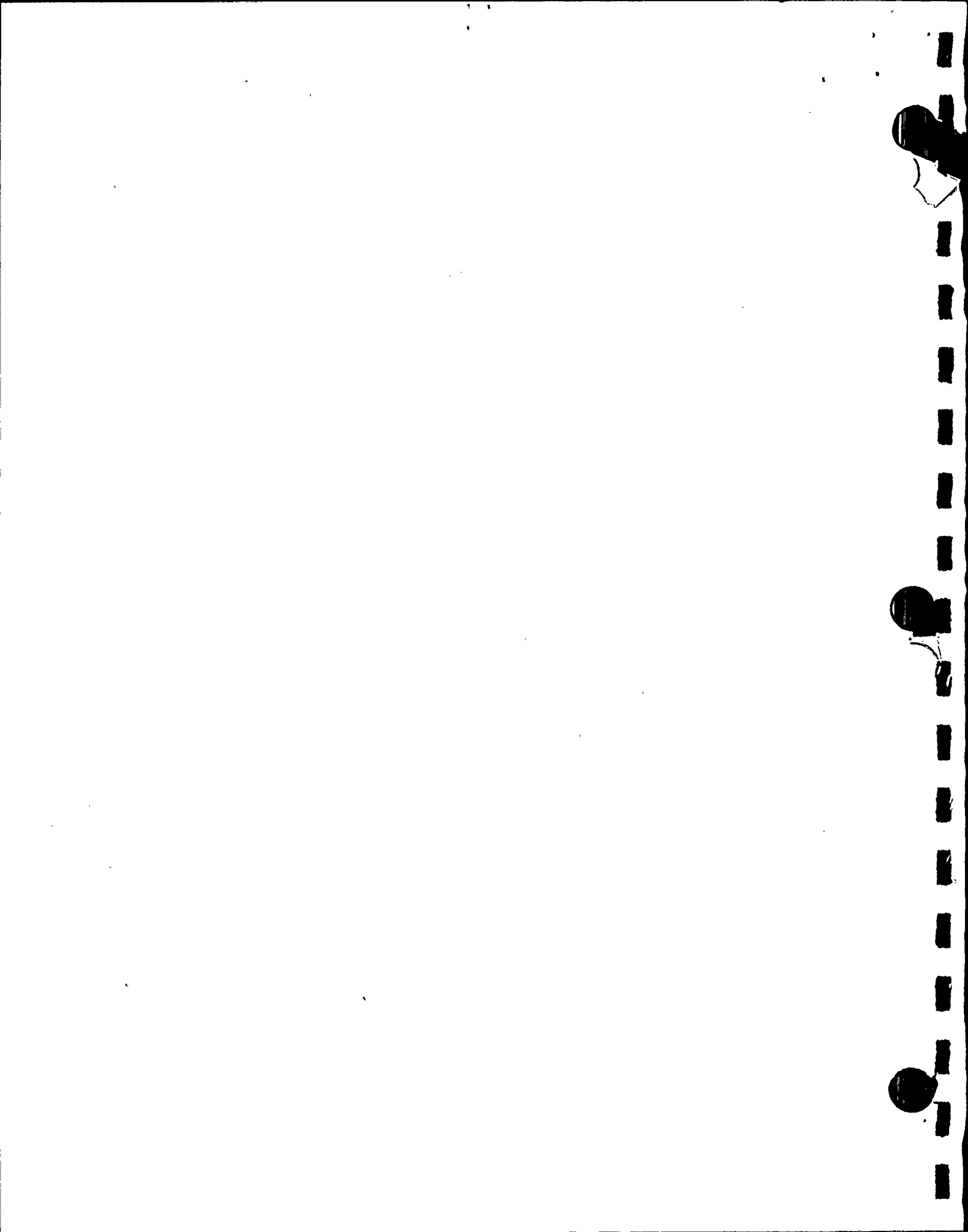
RELEASE NUMBER	START DATE STOP DATE	START TIME STOP TIME	Xe131m	Xe133	Xe135	Ar41	Xe133m	Kr85				
2-CPR-90-82	11/9/90 11/9/90	1328 1349	2.11E-5	1.30E-3	2.53E-5	5.32E-6	1.15E-5	4.00E-5				
2-CPR-90-83	11/11/90 11/11/90	1434 1458	2.02E-5	1.24E-3	2.43E-5	5.09E-6	1.10E-5	3.83E-5				
2-CPR-90-84	11/14/90 11/14/90	1433 1502	7.13E-5	4.37E-3	8.54E-5	1.79E-5	3.87E-5	1.35E-4				
2-CPR-90-85	11/16/90 11/16/90	0217 0242	2.54E-5	1.56E-3	3.04E-5	6.38E-6	1.38E-5	4.80E-5				
2-CPR-90-86	11/18/90 11/18/90	0126 0146	4.56E-5	2.80E-3	5.47E-5	1.15E-5	2.48E-5	8.64E-5				
2-CPR-90-87	11/18/90 11/18/90	2332 2359	6.49E-6	3.98E-4	7.78E-6	1.63E-6	3.53E-6	1.23E-5				
2-CPR-90-88	11/21/90 11/21/90	0158 0228	1.93E-4	1.19E-2	2.32E-4	4.86E-5	1.05E-4	3.66E-4				
2-CPR-90-89	11/22/90 11/22/90	2141 2205	4.67E-5	2.86E-3	5.59E-5	1.17E-5	2.53E-5	8.84E-5				
2-CPR-90-90	11/23/90 11/23/90	1241 1305	6.57E-5	4.03E-3	7.87E-5	1.65E-5	3.57E-5	1.24E-4				
2-CPR-90-91	11/26/90 11/26/90	1753 1812	3.82E-5	2.34E-3	4.58E-5	9.61E-6	2.07E-5	7.24E-5				
2-CPR-90-92	11/27/90 11/27/90	2127 2144	4.03E-5	2.47E-3	4.83E-5	1.01E-5	2.19E-5	7.64E-5				
2-CPR-90-93	11/30/90 11/30/90	1515 1535	4.92E-5	3.02E-3	5.90E-5	1.24E-5	2.67E-5	9.32E-5				
2-CPR-90-94	12/3/90 12/3/90	0000 0019	3.91E-5	2.40E-3	4.69E-5	9.84E-6	2.12E-5	7.41E-5				
2-CPR-90-95	12/3/90 12/3/90	0515 0534	1.83E-5	1.12E-3	2.19E-5	4.60E-6	9.92E-6	3.46E-5				
2-CPR-90-96	12/5/90 12/5/90	1521 1543	6.33E-5	3.88E-3	7.58E-5	1.59E-5	3.44E-5	1.20E-4				
2-CPR-90-97	12/9/90 12/9/90	1347 1405	1.57E-5	9.63E-4	1.88E-5	3.95E-6	8.53E-6	2.97E-5				
2-CPR-90-98	12/11/90 12/11/90	0812 0829	4.94E-5	3.03E-3	5.92E-5	1.24E-5	2.68E-5	9.35E-5				
2-CPR-90-99	12/12/90 12/12/90	0421 0444	8.21E-5	5.04E-3	9.85E-5	2.07E-5	4.46E-5	1.56E-4				
2-CPR-90-100	12/14/90 12/14/90	1859 1926	6.87E-5	4.21E-3	8.24E-5	1.73E-5	3.73E-5	1.30E-4				
2-CPR-90-101	12/15/90 12/15/90	0935 0955	2.72E-5	1.67E-3	3.26E-5	6.84E-6	1.48E-5	5.15E-5				
2-CPR-90-102	12/17/90 12/17/90	0848 0918	8.34E-5	5.11E-3	9.99E-5	2.10E-5	4.53E-5	1.58E-4				
2-CPR-90-103	12/17/90 12/17/90	2113 2133	4.41E-6	2.70E-4	5.29E-6	1.11E-6	2.39E-6	8.35E-6				
2-CPR-90-104	12/21/90 12/21/90	0038 0059	2.01E-5	1.23E-3	2.41E-5	5.05E-6	1.09E-5	3.80E-5				
2-CPR-90-105	12/21/90 12/21/90	2304 2325	7.43E-5	4.56E-3	8.91E-5	1.87E-5	4.03E-5	1.41E-4				
2-CPR-90-106	12/23/90 12/23/90	2129 2152	3.44E-5	2.11E-3	4.13E-5	8.66E-6	1.87E-5	6.52E-5				
2-CPR-90-107	12/27/90 12/27/90	1319 1340	4.71E-6	2.89E-4	5.65E-6	1.19E-6	2.56E-6	8.92E-6				
2-CPR-90-108	12/28/90 12/28/90	1218 1240	2.10E-5	1.29E-3	2.52E-5	5.28E-6	1.14E-5	3.98E-5				
2-CPR-90-109	12/28/90 12/28/90	2255 2317	5.15E-4	3.16E-2	6.17E-5	1.30E-4	2.80E-4	9.75E-4				

The following distances were used in the calculation of the maximum individual doses:

<u>Sector</u>	<u>Direction</u>	<u>Boundary (Meters)</u>	<u>Nearest Residence (Meters)</u>
A	N	651	659
B	NNE	617	660
C	NE	789	943
D	ENE	1497	1747
E	E	1274	1716
F	ESE	972	1643
G	SE	629	1136
H	SSE	594	1507
J	S	594	1026
K	SSW	629	942

APPENDIX 1.2

Summary of Maximum Individual Doses
Third Quarter, 1990



SUMMARY OF MAXIMUM INDIVIDUAL DOSES 3RD QUARTER 1990

EFFLUENT	APPLICABLE ORGAN	ESTIMATED DOSE (MREM)	AGE GROUP	LOCATION DIST DIR (M) (Toward)	% OF APPLICABLE LIMIT	QUARTERLY LIMIT (MR)
Liquid	Total Body	1.65E-1	Adult	Receptor 1	1.10E+1	1.5E+0
Liquid	Bone	6.76E-1	Child	Receptor 1	1.35E+1	5.0E+0
Noble Gas	Air Dose (Gamma-mrad)	2.85E-3	Teen	594 S	5.70E-2	5.0E+0
Noble Gas	Air Dose (Beta-mrad)	4.73E-3		594 SSE	4.73E-2	1.0E+1
Noble Gas	Total Body	3.41E-3	All	659 N	6.82E-2	Annual 5.0E+0
Noble Gas	Skin	7.10E-3	All	659 N	4.73E-2	Annual 1.5E+1
Iodines and Particulates	Thyroid	5.14E-2	Infant	659 N	6.85E-1	7.5E+0

DATES OF LAST AIR DOSE ACCUMULATION ARE FROM 90 7 1 1 0 TO 90 93024 0
DOSE ACCUMULATION FOR GAMMA MRAD
FOR RELEASE POINT 1

**DIRECTION FROM N

1.8715E-06	9.1116E-08	5.4761E-08	3.9101E-08	3.0406E-08
1.8243E-08	9.1211E-09	5.4726E-09	3.9090E-09	2.7346E-09

**DIRECTION FROM NNE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ENE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM E

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ESE

3.4830E-05	3.3944E-06	1.8409E-06	1.1951E-06	8.7490E-07
4.6864E-07	1.9925E-07	1.0069E-07	6.4699E-08	4.2394E-08

**DIRECTION FROM SE

1.0266E-05	1.0005E-06	5.4257E-07	3.5224E-07	2.5786E-07
1.3812E-07	5.8727E-08	2.9677E-08	1.9069E-08	1.2495E-08

**DIRECTION FROM SSE

1.0027E-03	9.7717E-05	5.2994E-05	3.4404E-05	2.5186E-05
1.3491E-05	5.7359E-06	2.8986E-06	1.8625E-06	1.2204E-06

**DIRECTION FROM S

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM W

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NNW

6.7843E-05	8.9882E-06	4.0526E-06	2.3197E-06	1.6145E-06
8.0065E-07	3.0109E-07	1.4607E-07	9.2055E-08	5.6454E-08

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0

FOR RELEASE POINT 2

**DIRECTION FROM N

2.8523E-03	3.3118E-04	1.5883E-04	9.5713E-05	6.7539E-05
3.4093E-05	1.3489E-05	6.7454E-06	4.3322E-06	2.7424E-06

**DIRECTION FROM NNE

2.4192E-03	3.0569E-04	1.4869E-04	9.0219E-05	6.3794E-05
3.2312E-05	1.2901E-05	6.4867E-06	4.1824E-06	2.6481E-06

**DIRECTION FROM NE

2.5306E-03	3.0349E-04	1.4579E-04	8.7739E-05	6.2034E-05
3.1457E-05	1.2461E-05	6.2069E-06	3.9741E-06	2.5135E-06

**DIRECTION FROM ENE

3.7981E-03	4.1574E-04	2.1405E-04	1.3485E-04	9.7077E-05
5.0599E-05	2.0926E-05	1.0558E-05	6.7977E-06	4.3902E-06

**DIRECTION FROM E

4.6710E-03	5.0640E-04	2.6453E-04	1.6806E-04	1.2148E-04
6.3740E-05	2.6591E-05	1.3454E-05	8.6726E-06	5.6212E-06

**DIRECTION FROM ESE

6.4908E-03	6.8968E-04	3.6336E-04	2.3210E-04	1.6813E-04
8.8497E-05	3.7080E-05	1.8779E-05	1.2109E-05	7.8651E-06

**DIRECTION FROM SE

5.1123E-03	5.3472E-04	2.8045E-04	1.7872E-04	1.2939E-04
6.8064E-05	2.8451E-05	1.4382E-05	9.2622E-06	6.0180E-06

**DIRECTION FROM SSE

7.8007E-03	8.1814E-04	4.2992E-04	2.7415E-04	1.9875E-04
1.0483E-04	4.3906E-05	2.2198E-05	1.4294E-05	9.2912E-06

**DIRECTION FROM S

6.7873E-03	7.6090E-04	3.8918E-04	2.4418E-04	1.7533E-04
9.0984E-05	3.7489E-05	1.8939E-05	1.2209E-05	7.8647E-06

**DIRECTION FROM SSW

2.8444E-03	3.3174E-04	1.6371E-04	1.0030E-04	7.1554E-05
3.6847E-05	1.4917E-05	7.4866E-06	4.8117E-06	3.0757E-06

**DIRECTION FROM SW

2.2447E-03	2.5587E-04	1.2520E-04	7.6451E-05	5.4391E-05
2.7877E-05	1.1244E-05	5.6538E-06	3.6420E-06	2.3287E-06

**DIRECTION FROM WSW

1.5478E-03	1.6386E-04	8.2927E-05	5.1779E-05	3.7228E-05
1.9404E-05	7.9977E-06	4.0397E-06	2.6049E-06	1.6851E-06

**DIRECTION FROM W

1.5896E-03	1.7740E-04	8.8196E-05	5.4394E-05	3.8889E-05
2.0094E-05	8.1926E-06	4.1332E-06	2.6668E-06	1.7156E-06

**DIRECTION FROM WNW

1.2399E-03	1.4405E-04	7.0789E-05	4.3335E-05	3.0816E-05
1.5770E-05	6.3741E-06	3.2204E-06	2.0815E-06	1.3310E-06

**DIRECTION FROM NW

1.8020E-03	2.0741E-04	1.0181E-04	6.2270E-05	4.4294E-05
2.2676E-05	9.1437E-06	4.5974E-06	2.9595E-06	1.8886E-06

**DIRECTION FROM NNW

2.2248E-03	2.5709E-04	1.2534E-04	7.6300E-05	5.4159E-05
2.7626E-05	1.1077E-05	5.5581E-06	3.5740E-06	2.2756E-06

DISTANCES USED IN CALCULATIONS

594.0 2416.0 4020.0 5630.0 7240.0
12067.0 24135.0 40225.0 56315.0 80500.0

DATES OF LAST AIR DOSE ACCUMULATION ARE FROM 90 7 1 1 0 TO 90 93024 0
DOSE ACCUMULATION FOR BETA MRAD
FOR RELEASE POINT 1

**DIRECTION FROM N				
4.1585E-05	2.0246E-06	1.2168E-06	8.6882E-07	6.7562E-07
4.0536E-07	2.0267E-07	1.2160E-07	8.6859E-08	6.0764E-08
**DIRECTION FROM NNE				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM NE				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM ENE				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM E				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM ESE				
3.9186E-03	3.8189E-04	2.0711E-04	1.3445E-04	9.8430E-05
5.2724E-05	2.2417E-05	1.1328E-05	7.2789E-06	4.7696E-06
**DIRECTION FROM SE				
1.1549E-03	1.1256E-04	6.1042E-05	3.9628E-05	2.9011E-05
1.5540E-05	6.6071E-06	3.3388E-06	2.1454E-06	1.4058E-06
**DIRECTION FROM SSE				
9.6800E-03	9.4338E-04	5.1161E-04	3.3214E-04	2.4315E-04
1.3024E-04	5.5376E-05	2.7984E-05	1.7981E-05	1.1782E-05
**DIRECTION FROM S				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM SSW				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM SW				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM WSW				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM W				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM WNW				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM NW				
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
**DIRECTION FROM NNW				
1.2677E-03	1.6796E-04	7.5728E-05	4.3346E-05	3.0169E-05
1.4961E-05	5.6262E-06	2.7296E-06	1.7202E-06	1.0549E-06

DISTANCES USED IN CALCULATIONS

594.0 2416.0 4020.0 5630.0 7240.0
12067.0 24135.0 40225.0 56315.0 80500.0

FOR RELEASE POINT 2

**DIRECTION FROM N

4.1124E-03	4.6990E-04	2.2645E-04	1.3702E-04	9.6765E-05
4.8875E-05	1.9392E-05	9.7108E-06	6.2401E-06	3.9554E-06

**DIRECTION FROM NNE

3.6618E-03	4.6653E-04	2.2487E-04	1.3552E-04	9.5744E-05
4.8490E-05	1.9276E-05	9.6666E-06	6.2226E-06	3.9318E-06

**DIRECTION FROM NE

3.9870E-03	4.7639E-04	2.2758E-04	1.3644E-04	9.6271E-05
4.8624E-05	1.9138E-05	9.4965E-06	6.0641E-06	3.8228E-06

**DIRECTION FROM ENE

5.6971E-03	6.0268E-04	3.1363E-04	1.9891E-04	1.4374E-04
7.5389E-05	3.1382E-05	1.5841E-05	1.0196E-05	6.6115E-06

**DIRECTION FROM E

6.9420E-03	7.5857E-04	3.9534E-04	2.5080E-04	1.8120E-04
9.5020E-05	3.9610E-05	2.0042E-05	1.2923E-05	8.3709E-06

**DIRECTION FROM ESE

9.7401E-03	1.0416E-03	5.4858E-04	3.5034E-04	2.5367E-04
1.3341E-04	5.5885E-05	2.8319E-05	1.8269E-05	1.1862E-05

**DIRECTION FROM SE

6.5294E-03	6.9058E-04	3.5992E-04	2.2860E-04	1.6507E-04
8.6426E-05	3.5988E-05	1.8199E-05	1.1731E-05	7.6076E-06

**DIRECTION FROM SSE

1.0923E-02	1.1447E-03	6.0095E-04	3.8301E-04	2.7762E-04
1.4639E-04	6.1289E-05	3.0989E-05	1.9958E-05	1.2973E-05

**DIRECTION FROM S

9.4877E-03	1.0600E-03	5.4130E-04	3.3932E-04	2.4358E-04
1.2635E-04	5.2013E-05	2.6260E-05	1.6921E-05	1.0897E-05

**DIRECTION FROM SSW

3.6985E-03	4.3181E-04	2.1179E-04	1.2920E-04	9.2161E-05
4.7501E-05	1.9200E-05	9.6309E-06	6.1885E-06	3.9547E-06

**DIRECTION FROM SW

4.0627E-03	4.5807E-04	2.2595E-04	1.3864E-04	9.8957E-05
5.1012E-05	2.0698E-05	1.0411E-05	6.7036E-06	4.2986E-06

**DIRECTION FROM WSW

2.4950E-03	2.6624E-04	1.3556E-04	8.4873E-05	6.1126E-05
3.1951E-05	1.3208E-05	6.6730E-06	4.3021E-06	2.7850E-06

**DIRECTION FROM W

2.4678E-03	2.7605E-04	1.3715E-04	8.4443E-05	6.0493E-05
3.1400E-05	1.2818E-05	6.4542E-06	4.1575E-06	2.6769E-06

**DIRECTION FROM WNW

1.8924E-03	2.1415E-04	1.0632E-04	6.5579E-05	4.6780E-05
2.4063E-05	9.8069E-06	4.9742E-06	3.2225E-06	2.0703E-06

**DIRECTION FROM NW

2.9653E-03	3.3654E-04	1.6757E-04	1.0345E-04	7.3864E-05
3.8039E-05	1.5480E-05	7.8056E-06	5.0317E-06	3.2255E-06

**DIRECTION FROM NNW

3.4630E-03	3.9121E-04	1.9345E-04	1.1890E-04	8.4766E-05
4.3551E-05	1.7642E-05	8.8782E-06	5.7164E-06	3.6590E-06

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0

LIQUID DOSE ACCUMULATIONS (MREM)

START DATE 90 7 1 1 END DATE 90 93024

	BONE	LIVER	T.BODY	THYRD	KIDNEY	LUNG	GI-ILLI	SKIN
WATER								
ADULT	1.6E-01	1.0E-02	4.3E-02	9.7E-03	9.8E-03	9.7E-03	1.9E-02	0.0E+00
TEEN	1.3E-01	7.2E-03	3.2E-02	6.9E-03	6.9E-03	6.9E-03	1.4E-02	0.0E+00
CHILD	3.1E-01	1.4E-02	6.7E-02	1.3E-02	1.3E-02	1.3E-02	2.0E-02	0.0E+00
INFANT	2.7E-01	1.4E-02	5.3E-02	1.3E-02	1.3E-02	1.3E-02	1.7E-02	0.0E+00
SHORE								
ADULT	3.9E-05	3.9E-05	3.9E-05	3.9E-05	3.9E-05	3.9E-05	3.9E-05	4.5E-05
TEEN	2.2E-04	2.2E-04	2.2E-04	2.2E-04	2.2E-04	2.2E-04	2.2E-04	2.5E-04
CHILD	4.5E-05	4.5E-05	4.5E-05	4.5E-05	4.5E-05	4.5E-05	4.5E-05	5.3E-05
INFANT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
FW SPT FISH								
ADULT	4.0E-01	6.6E-02	1.2E-01	7.1E-04	2.3E-02	7.9E-03	2.4E-02	0.0E+00
TEEN	3.6E-01	6.8E-02	9.0E-02	5.5E-04	2.3E-02	9.1E-03	1.9E-02	0.0E+00
CHILD	3.7E-01	5.9E-02	6.9E-02	4.7E-04	1.9E-02	7.2E-03	8.2E-03	0.0E+00
INFANT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TOTAL								
ADULT	5.7E-01	7.7E-02	1.6E-01	1.0E-02	3.2E-02	1.8E-02	4.3E-02	4.5E-05
TEEN	5.0E-01	7.5E-02	1.2E-01	7.6E-03	3.0E-02	1.6E-02	3.3E-02	2.5E-04
CHILD	6.8E-01	7.3E-02	1.4E-01	1.4E-02	3.3E-02	2.0E-02	2.8E-02	5.3E-05
INFANT	2.7E-01	1.4E-02	5.3E-02	1.3E-02	1.3E-02	1.3E-02	1.7E-02	0.0E+00

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.5E-03 7.1E-03
TEEN 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.5E-03 7.1E-03
CHILD 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.5E-03 7.1E-03
INFNT 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.4E-03 3.5E-03 7.1E-03

GROUND PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.7E-05
TEEN 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.7E-05
CHILD 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.7E-05
INFNT 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.4E-05 1.7E-05

VEGET PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD N
ADULT 3.9E-05 2.7E-05 5.2E-05 2.7E-05 2.7E-05 3.6E-04 2.6E-05 0.0E+00
TEEN 4.5E-05 3.1E-05 6.4E-05 3.0E-05 3.1E-05 3.1E-04 2.9E-05 0.0E+00
CHILD 7.3E-05 4.7E-05 1.1E-04 4.7E-05 4.7E-05 4.6E-04 4.5E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD N
ADULT 3.9E-06 3.7E-06 8.2E-07 3.8E-06 3.9E-06 4.4E-05 3.7E-06 0.0E+00
TEEN 2.4E-06 2.2E-06 5.5E-07 2.3E-06 2.4E-06 3.2E-05 2.2E-06 0.0E+00
CHILD 2.9E-06 2.7E-06 7.5E-07 2.8E-06 2.9E-06 4.7E-05 2.6E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD N
ADULT 3.7E-05 3.0E-05 2.2E-05 4.1E-05 5.1E-05 4.9E-03 2.6E-05 0.0E+00
TEEN 5.2E-05 3.9E-05 3.6E-05 6.0E-05 7.9E-05 7.7E-03 3.4E-05 0.0E+00
CHILD 8.6E-05 5.7E-05 7.4E-05 9.9E-05 1.3E-04 1.5E-02 5.3E-05 0.0E+00
INFNT 1.4E-04 8.5E-05 1.3E-04 1.9E-04 2.1E-04 3.7E-02 8.0E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD N
ADULT 6.9E-05 5.8E-05 3.8E-05 7.0E-05 8.3E-05 5.9E-03 5.2E-05 0.0E+00
TEEN 9.4E-05 7.6E-05 5.8E-05 1.0E-04 1.2E-04 9.3E-03 6.8E-05 0.0E+00
CHILD 1.5E-04 1.1E-04 1.1E-04 1.6E-04 2.0E-04 1.8E-02 1.1E-04 0.0E+00
INFNT 2.4E-04 1.7E-04 1.8E-04 3.0E-04 3.2E-04 4.4E-02 1.6E-04 0.0E+00

INHAL PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 5.5E-04 5.3E-04 2.1E-04 5.5E-04 5.6E-04 5.9E-03 5.5E-04 0.0E+00
TEEN 5.6E-04 5.4E-04 2.3E-04 5.6E-04 5.7E-04 7.2E-03 5.7E-04 0.0E+00
CHILD 5.0E-04 4.7E-04 2.2E-04 4.9E-04 5.1E-04 7.8E-03 5.0E-04 0.0E+00
INFNT 2.9E-04 2.7E-04 9.9E-05 2.9E-04 2.9E-04 7.0E-03 2.9E-04 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 7.1E-04 6.7E-04 3.3E-04 7.0E-04 7.4E-04 1.7E-02 6.7E-04 1.7E-05
TEEN 7.7E-04 7.0E-04 4.0E-04 7.6E-04 8.2E-04 2.4E-02 7.1E-04 1.7E-05
CHILD 8.3E-04 7.1E-04 5.3E-04 8.2E-04 9.0E-04 4.2E-02 7.2E-04 1.7E-05
INFNT 6.8E-04 5.4E-04 4.2E-04 8.0E-04 8.4E-04 8.8E-02 5.5E-04 1.7E-05

TOTALS

ADULT 4.1E-03 4.1E-03 3.7E-03 4.1E-03 4.2E-03 2.1E-02 4.2E-03 7.1E-03
TEEN 4.2E-03 4.1E-03 3.8E-03 4.2E-03 4.2E-03 2.8E-02 4.2E-03 7.1E-03
CHILD 4.2E-03 4.1E-03 3.9E-03 4.2E-03 4.3E-03 4.5E-02 4.2E-03 7.1E-03
INFNT 4.1E-03 4.0E-03 3.8E-03 4.2E-03 4.3E-03 9.2E-02 4.0E-03 7.1E-03

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.5E-03 2.9E-03
TEEN 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.5E-03 2.9E-03
CHILD 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.5E-03 2.9E-03
INFNT 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.4E-03 1.5E-03 2.9E-03

GROUND PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 1.1E-05
TEEN 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 1.1E-05
CHILD 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 1.1E-05
INFNT 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 9.0E-06 1.1E-05

VEGET PATHWAY, DIST GP= 1, 814. METERS, WINDS TOWARD NNE
ADULT 7.3E-04 3.6E-04 1.7E-03 3.4E-04 3.6E-04 1.0E-02 3.1E-04 0.0E+00
TEEN 8.7E-04 4.1E-04 2.1E-03 3.8E-04 4.0E-04 8.7E-03 3.5E-04 0.0E+00
CHILD 1.4E-03 5.9E-04 3.4E-03 5.8E-04 6.1E-04 1.3E-02 5.4E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NNE
ADULT 1.8E-06 1.7E-06 5.9E-07 1.8E-06 1.8E-06 2.9E-05 1.7E-06 0.0E+00
TEEN 1.1E-06 1.0E-06 3.9E-07 1.1E-06 1.1E-06 2.1E-05 1.0E-06 0.0E+00
CHILD 1.4E-06 1.2E-06 5.3E-07 1.3E-06 1.4E-06 3.1E-05 1.2E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE
ADULT 1.9E-05 1.4E-05 1.4E-05 2.1E-05 2.7E-05 3.0E-03 1.1E-05 0.0E+00
TEEN 2.7E-05 1.9E-05 2.3E-05 3.1E-05 4.3E-05 4.8E-03 1.5E-05 0.0E+00
CHILD 4.5E-05 2.6E-05 4.8E-05 5.2E-05 7.1E-05 9.5E-03 2.4E-05 0.0E+00
INFNT 7.2E-05 3.9E-05 8.0E-05 1.1E-04 1.2E-04 2.3E-02 3.6E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE
ADULT 3.4E-05 2.7E-05 2.5E-05 3.5E-05 4.3E-05 3.7E-03 2.3E-05 0.0E+00
TEEN 4.7E-05 3.5E-05 3.8E-05 5.0E-05 6.5E-05 5.8E-03 3.1E-05 0.0E+00
CHILD 7.8E-05 5.2E-05 7.5E-05 8.3E-05 1.0E-04 1.1E-02 4.8E-05 0.0E+00
INFNT 1.2E-04 7.7E-05 1.2E-04 1.6E-04 1.7E-04 2.8E-02 7.4E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 2.4E-04 2.4E-04 8.9E-05 2.4E-04 2.5E-04 2.3E-03 2.4E-04 0.0E+00
TEEN 2.5E-04 2.4E-04 9.9E-05 2.4E-04 2.5E-04 2.8E-03 2.5E-04 0.0E+00
CHILD 2.2E-04 2.1E-04 9.5E-05 2.2E-04 2.2E-04 3.1E-03 2.2E-04 0.0E+00
INFNT 1.3E-04 1.2E-04 4.2E-05 1.3E-04 1.3E-04 2.7E-03 1.3E-04 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 1.0E-03 6.5E-04 1.8E-03 6.5E-04 6.9E-04 1.9E-02 6.0E-04 1.1E-05
TEEN 1.2E-03 7.2E-04 2.2E-03 7.2E-04 7.7E-04 2.2E-02 6.6E-04 1.1E-05
CHILD 1.8E-03 8.9E-04 3.7E-03 9.4E-04 1.0E-03 3.7E-02 8.5E-04 1.1E-05
INFNT 3.3E-04 2.5E-04 2.5E-04 4.0E-04 4.3E-04 5.3E-02 2.5E-04 1.1E-05

TOTALS

ADULT 2.5E-03 2.1E-03 3.3E-03 2.1E-03 2.1E-03 2.1E-02 2.1E-03 2.9E-03
TEEN 2.6E-03 2.2E-03 3.7E-03 2.2E-03 2.2E-03 2.4E-02 2.1E-03 2.9E-03
CHILD 3.2E-03 2.3E-03 5.1E-03 2.4E-03 2.5E-03 3.9E-02 2.3E-03 2.9E-03
INFNT 1.8E-03 1.7E-03 1.7E-03 1.8E-03 1.9E-03 5.5E-02 1.7E-03 2.9E-03

INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.6E-04 1.5E-03
TEEN 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.6E-04 1.5E-03
CHILD 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.6E-04 1.5E-03
INFNT 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.4E-04 6.6E-04 1.5E-03

GROUND PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 6.6E-06
TEEN 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 6.6E-06
CHILD 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 6.6E-06
INFNT 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 5.5E-06 6.6E-06

VEGET PATHWAY, DIST GP= 1, 1052. METERS, WINDS TOWARD NE
ADULT 3.9E-04 1.4E-04 1.1E-03 1.3E-04 1.4E-04 7.0E-03 1.1E-04 0.0E+00
TEEN 4.7E-04 1.7E-04 1.4E-03 1.4E-04 1.6E-04 5.9E-03 1.2E-04 0.0E+00
CHILD 7.8E-04 2.2E-04 2.3E-03 2.2E-04 2.3E-04 8.9E-03 1.9E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NE
ADULT 1.0E-06 8.6E-07 6.0E-07 9.1E-07 9.7E-07 3.0E-05 8.2E-07 0.0E+00
TEEN 6.2E-07 5.2E-07 4.0E-07 5.6E-07 6.1E-07 2.1E-05 4.9E-07 0.0E+00
CHILD 7.6E-07 6.1E-07 5.5E-07 6.9E-07 7.5E-07 3.2E-05 5.9E-07 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE
ADULT 1.3E-05 8.7E-06 1.5E-05 1.6E-05 2.3E-05 3.2E-03 5.8E-06 0.0E+00
TEEN 2.0E-05 1.1E-05 2.4E-05 2.5E-05 3.7E-05 5.1E-03 7.6E-06 0.0E+00
CHILD 3.4E-05 1.5E-05 5.0E-05 4.2E-05 6.2E-05 1.0E-02 1.2E-05 0.0E+00
INFNT 5.6E-05 2.1E-05 8.4E-05 9.2E-05 1.0E-04 2.4E-02 1.8E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE
ADULT 2.3E-05 1.6E-05 2.6E-05 2.4E-05 3.2E-05 3.8E-03 1.2E-05 0.0E+00
TEEN 3.3E-05 2.0E-05 3.9E-05 3.6E-05 5.1E-05 6.1E-03 1.6E-05 0.0E+00
CHILD 5.6E-05 2.8E-05 7.7E-05 6.1E-05 8.4E-05 1.2E-02 2.4E-05 0.0E+00
INFNT 8.8E-05 4.1E-05 1.2E-04 1.3E-04 1.4E-04 2.9E-02 3.7E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 7.4E-05 7.1E-05 3.1E-05 7.3E-05 7.5E-05 9.2E-04 7.3E-05 0.0E+00
TEEN 7.5E-05 7.1E-05 3.5E-05 7.4E-05 7.7E-05 1.1E-03 7.6E-05 0.0E+00
CHILD 6.6E-05 6.3E-05 3.4E-05 6.6E-05 6.8E-05 1.2E-03 6.7E-05 0.0E+00
INFNT 3.8E-05 3.6E-05 1.5E-05 3.9E-05 4.0E-05 1.1E-03 3.9E-05 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 5.1E-04 2.5E-04 1.2E-03 2.5E-04 2.8E-04 1.5E-02 2.0E-04 6.6E-06
TEEN 6.0E-04 2.7E-04 1.5E-03 2.8E-04 3.3E-04 1.8E-02 2.3E-04 6.6E-06
CHILD 9.4E-04 3.3E-04 2.5E-03 3.9E-04 4.5E-04 3.2E-02 3.0E-04 6.6E-06
INFNT 1.9E-04 1.0E-04 2.2E-04 2.6E-04 2.9E-04 5.5E-02 1.0E-04 6.6E-06

TOTALS

ADULT 1.1E-03 8.9E-04 1.8E-03 8.9E-04 9.2E-04 1.6E-02 8.6E-04 1.5E-03
TEEN 1.2E-03 9.1E-04 2.1E-03 9.2E-04 9.7E-04 1.9E-02 8.8E-04 1.5E-03
CHILD 1.6E-03 9.7E-04 3.1E-03 1.0E-03 1.1E-03 3.3E-02 9.6E-04 1.5E-03
INFNT 8.3E-04 7.4E-04 8.6E-04 9.0E-04 9.3E-04 5.5E-02 7.6E-04 1.5E-03

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.5E-04 3.2E-04
TEEN 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.5E-04 3.2E-04
CHILD 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.5E-04 3.2E-04
INFNT 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.4E-04 1.5E-04 3.2E-04

GROUND PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 9.6E-07
TEEN 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 9.6E-07
CHILD 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 9.6E-07
INFNT 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 8.0E-07 9.6E-07

VEGET PATHWAY, DIST GP= 1, 1852. METERS, WINDS TOWARD ENE
ADULT 8.7E-05 4.1E-05 2.1E-04 3.7E-05 4.0E-05 1.2E-03 3.4E-05 0.0E+00
TEEN 1.1E-04 4.6E-05 2.6E-04 4.2E-05 4.4E-05 9.8E-04 3.8E-05 0.0E+00
CHILD 1.7E-04 6.6E-05 4.4E-04 6.4E-05 6.7E-05 1.5E-03 5.9E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 3862. METERS, WINDS TOWARD ENE
ADULT 2.0E-06 1.7E-06 1.0E-06 1.8E-06 1.9E-06 4.4E-05 1.7E-06 0.0E+00
TEEN 1.2E-06 1.0E-06 6.9E-07 1.1E-06 1.2E-06 3.2E-05 1.0E-06 0.0E+00
CHILD 1.5E-06 1.2E-06 9.3E-07 1.4E-06 1.4E-06 4.8E-05 1.2E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE
ADULT 7.7E-06 5.6E-06 6.9E-06 8.5E-06 1.1E-05 1.3E-03 4.4E-06 0.0E+00
TEEN 1.1E-05 7.3E-06 1.1E-05 1.3E-05 1.8E-05 2.1E-03 5.7E-06 0.0E+00
CHILD 1.9E-05 1.0E-05 2.2E-05 2.2E-05 3.0E-05 4.2E-03 9.1E-06 0.0E+00
INFNT 3.0E-05 1.5E-05 3.7E-05 4.5E-05 5.0E-05 1.0E-02 1.4E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE
ADULT 1.4E-05 1.1E-05 1.2E-05 1.4E-05 1.7E-05 1.6E-03 9.0E-06 0.0E+00
TEEN 1.9E-05 1.4E-05 1.8E-05 2.0E-05 2.7E-05 2.6E-03 1.2E-05 0.0E+00
CHILD 3.2E-05 2.0E-05 3.5E-05 3.4E-05 4.3E-05 5.0E-03 1.8E-05 0.0E+00
INFNT 5.0E-05 3.0E-05 5.4E-05 6.5E-05 7.2E-05 1.2E-02 2.8E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 2.1E-05 2.1E-05 8.0E-06 2.1E-05 2.1E-05 2.0E-04 2.1E-05 0.0E+00
TEEN 2.1E-05 2.1E-05 8.8E-06 2.1E-05 2.2E-05 2.5E-04 2.2E-05 0.0E+00
CHILD 1.9E-05 1.8E-05 8.5E-06 1.9E-05 1.9E-05 2.7E-04 1.9E-05 0.0E+00
INFNT 1.1E-05 1.0E-05 3.7E-06 1.1E-05 1.1E-05 2.4E-04 1.1E-05 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 1.3E-04 8.0E-05 2.4E-04 8.3E-05 9.2E-05 4.4E-03 7.1E-05 9.6E-07
TEEN 1.6E-04 9.0E-05 3.0E-04 9.8E-05 1.1E-04 5.9E-03 8.0E-05 9.6E-07
CHILD 2.4E-04 1.2E-04 5.1E-04 1.4E-04 1.6E-04 1.1E-02 1.1E-04 9.6E-07
INFNT 9.2E-05 5.6E-05 9.5E-05 1.2E-04 1.3E-04 2.3E-02 5.4E-05 9.6E-07

TOTALS

ADULT 2.7E-04 2.2E-04 3.8E-04 2.2E-04 2.3E-04 4.5E-03 2.2E-04 3.2E-04
TEEN 3.0E-04 2.3E-04 4.5E-04 2.4E-04 2.5E-04 6.1E-03 2.3E-04 3.2E-04
CHILD 3.9E-04 2.6E-04 6.5E-04 2.8E-04 3.0E-04 1.1E-02 2.5E-04 3.2E-04
INFNT 2.3E-04 2.0E-04 2.4E-04 2.6E-04 2.8E-04 2.3E-02 2.0E-04 3.2E-04

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 3.7E-04
TEEN 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 3.7E-04
CHILD 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 3.7E-04
INFNT 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 3.7E-04

GROUND PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 9.5E-07
TEEN 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 9.5E-07
CHILD 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 9.5E-07
INFNT 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 7.9E-07 9.5E-07

VEGET PATHWAY, DIST GP= 1, 1705. METERS, WINDS TOWARD E
ADULT 1.0E-04 5.2E-05 2.3E-04 4.9E-05 5.1E-05 1.3E-03 4.5E-05 0.0E+00
TEEN 1.2E-04 6.0E-05 2.9E-04 5.5E-05 5.7E-05 1.1E-03 5.1E-05 0.0E+00
CHILD 2.0E-04 8.6E-05 4.8E-04 8.4E-05 8.7E-05 1.6E-03 7.9E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 6810. METERS, WINDS TOWARD E
ADULT 1.0E-06 9.2E-07 3.5E-07 9.4E-07 9.7E-07 1.5E-05 9.0E-07 0.0E+00
TEEN 6.0E-07 5.5E-07 2.3E-07 5.7E-07 6.0E-07 1.1E-05 5.3E-07 0.0E+00
CHILD 7.4E-07 6.5E-07 3.1E-07 6.9E-07 7.2E-07 1.6E-05 6.5E-07 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E
ADULT 8.4E-06 6.3E-06 6.6E-06 9.1E-06 1.2E-05 1.3E-03 5.2E-06 0.0E+00
TEEN 1.2E-05 8.3E-06 1.0E-05 1.4E-05 1.9E-05 2.0E-03 6.8E-06 0.0E+00
CHILD 2.0E-05 1.2E-05 2.1E-05 2.3E-05 3.1E-05 4.0E-03 1.1E-05 0.0E+00
INFNT 3.2E-05 1.7E-05 3.5E-05 4.6E-05 5.1E-05 9.8E-03 1.6E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E
ADULT 1.5E-05 1.2E-05 1.1E-05 1.5E-05 1.9E-05 1.6E-03 1.1E-05 0.0E+00
TEEN 2.1E-05 1.6E-05 1.7E-05 2.2E-05 2.8E-05 2.5E-03 1.4E-05 0.0E+00
CHILD 3.5E-05 2.3E-05 3.4E-05 3.6E-05 4.6E-05 4.9E-03 2.2E-05 0.0E+00
INFNT 5.4E-05 3.5E-05 5.2E-05 6.9E-05 7.5E-05 1.2E-02 3.3E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 2.6E-05 2.5E-05 9.6E-06 2.5E-05 2.6E-05 2.7E-04 2.5E-05 0.0E+00
TEEN 2.6E-05 2.5E-05 1.1E-05 2.6E-05 2.6E-05 3.3E-04 2.6E-05 0.0E+00
CHILD 2.3E-05 2.2E-05 1.0E-05 2.3E-05 2.4E-05 3.6E-04 2.3E-05 0.0E+00
INFNT 1.3E-05 1.3E-05 4.5E-06 1.3E-05 1.4E-05 3.2E-04 1.4E-05 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 1.5E-04 9.7E-05 2.6E-04 1.0E-04 1.1E-04 4.4E-03 8.8E-05 9.5E-07
TEEN 1.8E-04 1.1E-04 3.3E-04 1.2E-04 1.3E-04 5.9E-03 9.9E-05 9.5E-07
CHILD 2.8E-04 1.4E-04 5.5E-04 1.7E-04 1.9E-04 1.1E-02 1.4E-04 9.5E-07
INFNT 1.0E-04 6.5E-05 9.2E-05 1.3E-04 1.4E-04 2.2E-02 6.4E-05 9.5E-07

TOTALS

ADULT 3.2E-04 2.6E-04 4.3E-04 2.7E-04 2.8E-04 4.6E-03 2.6E-04 3.7E-04
TEEN 3.5E-04 2.8E-04 5.0E-04 2.8E-04 3.0E-04 6.1E-03 2.7E-04 3.7E-04
CHILD 4.5E-04 3.1E-04 7.1E-04 3.3E-04 3.5E-04 1.1E-02 3.1E-04 3.7E-04
INFNT 2.7E-04 2.3E-04 2.6E-04 3.0E-04 3.1E-04 2.2E-02 2.3E-04 3.7E-04

INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE
ADULT 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 3.2E-04
TEEN 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 3.2E-04
CHILD 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 3.2E-04
INFNT 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 1.5E-04 3.2E-04

GROUND PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE
ADULT 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 8.4E-07
TEEN 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 8.4E-07
CHILD 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 8.4E-07
INFNT 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 7.0E-07 8.4E-07

VEGET PATHWAY, DIST GP= 1, 1628. METERS, WINDS TOWARD ESE
ADULT 9.5E-05 4.7E-05 2.2E-04 4.3E-05 4.5E-05 1.1E-03 4.0E-05 0.0E+00
TEEN 1.1E-04 5.4E-05 2.7E-04 4.9E-05 5.1E-05 9.0E-04 4.6E-05 0.0E+00
CHILD 1.9E-04 7.7E-05 4.5E-04 7.5E-05 7.7E-05 1.4E-03 7.1E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 2434. METERS, WINDS TOWARD ESE
ADULT 3.7E-06 3.3E-06 1.7E-06 3.3E-06 3.5E-06 6.8E-05 3.1E-06 0.0E+00
TEEN 2.2E-06 1.9E-06 1.1E-06 2.0E-06 2.2E-06 4.9E-05 1.9E-06 0.0E+00
CHILD 2.7E-06 2.3E-06 1.5E-06 2.5E-06 2.6E-06 7.3E-05 2.3E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE
ADULT 6.9E-06 5.2E-06 5.4E-06 7.3E-06 9.5E-06 9.9E-04 4.3E-06 0.0E+00
TEEN 9.7E-06 6.8E-06 8.5E-06 1.1E-05 1.5E-05 1.6E-03 5.6E-06 0.0E+00
CHILD 1.6E-05 9.8E-06 1.7E-05 1.8E-05 2.4E-05 3.1E-03 8.9E-06 0.0E+00
INFNT 2.6E-05 1.4E-05 2.8E-05 3.6E-05 4.0E-05 7.5E-03 1.4E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE
ADULT 1.3E-05 1.0E-05 9.5E-06 1.2E-05 1.5E-05 1.2E-03 8.8E-06 0.0E+00
TEEN 1.7E-05 1.3E-05 1.4E-05 1.8E-05 2.3E-05 1.9E-03 1.2E-05 0.0E+00
CHILD 2.9E-05 1.9E-05 2.8E-05 2.9E-05 3.6E-05 3.7E-03 1.8E-05 0.0E+00
INFNT 4.4E-05 2.9E-05 4.1E-05 5.5E-05 6.0E-05 9.0E-03 2.8E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE
ADULT 2.3E-05 2.2E-05 8.3E-06 2.3E-05 2.3E-05 2.2E-04 2.3E-05 0.0E+00
TEEN 2.3E-05 2.2E-05 9.2E-06 2.3E-05 2.3E-05 2.7E-04 2.3E-05 0.0E+00
CHILD 2.0E-05 2.0E-05 8.9E-06 2.0E-05 2.1E-05 2.9E-04 2.1E-05 0.0E+00
INFNT 1.2E-05 1.1E-05 3.9E-06 1.2E-05 1.2E-05 2.6E-04 1.2E-05 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 1.4E-04 8.8E-05 2.4E-04 9.0E-05 9.7E-05 3.5E-03 8.0E-05 8.4E-07
TEEN 1.7E-04 9.9E-05 3.0E-04 1.0E-04 1.1E-04 4.7E-03 8.9E-05 8.4E-07
CHILD 2.5E-04 1.3E-04 5.0E-04 1.5E-04 1.6E-04 8.5E-03 1.2E-04 8.4E-07
INFNT 8.2E-05 5.5E-05 7.4E-05 1.0E-04 1.1E-04 1.7E-02 5.4E-05 8.4E-07

TOTALS

ADULT 2.9E-04 2.4E-04 3.9E-04 2.4E-04 2.4E-04 3.7E-03 2.3E-04 3.2E-04
TEEN 3.1E-04 2.5E-04 4.5E-04 2.5E-04 2.6E-04 4.8E-03 2.4E-04 3.2E-04
CHILD 4.0E-04 2.8E-04 6.5E-04 2.9E-04 3.1E-04 8.7E-03 2.7E-04 3.2E-04
INFNT 2.3E-04 2.0E-04 2.2E-04 2.5E-04 2.6E-04 1.7E-02 2.1E-04 3.2E-04

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.9E-04 8.5E-04
TEEN 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.9E-04 8.5E-04
CHILD 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.9E-04 8.5E-04
INFNT 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.8E-04 3.9E-04 8.5E-04

GROUND PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.6E-06
TEEN 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.6E-06
CHILD 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.6E-06
INFNT 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.4E-06 1.6E-06

VEGET PATHWAY, DIST GP= 1, 914. METERS, WINDS TOWARD SE
ADULT 3.1E-04 1.5E-04 7.4E-04 1.3E-04 1.4E-04 3.0E-03 1.2E-04 0.0E+00
TEEN 3.7E-04 1.7E-04 9.1E-04 1.5E-04 1.6E-04 2.6E-03 1.4E-04 0.0E+00
CHILD 6.1E-04 2.4E-04 1.5E-03 2.3E-04 2.4E-04 3.9E-03 2.2E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 4354. METERS, WINDS TOWARD SE
ADULT 2.0E-06 1.8E-06 8.7E-07 1.8E-06 1.9E-06 2.9E-05 1.7E-06 0.0E+00
TEEN 1.2E-06 1.1E-06 5.8E-07 1.1E-06 1.2E-06 2.1E-05 1.0E-06 0.0E+00
CHILD 1.5E-06 1.3E-06 7.7E-07 1.3E-06 1.4E-06 3.1E-05 1.2E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE
ADULT 8.4E-06 6.4E-06 6.6E-06 8.7E-06 1.1E-05 1.1E-03 5.5E-06 0.0E+00
TEEN 1.2E-05 8.4E-06 1.0E-05 1.3E-05 1.7E-05 1.7E-03 7.1E-06 0.0E+00
CHILD 2.0E-05 1.2E-05 2.0E-05 2.1E-05 2.8E-05 3.3E-03 1.1E-05 0.0E+00
INFNT 3.1E-05 1.8E-05 3.2E-05 4.2E-05 4.6E-05 8.1E-03 1.7E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE
ADULT 1.6E-05 1.2E-05 1.2E-05 1.5E-05 1.8E-05 1.3E-03 1.1E-05 0.0E+00
TEEN 2.1E-05 1.6E-05 1.8E-05 2.1E-05 2.6E-05 2.0E-03 1.5E-05 0.0E+00
CHILD 3.5E-05 2.4E-05 3.4E-05 3.5E-05 4.3E-05 4.0E-03 2.3E-05 0.0E+00
INFNT 5.4E-05 3.6E-05 4.9E-05 6.4E-05 6.9E-05 9.7E-03 3.5E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 5.1E-05 4.9E-05 2.0E-05 5.0E-05 5.1E-05 5.1E-04 5.1E-05 0.0E+00
TEEN 5.2E-05 5.0E-05 2.2E-05 5.1E-05 5.3E-05 6.2E-04 5.3E-05 0.0E+00
CHILD 4.6E-05 4.4E-05 2.1E-05 4.6E-05 4.7E-05 6.8E-04 4.7E-05 0.0E+00
INFNT 2.6E-05 2.5E-05 9.3E-06 2.7E-05 2.7E-05 6.0E-04 2.7E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 3.9E-04 2.2E-04 7.8E-04 2.1E-04 2.2E-04 5.9E-03 1.9E-04 1.6E-06
TEEN 4.6E-04 2.5E-04 9.7E-04 2.4E-04 2.5E-04 6.9E-03 2.2E-04 1.6E-06
CHILD 7.1E-04 3.2E-04 1.6E-03 3.3E-04 3.6E-04 1.2E-02 3.0E-04 1.6E-06
INFNT 1.1E-04 8.1E-05 9.1E-05 1.3E-04 1.4E-04 1.8E-02 8.1E-05 1.6E-06

TOTALS
ADULT 7.7E-04 6.0E-04 1.2E-03 5.9E-04 6.0E-04 6.3E-03 5.9E-04 8.5E-04
TEEN 8.4E-04 6.3E-04 1.3E-03 6.2E-04 6.4E-04 7.3E-03 6.1E-04 8.5E-04
CHILD 1.1E-03 7.1E-04 2.0E-03 7.2E-04 7.4E-04 1.2E-02 6.9E-04 8.5E-04
INFNT 4.9E-04 4.6E-04 4.7E-04 5.2E-04 5.3E-04 1.9E-02 4.7E-04 8.5E-04

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.2E-04 8.8E-04
TEEN 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.2E-04 8.8E-04
CHILD 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.2E-04 8.8E-04
INFNT 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.1E-04 3.2E-04 8.8E-04

GROUND PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.8E-06
TEEN 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.8E-06
CHILD 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.8E-06
INFNT 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.5E-06 1.8E-06

VEGET PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE
ADULT 3.8E-04 2.1E-04 7.7E-04 2.0E-04 2.0E-04 4.1E-03 1.8E-04 0.0E+00
TEEN 4.5E-04 2.4E-04 9.5E-04 2.2E-04 2.3E-04 3.5E-03 2.1E-04 0.0E+00
CHILD 7.3E-04 3.5E-04 1.6E-03 3.4E-04 3.5E-04 5.3E-03 3.2E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE
ADULT 3.0E-05 2.7E-05 1.2E-05 2.8E-05 2.9E-05 5.1E-04 2.6E-05 0.0E+00
TEEN 1.8E-05 1.6E-05 7.9E-06 1.7E-05 1.8E-05 3.6E-04 1.6E-05 0.0E+00
CHILD 2.2E-05 1.9E-05 1.1E-05 2.1E-05 2.2E-05 5.4E-04 1.9E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE
ADULT 1.6E-05 1.2E-05 1.0E-05 1.7E-05 2.1E-05 2.0E-03 1.1E-05 0.0E+00
TEEN 2.2E-05 1.6E-05 1.6E-05 2.4E-05 3.2E-05 3.1E-03 1.4E-05 0.0E+00
CHILD 3.6E-05 2.4E-05 3.3E-05 4.0E-05 5.2E-05 6.1E-03 2.2E-05 0.0E+00
INFNT 5.7E-05 3.5E-05 5.4E-05 7.8E-05 8.6E-05 1.5E-02 3.3E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE
ADULT 2.9E-05 2.4E-05 1.8E-05 2.9E-05 3.4E-05 2.3E-03 2.2E-05 0.0E+00
TEEN 4.0E-05 3.1E-05 2.7E-05 4.1E-05 5.0E-05 3.7E-03 2.8E-05 0.0E+00
CHILD 6.5E-05 4.7E-05 5.2E-05 6.7E-05 8.1E-05 7.3E-03 4.5E-05 0.0E+00
INFNT 1.0E-04 7.1E-05 7.9E-05 1.2E-04 1.3E-04 1.8E-02 6.8E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 6.5E-05 6.3E-05 1.7E-05 6.4E-05 6.5E-05 4.8E-04 6.4E-05 0.0E+00
TEEN 6.5E-05 6.4E-05 1.8E-05 6.5E-05 6.6E-05 5.7E-04 6.6E-05 0.0E+00
CHILD 5.8E-05 5.6E-05 1.8E-05 5.8E-05 5.9E-05 6.2E-04 5.8E-05 0.0E+00
INFNT 3.3E-05 3.2E-05 7.9E-06 3.4E-05 3.4E-05 5.5E-04 3.4E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 5.2E-04 3.4E-04 8.3E-04 3.3E-04 3.5E-04 9.4E-03 3.1E-04 1.8E-06
TEEN 5.9E-04 3.7E-04 1.0E-03 3.7E-04 4.0E-04 1.1E-02 3.4E-04 1.8E-06
CHILD 9.1E-04 4.9E-04 1.7E-03 5.3E-04 5.6E-04 2.0E-02 4.7E-04 1.8E-06
INFNT 1.9E-04 1.4E-04 1.4E-04 2.4E-04 2.5E-04 3.3E-02 1.4E-04 1.8E-06

TOTALS
ADULT 8.3E-04 6.5E-04 1.1E-03 6.5E-04 6.7E-04 9.7E-03 6.3E-04 8.8E-04
TEEN 9.1E-04 6.8E-04 1.3E-03 6.8E-04 7.1E-04 1.2E-02 6.6E-04 8.8E-04
CHILD 1.2E-03 8.1E-04 2.0E-03 8.4E-04 8.7E-04 2.0E-02 7.9E-04 8.8E-04
INFNT 5.0E-04 4.5E-04 4.5E-04 5.5E-04 5.6E-04 3.3E-02 4.6E-04 8.8E-04

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.3E-04 1.5E-03
TEEN 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.3E-04 1.5E-03
CHILD 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.3E-04 1.5E-03
INFNT 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.3E-04 1.5E-03

GROUND PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 7.1E-06
TEEN 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 7.1E-06
CHILD 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 7.1E-06
INFNT 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 5.9E-06 7.1E-06

VEGET PATHWAY, DIST GP= 1, 863. METERS, WINDS TOWARD S
ADULT 7.8E-04 3.3E-04 2.1E-03 3.0E-04 3.3E-04 1.3E-02 2.6E-04 0.0E+00
TEEN 9.3E-04 3.7E-04 2.5E-03 3.3E-04 3.6E-04 1.1E-02 3.0E-04 0.0E+00
CHILD 1.5E-03 5.2E-04 4.2E-03 5.1E-04 5.4E-04 1.7E-02 4.6E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 6115. METERS, WINDS TOWARD S
ADULT 2.4E-06 2.1E-06 1.2E-06 2.2E-06 2.3E-06 6.0E-05 2.0E-06 0.0E+00
TEEN 1.4E-06 1.2E-06 8.0E-07 1.3E-06 1.4E-06 4.3E-05 1.2E-06 0.0E+00
CHILD 1.8E-06 1.5E-06 1.1E-06 1.6E-06 1.7E-06 6.5E-05 1.4E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S
ADULT 2.1E-05 1.4E-05 2.0E-05 2.4E-05 3.3E-05 4.3E-03 1.0E-05 0.0E+00
TEEN 3.0E-05 1.9E-05 3.2E-05 3.7E-05 5.4E-05 6.8E-03 1.4E-05 0.0E+00
CHILD 5.1E-05 2.5E-05 6.6E-05 6.2E-05 8.8E-05 1.3E-02 2.1E-05 0.0E+00
INFNT 8.3E-05 3.6E-05 1.1E-04 1.3E-04 1.5E-04 3.3E-02 3.2E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S
ADULT 3.6E-05 2.6E-05 3.4E-05 3.7E-05 4.8E-05 5.2E-03 2.1E-05 0.0E+00
TEEN 5.1E-05 3.4E-05 5.2E-05 5.6E-05 7.6E-05 8.2E-03 2.8E-05 0.0E+00
CHILD 8.5E-05 4.9E-05 1.0E-04 9.2E-05 1.2E-04 1.6E-02 4.3E-05 0.0E+00
INFNT 1.3E-04 7.1E-05 1.6E-04 1.9E-04 2.1E-04 3.9E-02 6.7E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 1.1E-04 1.1E-04 4.2E-05 1.1E-04 1.2E-04 1.2E-03 1.1E-04 0.0E+00
TEEN 1.2E-04 1.1E-04 4.7E-05 1.1E-04 1.2E-04 1.5E-03 1.2E-04 0.0E+00
CHILD 1.0E-04 9.8E-05 4.5E-05 1.0E-04 1.1E-04 1.6E-03 1.0E-04 0.0E+00
INFNT 5.9E-05 5.6E-05 2.0E-05 6.0E-05 6.1E-05 1.4E-03 6.1E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 9.6E-04 4.9E-04 2.2E-03 4.8E-04 5.3E-04 2.4E-02 4.1E-04 7.1E-06
TEEN 1.1E-03 5.4E-04 2.7E-03 5.5E-04 6.1E-04 2.8E-02 4.6E-04 7.1E-06
CHILD 1.8E-03 7.0E-04 4.4E-03 7.7E-04 8.6E-04 4.8E-02 6.3E-04 7.1E-06
INFNT 2.8E-04 1.7E-04 3.0E-04 3.8E-04 4.2E-04 7.3E-02 1.7E-04 7.1E-06

TOTALS
ADULT 1.7E-03 1.2E-03 2.9E-03 1.2E-03 1.2E-03 2.5E-02 1.1E-03 1.5E-03
TEEN 1.8E-03 1.3E-03 3.4E-03 1.3E-03 1.3E-03 2.8E-02 1.2E-03 1.5E-03
CHILD 2.5E-03 1.4E-03 5.1E-03 1.5E-03 1.6E-03 4.9E-02 1.4E-03 1.5E-03
INFNT 9.9E-04 8.8E-04 1.0E-03 1.1E-03 1.1E-03 7.4E-02 8.9E-04 1.5E-03

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 7 1 1 THRU 90 93024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.3E-04 1.5E-03
TEEN 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.3E-04 1.5E-03
CHILD 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.3E-04 1.5E-03
INFNT 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.1E-04 7.3E-04 1.5E-03

GROUND PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.9E-06
TEEN 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.9E-06
CHILD 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.9E-06
INFNT 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.2E-06 3.9E-06

VEGET PATHWAY, DIST GP= 1, 770. METERS, WINDS TOWARD SSW
ADULT 5.3E-04 2.8E-04 1.1E-03 2.7E-04 2.8E-04 7.2E-03 2.5E-04 0.0E+00
TEEN 6.3E-04 3.3E-04 1.4E-03 3.0E-04 3.2E-04 6.0E-03 2.8E-04 0.0E+00
CHILD 1.0E-03 4.7E-04 2.3E-03 4.6E-04 4.8E-04 9.1E-03 4.4E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD SSW
ADULT 1.3E-06 1.2E-06 3.4E-07 1.3E-06 1.3E-06 1.7E-05 1.2E-06 0.0E+00
TEEN 7.9E-07 7.3E-07 2.3E-07 7.6E-07 7.9E-07 1.2E-05 7.2E-07 0.0E+00
CHILD 9.6E-07 8.8E-07 3.1E-07 9.2E-07 9.5E-07 1.8E-05 8.7E-07 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW
ADULT 1.3E-05 1.1E-05 9.0E-06 1.5E-05 1.9E-05 1.9E-03 8.9E-06 0.0E+00
TEEN 1.9E-05 1.4E-05 1.4E-05 2.2E-05 2.9E-05 3.0E-03 1.2E-05 0.0E+00
CHILD 3.2E-05 2.0E-05 3.0E-05 3.6E-05 4.8E-05 6.0E-03 1.8E-05 0.0E+00
INFNT 5.0E-05 3.0E-05 5.0E-05 7.2E-05 7.9E-05 1.4E-02 2.8E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW
ADULT 2.5E-05 2.0E-05 1.5E-05 2.5E-05 3.0E-05 2.3E-03 1.8E-05 0.0E+00
TEEN 3.4E-05 2.7E-05 2.4E-05 3.6E-05 4.5E-05 3.6E-03 2.4E-05 0.0E+00
CHILD 5.6E-05 4.0E-05 4.6E-05 5.9E-05 7.3E-05 7.2E-03 3.7E-05 0.0E+00
INFNT 8.7E-05 5.9E-05 7.2E-05 1.1E-04 1.2E-04 1.7E-02 5.7E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 1.1E-04 1.0E-04 4.0E-05 1.0E-04 1.1E-04 1.1E-03 1.1E-04 0.0E+00
TEEN 1.1E-04 1.0E-04 4.4E-05 1.1E-04 1.1E-04 1.3E-03 1.1E-04 0.0E+00
CHILD 9.5E-05 9.1E-05 4.3E-05 9.4E-05 9.7E-05 1.4E-03 9.6E-05 0.0E+00
INFNT 5.4E-05 5.2E-05 1.9E-05 5.5E-05 5.6E-05 1.2E-03 5.6E-05 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 6.8E-04 4.2E-04 1.2E-03 4.2E-04 4.4E-04 1.2E-02 3.8E-04 3.9E-06
TEEN 8.0E-04 4.7E-04 1.5E-03 4.7E-04 5.0E-04 1.4E-02 4.3E-04 3.9E-06
CHILD 1.2E-03 6.2E-04 2.4E-03 6.6E-04 7.0E-04 2.4E-02 5.9E-04 3.9E-06
INFNT 2.0E-04 1.4E-04 1.4E-04 2.4E-04 2.6E-04 3.3E-02 1.4E-04 3.9E-06

TOTALS

ADULT 1.4E-03 1.1E-03 1.9E-03 1.1E-03 1.2E-03 1.3E-02 1.1E-03 1.5E-03
TEEN 1.5E-03 1.2E-03 2.2E-03 1.2E-03 1.2E-03 1.5E-02 1.2E-03 1.5E-03
CHILD 1.9E-03 1.3E-03 3.2E-03 1.4E-03 1.4E-03 2.4E-02 1.3E-03 1.5E-03
INFNT 9.1E-04 8.6E-04 8.6E-04 9.5E-04 9.7E-04 3.4E-02 8.7E-04 1.5E-03

APPENDIX 1.3

Summary of Maximum Individual Doses
Fourth Quarter, 1990



SUMMARY OF MAXIMUM INDIVIDUAL DOSES 4TH QUARTER 1990

EFFLUENT	APPLICABLE ORGAN	ESTIMATED DOSE (MREM)	AGE GROUP	LOCATION DIST DIR (M) (Toward)	% OF APPLICABLE LIMIT	QUARTERLY LIMIT (MR)
Liquid	Total Body	2.29E-2	Adult	Receptor 1	1.53E+0	1.5E+0
Liquid	Bone	4.39E-2	Child	Receptor 1	8.78E-1	5.0E+0
Noble Gas	Air Dose (Gamma-mrad)	6.27E-4	Teen	617 NNE	1.25E-2	5.0E+0
Noble Gas	Air Dose (Beta-mrad)	9.91E-4		629 SSW	9.91E-3	1.0E+1
Noble Gas	Total Body	2.19E-3	All	659 N	4.38E-2	Annual 5.0E+0
Noble Gas	Skin	6.75E-3	All	659 N	4.50E-2	Annual 1.5E+1
Iodines and Particulates	Thyroid	2.36E-2	Infant	659 N	3.15E-1	7.5E+0

DATES OF LAST AIR DOSE ACCUMULATION ARE FROM 9010 1 1 0 TO 90123124 0
DOSE ACCUMULATION FOR GAMMA MRAD
FOR RELEASE POINT 1

**DIRECTION FROM N

8.6355E-06	1.2094E-06	5.5040E-07	3.1623E-07	2.2256E-07
1.1329E-07	4.3892E-08	2.1643E-08	1.3799E-08	8.6084E-09

**DIRECTION FROM NNE

2.0411E-05	2.8586E-06	1.3010E-06	7.4746E-07	5.2606E-07
2.6777E-07	1.0374E-07	5.1156E-08	3.2617E-08	2.0347E-08

**DIRECTION FROM NE

6.1197E-06	8.5706E-07	3.9005E-07	2.2410E-07	1.5772E-07
8.0283E-08	3.1104E-08	1.5337E-08	9.7792E-09	6.1004E-09

**DIRECTION FROM ENE

1.1026E-05	1.5442E-06	7.0278E-07	4.0378E-07	2.8418E-07
1.4465E-07	5.6043E-08	2.7635E-08	1.7620E-08	1.0992E-08

**DIRECTION FROM E

2.4425E-06	3.4207E-07	1.5567E-07	8.9443E-08	6.2949E-08
3.2042E-08	1.2414E-08	6.1214E-09	3.9030E-09	2.4348E-09

**DIRECTION FROM ESE

1.9172E-04	1.8712E-05	1.0145E-05	6.5848E-06	4.8197E-06
2.5809E-06	1.0971E-06	5.5446E-07	3.5630E-07	2.3344E-07

**DIRECTION FROM SE

4.8801E-06	5.1525E-07	2.7169E-07	1.7351E-07	1.2591E-07
6.6519E-08	2.7906E-08	1.4109E-08	9.0838E-09	5.9065E-09

**DIRECTION FROM SSE

5.6539E-03	5.5131E-04	2.9885E-04	1.9397E-04	1.4198E-04
7.6040E-05	3.2323E-05	1.6333E-05	1.0494E-05	6.8757E-06

**DIRECTION FROM S

2.2927E-03	2.9336E-04	1.4988E-04	9.4217E-05	6.6667E-05
3.3528E-05	1.3652E-05	6.9910E-06	4.5617E-06	2.9043E-06

**DIRECTION FROM SSW

2.4883E-05	2.9277E-06	1.2912E-06	7.3237E-07	4.9579E-07
2.2941E-07	7.8987E-08	3.6352E-08	2.2004E-08	1.2672E-08

**DIRECTION FROM SW

6.6576E-06	5.8901E-07	2.5506E-07	1.4673E-07	1.0046E-07
4.7920E-08	1.7589E-08	8.6311E-09	5.4790E-09	3.3574E-09

**DIRECTION FROM WSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM W

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NW

1.6475E-06	8.0210E-08	4.8206E-08	3.4421E-08	2.6766E-08
1.6059E-08	8.0293E-09	4.8176E-09	3.4411E-09	2.4073E-09

**DIRECTION FROM NNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0

FOR RELEASE POINT 2

**DIRECTION FROM N

4.4380E-04	5.2099E-05	2.4009E-05	1.4102E-05	9.7385E-06
4.7001E-06	1.7554E-06	8.5619E-07	5.4114E-07	3.3103E-07

**DIRECTION FROM NNE

2.4649E-04	3.3478E-05	1.5184E-05	8.7170E-06	6.1071E-06
3.0755E-06	1.1781E-06	5.7785E-07	3.6702E-07	2.2760E-07

**DIRECTION FROM NE

1.2953E-03	1.5497E-04	7.5123E-05	4.5375E-05	3.2340E-05
1.6677E-05	6.6944E-06	3.3349E-06	2.1331E-06	1.3586E-06

**DIRECTION FROM ENE

9.7499E-04	1.0344E-04	5.4225E-05	3.4510E-05	2.5003E-05
1.3174E-05	5.5066E-06	2.7800E-06	1.7883E-06	1.1609E-06

**DIRECTION FROM E

1.4991E-03	1.5414E-04	8.1697E-05	5.2334E-05	3.8060E-05
2.0177E-05	8.4841E-06	4.2828E-06	2.7530E-06	1.7933E-06

**DIRECTION FROM ESE

1.1974E-03	1.2458E-04	6.6322E-05	4.2616E-05	3.0963E-05
1.6375E-05	6.8953E-06	3.4925E-06	2.2508E-06	1.4659E-06

**DIRECTION FROM SE

2.3158E-03	2.4246E-04	1.2790E-04	8.1713E-05	5.9300E-05
3.1327E-05	1.3143E-05	6.6438E-06	4.2774E-06	2.7828E-06

**DIRECTION FROM SSE

2.5084E-03	2.6871E-04	1.4028E-04	8.9057E-05	6.4455E-05
3.3913E-05	1.4155E-05	7.1509E-06	4.6037E-06	2.9865E-06

**DIRECTION FROM S

2.0011E-03	2.2469E-04	1.1364E-04	7.0772E-05	5.0779E-05
2.6358E-05	1.0814E-05	5.4462E-06	3.5040E-06	2.2539E-06

**DIRECTION FROM SSW

6.3841E-04	8.0915E-05	3.7720E-05	2.2170E-05	1.5579E-05
7.8427E-06	3.0445E-06	1.5020E-06	9.5665E-07	5.9840E-07

**DIRECTION FROM SW

7.0656E-04	8.0927E-05	3.9625E-05	2.4191E-05	1.7169E-05
8.7441E-06	3.4989E-06	1.7470E-06	1.1189E-06	7.1115E-07

**DIRECTION FROM WSW

3.6397E-04	4.2138E-05	1.9322E-05	1.1275E-05	7.8821E-06
3.9318E-06	1.5095E-06	7.4533E-07	4.7608E-07	2.9883E-07

**DIRECTION FROM W

3.0128E-04	3.8381E-05	1.7698E-05	1.0338E-05	7.2535E-06
3.6491E-06	1.4164E-06	7.0359E-07	4.5059E-07	2.8169E-07

**DIRECTION FROM WNW

3.1553E-04	3.8629E-05	1.7356E-05	9.9544E-06	6.9208E-06
3.4271E-06	1.2946E-06	6.3579E-07	4.0531E-07	2.5194E-07

**DIRECTION FROM NW

2.9758E-04	3.6281E-05	1.6456E-05	9.5131E-06	6.6737E-06
3.3671E-06	1.3030E-06	6.4786E-07	4.1524E-07	2.5991E-07

**DIRECTION FROM NNW

5.3152E-04	6.2864E-05	2.8304E-05	1.6316E-05	1.1210E-05
5.3710E-06	1.9592E-06	9.3985E-07	5.8723E-07	3.5419E-07

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0

DATES OF LAST AIR DOSE ACCUMULATION ARE FROM 9010 1 1 0 TO 90123124 0
DOSE ACCUMULATION FOR BETA MRAD
FOR RELEASE POINT 1

**DIRECTION FROM N

3.3367E-04	4.6731E-05	2.1267E-05	1.2219E-05	8.5997E-06
4.3774E-06	1.6959E-06	8.3626E-07	5.3320E-07	3.3262E-07

**DIRECTION FROM NNE

7.8868E-04	1.1045E-04	5.0268E-05	2.8881E-05	2.0326E-05
1.0347E-05	4.0086E-06	1.9766E-06	1.2603E-06	7.8620E-07

**DIRECTION FROM NE

6.0238E-05	8.4362E-06	3.8394E-06	2.2059E-06	1.5525E-06
7.9024E-07	3.0617E-07	1.5097E-07	9.6259E-08	6.0048E-08

**DIRECTION FROM ENE

1.0853E-04	1.5200E-05	6.9177E-06	3.9745E-06	2.7972E-06
1.4238E-06	5.5165E-07	2.7201E-07	1.7344E-07	1.0819E-07

**DIRECTION FROM E

2.4042E-05	3.3670E-06	1.5323E-06	8.8041E-07	6.1962E-07
3.1540E-07	1.2220E-07	6.0255E-08	3.8418E-08	2.3966E-08

**DIRECTION FROM ESE

3.6200E-03	3.5336E-04	1.9157E-04	1.2435E-04	9.1013E-05
4.8734E-05	2.0716E-05	1.0470E-05	6.7279E-06	4.4079E-06

**DIRECTION FROM SE

1.1339E-04	1.2385E-05	6.4096E-06	4.0444E-06	2.9253E-06
1.5395E-06	6.4078E-07	3.2321E-07	2.0791E-07	1.3468E-07

**DIRECTION FROM SSE

2.5015E-02	2.4609E-03	1.3234E-03	8.5509E-04	6.2458E-04
3.3334E-04	1.4108E-04	7.1172E-05	4.5689E-05	2.9876E-05

**DIRECTION FROM S

8.8901E-03	1.1296E-03	5.7498E-04	3.6064E-04	2.5508E-04
1.2823E-04	5.2127E-05	2.6682E-05	1.7405E-05	1.1078E-05

**DIRECTION FROM SSW

2.0612E-04	2.4860E-05	1.1017E-05	6.2620E-06	4.2658E-06
2.0063E-06	7.0615E-07	3.2953E-07	2.0166E-07	1.1822E-07

**DIRECTION FROM SW

6.5765E-04	5.7163E-05	2.4719E-05	1.4238E-05	9.7641E-06
4.6750E-06	1.7260E-06	8.5010E-07	5.4066E-07	3.3210E-07

**DIRECTION FROM WSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM W

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NW

9.1519E-05	4.4557E-06	2.6779E-06	1.9121E-06	1.4869E-06
8.9211E-07	4.4604E-07	2.6762E-07	1.9116E-07	1.3373E-07

**DIRECTION FROM NNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0

FOR RELEASE POINT 2

**DIRECTION FROM N

5.1499E-04	6.0485E-05	2.7865E-05	1.6362E-05	1.1299E-05
5.4533E-06	2.0363E-06	9.9305E-07	6.2757E-07	3.8386E-07

**DIRECTION FROM NNE

2.8526E-04	3.8723E-05	1.7562E-05	1.0082E-05	7.0627E-06
3.5561E-06	1.3620E-06	6.6794E-07	4.2421E-07	2.6304E-07

**DIRECTION FROM NE

1.4898E-03	1.7827E-04	8.6405E-05	5.2186E-05	3.7194E-05
1.9179E-05	7.6984E-06	3.8350E-06	2.4529E-06	1.5623E-06

**DIRECTION FROM ENE

1.1236E-03	1.1928E-04	6.2500E-05	3.9766E-05	2.8807E-05
1.5175E-05	6.3417E-06	3.2014E-06	2.0594E-06	1.3367E-06

**DIRECTION FROM E

1.7279E-03	1.7778E-04	9.4188E-05	6.0321E-05	4.3864E-05
2.3251E-05	9.7748E-06	4.9341E-06	3.1717E-06	2.0658E-06

**DIRECTION FROM ESE

1.3839E-03	1.4411E-04	7.6683E-05	4.9260E-05	3.5786E-05
1.8922E-05	7.9659E-06	4.0346E-06	2.6002E-06	1.6933E-06

**DIRECTION FROM SE

2.6751E-03	2.8033E-04	1.4778E-04	9.4382E-05	6.8484E-05
3.6172E-05	1.5171E-05	7.6683E-06	4.9368E-06	3.2114E-06

**DIRECTION FROM SSE

2.8936E-03	3.1011E-04	1.6181E-04	1.0270E-04	7.4317E-05
3.9093E-05	1.6313E-05	8.2400E-06	5.3046E-06	3.4408E-06

**DIRECTION FROM S

2.3148E-03	2.6004E-04	1.3147E-04	8.1862E-05	5.8731E-05
3.0480E-05	1.2503E-05	6.2965E-06	4.0510E-06	2.6055E-06

**DIRECTION FROM SSW

7.4375E-04	9.4221E-05	4.3915E-05	2.5810E-05	1.8134E-05
9.1263E-06	3.5417E-06	1.7471E-06	1.1127E-06	6.9591E-07

**DIRECTION FROM SW

8.1855E-04	9.3796E-05	4.5895E-05	2.8006E-05	1.9874E-05
1.0118E-05	4.0469E-06	2.0204E-06	1.2938E-06	8.2220E-07

**DIRECTION FROM WSW

4.2084E-04	4.8696E-05	2.2326E-05	1.3026E-05	9.1059E-06
4.5416E-06	1.7434E-06	8.6081E-07	5.4985E-07	3.4513E-07

**DIRECTION FROM W

3.5296E-04	4.4889E-05	2.0685E-05	1.2077E-05	8.4706E-06
4.2575E-06	1.6507E-06	8.1953E-07	5.2469E-07	3.2788E-07

**DIRECTION FROM WNW

3.7186E-04	4.5479E-05	2.0428E-05	1.1714E-05	8.1422E-06
4.0291E-06	1.5208E-06	7.4652E-07	4.7574E-07	2.9559E-07

**DIRECTION FROM NW

3.4874E-04	4.2456E-05	1.9248E-05	1.1123E-05	7.7991E-06
3.9301E-06	1.5187E-06	7.5452E-07	4.8336E-07	3.0234E-07

**DIRECTION FROM NNW

6.1854E-04	7.3096E-05	3.2901E-05	1.8962E-05	1.3026E-05
6.2394E-06	2.2751E-06	1.0912E-06	6.8177E-07	4.1117E-07

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0

LIQUID DOSE ACCUMULATIONS (MREM)

START DATE 9010 1 1 END DATE 90123124

	BONE	LIVER	T.BODY	THYRD	KIDNEY	LUNG	GI-LLI	SKIN
WATER								
ADULT	4.7E-03	7.7E-03	7.8E-03	7.6E-03	7.5E-03	7.5E-03	1.0E-02	0.0E+00
TEEN	4.7E-03	5.5E-03	5.5E-03	5.4E-03	5.3E-03	5.3E-03	7.1E-03	0.0E+00
CHILD	1.4E-02	1.0E-02	1.1E-02	1.0E-02	1.0E-02	1.0E-02	1.2E-02	0.0E+00
INFANT	1.7E-02	1.0E-02	1.1E-02	1.0E-02	1.0E-02	1.0E-02	1.1E-02	0.0E+00
SHORE								
ADULT	7.7E-05	7.7E-05	7.7E-05	7.7E-05	7.7E-05	7.7E-05	7.7E-05	9.1E-05
TEEN	4.3E-04	4.3E-04	4.3E-04	4.3E-04	4.3E-04	4.3E-04	4.3E-04	5.1E-04
CHILD	9.0E-05	9.0E-05	9.0E-05	9.0E-05	9.0E-05	9.0E-05	9.0E-05	1.1E-04
INFANT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
FW SPT FISH								
ADULT	2.2E-02	2.1E-02	1.5E-02	6.6E-04	7.6E-03	2.7E-03	8.2E-03	0.0E+00
TEEN	2.3E-02	2.1E-02	9.5E-03	5.3E-04	7.7E-03	3.0E-03	5.9E-03	0.0E+00
CHILD	3.0E-02	1.8E-02	5.0E-03	4.7E-04	6.5E-03	2.4E-03	2.4E-03	0.0E+00
INFANT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TOTAL								
ADULT	2.7E-02	2.8E-02	2.3E-02	8.4E-03	1.5E-02	1.0E-02	1.9E-02	9.1E-05
TEEN	2.9E-02	2.7E-02	1.5E-02	6.4E-03	1.3E-02	8.7E-03	1.4E-02	5.1E-04
CHILD	4.4E-02	2.9E-02	1.6E-02	1.1E-02	1.7E-02	1.3E-02	1.4E-02	1.1E-04
INFANT	1.7E-02	1.0E-02	1.1E-02	1.0E-02	1.0E-02	1.0E-02	1.1E-02	0.0E+00

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.3E-03 6.7E-03
TEEN 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.3E-03 6.7E-03
CHILD 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.3E-03 6.7E-03
INFNT 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.2E-03 2.3E-03 6.7E-03

GROUND PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 7.0E-03
TEEN 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 7.0E-03
CHILD 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 7.0E-03
INFNT 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 5.9E-03 7.0E-03

VEGET PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD N
ADULT 5.9E-05 3.4E-05 3.1E-05 7.3E-05 4.3E-05 1.5E-04 3.2E-05 0.0E+00
TEEN 5.8E-05 3.8E-05 4.9E-05 1.0E-04 5.5E-05 1.3E-04 4.0E-05 0.0E+00
CHILD 6.9E-05 5.2E-05 1.1E-04 1.7E-04 8.6E-05 2.0E-04 6.1E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD N
ADULT 7.3E-06 6.0E-06 3.1E-06 8.6E-06 5.5E-06 1.8E-05 4.4E-06 0.0E+00
TEEN 3.9E-06 3.5E-06 2.5E-06 6.1E-06 3.6E-06 1.3E-05 2.8E-06 0.0E+00
CHILD 3.9E-06 3.4E-06 4.6E-06 7.7E-06 4.4E-06 1.9E-05 3.3E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD N
ADULT 1.5E-04 3.6E-05 1.1E-04 2.0E-04 9.5E-05 1.8E-03 4.8E-05 0.0E+00
TEEN 1.5E-04 4.7E-05 2.1E-04 3.4E-04 1.5E-04 2.8E-03 7.7E-05 0.0E+00
CHILD 1.5E-04 6.7E-05 5.0E-04 5.8E-04 2.5E-04 5.5E-03 1.2E-04 0.0E+00
INFNT 1.9E-04 9.8E-05 8.0E-04 1.1E-03 4.0E-04 1.3E-02 2.0E-04 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD N
ADULT 4.1E-04 7.2E-05 3.4E-04 5.7E-04 2.4E-04 2.1E-03 1.2E-04 0.0E+00
TEEN 4.2E-04 9.3E-05 6.1E-04 9.8E-04 3.9E-04 3.4E-03 1.9E-04 0.0E+00
CHILD 3.8E-04 1.3E-04 1.5E-03 1.7E-03 6.4E-04 6.6E-03 3.0E-04 0.0E+00
INFNT 4.3E-04 2.0E-04 2.3E-03 3.1E-03 1.0E-03 1.6E-02 5.0E-04 0.0E+00

INHAL PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 6.6E-04 6.3E-04 3.2E-05 6.7E-04 6.5E-04 1.6E-03 7.7E-04 0.0E+00
TEEN 6.5E-04 6.4E-04 4.4E-05 6.9E-04 6.6E-04 1.9E-03 8.3E-04 0.0E+00
CHILD 5.7E-04 5.6E-04 6.0E-05 6.2E-04 5.8E-04 2.0E-03 7.2E-04 0.0E+00
INFNT 3.2E-04 3.2E-04 3.7E-05 3.6E-04 3.4E-04 1.6E-03 4.3E-04 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 7.2E-03 6.7E-03 6.5E-03 7.5E-03 7.0E-03 1.2E-02 6.9E-03 7.0E-03
TEEN 7.2E-03 6.8E-03 6.8E-03 8.1E-03 7.2E-03 1.4E-02 7.1E-03 7.0E-03
CHILD 7.1E-03 6.8E-03 8.1E-03 9.0E-03 7.5E-03 2.0E-02 7.1E-03 7.0E-03
INFNT 6.9E-03 6.6E-03 9.1E-03 1.1E-02 7.7E-03 3.7E-02 7.1E-03 7.0E-03

TOTALS

ADULT 9.4E-03 8.9E-03 8.6E-03 9.7E-03 9.2E-03 1.4E-02 9.2E-03 1.4E-02
TEEN 9.4E-03 8.9E-03 9.0E-03 1.0E-02 9.4E-03 1.6E-02 9.4E-03 1.4E-02
CHILD 9.3E-03 8.9E-03 1.0E-02 1.1E-02 9.7E-03 2.2E-02 9.4E-03 1.4E-02
INFNT 9.1E-03 8.7E-03 1.1E-02 1.3E-02 9.9E-03 3.9E-02 9.3E-03 1.4E-02

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 8.6E-04
TEEN 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 8.6E-04
CHILD 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 8.6E-04
INFNT 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 3.6E-04 8.6E-04

GROUND PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 5.3E-03
TEEN 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 5.3E-03
CHILD 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 5.3E-03
INFNT 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 4.5E-03 5.3E-03

VEGET PATHWAY, DIST GP= 1, 814. METERS, WINDS TOWARD NNE
ADULT 1.4E-03 6.2E-04 1.0E-03 1.9E-03 8.7E-04 5.0E-03 5.1E-04 0.0E+00
TEEN 1.3E-03 6.8E-04 1.6E-03 2.7E-03 1.2E-03 4.2E-03 6.9E-04 0.0E+00
CHILD 1.3E-03 8.0E-04 3.8E-03 4.5E-03 1.9E-03 6.4E-03 1.1E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NNE
ADULT 4.2E-06 3.6E-06 2.3E-06 5.2E-06 2.8E-06 1.4E-05 2.0E-06 0.0E+00
TEEN 2.2E-06 2.0E-06 1.9E-06 3.8E-06 1.9E-06 1.0E-05 1.3E-06 0.0E+00
CHILD 2.0E-06 1.7E-06 3.4E-06 4.8E-06 2.4E-06 1.5E-05 1.6E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE
ADULT 9.5E-05 1.8E-05 8.0E-05 1.3E-04 5.9E-05 1.4E-03 2.5E-05 0.0E+00
TEEN 9.7E-05 2.3E-05 1.4E-04 2.3E-04 9.7E-05 2.2E-03 4.3E-05 0.0E+00
CHILD 9.0E-05 3.0E-05 3.4E-04 3.9E-04 1.6E-04 4.4E-03 6.6E-05 0.0E+00
INFNT 1.1E-04 4.3E-05 5.5E-04 7.4E-04 2.5E-04 1.1E-02 1.1E-04 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE
ADULT 2.7E-04 3.4E-05 2.3E-04 3.8E-04 1.5E-04 1.7E-03 6.4E-05 0.0E+00
TEEN 2.7E-04 4.4E-05 4.2E-04 6.5E-04 2.5E-04 2.7E-03 1.1E-04 0.0E+00
CHILD 2.3E-04 6.0E-05 1.0E-03 1.1E-03 4.1E-04 5.3E-03 1.7E-04 0.0E+00
INFNT 2.5E-04 8.8E-05 1.6E-03 2.1E-03 6.6E-04 1.3E-02 3.0E-04 0.0E+00

INHAL PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 2.7E-04 2.6E-04 1.2E-05 2.8E-04 2.7E-04 6.9E-04 3.3E-04 0.0E+00
TEEN 2.7E-04 2.6E-04 1.7E-05 2.8E-04 2.7E-04 7.9E-04 3.6E-04 0.0E+00
CHILD 2.4E-04 2.3E-04 2.2E-05 2.5E-04 2.4E-04 8.2E-04 3.1E-04 0.0E+00
INFNT 1.3E-04 1.3E-04 1.4E-05 1.5E-04 1.4E-04 6.7E-04 1.8E-04 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 6.6E-03 5.5E-03 5.9E-03 7.2E-03 5.9E-03 1.3E-02 5.4E-03 5.3E-03
TEEN 6.5E-03 5.5E-03 6.7E-03 8.4E-03 6.3E-03 1.4E-02 5.7E-03 5.3E-03
CHILD 6.4E-03 5.6E-03 9.7E-03 1.1E-02 7.2E-03 2.1E-02 6.1E-03 5.3E-03
INFNT 5.0E-03 4.8E-03 6.7E-03 7.5E-03 5.6E-03 2.9E-02 5.1E-03 5.3E-03

TOTALS

ADULT 6.9E-03 5.8E-03 6.2E-03 7.5E-03 6.2E-03 1.4E-02 5.8E-03 6.1E-03
TEEN 6.8E-03 5.9E-03 7.1E-03 8.8E-03 6.7E-03 1.5E-02 6.1E-03 6.1E-03
CHILD 6.8E-03 6.0E-03 1.0E-02 1.1E-02 7.6E-03 2.2E-02 6.5E-03 6.1E-03
INFNT 5.4E-03 5.1E-03 7.1E-03 7.9E-03 5.9E-03 2.9E-02 5.5E-03 6.1E-03

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 6.4E-04
TEEN 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 6.4E-04
CHILD 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 6.4E-04
INFNT 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 6.4E-04

GROUND PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 2.0E-03
TEEN 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 2.0E-03
CHILD 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 2.0E-03
INFNT 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 1.7E-03 2.0E-03

VEGET PATHWAY, DIST GP= 1, 1052. METERS, WINDS TOWARD NE
ADULT 6.5E-04 2.8E-04 4.7E-04 8.5E-04 4.0E-04 2.1E-03 2.3E-04 0.0E+00
TEEN 6.0E-04 3.1E-04 7.3E-04 1.2E-03 5.4E-04 1.8E-03 3.2E-04 0.0E+00
CHILD 6.1E-04 3.6E-04 1.7E-03 2.1E-03 8.6E-04 2.8E-03 4.8E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NE
ADULT 2.9E-06 2.4E-06 1.6E-06 3.6E-06 2.0E-06 9.3E-06 1.4E-06 0.0E+00
TEEN 1.5E-06 1.4E-06 1.3E-06 2.6E-06 1.3E-06 6.6E-06 9.2E-07 0.0E+00
CHILD 1.4E-06 1.2E-06 2.4E-06 3.4E-06 1.7E-06 9.8E-06 1.1E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE
ADULT 6.6E-05 1.2E-05 5.5E-05 9.2E-05 4.0E-05 9.2E-04 1.7E-05 0.0E+00
TEEN 6.7E-05 1.5E-05 9.9E-05 1.6E-04 6.7E-05 1.5E-03 2.9E-05 0.0E+00
CHILD 6.2E-05 2.1E-05 2.4E-04 2.7E-04 1.1E-04 2.9E-03 4.5E-05 0.0E+00
INFNT 7.2E-05 2.9E-05 3.8E-04 5.1E-04 1.7E-04 7.0E-03 7.6E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE
ADULT 1.9E-04 2.3E-05 1.6E-04 2.6E-04 1.0E-04 1.1E-03 4.4E-05 0.0E+00
TEEN 1.9E-04 3.0E-05 2.9E-04 4.5E-04 1.7E-04 1.8E-03 7.7E-05 0.0E+00
CHILD 1.6E-04 4.1E-05 6.9E-04 7.7E-04 2.8E-04 3.5E-03 1.2E-04 0.0E+00
INFNT 1.7E-04 5.9E-05 1.1E-03 1.5E-03 4.5E-04 8.4E-03 2.0E-04 0.0E+00

INHAL PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 1.1E-04 1.0E-04 6.2E-06 1.1E-04 1.1E-04 3.1E-04 1.3E-04 0.0E+00
TEEN 1.1E-04 1.1E-04 8.7E-06 1.2E-04 1.1E-04 3.6E-04 1.5E-04 0.0E+00
CHILD 9.4E-05 9.3E-05 1.2E-05 1.0E-04 9.7E-05 3.8E-04 1.3E-04 0.0E+00
INFNT 5.4E-05 5.3E-05 7.2E-06 6.2E-05 5.6E-05 3.1E-04 7.6E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 2.7E-03 2.1E-03 2.4E-03 3.0E-03 2.3E-03 6.2E-03 2.1E-03 2.0E-03
TEEN 2.6E-03 2.1E-03 2.8E-03 3.6E-03 2.6E-03 7.1E-03 2.2E-03 2.0E-03
CHILD 2.6E-03 2.2E-03 4.3E-03 4.9E-03 3.0E-03 1.1E-02 2.4E-03 2.0E-03
INFNT 2.0E-03 1.8E-03 3.2E-03 3.7E-03 2.4E-03 1.7E-02 2.0E-03 2.0E-03

TOTALS
ADULT 2.9E-03 2.3E-03 2.6E-03 3.2E-03 2.5E-03 6.4E-03 2.3E-03 2.6E-03
TEEN 2.8E-03 2.3E-03 3.0E-03 3.8E-03 2.8E-03 7.3E-03 2.5E-03 2.6E-03
CHILD 2.8E-03 2.4E-03 4.5E-03 5.1E-03 3.2E-03 1.1E-02 2.7E-03 2.6E-03
INFNT 2.2E-03 2.0E-03 3.4E-03 3.9E-03 2.6E-03 1.8E-02 2.2E-03 2.6E-03

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.1E-05 8.6E-05
TEEN 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.1E-05 8.6E-05
CHILD 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.1E-05 8.6E-05
INFNT 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.0E-05 4.1E-05 8.6E-05

GROUND PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.9E-04
TEEN 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.9E-04
CHILD 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.9E-04
INFNT 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.2E-04 4.9E-04

VEGET PATHWAY, DIST GP= 1, 1852. METERS, WINDS TOWARD ENE
ADULT 1.8E-04 6.0E-05 1.4E-04 2.4E-04 1.0E-04 5.6E-04 5.1E-05 0.0E+00
TEEN 1.6E-04 6.5E-05 2.2E-04 3.5E-04 1.4E-04 4.7E-04 7.3E-05 0.0E+00
CHILD 1.5E-04 7.2E-05 5.0E-04 5.8E-04 2.2E-04 7.2E-04 1.1E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 3862. METERS, WINDS TOWARD ENE
ADULT 6.1E-06 4.2E-06 4.2E-06 7.9E-06 3.6E-06 2.1E-05 2.0E-06 0.0E+00
TEEN 3.0E-06 2.4E-06 3.5E-06 6.1E-06 2.6E-06 1.5E-05 1.4E-06 0.0E+00
CHILD 2.5E-06 1.7E-06 6.3E-06 7.8E-06 3.2E-06 2.3E-05 1.7E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE
ADULT 4.8E-05 5.9E-06 4.1E-05 6.7E-05 2.8E-05 6.4E-04 1.0E-05 0.0E+00
TEEN 4.8E-05 7.6E-06 7.4E-05 1.2E-04 4.7E-05 1.0E-03 1.9E-05 0.0E+00
CHILD 4.1E-05 9.4E-06 1.8E-04 2.0E-04 7.6E-05 2.0E-03 2.8E-05 0.0E+00
INFNT 4.5E-05 1.3E-05 2.9E-04 3.8E-04 1.2E-04 4.8E-03 4.9E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE
ADULT 1.4E-04 1.1E-05 1.2E-04 1.9E-04 7.3E-05 7.6E-04 2.8E-05 0.0E+00
TEEN 1.3E-04 1.5E-05 2.2E-04 3.4E-04 1.2E-04 1.2E-03 5.1E-05 0.0E+00
CHILD 1.1E-04 1.9E-05 5.2E-04 5.7E-04 2.0E-04 2.4E-03 7.8E-05 0.0E+00
INFNT 1.1E-04 2.6E-05 8.4E-04 1.1E-03 3.2E-04 5.8E-03 1.4E-04 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 1.8E-05 1.8E-05 1.0E-06 1.9E-05 1.8E-05 4.8E-05 2.2E-05 0.0E+00
TEEN 1.8E-05 1.8E-05 1.5E-06 1.9E-05 1.8E-05 5.5E-05 2.4E-05 0.0E+00
CHILD 1.6E-05 1.5E-05 2.0E-06 1.7E-05 1.6E-05 5.8E-05 2.0E-05 0.0E+00
INFNT 9.0E-06 8.9E-06 1.2E-06 1.0E-05 9.3E-06 4.8E-05 1.2E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 8.0E-04 5.2E-04 7.2E-04 9.4E-04 6.4E-04 2.5E-03 5.3E-04 4.9E-04
TEEN 7.8E-04 5.3E-04 9.3E-04 1.2E-03 7.5E-04 3.2E-03 5.9E-04 4.9E-04
CHILD 7.3E-04 5.4E-04 1.6E-03 1.8E-03 9.4E-04 5.6E-03 6.6E-04 4.9E-04
INFNT 5.9E-04 4.7E-04 1.5E-03 1.9E-03 8.7E-04 1.1E-02 6.2E-04 4.9E-04

TOTALS
ADULT 8.4E-04 5.6E-04 7.6E-04 9.8E-04 6.8E-04 2.5E-03 5.7E-04 5.8E-04
TEEN 8.2E-04 5.7E-04 9.7E-04 1.3E-03 7.9E-04 3.2E-03 6.3E-04 5.8E-04
CHILD 7.7E-04 5.8E-04 1.7E-03 1.8E-03 9.8E-04 5.6E-03 7.0E-04 5.8E-04
INFNT 6.3E-04 5.1E-04 1.6E-03 1.9E-03 9.1E-04 1.1E-02 6.6E-04 5.8E-04

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 8.3E-05
TEEN 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 8.3E-05
CHILD 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 8.3E-05
INFNT 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 3.9E-05 8.3E-05

GROUND PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 7.7E-04
TEEN 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 7.7E-04
CHILD 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 7.7E-04
INFNT 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 6.6E-04 7.7E-04

VEGET PATHWAY, DIST GP= 1, 1705. METERS, WINDS TOWARD E
ADULT 3.3E-04 1.1E-04 2.5E-04 4.4E-04 1.9E-04 7.2E-04 1.0E-04 0.0E+00
TEEN 2.9E-04 1.2E-04 4.0E-04 6.5E-04 2.7E-04 6.1E-04 1.4E-04 0.0E+00
CHILD 2.8E-04 1.4E-04 9.3E-04 1.1E-03 4.2E-04 9.3E-04 2.2E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 6810. METERS, WINDS TOWARD E
ADULT 3.7E-06 2.4E-06 2.4E-06 4.7E-06 2.2E-06 8.6E-06 1.4E-06 0.0E+00
TEEN 1.8E-06 1.4E-06 2.0E-06 3.5E-06 1.6E-06 6.1E-06 9.6E-07 0.0E+00
CHILD 1.5E-06 1.1E-06 3.6E-06 4.6E-06 2.0E-06 9.0E-06 1.1E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E
ADULT 7.7E-05 9.9E-06 6.6E-05 1.1E-04 4.3E-05 6.8E-04 1.7E-05 0.0E+00
TEEN 7.6E-05 1.3E-05 1.2E-04 1.9E-04 7.3E-05 1.1E-03 3.1E-05 0.0E+00
CHILD 6.5E-05 1.6E-05 2.8E-04 3.2E-04 1.2E-04 2.1E-03 4.7E-05 0.0E+00
INFNT 7.2E-05 2.3E-05 4.6E-04 6.0E-04 1.9E-04 5.2E-03 8.1E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E
ADULT 2.2E-04 2.0E-05 2.0E-04 3.1E-04 1.2E-04 8.3E-04 4.6E-05 0.0E+00
TEEN 2.2E-04 2.5E-05 3.5E-04 5.4E-04 2.0E-04 1.3E-03 8.4E-05 0.0E+00
CHILD 1.8E-04 3.3E-05 8.4E-04 9.2E-04 3.2E-04 2.6E-03 1.3E-04 0.0E+00
INFNT 1.8E-04 4.7E-05 1.4E-03 1.8E-03 5.2E-04 6.2E-03 2.2E-04 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 3.4E-05 3.3E-05 1.5E-06 3.5E-05 3.4E-05 7.9E-05 4.1E-05 0.0E+00
TEEN 3.4E-05 3.3E-05 2.2E-06 3.6E-05 3.4E-05 9.0E-05 4.5E-05 0.0E+00
CHILD 3.0E-05 2.9E-05 2.9E-06 3.2E-05 3.0E-05 9.3E-05 3.9E-05 0.0E+00
INFNT 1.7E-05 1.7E-05 1.8E-06 1.9E-05 1.7E-05 7.5E-05 2.3E-05 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 1.3E-03 8.3E-04 1.2E-03 1.6E-03 1.0E-03 3.0E-03 8.7E-04 7.7E-04
TEEN 1.3E-03 8.5E-04 1.5E-03 2.1E-03 1.2E-03 3.7E-03 9.6E-04 7.7E-04
CHILD 1.2E-03 8.8E-04 2.7E-03 3.0E-03 1.6E-03 6.4E-03 1.1E-03 7.7E-04
INFNT 9.3E-04 7.5E-04 2.5E-03 3.0E-03 1.4E-03 1.2E-02 9.9E-04 7.7E-04

TOTALS

ADULT 1.4E-03 8.7E-04 1.2E-03 1.6E-03 1.1E-03 3.0E-03 9.0E-04 8.5E-04
TEEN 1.3E-03 8.9E-04 1.6E-03 2.1E-03 1.3E-03 3.8E-03 1.0E-03 8.5E-04
CHILD 1.2E-03 9.2E-04 2.8E-03 3.0E-03 1.6E-03 6.4E-03 1.1E-03 8.5E-04
INFNT 9.7E-04 7.8E-04 2.5E-03 3.1E-03 1.4E-03 1.2E-02 1.0E-03 8.5E-04

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE								
ADULT	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	9.0E-05
TEEN	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	9.0E-05
CHILD	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	9.0E-05
INFNT	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	4.2E-05	9.0E-05
GROUND PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE								
ADULT	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	1.1E-03
TEEN	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	1.1E-03
CHILD	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	1.1E-03
INFNT	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	9.6E-04	1.1E-03
VEGET PATHWAY, DIST GP= 1, 1628. METERS, WINDS TOWARD ESE								
ADULT	5.0E-04	1.5E-04	4.0E-04	6.8E-04	2.9E-04	8.4E-04	1.5E-04	0.0E+00
TEEN	4.5E-04	1.6E-04	6.2E-04	1.0E-03	4.0E-04	7.2E-04	2.1E-04	0.0E+00
CHILD	4.1E-04	1.9E-04	1.5E-03	1.7E-03	6.4E-04	1.1E-03	3.2E-04	0.0E+00
INFNT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
MEAT PATHWAY, DIST GP= 1, 2434. METERS, WINDS TOWARD ESE								
ADULT	2.9E-05	1.7E-05	2.0E-05	3.8E-05	1.7E-05	5.4E-05	9.8E-06	0.0E+00
TEEN	1.4E-05	9.4E-06	1.7E-05	2.9E-05	1.2E-05	3.8E-05	7.0E-06	0.0E+00
CHILD	1.1E-05	7.5E-06	3.0E-05	3.7E-05	1.5E-05	5.7E-05	8.3E-06	0.0E+00
INFNT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE								
ADULT	1.1E-04	1.3E-05	9.6E-05	1.6E-04	6.1E-05	7.4E-04	2.4E-05	0.0E+00
TEEN	1.1E-04	1.6E-05	1.7E-04	2.7E-04	1.0E-04	1.2E-03	4.4E-05	0.0E+00
CHILD	9.2E-05	2.1E-05	4.1E-04	4.6E-04	1.7E-04	2.3E-03	6.7E-05	0.0E+00
INFNT	9.9E-05	3.0E-05	6.6E-04	8.7E-04	2.7E-04	5.5E-03	1.2E-04	0.0E+00
GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE								
ADULT	3.2E-04	2.6E-05	2.8E-04	4.6E-04	1.7E-04	8.9E-04	6.5E-05	0.0E+00
TEEN	3.1E-04	3.4E-05	5.1E-04	7.9E-04	2.8E-04	1.4E-03	1.2E-04	0.0E+00
CHILD	2.5E-04	4.3E-05	1.2E-03	1.3E-03	4.7E-04	2.8E-03	1.8E-04	0.0E+00
INFNT	2.6E-04	6.1E-05	2.0E-03	2.6E-03	7.4E-04	6.7E-03	3.2E-04	0.0E+00
INHAL PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE								
ADULT	4.6E-05	4.5E-05	1.8E-06	4.7E-05	4.6E-05	1.1E-04	5.6E-05	0.0E+00
TEEN	4.6E-05	4.5E-05	2.6E-06	4.8E-05	4.6E-05	1.2E-04	6.1E-05	0.0E+00
CHILD	4.0E-05	4.0E-05	3.4E-06	4.3E-05	4.1E-05	1.3E-04	5.3E-05	0.0E+00
INFNT	2.3E-05	2.3E-05	2.1E-06	2.5E-05	2.4E-05	1.0E-04	3.2E-05	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	2.0E-03	1.2E-03	1.8E-03	2.3E-03	1.5E-03	3.6E-03	1.3E-03	1.1E-03
TEEN	1.9E-03	1.2E-03	2.3E-03	3.1E-03	1.8E-03	4.4E-03	1.4E-03	1.1E-03
CHILD	1.8E-03	1.3E-03	4.1E-03	4.5E-03	2.3E-03	7.3E-03	1.6E-03	1.1E-03
INFNT	1.3E-03	1.1E-03	3.6E-03	4.4E-03	2.0E-03	1.3E-02	1.4E-03	1.1E-03
TOTALS								
ADULT	2.0E-03	1.2E-03	1.8E-03	2.4E-03	1.6E-03	3.6E-03	1.3E-03	1.2E-03
TEEN	1.9E-03	1.3E-03	2.3E-03	3.2E-03	1.8E-03	4.4E-03	1.4E-03	1.2E-03
CHILD	1.8E-03	1.3E-03	4.1E-03	4.6E-03	2.3E-03	7.3E-03	1.6E-03	1.2E-03
INFNT	1.4E-03	1.1E-03	3.6E-03	4.5E-03	2.0E-03	1.3E-02	1.5E-03	1.2E-03

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 6.9E-05 6.9E-05 6.9E-05 6.9E-05 6.9E-05 6.9E-05 7.0E-05 1.6E-04
TEEN 6.9E-05 6.9E-05 6.9E-05 6.9E-05 6.9E-05 6.9E-05 7.0E-05 1.6E-04
CHILD 6.9E-05 6.9E-05 6.9E-05 6.9E-05 6.9E-05 6.9E-05 7.0E-05 1.6E-04
INFNT 6.9E-05 6.9E-05 6.9E-05 6.9E-05 6.9E-05 6.9E-05 7.0E-05 1.6E-04

GROUND PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 1.1E-03
TEEN 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 1.1E-03
CHILD 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 1.1E-03
INFNT 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 9.0E-04 1.1E-03

VEGET PATHWAY, DIST GP= 1, 914. METERS, WINDS TOWARD SE
ADULT 5.6E-04 2.7E-04 4.0E-04 7.4E-04 3.5E-04 1.9E-03 2.1E-04 0.0E+00
TEEN 5.2E-04 2.9E-04 6.3E-04 1.1E-03 4.8E-04 1.6E-03 2.9E-04 0.0E+00
CHILD 5.4E-04 3.5E-04 1.5E-03 1.8E-03 7.5E-04 2.5E-03 4.4E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 4354. METERS, WINDS TOWARD SE
ADULT 5.3E-06 4.8E-06 3.0E-06 6.5E-06 3.5E-06 1.8E-05 2.4E-06 0.0E+00
TEEN 2.7E-06 2.7E-06 2.5E-06 4.9E-06 2.4E-06 1.3E-05 1.6E-06 0.0E+00
CHILD 2.5E-06 2.1E-06 4.6E-06 6.2E-06 2.9E-06 1.9E-05 1.9E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE
ADULT 4.4E-05 8.5E-06 3.7E-05 6.2E-05 2.7E-05 6.5E-04 1.2E-05 0.0E+00
TEEN 4.5E-05 1.1E-05 6.7E-05 1.1E-04 4.5E-05 1.0E-03 2.0E-05 0.0E+00
CHILD 4.2E-05 1.5E-05 1.6E-04 1.8E-04 7.4E-05 2.0E-03 3.1E-05 0.0E+00
INFNT 5.0E-05 2.1E-05 2.6E-04 3.4E-04 1.2E-04 4.9E-03 5.2E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE
ADULT 1.2E-04 1.6E-05 1.1E-04 1.8E-04 7.0E-05 7.8E-04 3.0E-05 0.0E+00
TEEN 1.2E-04 2.1E-05 1.9E-04 3.0E-04 1.2E-04 1.2E-03 5.3E-05 0.0E+00
CHILD 1.1E-04 2.9E-05 4.7E-04 5.1E-04 1.9E-04 2.4E-03 8.1E-05 0.0E+00
INFNT 1.2E-04 4.3E-05 7.5E-04 9.8E-04 3.1E-04 5.9E-03 1.4E-04 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 6.2E-05 6.0E-05 2.5E-06 6.3E-05 6.1E-05 1.5E-04 7.5E-05 0.0E+00
TEEN 6.1E-05 6.0E-05 3.4E-06 6.4E-05 6.2E-05 1.7E-04 8.2E-05 0.0E+00
CHILD 5.4E-05 5.3E-05 4.6E-06 5.7E-05 5.5E-05 1.8E-04 7.1E-05 0.0E+00
INFNT 3.1E-05 3.0E-05 2.9E-06 3.4E-05 3.1E-05 1.4E-04 4.2E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 1.7E-03 1.3E-03 1.4E-03 1.9E-03 1.4E-03 4.4E-03 1.2E-03 1.1E-03
TEEN 1.7E-03 1.3E-03 1.8E-03 2.4E-03 1.6E-03 5.0E-03 1.3E-03 1.1E-03
CHILD 1.6E-03 1.3E-03 3.0E-03 3.4E-03 2.0E-03 8.0E-03 1.5E-03 1.1E-03
INFNT 1.1E-03 9.9E-04 1.9E-03 2.3E-03 1.4E-03 1.2E-02 1.1E-03 1.1E-03

TOTALS
ADULT 1.8E-03 1.3E-03 1.5E-03 2.0E-03 1.5E-03 4.5E-03 1.3E-03 1.2E-03
TEEN 1.7E-03 1.4E-03 1.9E-03 2.5E-03 1.7E-03 5.0E-03 1.4E-03 1.2E-03
CHILD 1.7E-03 1.4E-03 3.1E-03 3.5E-03 2.0E-03 8.1E-03 1.6E-03 1.2E-03
INFNT 1.2E-03 1.1E-03 2.0E-03 2.3E-03 1.4E-03 1.2E-02 1.2E-03 1.2E-03

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.9E-05 1.7E-04
TEEN 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.9E-05 1.7E-04
CHILD 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.9E-05 1.7E-04
INFNT 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.8E-05 7.9E-05 1.7E-04

GROUND PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 9.3E-04
TEEN 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 9.3E-04
CHILD 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 9.3E-04
INFNT 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 7.9E-04 9.3E-04

VEGET PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE
ADULT 5.8E-04 2.6E-04 4.2E-04 7.6E-04 3.5E-04 2.2E-03 2.1E-04 0.0E+00
TEEN 5.3E-04 2.9E-04 6.6E-04 1.1E-03 4.8E-04 1.8E-03 2.8E-04 0.0E+00
CHILD 5.4E-04 3.3E-04 1.6E-03 1.8E-03 7.7E-04 2.8E-03 4.3E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE
ADULT 6.7E-05 5.8E-05 4.1E-05 8.4E-05 4.2E-05 2.7E-04 2.7E-05 0.0E+00
TEEN 3.4E-05 3.3E-05 3.4E-05 6.4E-05 3.0E-05 1.9E-04 1.8E-05 0.0E+00
CHILD 3.1E-05 2.5E-05 6.3E-05 8.2E-05 3.6E-05 2.8E-04 2.2E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE
ADULT 6.2E-05 1.1E-05 5.3E-05 8.7E-05 3.8E-05 1.0E-03 1.6E-05 0.0E+00
TEEN 6.3E-05 1.4E-05 9.5E-05 1.5E-04 6.4E-05 1.6E-03 2.7E-05 0.0E+00
CHILD 5.8E-05 1.8E-05 2.3E-04 2.5E-04 1.0E-04 3.1E-03 4.2E-05 0.0E+00
INFNT 6.8E-05 2.6E-05 3.7E-04 4.9E-04 1.7E-04 7.6E-03 7.1E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE
ADULT 1.8E-04 2.1E-05 1.5E-04 2.5E-04 9.8E-05 1.2E-03 4.1E-05 0.0E+00
TEEN 1.7E-04 2.7E-05 2.8E-04 4.3E-04 1.7E-04 1.9E-03 7.2E-05 0.0E+00
CHILD 1.5E-04 3.6E-05 6.7E-04 7.3E-04 2.7E-04 3.8E-03 1.1E-04 0.0E+00
INFNT 1.6E-04 5.2E-05 1.1E-03 1.4E-03 4.3E-04 9.2E-03 1.9E-04 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 4.9E-05 4.8E-05 2.6E-06 5.0E-05 4.8E-05 1.4E-04 6.1E-05 0.0E+00
TEEN 4.9E-05 4.8E-05 3.6E-06 5.2E-05 4.9E-05 1.7E-04 6.8E-05 0.0E+00
CHILD 4.3E-05 4.2E-05 4.8E-06 4.6E-05 4.4E-05 1.7E-04 5.9E-05 0.0E+00
INFNT 2.4E-05 2.4E-05 3.0E-06 2.7E-05 2.5E-05 1.5E-04 3.5E-05 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 1.7E-03 1.2E-03 1.5E-03 2.0E-03 1.4E-03 5.6E-03 1.1E-03 9.3E-04
TEEN 1.6E-03 1.2E-03 1.9E-03 2.6E-03 1.6E-03 6.5E-03 1.3E-03 9.3E-04
CHILD 1.6E-03 1.2E-03 3.3E-03 3.7E-03 2.0E-03 1.1E-02 1.5E-03 9.3E-04
INFNT 1.0E-03 8.9E-04 2.2E-03 2.7E-03 1.4E-03 1.8E-02 1.1E-03 9.3E-04

TOTALS

ADULT 1.8E-03 1.3E-03 1.5E-03 2.1E-03 1.4E-03 5.7E-03 1.2E-03 1.1E-03
TEEN 1.7E-03 1.3E-03 1.9E-03 2.7E-03 1.7E-03 6.6E-03 1.3E-03 1.1E-03
CHILD 1.7E-03 1.3E-03 3.4E-03 3.8E-03 2.1E-03 1.1E-02 1.5E-03 1.1E-03
INFNT 1.1E-03 9.7E-04 2.3E-03 2.8E-03 1.5E-03 1.8E-02 1.2E-03 1.1E-03

INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 3.6E-04
TEEN 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 3.6E-04
CHILD 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 3.6E-04
INFNT 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 3.6E-04

GROUND PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 1.1E-03
TEEN 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 1.1E-03
CHILD 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 1.1E-03
INFNT 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 9.5E-04 1.1E-03

VEGET PATHWAY, DIST GP= 1, 863. METERS, WINDS TOWARD S
ADULT 6.2E-04 2.5E-04 4.4E-04 8.2E-04 3.8E-04 1.9E-03 2.2E-04 0.0E+00
TEEN 5.7E-04 2.8E-04 7.0E-04 1.2E-03 5.2E-04 1.6E-03 3.0E-04 0.0E+00
CHILD 5.7E-04 3.3E-04 1.6E-03 2.0E-03 8.2E-04 2.5E-03 4.6E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 6115. METERS, WINDS TOWARD S
ADULT 2.9E-06 2.2E-06 1.6E-06 3.6E-06 1.9E-06 9.0E-06 1.3E-06 0.0E+00
TEEN 1.5E-06 1.3E-06 1.3E-06 2.7E-06 1.3E-06 6.4E-06 8.7E-07 0.0E+00
CHILD 1.3E-06 1.1E-06 2.4E-06 3.4E-06 1.6E-06 9.4E-06 1.0E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S
ADULT 4.6E-05 8.0E-06 3.8E-05 6.3E-05 2.8E-05 5.9E-04 1.2E-05 0.0E+00
TEEN 4.6E-05 1.0E-05 6.8E-05 1.1E-04 4.6E-05 9.4E-04 2.0E-05 0.0E+00
CHILD 4.2E-05 1.4E-05 1.6E-04 1.8E-04 7.4E-05 1.8E-03 3.1E-05 0.0E+00
INFNT 4.9E-05 2.0E-05 2.6E-04 3.5E-04 1.2E-04 4.5E-03 5.2E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S
ADULT 1.3E-04 1.6E-05 1.1E-04 1.8E-04 7.2E-05 7.2E-04 3.0E-05 0.0E+00
TEEN 1.3E-04 2.0E-05 2.0E-04 3.1E-04 1.2E-04 1.1E-03 5.3E-05 0.0E+00
CHILD 1.1E-04 2.8E-05 4.7E-04 5.3E-04 2.0E-04 2.2E-03 8.2E-05 0.0E+00
INFNT 1.2E-04 4.0E-05 7.6E-04 1.0E-03 3.1E-04 5.4E-03 1.4E-04 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 6.7E-05 6.4E-05 3.6E-06 6.8E-05 6.5E-05 1.9E-04 8.1E-05 0.0E+00
TEEN 6.6E-05 6.4E-05 5.0E-06 7.0E-05 6.6E-05 2.1E-04 9.0E-05 0.0E+00
CHILD 5.7E-05 5.6E-05 6.7E-06 6.3E-05 5.9E-05 2.2E-04 7.8E-05 0.0E+00
INFNT 3.3E-05 3.2E-05 4.2E-06 3.7E-05 3.4E-05 1.9E-04 4.6E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 1.8E-03 1.3E-03 1.5E-03 2.1E-03 1.5E-03 4.4E-03 1.3E-03 1.1E-03
TEEN 1.8E-03 1.3E-03 1.9E-03 2.6E-03 1.7E-03 4.9E-03 1.4E-03 1.1E-03
CHILD 1.7E-03 1.4E-03 3.2E-03 3.7E-03 2.1E-03 7.7E-03 1.6E-03 1.1E-03
INFNT 1.1E-03 1.0E-03 2.0E-03 2.3E-03 1.4E-03 1.1E-02 1.2E-03 1.1E-03

TOTALS
ADULT 1.9E-03 1.4E-03 1.7E-03 2.2E-03 1.6E-03 4.5E-03 1.4E-03 1.5E-03
TEEN 1.9E-03 1.4E-03 2.0E-03 2.8E-03 1.8E-03 5.0E-03 1.5E-03 1.5E-03
CHILD 1.8E-03 1.5E-03 3.3E-03 3.8E-03 2.2E-03 7.9E-03 1.7E-03 1.5E-03
INFNT 1.3E-03 1.2E-03 2.1E-03 2.5E-03 1.5E-03 1.1E-02 1.3E-03 1.5E-03

INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 9010 1 1 THRU 90123124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 8.5E-05 8.5E-05 8.5E-05 8.5E-05 8.5E-05 8.5E-05 9.1E-05 4.5E-04
TEEN 8.5E-05 8.5E-05 8.5E-05 8.5E-05 8.5E-05 8.5E-05 9.1E-05 4.5E-04
CHILD 8.5E-05 8.5E-05 8.5E-05 8.5E-05 8.5E-05 8.5E-05 9.1E-05 4.5E-04
INFNT 8.5E-05 8.5E-05 8.5E-05 8.5E-05 8.5E-05 8.5E-05 9.1E-05 4.5E-04

GROUND PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 5.1E-04
TEEN 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 5.1E-04
CHILD 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 5.1E-04
INFNT 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 4.3E-04 5.1E-04

VEGET PATHWAY, DIST GP= 1, 770. METERS, WINDS TOWARD SSW
ADULT 3.1E-04 1.3E-04 2.2E-04 4.1E-04 1.9E-04 9.8E-04 1.2E-04 0.0E+00
TEEN 2.9E-04 1.4E-04 3.4E-04 6.0E-04 2.6E-04 8.3E-04 1.6E-04 0.0E+00
CHILD 2.9E-04 1.7E-04 8.0E-04 9.8E-04 4.1E-04 1.3E-03 2.4E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD SSW
ADULT 8.1E-07 6.3E-07 4.1E-07 9.8E-07 5.6E-07 2.4E-06 4.1E-07 0.0E+00
TEEN 4.2E-07 3.6E-07 3.3E-07 7.2E-07 3.8E-07 1.7E-06 2.7E-07 0.0E+00
CHILD 3.9E-07 3.2E-07 6.1E-07 9.1E-07 4.6E-07 2.5E-06 3.2E-07 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW
ADULT 1.9E-05 3.7E-06 1.5E-05 2.6E-05 1.2E-05 2.5E-04 5.3E-06 0.0E+00
TEEN 2.0E-05 4.8E-06 2.8E-05 4.5E-05 1.9E-05 3.9E-04 8.8E-06 0.0E+00
CHILD 1.8E-05 6.6E-06 6.6E-05 7.6E-05 3.1E-05 7.7E-04 1.4E-05 0.0E+00
INFNT 2.2E-05 9.5E-06 1.1E-04 1.4E-04 5.0E-05 1.9E-03 2.3E-05 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW
ADULT 5.4E-05 7.3E-06 4.5E-05 7.5E-05 3.0E-05 3.0E-04 1.3E-05 0.0E+00
TEEN 5.4E-05 9.5E-06 8.1E-05 1.3E-04 5.0E-05 4.7E-04 2.3E-05 0.0E+00
CHILD 4.7E-05 1.3E-05 1.9E-04 2.2E-04 8.2E-05 9.3E-04 3.5E-05 0.0E+00
INFNT 5.2E-05 1.9E-05 3.1E-04 4.2E-04 1.3E-04 2.3E-03 6.0E-05 0.0E+00

INHAL PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 3.5E-05 3.4E-05 2.4E-06 3.6E-05 3.4E-05 1.2E-04 4.4E-05 0.0E+00
TEEN 3.5E-05 3.4E-05 3.3E-06 3.8E-05 3.5E-05 1.4E-04 5.0E-05 0.0E+00
CHILD 3.0E-05 3.0E-05 4.4E-06 3.4E-05 3.1E-05 1.4E-04 4.3E-05 0.0E+00
INFNT 1.7E-05 1.7E-05 2.7E-06 2.0E-05 1.8E-05 1.2E-04 2.6E-05 0.0E+00

SUBTOTALS (NO PLUME)

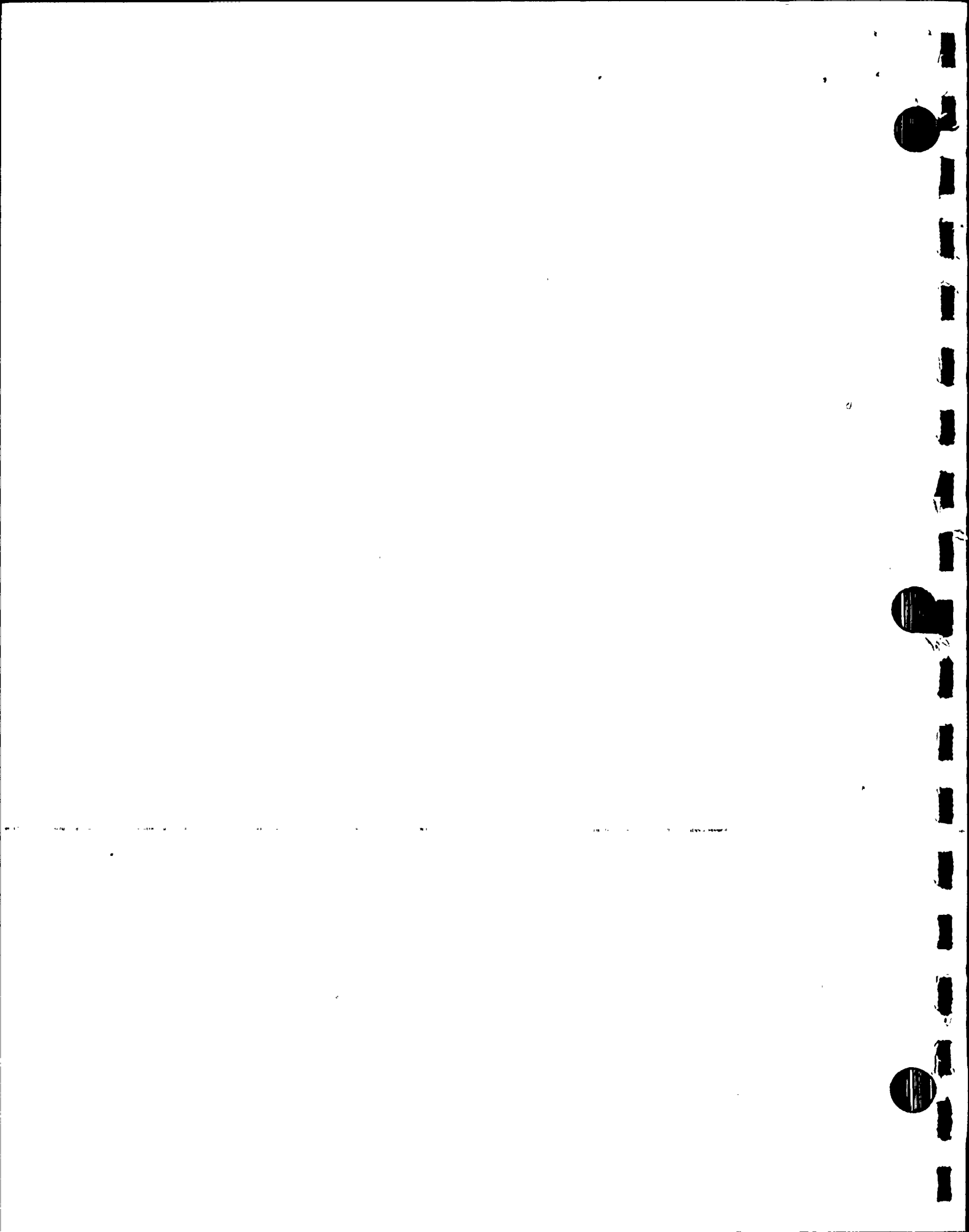
ADULT 8.6E-04 6.1E-04 7.2E-04 9.8E-04 7.0E-04 2.1E-03 6.1E-04 5.1E-04
TEEN 8.3E-04 6.3E-04 8.9E-04 1.2E-03 8.0E-04 2.3E-03 6.7E-04 5.1E-04
CHILD 8.2E-04 6.6E-04 1.5E-03 1.7E-03 9.9E-04 3.6E-03 7.6E-04 5.1E-04
INFNT 5.3E-04 4.8E-04 8.5E-04 1.0E-03 6.3E-04 4.7E-03 5.4E-04 5.1E-04

TOTALS

ADULT 9.4E-04 6.9E-04 8.0E-04 1.1E-03 7.9E-04 2.2E-03 7.0E-04 9.6E-04
TEEN 9.2E-04 7.1E-04 9.7E-04 1.3E-03 8.9E-04 2.4E-03 7.6E-04 9.6E-04
CHILD 9.1E-04 7.4E-04 1.6E-03 1.8E-03 1.1E-03 3.6E-03 8.5E-04 9.6E-04
INFNT 6.1E-04 5.7E-04 9.4E-04 1.1E-03 7.2E-04 4.8E-03 6.3E-04 9.6E-04

APPENDIX 2.1

Summary of Hourly Meteorological Data
Third Quarter, 1990



HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90070101-90093024
 STABILITY CLASS: A DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED (MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	2	47	28	0	0	0	77
NNE	1	2	5	0	0	0	8
NE	1	4	8	0	0	0	13
ENE	0	1	4	0	0	0	5
E	0	0	0	0	0	0	0
ESE	0	10	0	0	0	0	10
SE	0	9	0	0	0	0	9
SSE	3	18	0	0	0	0	21
S	0	27	17	0	0	0	44
SSW	0	9	13	0	0	0	22
SW	0	13	25	1	0	0	39
WSW	1	17	9	1	0	0	28
W	1	20	2	0	0	0	23
WNW	0	23	1	0	0	0	24
NW	0	22	0	0	0	0	22
NNW	6	30	4	0	0	0	40
TOTAL	15	252	116	2	0	0	385

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 17

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90070101-90093024
 STABILITY CLASS: B DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	2	7	4	0	0	0	13
NNE	0	2	0	0	0	0	2
NE	0	5	4	1	0	0	10
ENE	1	1	1	0	0	0	3
E	0	1	2	0	0	0	3
ESE	1	4	0	0	0	0	5
SE	1	2	0	0	0	0	3
SSE	3	1	0	0	0	0	4
S	0	4	1	1	0	0	6
SSW	0	4	6	0	0	0	10
SW	0	11	10	0	0	0	21
WSW	0	14	1	1	0	0	16
W	1	8	0	0	0	0	9
WNW	0	3	0	0	0	0	3
NW	2	6	1	0	0	0	9
NNW	1	5	2	0	0	0	8
TOTAL	12	78	32	3	0	0	125

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 17

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90070101-90093024
 STABILITY CLASS: C DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED (MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	13	2	0	0	0	15
NNE	1	3	0	0	0	0	4
NE	0	6	4	0	0	0	10
ENE	0	3	1	0	0	0	4
E	1	1	0	0	0	0	2
ESE	0	0	0	0	0	0	0
SE	4	0	0	0	0	0	4
SSE	0	2	0	0	0	0	2
S	0	4	3	0	0	0	7
SSW	1	2	2	0	0	0	5
SW	0	6	10	1	0	0	17
WSW	0	6	5	0	0	0	11
W	3	4	2	0	0	0	9
WNW	0	4	0	0	0	0	4
NW	0	2	1	0	0	0	3
NNW	1	3	0	0	0	0	4
TOTAL	11	59	30	1	0	0	101

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 17

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90070101-90093024
 STABILITY CLASS: D DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	10	34	17	0	0	0	61
NNE	3	11	5	0	0	0	19
NE	3	21	14	3	0	0	41
ENE	7	6	6	0	0	0	19
E	1	3	0	0	0	0	4
ESE	3	2	0	0	0	0	5
SE	1	8	0	0	0	0	9
SSE	6	3	0	0	0	0	9
S	4	24	6	1	0	0	35
SSW	4	16	10	0	0	0	30
SW	4	8	16	0	0	0	28
WSW	1	6	4	0	0	0	11
W	3	3	5	0	0	0	11
WNW	3	5	3	0	0	0	11
NW	6	9	10	0	0	0	25
NNW	7	21	7	0	0	0	35
TOTAL	66	180	103	4	0	0	353

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 17

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90070101-90093024

STABILITY CLASS: E DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED (MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	15	34	6	0	0	0	55
NNE	9	39	3	0	0	0	51
NE	14	32	13	0	0	0	59
ENE	11	19	2	0	0	0	32
E	10	9	3	0	0	0	22
ESE	8	14	0	0	0	0	22
SE	11	4	0	0	0	0	15
SSE	16	6	0	0	0	0	22
S	15	45	2	0	0	0	62
SSW	6	48	19	0	0	0	73
SW	5	19	31	0	0	0	55
WSW	3	6	2	0	0	0	11
W	5	12	1	0	0	0	18
WNW	7	13	1	0	0	0	21
NW	12	9	3	0	0	0	24
NNW	14	15	1	0	0	0	30
TOTAL	161	324	87	0	0	0	572

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 17

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90070101-90093024
 STABILITY CLASS: F DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	7	5	1	0	0	0	13
NNE	18	3	0	0	0	0	21
NE	9	3	0	0	0	0	12
ENE	11	13	2	0	0	0	26
E	18	6	0	0	0	0	24
ESE	24	4	0	0	0	0	28
SE	12	2	0	0	0	0	14
SSE	24	2	0	0	0	0	26
S	37	24	0	0	0	0	61
SSW	7	16	0	0	0	0	23
SW	7	5	1	0	0	0	13
WSW	2	4	0	0	0	0	6
W	6	2	1	0	0	0	9
WNW	7	0	0	0	0	0	7
NW	7	0	0	0	0	0	7
NNW	9	1	0	0	0	0	10
TOTAL	205	90	5	0	0	0	300

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 17

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90070101-90093024

STABILITY CLASS: G DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	6	1	0	0	0	0	7
NNE	4	1	0	0	0	0	5
NE	5	3	0	0	0	0	8
ENE	19	3	2	0	0	0	24
E	39	1	0	0	0	0	40
ESE	55	0	0	0	0	0	55
SE	43	0	0	0	0	0	43
SSE	64	1	0	0	0	0	65
S	46	5	0	0	0	0	51
SSW	11	5	0	0	0	0	16
SW	4	6	0	0	0	0	10
WSW	5	2	0	0	0	0	7
W	6	1	0	0	0	0	7
WNW	4	0	0	0	0	0	4
NW	6	0	0	0	0	0	6
NNW	4	3	0	0	0	0	7
TOTAL	321	32	2	0	0	0	355

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 17

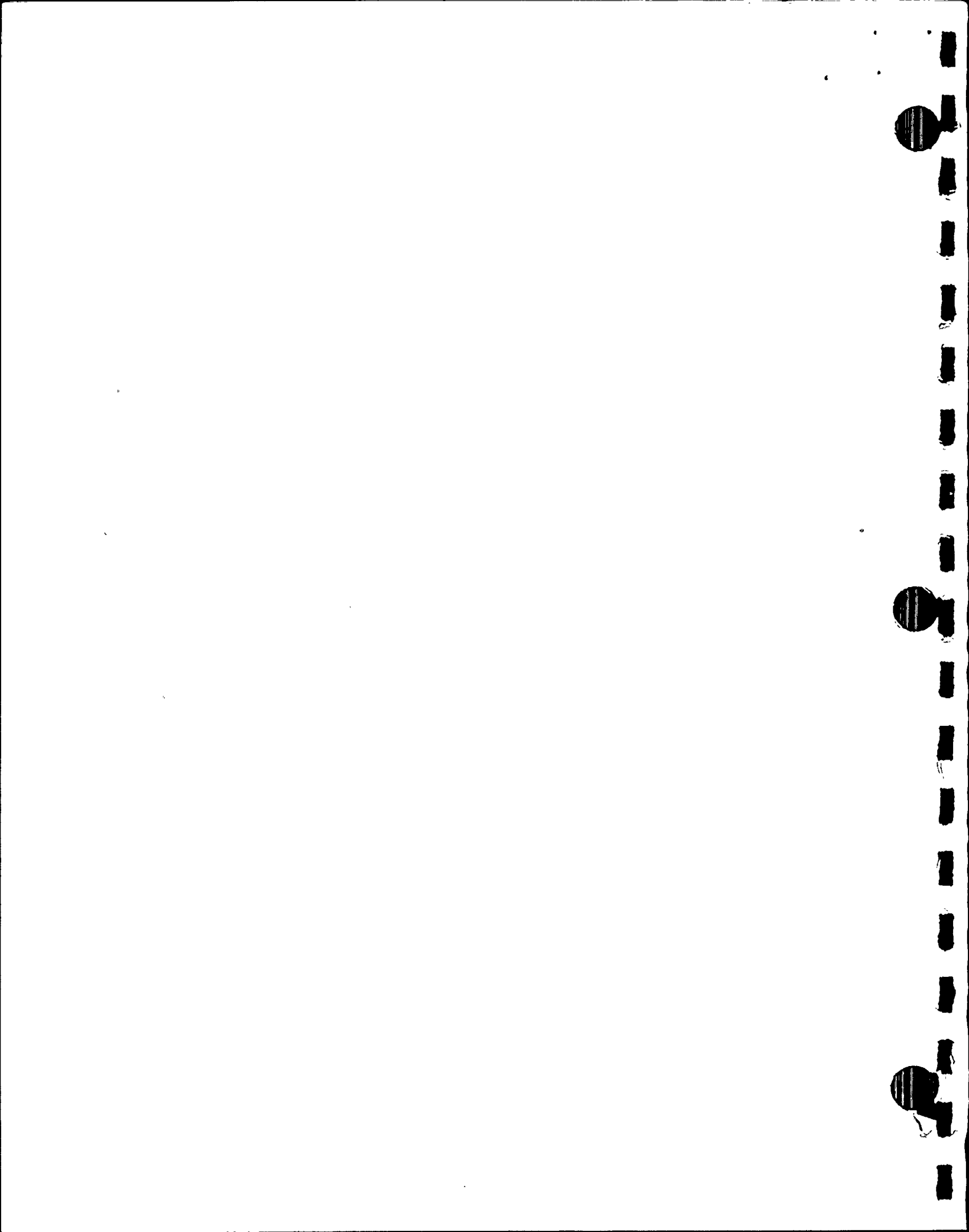
HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90070101-90093024
 STABILITY CLASS: ALL DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	42	141	58	0	0	0	241
NNE	36	61	13	0	0	0	110
NE	32	74	43	4	0	0	153
ENE	49	46	18	0	0	0	113
E	69	21	5	0	0	0	95
ESE	91	34	0	0	0	0	125
SE	72	25	0	0	0	0	97
SSE	116	33	0	0	0	0	149
S	102	133	29	2	0	0	266
SSW	29	100	50	0	0	0	179
SW	20	68	93	2	0	0	183
WSW	12	55	21	2	0	0	90
W	25	50	11	0	0	0	86
WNW	21	48	5	0	0	0	74
NW	33	48	15	0	0	0	96
NNW	42	78	14	0	0	0	134
TOTAL	791	1015	375	10	0	0	2191

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 17

APPENDIX 2.2

Summary of Hourly Data Meteorological Data
Fourth Quarter, 1990



HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90100101-90123124
 STABILITY CLASS: A DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	7	5	0	0	0	12
NNE	0	0	2	0	0	0	2
NE	0	0	2	0	0	0	2
ENE	1	0	0	0	0	0	1
E	0	3	2	0	0	0	5
ESE	0	2	0	0	0	0	2
SE	0	2	6	0	0	0	8
SSE	1	5	18	1	0	0	25
S	0	7	27	0	0	0	34
SSW	0	1	5	5	0	0	11
SW	0	2	11	3	0	0	16
WSW	0	8	7	1	0	0	16
W	0	4	2	1	1	0	8
WNW	1	8	4	0	0	0	13
NW	2	12	6	0	0	0	20
NNW	0	10	2	0	0	0	12
TOTAL	5	71	99	11	1	0	187

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 2

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90070101-90093024
 STABILITY CLASS: A DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	2	47	28	0	0	0	77
NNE	1	2	5	0	0	0	8
NE	1	4	8	0	0	0	13
ENE	0	1	4	0	0	0	5
E	0	0	0	0	0	0	0
ESE	0	10	0	0	0	0	10
SE	0	9	0	0	0	0	9
SSE	3	18	0	0	0	0	21
S	0	27	17	0	0	0	44
SSW	0	9	13	0	0	0	22
SW	0	13	25	1	0	0	39
WSW	1	17	9	1	0	0	28
W	1	20	2	0	0	0	23
WNW	0	23	1	0	0	0	24
NW	0	22	0	0	0	0	22
NNW	6	30	4	0	0	0	40
TOTAL	15	252	116	2	0	0	385

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 17

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90100101-90123124
 STABILITY CLASS: B DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED (MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	1	2	0	0	0	4
NNE	0	1	0	0	0	0	1
NE	0	1	2	0	0	0	3
ENE	1	0	0	0	0	0	1
E	0	0	3	0	0	0	3
ESE	0	0	1	0	0	0	1
SE	0	3	4	0	0	0	7
SSE	0	3	6	0	0	0	9
S	0	3	12	1	0	0	16
SSW	0	0	5	4	0	0	9
SW	0	2	8	5	0	0	15
WSW	0	8	6	0	0	0	14
W	0	3	3	0	1	0	7
WNW	0	4	8	1	0	0	13
NW	2	4	2	0	0	0	8
NNW	0	10	3	0	0	0	13
TOTAL	4	43	65	11	1	0	124

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 2

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90100101-90123124
 STABILITY CLASS: C DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	5	0	0	0	0	5
NNE	0	0	0	0	0	0	0
NE	1	0	0	0	0	0	1
ENE	1	0	1	0	0	0	2
E	0	0	0	0	0	0	0
ESE	0	1	1	0	0	0	2
SE	1	1	3	0	0	0	5
SSE	0	4	4	0	0	0	8
S	0	3	7	0	0	0	10
SSW	1	1	7	3	1	0	13
SW	1	3	9	1	0	0	14
WSW	0	5	7	7	0	0	19
W	0	1	16	10	1	0	28
WNW	1	6	12	3	0	0	22
NW	1	5	2	0	0	0	8
NNW	0	8	16	0	0	0	24
TOTAL	7	43	85	24	2	0	161

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90100101-90123124

STABILITY CLASS: D DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	2	35	27	1	0	0	65
NNE	2	9	4	0	0	0	15
NE	0	7	12	0	0	0	19
ENE	2	2	12	1	2	0	19
E	3	3	1	0	3	0	10
ESE	1	4	3	0	0	0	8
SE	2	16	19	0	0	0	37
SSE	5	35	18	2	0	0	60
S	5	18	15	14	1	0	53
SSW	2	15	45	27	2	0	91
SW	3	8	38	21	2	0	72
WSW	0	2	24	11	1	0	38
W	1	23	31	13	0	0	68
WNW	4	21	39	20	0	0	84
NW	3	36	34	9	0	0	82
NNW	7	59	34	5	0	0	105
TOTAL	42	293	356	124	11	0	826

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 2

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90100101-90123124
 STABILITY CLASS: E DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	5	9	5	0	0	0	19
NNE	7	8	5	0	0	0	20
NE	8	11	37	0	0	0	56
ENE	1	13	9	0	0	0	23
E	4	17	3	1	5	0	30
ESE	5	8	7	1	0	0	21
SE	12	35	12	0	0	0	59
SSE	6	27	17	3	0	0	53
S	4	41	52	13	1	0	111
SSW	2	19	68	15	0	0	104
SW	4	14	20	6	0	0	44
WSW	3	5	12	2	0	0	22
W	6	14	9	0	0	0	29
WNW	10	18	3	0	4	0	35
NW	4	12	4	0	0	0	20
NNW	4	12	0	0	0	0	16
TOTAL	85	263	263	41	10	0	662

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 2

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90100101-90123124
 STABILITY CLASS: F DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	2	0	0	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	1	1	0	0	0	0	2
ENE	4	2	0	0	0	0	6
E	5	2	0	0	0	0	7
ESE	6	6	0	0	0	0	12
SE	9	4	0	0	0	0	13
SSE	6	10	1	0	0	0	17
S	6	21	5	2	0	0	34
SSW	1	5	4	1	0	0	11
SW	2	4	3	0	0	0	9
WSW	0	0	2	0	0	0	2
W	2	0	0	0	0	0	2
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	1	0	0	0	0	0	1
TOTAL	45	55	15	3	0	0	118

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 2

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90100101-90123124
 STABILITY CLASS: G DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

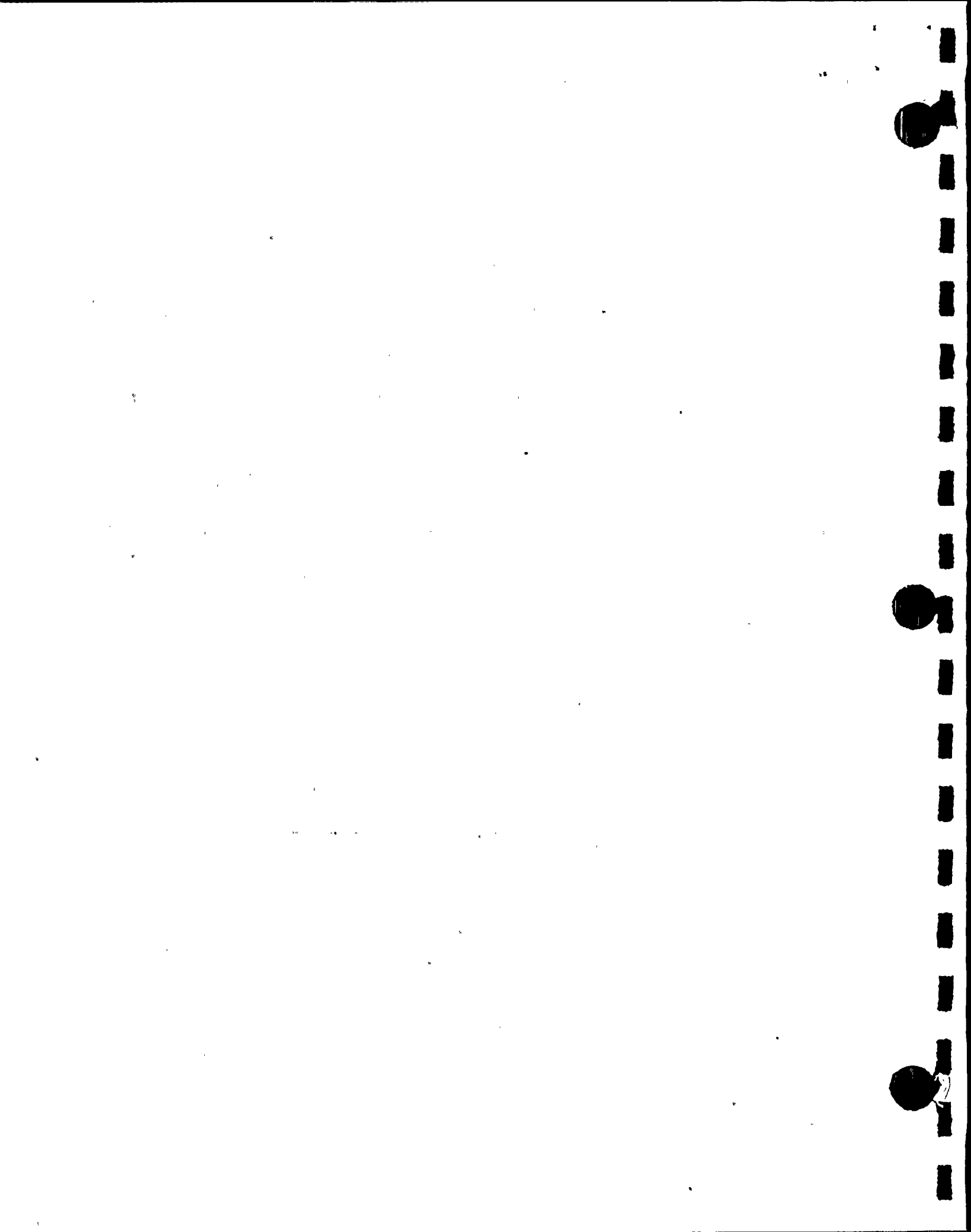
WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	6	0	0	0	0	0	6
ENE	10	0	0	0	0	0	10
E	16	1	0	0	0	0	17
ESE	14	2	0	0	0	0	16
SE	23	0	0	0	0	0	23
SSE	25	1	0	0	0	0	26
S	14	10	0	0	0	0	24
SSW	0	4	0	0	0	0	4
SW	1	0	0	0	0	0	1
WSW	0	1	0	0	0	0	1
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
TOTAL	109	19	0	0	0	0	128

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 2

HOURS AT EACH WIND SPEED AND DIRECTION
 PERIOD OF RECORD = 90100101-90123124
 STABILITY CLASS: ALL DT/DZ
 ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

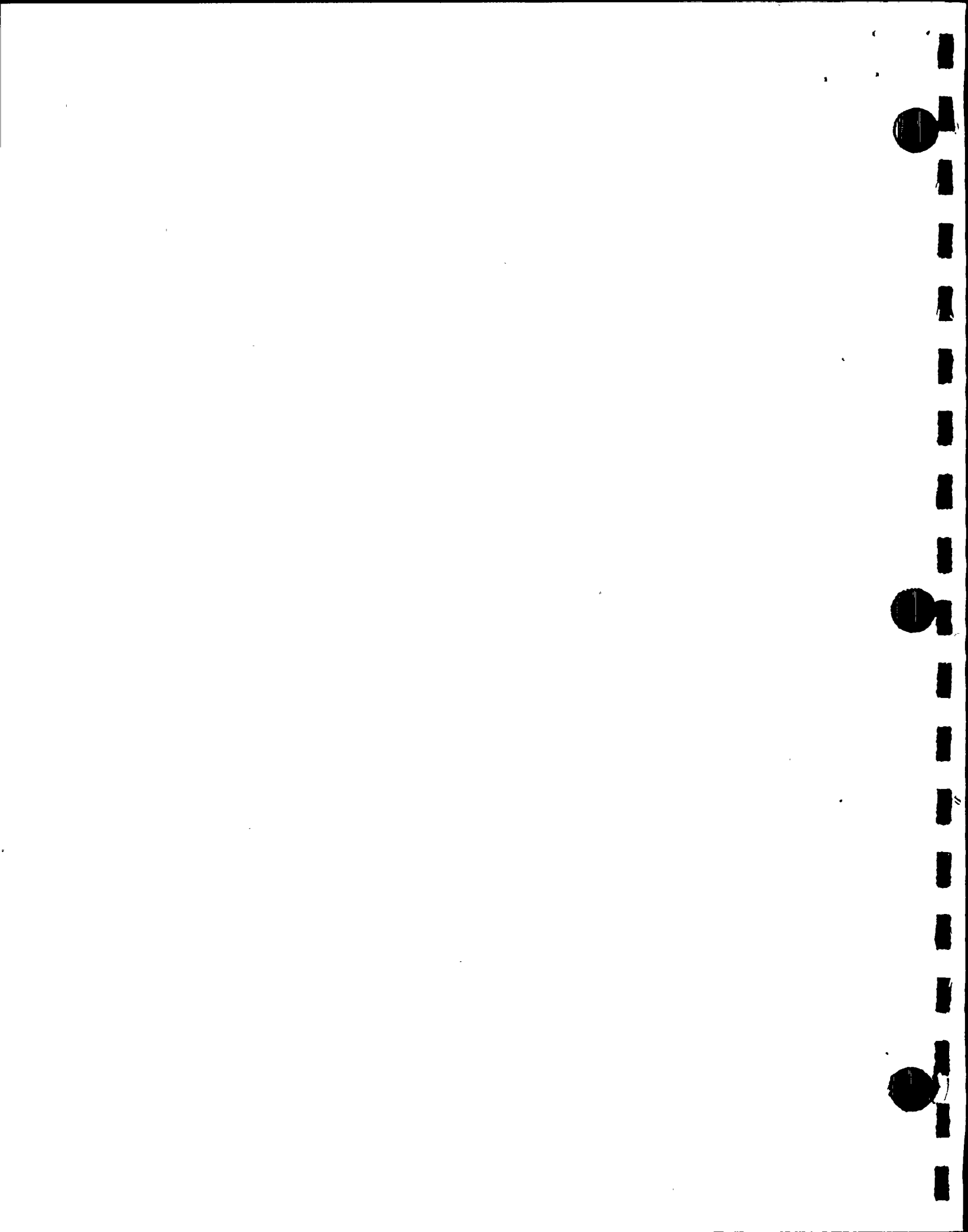
WIND DIRECTION	WIND SPEED (MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	10	57	39	1	0	0	107
NNE	9	18	11	0	0	0	38
NE	16	20	53	0	0	0	89
ENE	20	17	22	1	2	0	62
E	28	26	9	1	8	0	72
ESE	26	23	12	1	0	0	62
SE	47	61	44	0	0	0	152
SSE	43	85	64	6	0	0	198
S	29	103	118	30	2	0	282
SSW	6	45	134	55	3	0	243
SW	11	33	89	36	2	0	171
WSW	3	29	58	21	1	0	112
W	9	45	61	24	3	0	142
WNW	16	57	66	24	4	0	167
NW	12	69	48	9	0	0	138
NNW	12	99	55	5	0	0	171
TOTAL	297	787	883	214	25	0	2206

PERIODS OF CALM(HOURS): 0
 VARIABLE DIRECTION 0
 HOURS OF MISSING DATA: 2



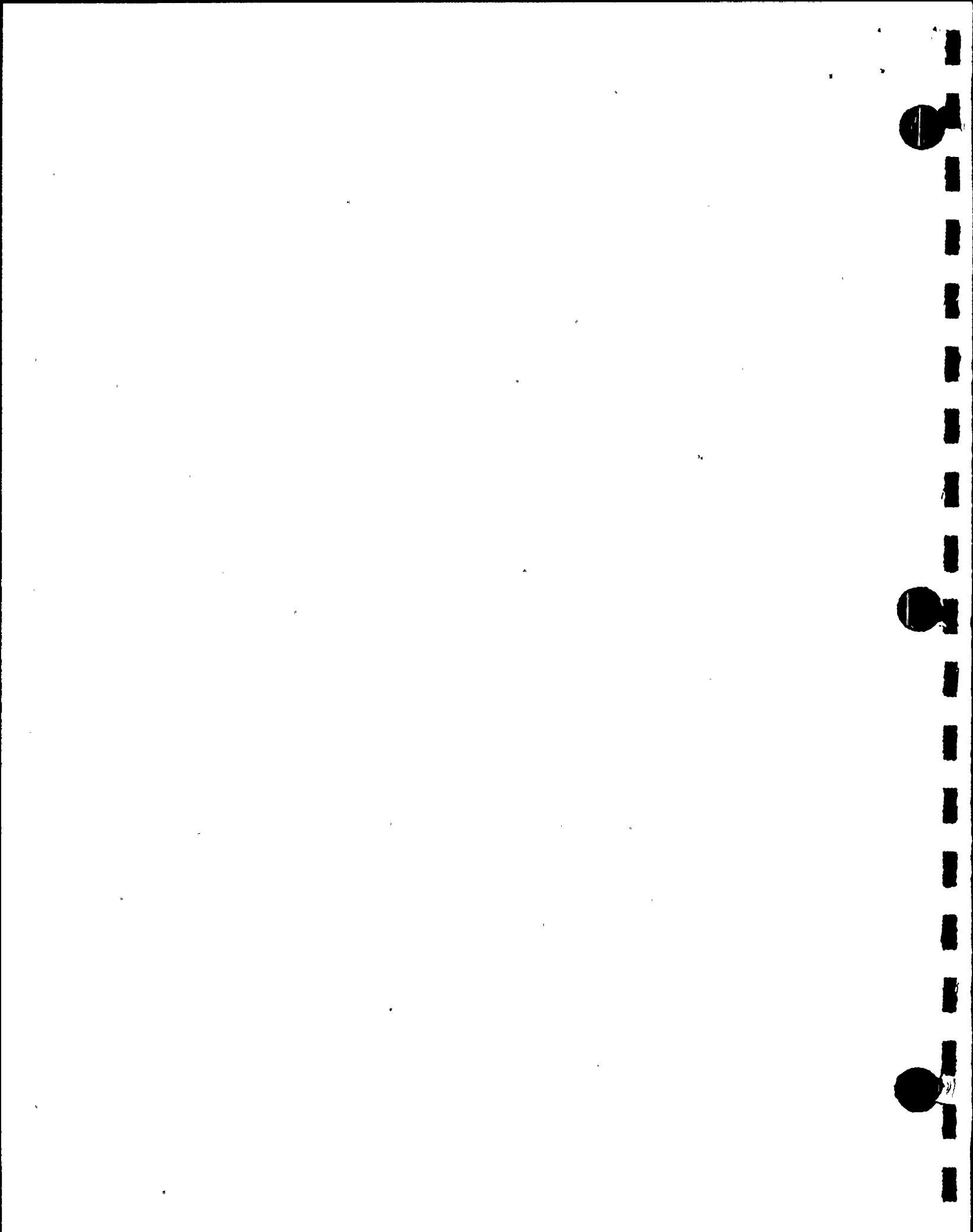
APPENDIX 3.0

Process Control Program (PCP) Changes



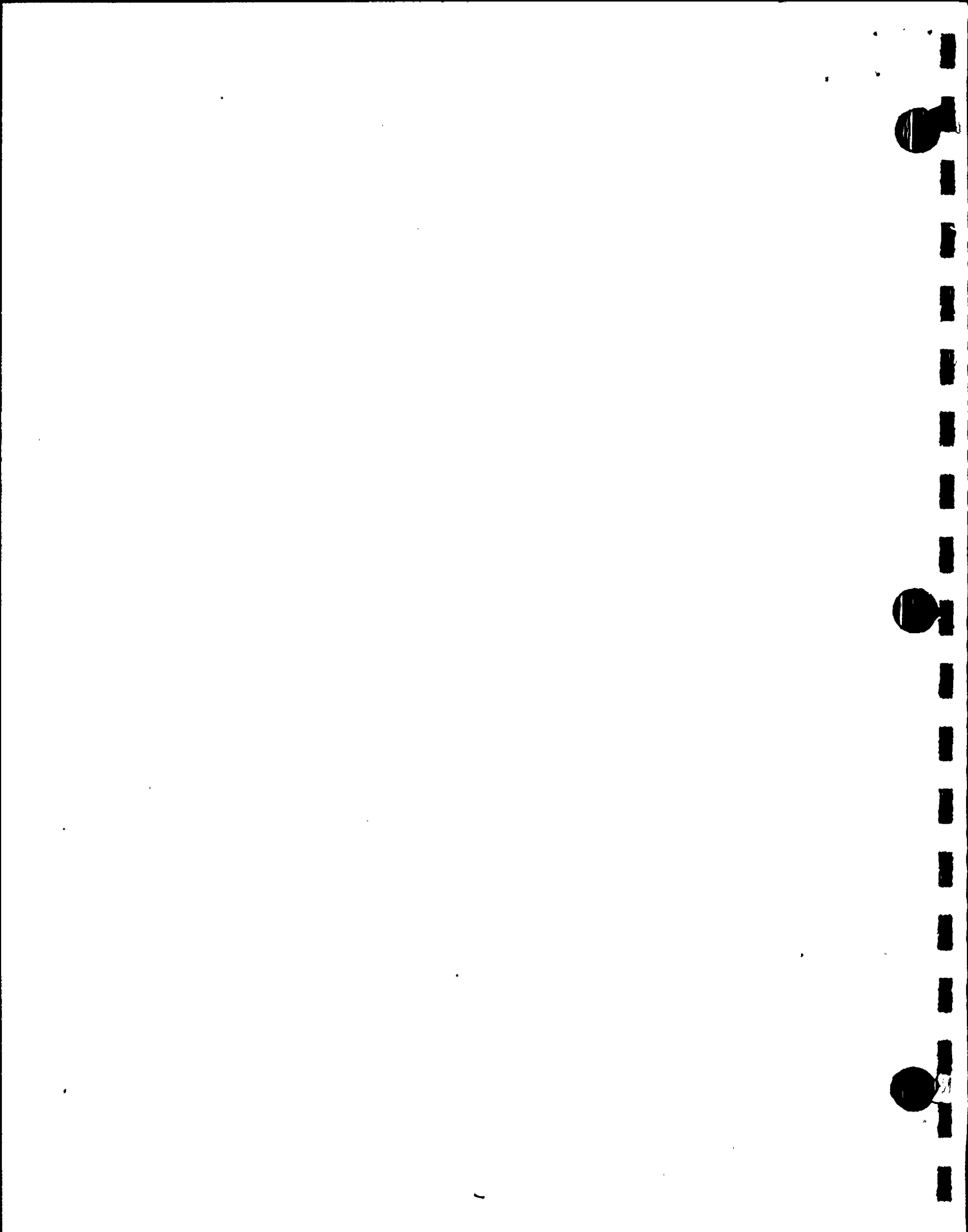
PROCESS CONTROL PROGRAM (PCP) CHANGES

The Radioactive Waste Process Control Manual 12 PMP 3150 PCP.001 and PCP.100 were not revised during this reporting period.



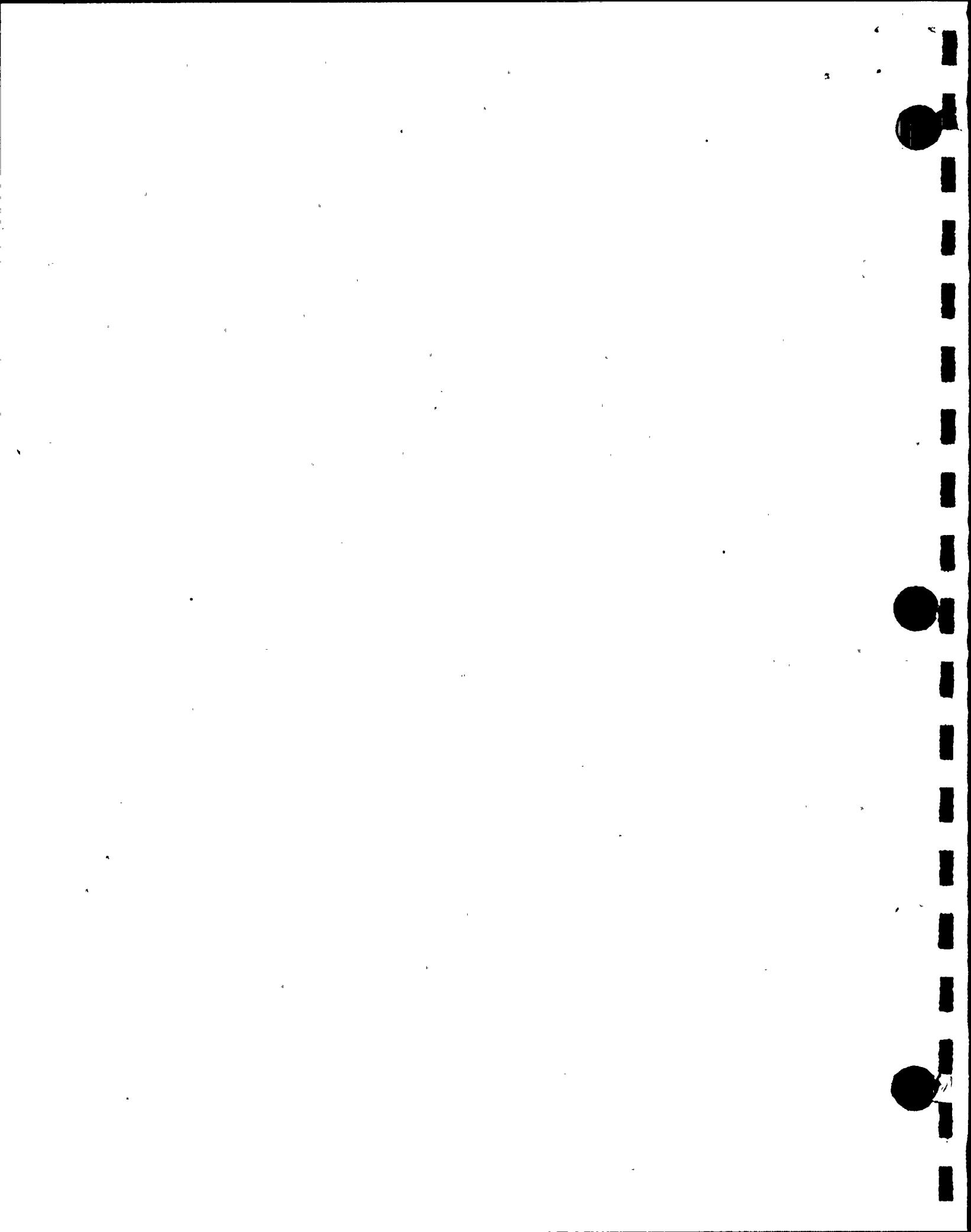
APPENDIX 4.0

Offsite Calculation Manual (ODCM) Changes



OFFSITE DOSE CALCULATION MANUAL. (ODCM)

The Offsite Dose Calculation Manual PMP 6010 OSD.001 as changed during the reporting period. The reasons for the changes and the PNSRC approval are documented on the procedure cover sheet.



INDIANA MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT
INSTRUCTION AND PROCEDURE CHANGE SHEET

RETURN

Form No. 5329
(Rev. 1/99)

TO: TPS I&P
(DEPT.)

INSTRUCTION OR PROCEDURE NO.: PMP 6010 OSD.001

REVISION NO.: 2

CHANGE SHEET NO.: 9

TITLE: Off-Site Dose Calculation Manual

PAGE 1 OF 1

ORIGINATED BY: <u>[Signature]</u>	DATE: <u>10-19-90</u>
MANAGEMENT STAFF: <u>[Signature]</u>	DATE: <u>10/19/90</u>
SENIOR REACTOR OPERATOR: <u>[Signature]</u>	DATE: <u>10/19/90</u>
PROCEDURE SUB-COMMITTEE: <u>[Signature]</u>	DATE: <u>10/23/90</u>
Q.A. SUPERINTENDENT: <u>[Signature]</u>	DATE: <u>10/24/90</u>
PNSRC: <u>#2425</u>	DATE: <u>10/25/90</u>
PLANT MANAGER: <u>[Signature]</u>	DATE: <u>10/25/90</u>

EXPIRATION DATE: Effective Date of PMP 6010 OSD.001, Revision 3

DESCRIPTION OF CHANGE

Attachment 3.20 - Replace Dose Parameters with revised numbers.

REASON(S) FOR CHANGE

Dose parameters for certain radionuclides were non-conservative (identified in
PR-89-604). The change was made in Revision 3 of the ODCM, but its effective date
is dependent on the operability of RRS-1000, Liquid Waste Discharge Monitor. This
change sheet is needed to ensure the ODCM is current and close out of Problem Report
89-604.

INSTRUCTIONS FOR INCORPORATING CHANGE

Replace the following with attached:

List of Effective Pages, Page 4 of 6, Revision 2, CS-1, CS-4, CS-6, CS-8 with Page 4 of 6,

Rev. 2, CS-1, CS-4, CS-6, ACS-8, CS-9

Attachment 3.20, Page 1 of 1, Rev. 2, CS-1 with Page 1 of 1, Rev. 2, CS-1, CS-9

LIST OF EFFECTIVE PAGES

<u>PAGE NUMBER</u>	<u>REVISION NUMBER AND DATE</u>
Page 1 of 41	Revision 2
Page 2 of 41	Revision 2
Page 3 of 41	Revision 2
Page 4 of 41	Revision 2
Page 5 of 41	Revision 2
Page 5a of 41	Revision 2
Page 6 of 41	Revision 2
Page 7 of 41	Revision 2
Page 8 of 41	Revision 2
Page 9 of 41	Revision 2, CS-2
Page 10 of 41	Revision 2
Page 11 of 41	Revision 2
Page 12 of 41	Revision 2, CS-6
Page 13 of 41	Revision 2
Page 14 of 41	Revision 2
Page 15 of 41	Revision 2
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Page 17 of 41	Revision 2
Page 18 of 41	Revision 2
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Page 32 of 41	Revision 2, CS-3
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 <u>ATTACHMENT 3.2</u>	
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 <u>ATTACHMENT 3.3</u>	
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 <u>ATTACHMENT 3.4</u>	
Page 1 of 1	Revision 2

<u>PAGE NUMBER</u>	<u>REVISION NUMBER/EFFECTIVE CHANGE</u>
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Page 1 of 1	Revision 2
<u>ATTACHMENT 3.6</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.7</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.8</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.9</u>	
Page 1 of 2	Revision 2
Page 2 of 2	Revision 2
<u>ATTACHMENT 3.10</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.11</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.12</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.13</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.14</u>	
Page 1 of 1	Revision 2, CS-5
<u>ATTACHMENT 3.15</u>	
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<u>ATTACHMENT 3.16</u>	
Page 1 of 1	Revision 2

PAGE NUMBERREVISION NUMBER/EFFECTIVE CHANGEATTACHMENT 3.17

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Revision 2, CS-1, CS-4, CS-7, CS-8

ATTACHMENT 3.18

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Revision 2, CS-1, CS-4, CS-7, CS-8

ATTACHMENT 3.19

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Revision 2

ATTACHMENT 3.20

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Revision 2, CS-1, CS-9

ATTACHMENT 3.21

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Revision 2, CS-6

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Revision 2, CS-1, CS-4,
CS-6, CS-7, CS-8, CS-9

<u>PAGE NUMBER</u>	<u>REVISION NUMBER/EFFECTIVE CHANGE</u>
<u>ATTACHMENT 3.28</u>	
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<u>ATTACHMENT 3.36</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.37</u>	
Page 1 of 1	Revision 2

PAGE NUMBER

REVISION NUMBER/EFFECTIVE CHANGE

ATTACHMENT 3.38

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Revision 2

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Revision 2

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Revision 2

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Revision 2

DOSE PARAMETERS FOR RADIOIODINES AND
RADIOACTIVE PARTICULATE, GASEOUS EFFLUENTS*

<u>RADIONUCLIDE</u>	<u>P_i</u>	<u>P_i</u>	<u>RADIONUCLIDE</u>	<u>P_i</u>	<u>P_i</u>
	<u>INHALATION PATHWAY (mRem/yr per uCi/m³)</u>	<u>FOOD & GROUND PATHWAYS (m² . mRem/yr per uCi/sec)</u>		<u>INHALATION PATHWAY (mRem/yr per uCi/m³)</u>	<u>FOOD & GROUND PATHWAYS (m² . mRem/yr per uCi/sec)</u>
H-3	6.47E+02	2.40E+03	Rb-88	5.57E+02	4.74E+04
C-14	2.65E+04	2.38E+09	Rb-89	3.21E+02	1.76E+05
Na-24	1.06E+04	3.28E+07	Sr-89	2.03E+06	1.28E+10
P-32	2.03E+06	1.63E+11	Sr-90	4.09E+07	1.24E+11
Cr-51	1.28E+04	1.15E+07	Sr-91	7.34E+04	3.41E+06
Mn-54	1.00E+06	1.14E+09	Sr-92	1.40E+05	1.11E+06
Mn-56	7.17E+04	1.29E+06	Y-90	2.69E+05	9.64E+05
Fe-55	8.69E+04	1.38E+08	Y-91m	2.79E+03	1.44E+05
Fe-59	1.02E+06	7.89E+08	Y-91	2.45E+06	6.86E+06
Co-58	7.77E+05	5.89E+08	Y-92	1.27E+05	2.59E+05
Co-60	4.51E+06	4.62E+09	Y-93	1.67E+05	2.80E+05
Ni-63	3.39E+05	3.56E+10	Zr-95	1.75E+06	3.45E+08
Ni-65	5.01E+04	4.43E+05	Zr-97	1.40E+05	4.29E+06
Cu-64	1.50E+04	4.75E+06	Nb-95	4.79E+05	4.06E+08
Zn-65	6.47E+05	2.01E+10	Mo-99	1.35E+05	3.23E+08
Zn-69	1.32E+04	3.01E-09	Tc-99m	2.03E+03	2.81E+05
Rb-86	1.90E+05	2.27E+10	Tc-101	8.44E+02	2.92E+04
Te-131m	1.99E+05	3.48E+07	Ru-103	5.52E+05	1.55E+08
Te-131	8.22E+03	4.18E+04	Ru-105	4.84E+04	9.12E+05
Te-132	3.40E+05	7.26E+07	Ru-106	1.16E+07	3.02E+08
I-130	1.60E+06	8.99E+08	Ag-110m	3.67E+06	1.80E+10
I-131	1.48E+07	1.07E+12	Te-125m	4.47E+05	1.56E+08
I-132	1.69E+05	1.79E+06	Te-127m	1.31E+06	1.06E+09
I-133	3.56E+06	9.78E+09	Te-127	2.44E+04	1.53E+05
I-134	4.45E+04	6.40E+05	Te-129m	1.68E+06	1.45E+09
I-135	6.96E+05	2.40E+07	Te-129	2.63E+04	3.76E+04
Cs-134	7.03E+05	7.21E+10	Ce-143	1.16E+05	4.88E+06
Cs-136	1.35E+05	6.13E+09	Ce-144	9.84E+06	1.95E+08
Cs-137	6.12E+05	6.25E+10	Pr-143	4.33E+05	7.98E+05
Cs-138	8.76E+02	5.15E+05	Pr-144	4.28E+03	2.63E+03
Ba-139	5.10E+04	1.52E+05	Nd-147	3.22E+05	1.26E+07
Ba-140	1.60E+06	2.75E+08	W-187	3.96E+04	5.90E+06
Ba-141	4.75E+03	5.98E+04	Np-239	5.95E+04	2.55E+06
Ba-142	1.55E+03	6.43E+04			
La-140	1.68E+05	2.77E+07			
La-142	5.95E+04	1.09E+06			
Ce-141	5.17E+05	3.35E+07			

*If SR-90 analysis is performed, use P_i given in RU-106 for unidentified components.

If SR-90 and RU-106 analyses are performed, use P_i given in I-131 for unidentified components.

If SR-90, RU-106 and I-131 analyses are performed, use P_i given in P-32 for unidentified components.

Semi-Annual Radioactive Effluent Release Report

January 1 through June 30, 1990

Indiana & Michigan Electric Company
Bridgman, Michigan

Docket Nos. 50-315 & 50-316

License Nos. DPR-58 & DPR-74



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VI. Total Dose.	3
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APPENDIX

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- | | |
|-----|---|
| 1.1 | Radioactive Release Data: January 1 - June 30, 1990 |
| 1.2 | Summary of Maximum Individual Doses: First Quarter, 1990 |
| 1.3 | Summary of Maximum Individual Doses: Second Quarter, 1990 |
| 2.1 | Summary of Hourly Meteorological Data: First Quarter, 1990 |
| 2.2 | Summary of Hourly Meteorological Data: Second Quarter, 1990 |
| 3.0 | Process Control Program (PCP) Changes |
| 4.0 | Offsite Dose Calculation Manual (ODCM) Changes |



I. INTRODUCTION

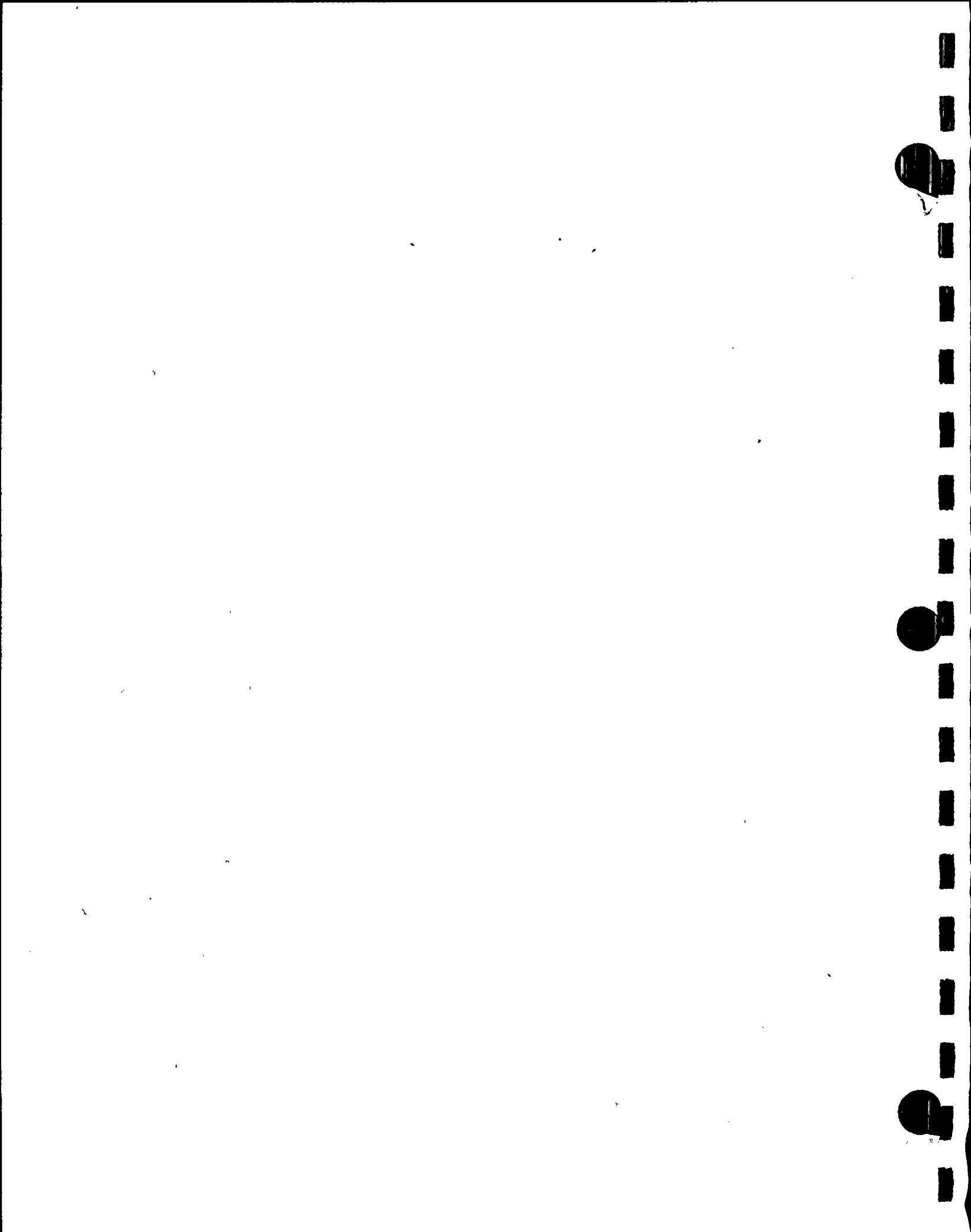
This report discusses the radioactive discharges from Unit 1 and Unit 2 of the Donald C. Cook Nuclear Plant during the first half of 1990 in accordance with the requirements of Cook Nuclear Plant Technical Specifications Sections 6.9.1.8 and 6.9.1.9.

The table below summarizes the pertinent statistics concerning the Plant's operation during the period from January 1, 1990 to June 30, 1990. The data in this table and the descriptive information on plant operation is based upon the respective Unit's Monthly Operating Report for the reporting period.

<u>Parameter</u>	<u>Unit 1</u>	<u>Unit 2</u>
Gross Electrical Generation (MWhr)	4013510	3940250
Unit Service Factor (%)	98.4	86.8
Unit Capacity Factor - MDC* Net (%)	87.1	82.6
* Maximum Dependable Capacity		

Unit 1 entered the reporting period at 100% Rated Thermal Power (RTP). On March 2, 1990 a power reduction to 88% RTP was required to allow testing of the main turbine control valves and a further reduction to 55% RTP to allow cleaning of the feedpump turbine condensers; power was commenced to 100% RTP on March 3, 1990. On April 5, 1990 power reduction to 56% RTP was required for cleaning of the main feedpump turbine condensers; commenced to 100% RTP the same day. A power reduction to 70% RTP was initiated for fuel cycle extension on April 29. Another power reduction was required on May 5 to 8% RTP. This allowed lower containment access for shutting ice condenser lower inlet doors that had opened by an inadvertent manual start of the containment air recirculation fan. Power increased to 100% RTP was commenced by May 17, 1990. On May 24, 1990, an emergency plan Unusual Event was declared due to a fire/explosion in Unit 1 345 kv switchyard breaker. Unit 1 power was reduced to 62% RTP to permit removal of switchyard breaker from service due to insulator damage and oil leak. On May 28, 1990 the unit power commenced to 70.5% RTP. A power increase to 100% RTP was required on June 14 to meet system load demand. June 19, 1990 the power decreased to 70.5% RTP and remained there for the rest of the reporting period.

Unit 2 entered the reporting period at 100% Rated Thermal Power (RTP). The unit started a power reduction on January 5, 1990 for the ice condenser surveillance and was removed from service on January 6, 1990. On January 11, 1990, an Unusual Event was declared, due to more than one steam generator stop valve being inoperable. A cooldown of the unit to Mode 5 was commenced. The unit was paralleled with the system on January 25 and achieved 100% RTP on January 27, 1990. Another Unusual Event was declared on February 14, 1990, due to a pipe fitting leak on the pressurizer liquid sample line that had a potential for affecting primary containment integrity. Power was reduced to



78% RTP and returned to 100% RTP the same day. On May 1, 1990, a power reduction to 85% RTP was initiated for fuel cycle extension to the scheduled beginning of the refueling outage. A further power reduction to 80% RTP on May 5, 1990 to allow repairs on the heater drain pump. On May 8, power once again commenced to 85% RTP. A further power reduction to 55% RTP on May 15 to allow repairs on the feedpump turbine piping was required. May 17, Unit 2 power was increased to 100% RTP to meet system load demand. On May 19, unit power reduction to 85% RTP was commenced. On June 11 the unit tripped due to power range neutron flux high negative rate signal. The unit was restarted and paralleled to the grid on June 14 and reactor power was increased to 90% RTP on June 15. A power decrease to 75% RTP was initiated starting on June 26, 1990, for cycle extension to the beginning of the refueling outage. The unit shutdown commenced on June 29, 1990, for the cycle 7-8 refueling outage. The unit was removed from service on June 30, 1990.

II. RADIOACTIVE RELEASES AND RADIOLOGICAL IMPACT UPON MAN

Since a number of release points are common to both Units, the release data from both Units is combined to form this two unit, Semi-Annual Radioactive Effluent Release Report. Appendix 1 of this report presents the information in accordance with section 6.9.1.9 of Appendix A to the Facility Operating Licenses, as specified in the Technical Specification and 10 CFR Part 50, Appendix I. The "Midas System" by Pickard, Lowe and Garrick, Inc., is a computer code that calculates doses for all isotopes that were released by the Plant.

All liquid and gaseous releases were well within Technical Specifications.

Liquid Releases

During the first quarter of 1990, there were 45 liquid batch releases. 31 liquid batches were released during the second quarter.

There were no abnormal liquid releases during the first half of 1990. For the purpose of dose assessment, the batch releases were treated as continuous releases. The estimated doses (in millirems) to the maximum exposed individual via the liquid release pathway are given in appendices 1.2 and 1.3 of this report.

Gaseous Releases

During the first quarter of 1990, there were 99 gaseous batch releases. 85 gaseous batches were released during the second quarter. The containment pressure reliefs (CPR) continue to be listed as batch releases in accordance with NRC inspections 50-315/89016 (DRSS) and 50-316/89017 (DRSS). There were 178 CPR's during the reporting period compared to 150 CPR's during the last half of 1989.



There was one waste gas decay tank release during the reporting period compared to one during the last half of 1989.

There were no abnormal gaseous releases during this reporting period. In calculating the dose consequences for continuous and batch gaseous releases during the first half of 1990, the meteorological data measured at the time of these releases was used. The estimated doses (in millirems) to the maximally exposed individual via the gaseous release pathway are given in Appendices 1.2 and 1.3 of this report.

Solid Waste Disposition

There were 37 shipments of radioactive waste made during the reporting period.

III. METEOROLOGICAL

Appendices 2.1 and 2.2 of this report contains the cumulative joint frequency distributions of wind speed and wind direction, corresponding to the various atmospheric stability classes for the first and second quarter of 1990. Hourly meteorological data is filed at American Electric Power Service Corporation and at the Donald C. Cook Nuclear Plant for review and/or inspection upon request.

IV. PROCESS CONTROL PROGRAM (PCP) CHANGES

The Radioactive Waste Process Control Manual 12 PMP 3150 PCP.001 was revised during this reporting period. The scope of the revision and PNSRC approval is documented on the procedure cover sheets; procedure cover sheet is located in Appendix 3.0 of this report. These revisions did not reduce the overall conformance of the solidified waste product to existing criteria for solid waste.

V. OFFSITE DOSE CALCULATION MANUAL (ODCM) CHANGES

The Offsite Dose Calculation Manual, PMP 6010.OSD.001 was changed during the report period. The reasons for the changes and the PNSRC approval are documented on the procedure cover sheet and can be found in Appendix 4.0 of this report.

VI. TOTAL DOSE

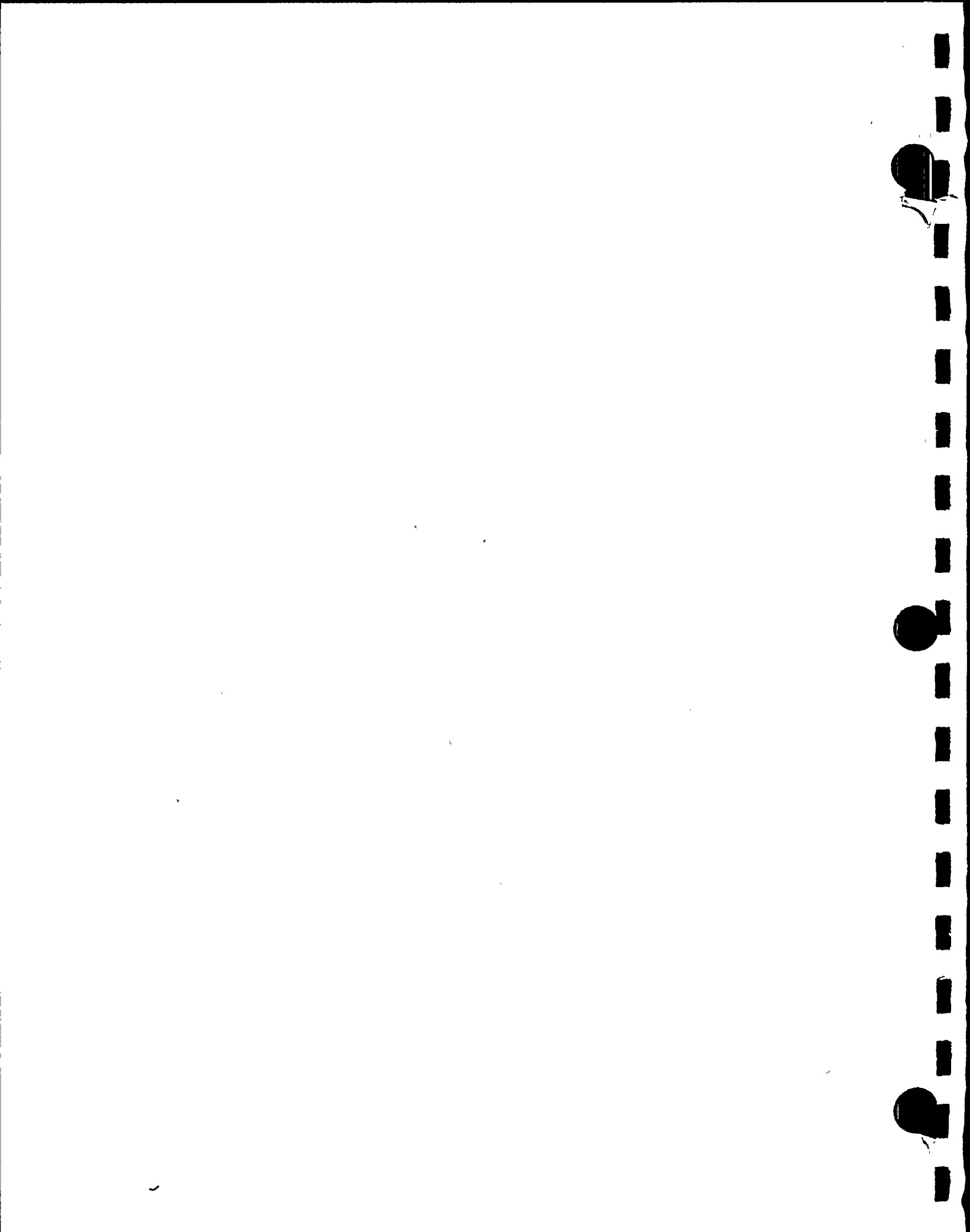
Technical Specification 3.11.4 requires that the dose or dose commitment to a real individual from all uranium fuel cycle sources be limited to no more than twenty-five (25) millirem to the total body or any organ over a period of twelve (12)



consecutive months to show conformance with the requirements of 40 CFR Part 190. The maximum cumulative dose to an individual from liquid and gaseous effluents during 1990 were well within Technical Specification 3.11.4 limits. Measurements using thermoluminescent dosimeters at ten (10) offsite background stations indicate that the dose due to direct radiation is negligible.

VII. CONCLUSION

Based on the information presented in this report, it is concluded that the Donald C. Cook Units 1 and 2 performed their intended design function with no demonstrable hazard to the health and safety of the general public.



APPENDIX 1.1

Radioactive Release Data
January 1 - June 30, 1990



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST HALF 1990

Supplemental Information

Facility: Donald C. Cook Plant
Licensee: Indiana Michigan Power Company

1. Regulatory Limits

A. Noble Gases

The air dose in unrestricted areas due to noble gases released in gaseous effluents shall be limited to the following:

1. During any calendar quarter, to ≤ 5 mrad for gamma radiation and ≤ 10 mrad for beta radiation;
2. During any calendar year, to ≤ 10 mrad for gamma radiation and ≤ 20 mrad for beta radiation.

B. Iodines - Particulates

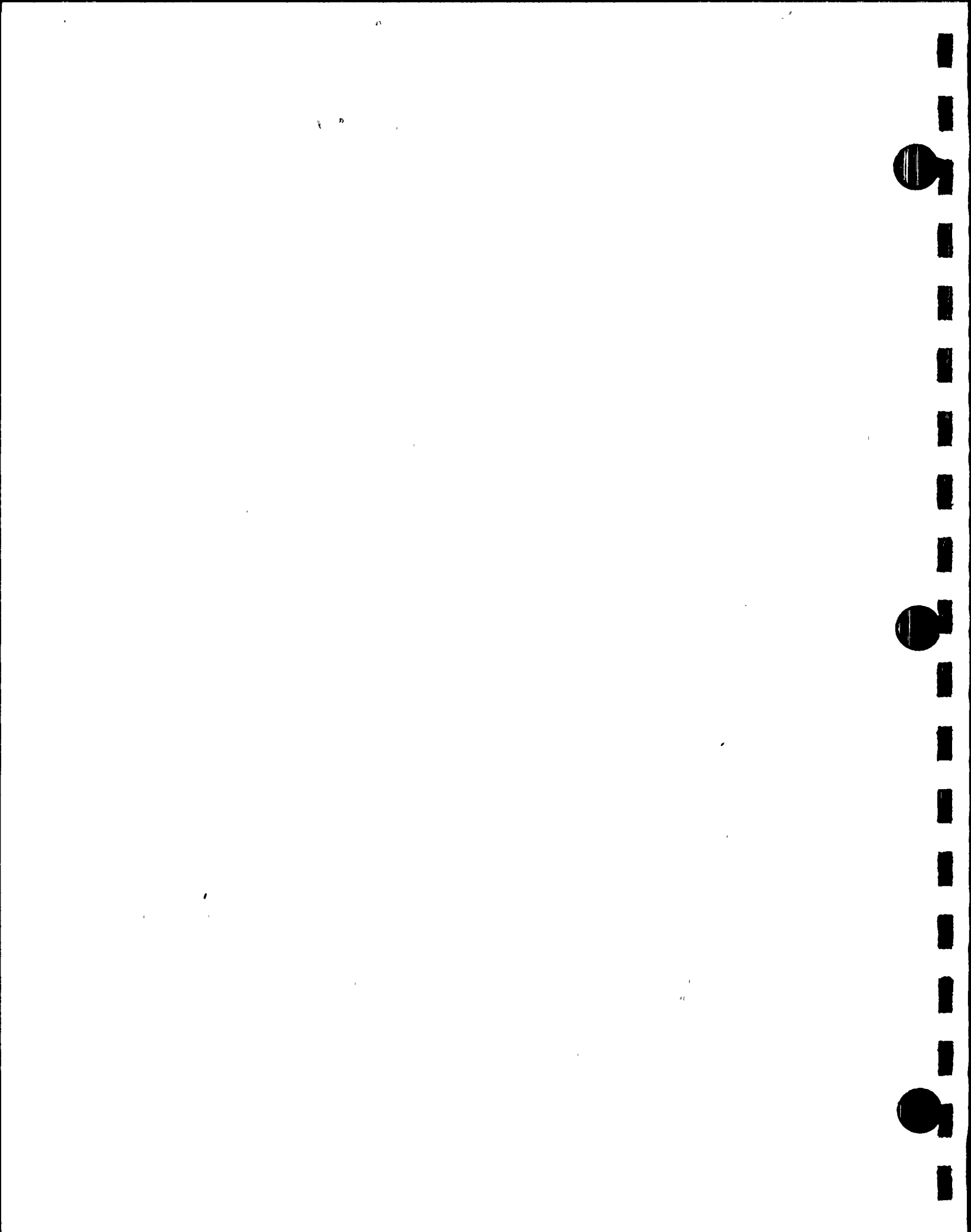
The dose to a member of the public from radioiodines, radioactive materials in particulate form, and radionuclides other than noble gases with half-lives greater than 8 days in gaseous effluents released to unrestricted areas shall be limited to the following:

1. During any calendar quarter to ≤ 7.5 mrem to any organ;
2. During any calendar year to ≤ 15 mrem to any organ.

C. Liquid Effluents

The dose or dose commitment to an individual from radioactive material in liquid effluents released to unrestricted areas shall be limited:

1. During any calendar quarter to ≤ 1.5 mrem to the total body and to ≤ 5 mrem to any organ;
2. During any calendar year to ≤ 3 mrem to the total body and to ≤ 10 mrem to any organ.



D. Total Dose

The dose or dose commitment to a real individual from all uranium fuel cycle sources is limited to ≤ 25 mrem to the total body or any organ (except the thyroid, which is limited to ≤ 75 mrem) over a period of 12 consecutive months.

2.. Maximum Permissible Concentrations

A. Gaseous Effluents

The dose rate due to radioactive materials released in gaseous effluents from the site shall be limited to the following:

1. For noble gases: ≤ 500 mrem/yr to the total body and ≤ 3000 mrem/yr to the skin;
2. For all radioiodines and for all radioactive materials in particulate form and radionuclides (other than noble gases) with half-lives greater than 8 days: ≤ 1500 mrem/yr to any organ.

The above limits are provided to insure that radioactive material discharged in gaseous effluents will not result in the exposure of an individual in an unrestricted area to annual average concentrations exceeding the limits in 10 CFR Part 20, Appendix B, Table II.

B. Liquid Effluents

The concentration of radioactive material released at any time from the site to unrestricted areas shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} $\mu\text{Ci/ml}$ total activity.

3. Average Energy

The average energy (\bar{E}) of the radionuclide mixture in releases of fission and activation gases is not applicable per Regulatory Guide 1.21 Appendix B Section A.3.

4. Measurements and Approximations of Total Radioactivity

A. Fission and Activation Gases

Sampled and analyzed on a 4096 channel analyzer and HpGe detector.



B. Iodines

Sampled on iodine adsorbing media and analyzed on a 4096 channel analyzer and HpGe detector.

C. Particulates

Sampled on a glass filter and analyzed on a 4096 channel analyzer and HpGe detector.

D. Liquid Effluents

Sampled and analyzed on a 4096 channel analyzer and HpGe detector.

5. Batch Releases

A. Liquid

1. Number of batch releases:

45 releases in the 1st quarter, 1990
31 releases in the 2nd quarter, 1990

2. Total time period for batch releases:

10225 minutes

3. Maximum time for a batch release:

270 minutes

4. Average time period for batch release:

135 minutes

5. Minimum time period for a batch release:

30 minutes

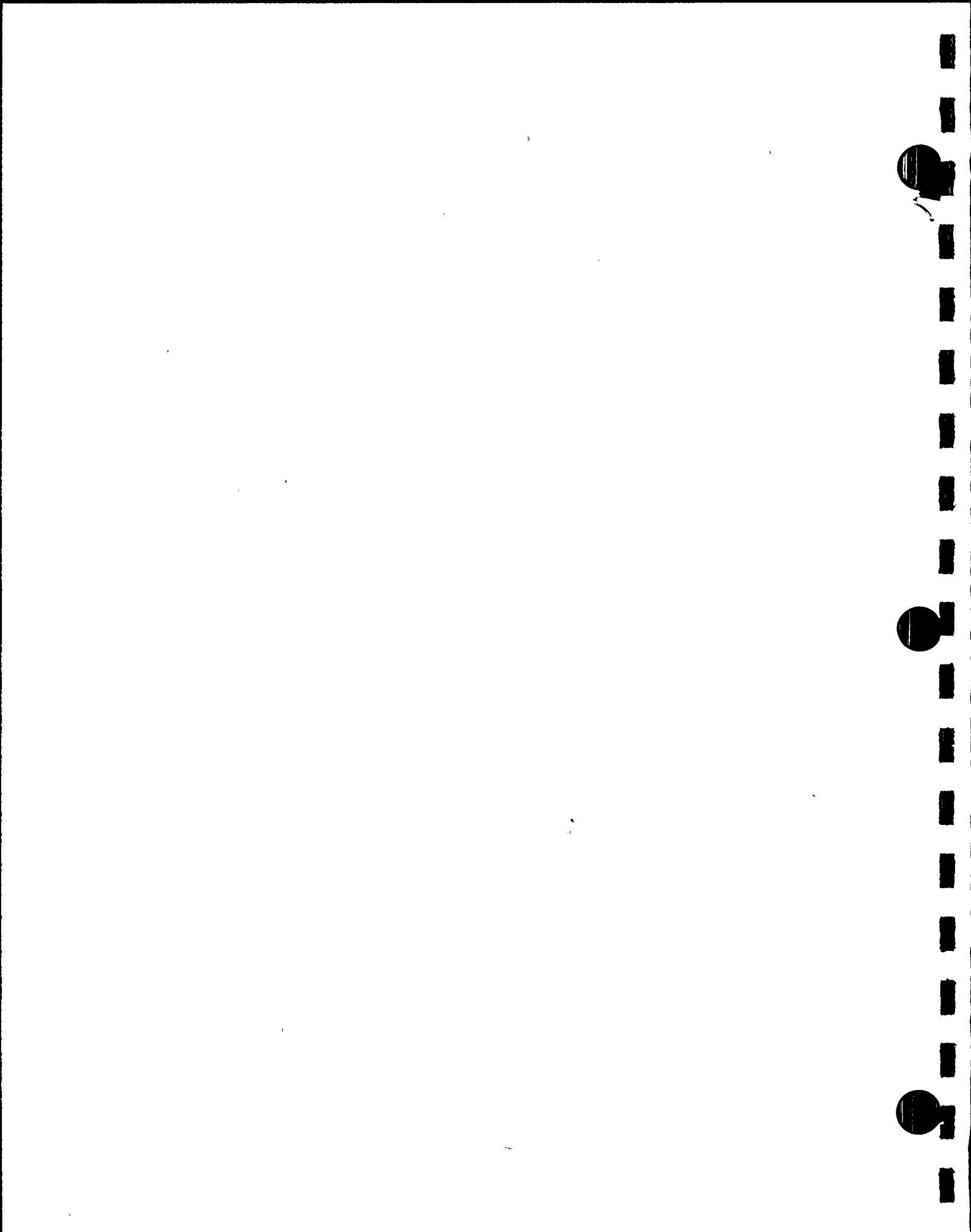
6. Average stream flow during periods of release of effluent into a flowing stream:

901,316 gpm circulating water

B. Gaseous

1. Number of batch releases:

99 in 1st quarter, 1990
85 in 2nd quarter, 1990



2. Total time period of batch releases:
4446 minutes
3. Maximum time period for a batch release:
90 minutes
4. Average time period for batch releases:
24. minutes
5. Minimum time period for a batch release:
10 minutes

6. Abnormal Releases

A. Liquid

1. Number of Releases:

<u>1st</u> <u>Quarter</u>	<u>2nd</u> <u>Quarter</u>
0	0
2. Total activity released:

<u>1st</u> <u>Quarter</u>	<u>2nd</u> <u>Quarter</u>
0	0

B. Gaseous

1. Number of Releases:

<u>1st</u> <u>Quarter</u>	<u>2nd</u> <u>Quarter</u>
0	0
2. Total activity released:

<u>1st</u> <u>Quarter</u>	<u>2nd</u> <u>Quarter</u>
0	0



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST HALF 1990GASEOUS EFFLUENTS - GROUND-LEVEL RELEASES

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 1st	Quarter 2nd	Quarter 1st	Quarter 2nd
1. FISSION GASES					
Krypton-85	Ci			1.49 E+0	6.13 E-1
Krypton-85m	Ci			3.97 E-2	
Krypton-133	Ci				
Krypton-135	Ci				
Xenon-135m	Ci				
Xenon-133	Ci	8.17 E+1	3.79 E+0	4.92 E+1	1.41 E+1
Xenon-131m	Ci			7.96 E-1	2.72 E-1
Argon-41	Ci	2.92 E-3	4.56 E-2	3.68 E-1	5.18 E-1
Xe-135	Ci	3.53 E+0	6.18 E-3	6.87 E-1	2.39 E-1
Xe-133m	Ci			4.83 E-1	1.18 E-1
	Ci				
Total for Period	Ci	8.52 E+1	3.84 E+0	5.31 E+1	1.59 E+1
2. IODINES					
Iodine-131	Ci	1.62 E-3	4.46 E-5	7.21 E-5	1.32 E-5
Iodine-133	Ci	5.53 E-4	1.48 E-5	3.37 E-6	3.88 E-7
Iodine-135	Ci				
Total for Period	Ci	2.17 E-3	5.94 E-5	7.55 E-5	1.36 E-5
3. PARTICULATES					
Strontium-89	Ci				
Strontium-90	Ci				
Cesium-134	Ci	5.58 E-5			
Cesium-137	Ci	1.40 E-4	1.35 E-5	1.38 E-2	1.10 E-2
Cobalt-58	Ci	8.95 E-7			
Cobalt-60	Ci	3.66 E-6	2.56 E-6		
Manganese-54	Ci				
Sodium-24	Ci	1.40 E-5			
Cesium-138	Ci	3.67 E-7			
Chromium-51	Ci			2.76 E-2	1.73 E-2
Rubidium-88	Ci				1.64 E-4
	Ci				
Total for Period	Ci	2.15 E-4	1.61 E-5	4.14 E-2	2.85 E-2



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST HALF 1990
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

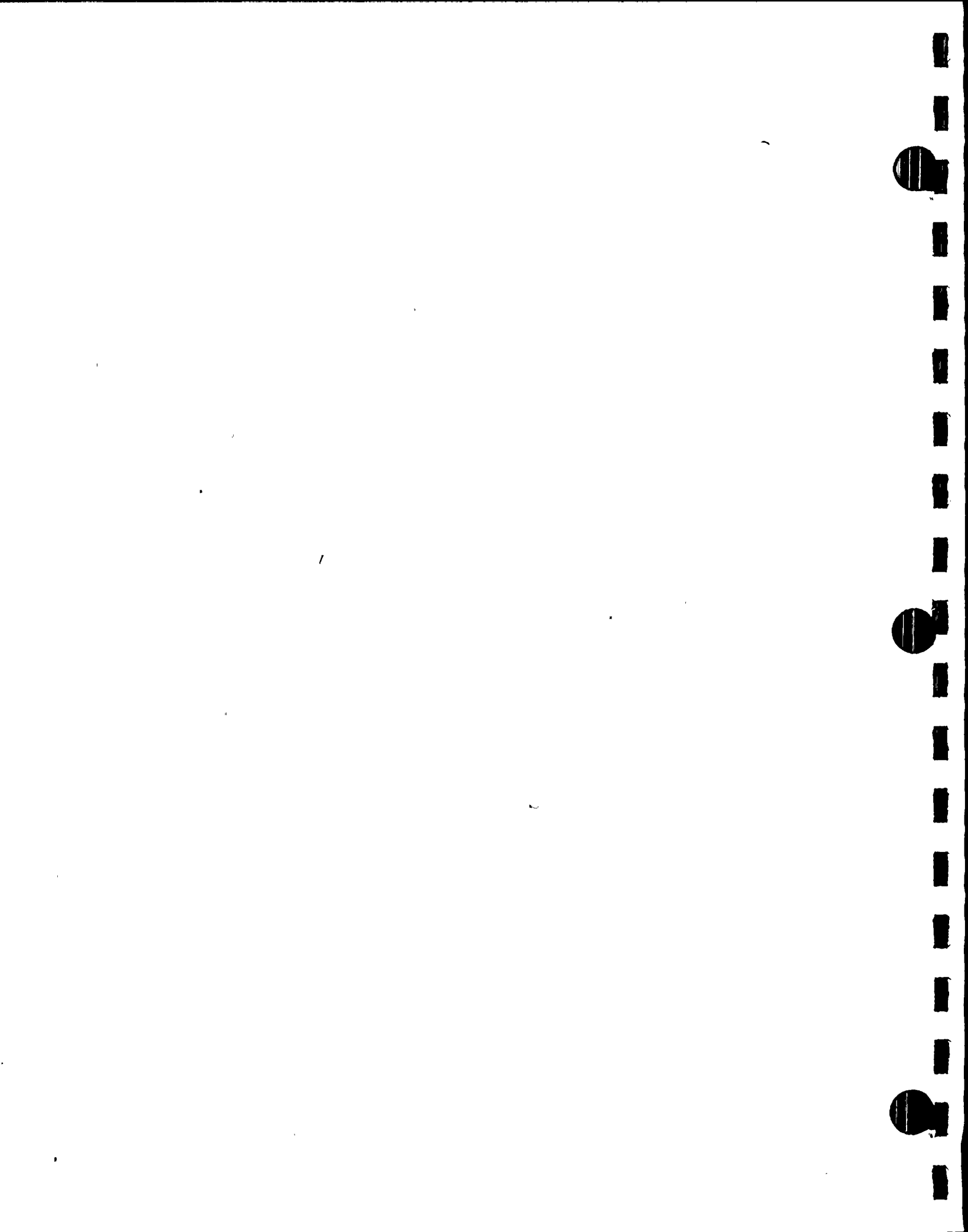
	Units	1st Quarter	2nd Quarter	Est. Total Error, %
A. FISSION AND ACTIVATION GASES				
1. Total release.	Ci	1.38 E+2	1.97 E+1	5.23 E+0
2. Average release rate for period.	µCi/sec	1.77 E+1	2.51 E+0	
3. Percent of applicable limit.	%	1.02 E-1	4.00 E-2	
(T/S 3.11.2.2 limit) γ β		1.45 E-1	2.72 E-2	
B. IODINES				
1. Total Iodine-131.	Ci	1.69 E-3	5.78 E-5	2.60 E+0
2. Average release rate for period.	µCi/sec	2.17 E-4	7.35 E-6	
3. Percent of applicable limit.	%	6.83 E+0	4.17 E+0	
(T/S 3.11.2.3 limit)				
C. PARTICULATES				
1. Particulates with half-lives > 8 days.	Ci	4.16 E-2	2.83 E-2	1.00 E+1
2. Average release rate for period.	µCi/sec	5.35 E-3	3.60 E-3	
3. Percent of applicable limit.*	%	6.83 E+0	4.17 E+0	
4. Gross alpha radio-activity. *(T/S 3.11.2.3 limit)	Ci	<1.02 E-6	<9.79 E-7	
D. TRITIUM				
1. Total release:	Ci	4.35 E+0	2.58 E+0	2.19 E-1
2. Average release rate for period.	µCi/sec	5.59 E-1	3.28 E-1	
3. Percent of applicable limit.	%	3.92 E+0	2.28 E+0	
(10 CFR20 limit)				



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST HALF 1990

LIQUID EFFLUENTS

Nuclides Released	BATCH MODE		CONTINUOUS MODE	
	Quarter 1st	Quarter 2nd	Quarter 1st	Quarter 2nd
Strontium-89	Ci 2.25 E-3			
Strontium-90	Ci			
Cesium-134	Ci 5.75 E-3	1.98 E-4	2.13 E-5	1.98 E-5
Cesium-137	Ci 8.88 E-3	3.27 E-4	1.58 E-4	4.51 E-4
Iodine-131	Ci 2.98 E-5	1.65 E-4	5.95 E-6	1.12 E-5
Cobalt-58	Ci 4.23 E-2	7.48 E-3		
Cobalt-60	Ci 4.00 E-3	1.10 E-2		
Iron-59	Ci			
Manganese-54	Ci 3.20 E-3	4.37 E-3		
Chromium-51	Ci 5.83 E-4			
Strontium-85	Ci 1.25 E-6			
Zirconium-Niobium-95	Ci 1.17 E-5			
Barium-Lanthanum-140	Ci			
Antimony-122	Ci 2.79 E-4			
Antimony-124	Ci 6.23 E-4	1.65 E-3		
Antimony-125	Ci 9.43 E-4	3.36 E-3		
Cesium-136	Ci 6.27 E-4	1.29 E-3		
Sodium-24	Ci	5.45 E-5	1.62 E-3	5.00 E-4
Iodine-133	Ci		1.07 E-5	4.91 E-5
Cobalt-57	Ci 1.81 E-5			
Zirconium-97	Ci 4.81 E-4	1.82 E-4		
Silver-110M	Ci 1.08 E-2	1.89 E-2		
Iron-55	Ci 2.64 E-2	2.50 E-2		
Xenon-133	Ci 6.92 E-2	2.18 E-2		3.76 E-5
Xenon-131M	Ci 5.21 E-4	4.22 E-4		
Xenon-133M	Ci 4.71 E-4	8.26 E-5		
Xenon-135	Ci 3.75 E-4	6.30 E-6		
Argon-41	Ci			
Krypton-85	Ci 2.81 E-4			



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST HALF 1990

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	<u>UNIT</u>	<u>BATCH</u>		<u>CONTINUOUS</u>		<u>Est. Total</u>
		Quarter 1st	Quarter 2nd	Quarter 1st	Quarter 2nd	Error, %
A. FISSION AND ACTIVATION PRODUCTS						
1. Total Release (Not including Tritium, Alpha, Gases)	Ci	1.07 E-1	7.40 E-2	1.82 E-3	1.03 E-3	7.62 E+0
2. Average diluted concen- tration during period.	µCi/ml	5.66 E-9	4.65 E-9	2.27 E-12	1.17 E-12	
3. Percent of applicable limit.	%	1.61 E-2	1.19 E-2	1.18 E-5	1.45 E-5	
B. TRITIUM						
1. Total Release	Ci	5.15 E+2	2.38 E+2	6.59 E-1	3.76 E-1	2.10 E-1
2. Average diluted concen- tration during period.	µCi/ml	2.72 E-5	1.50 E-5	8.22 E-10	4.26 E-10	
3. Percent of applicable limit.	%	9.07 E-1	5.00 E-1	2.74 E-5	1.42 E-5	
C. DISSOLVED AND ENTRAINED GASES						
1. Total Release	Ci	7.08 E-2	2.23 E-2		3.76 E-5	2.06 E+0
2. Average diluted concen- tration during period.	µCi/ml	3.75 E-9	1.40 E-9		4.26 E-14	
3. Percent of applicable limit.	%	1.88 E-3	7.00 E-4		2.77 E-7	



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST HALF 1990

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	<u>UNIT</u>	<u>BATCH</u>		<u>CONTINUOUS</u>		Est. Total Error, %
		Quarter 1st	Quarter 2nd	Quarter 1st	Quarter 2nd	
D. GROSS ALPHA RADIOACTIVITY						
1. Total Release	Ci	<8.03 E-5	<6.01 E-5	NA	NA	NA
E. VOLUME OF WASTE RELEASED	Liters	2.40 E+6	1.80 E+6	1.01 E+8	5.90 E+7	2.00 E+0
F. VOLUME OF DILUTION WATER USED DURING PERIOD	Liters	1.89 E+10	1.59 E+10	8.02 E+11	8.83 E+11	3.48 E+0



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST HALF 1990
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. Solid Waste Shipped Offsite for Burial or Disposal

1. Type of Waste	Unit	6 month Period	Est. Total Error, %
a. Spent resins, filter sludges, evaporator bottoms, etc.	m ³ Ci	9.37 E+0 3.90 E+1	1.0 E+0 2.0 E+1
b. Dry compressible waste, contaminated equipment, etc.	m ³ Ci	4.68 E+1 1.95 E+1	1.0 E+0 2.0 E+1
c. Irradiated components, control rods, etc.	m ³ Ci		
d. Other	m ³ Ci		

2. Estimate of Major Nuclide Composition

a.	CS-137	24	%	Ni-63	27%
	CS-134	9	%	Fe-55	5%
	CO-58	8	%	Mn-54	1%
	CO-60	25	%		
b.	CO-60	15	%	Fe-55	31%
	CO-58	3	%	Ni-63	25%
	CS-137	15	%	C-14	7%
	CS-134	3	%		

3. Solid Waste Disposition

<u>No. of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
37	Truck	Barnwell, SC
0		Richland, WA

4. Type of Containers Used for Shipment

Containers used are strong, tight metal boxes, metal drums and high integrity.

5. Solidification Agent

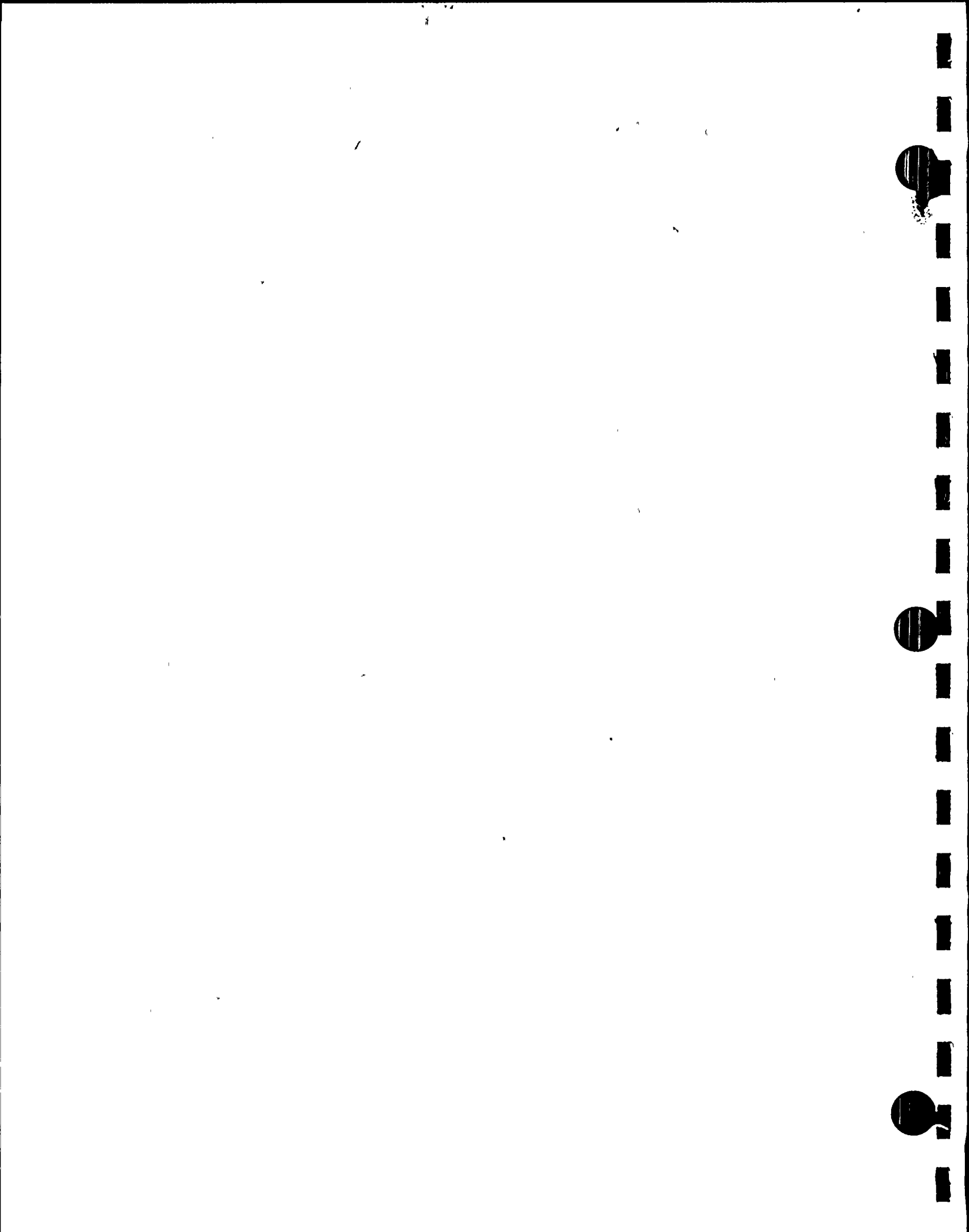
There were no solidifications performed during the report period.



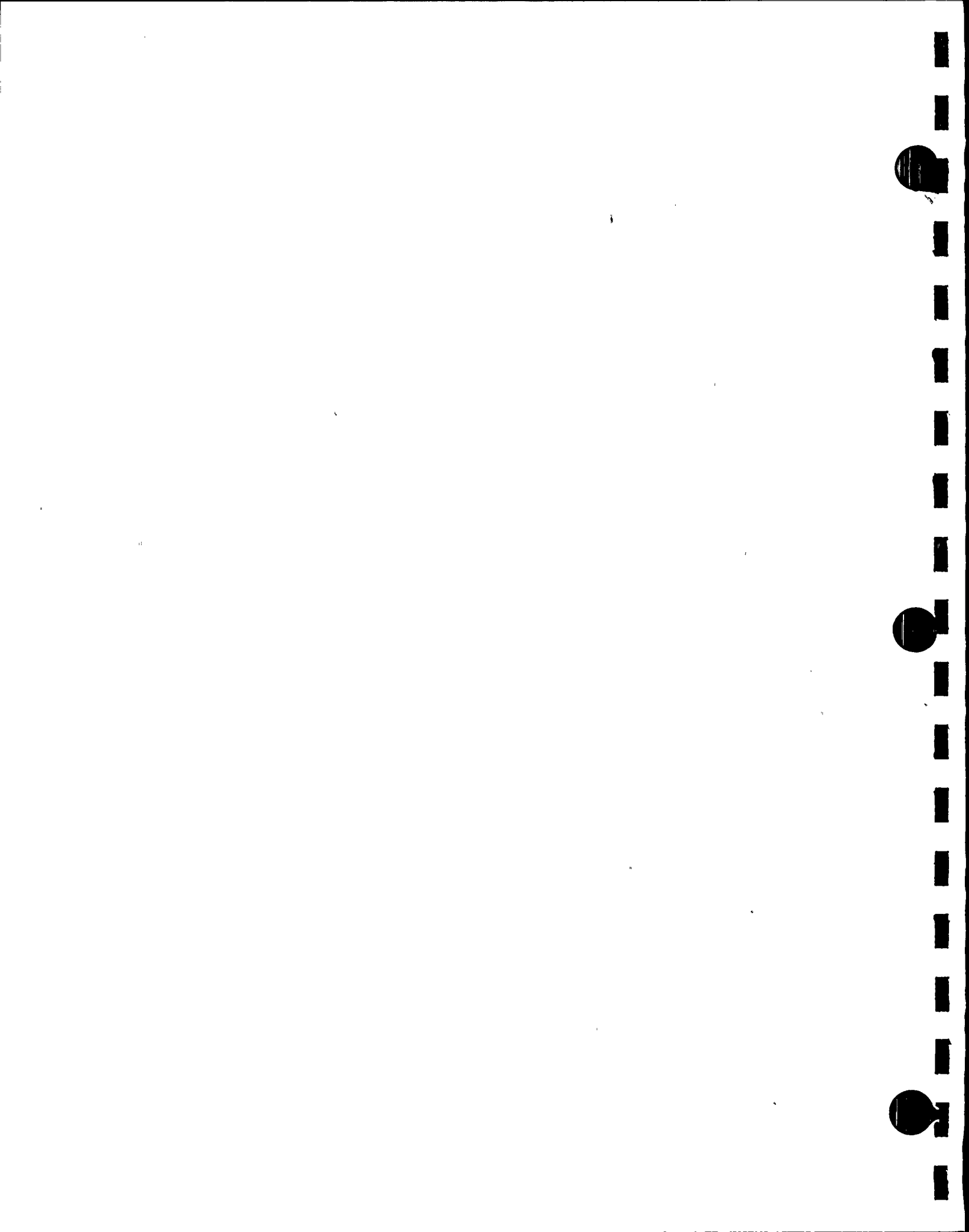
Release Number	Start Date Stop Date	Start Time Stop Time	Xe131m	Xe133	Xe133m	Xe135	Ar41	Kr85	Kr85m	H3	I131	I133	Cs137	Rb88	Cr51
G-90-001	1/5/90 1/5/90	1835 1950	5.16E-1	3.38E+1	3.46E-1	6.18E-1	1.88E-1	1.38E+0	3.97E-2	2.31E-2	6.81E-6	3.37E-6			
G-90-002	1/12/90 1/12/90	0350 0418	1.42E-1	1.17E+1	1.09E-1					1.29E-2	6.53E-5				
G-90-003	5/9/90 5/9/90	0413 0505		3.72E-2			4.88E-2			1.92E-2			1.90E-6		
G-90-005	6/17/90 6/17/90	1043 1131		2.92E+0	3.53E-2	4.31E-2				2.24E-4	2.88E-6	3.88E-7		1.64E-4	
G-90-006	6/30/90 6/30/90	1440 1555	1.74E-1	8.00E+0	6.46E-2	1.41E-1	1.49E-1	5.33E-1		3.61E-2	1.03E-5				
1-CPR-90-01	1/3/90 1/3/90	1226 1254	2.08E-3	2.85E-2		3.47E-4	3.82E-3						3.47E-4		6.94E-4
1-CPR-90-02	1/7/90 1/7/90	0002 0021	1.60E-3	2.18E-2		2.66E-4	2.93E-3						2.66E-4		5.32E-4
1-CPR-90-03	1/8/90 1/8/90	0002 0017	1.03E-3	1.41E-2		1.72E-4	1.89E-3						1.72E-4		3.44E-4
1-CPR-90-04	1/8/90 1/8/90	1337 1400	1.58E-3	2.16E-2		2.63E-4	2.89E-3						2.63E-4		5.26E-4
1-CPR-90-05	1/10/90 1/10/90	2120 2140	1.53E-3	2.09E-2		2.55E-4	2.81E-3						2.55E-4		5.10E-4
1-CPR-90-06	1/11/90 1/11/90	0601 0616	8.16E-4	1.12E-2		1.36E-4	1.50E-3						1.36E-4		2.72E-4
1-CPR-90-07	1/14/90 1/14/90	0331 0344	1.19E-3	1.63E-2		1.99E-4	2.19E-3						1.99E-4		3.98E-4
1-CPR-90-08	1/14/90 1/14/90	1418 1434	1.30E-3	1.78E-2		2.17E-4	2.39E-3						2.17E-4		4.34E-4
1-CPR-90-09	1/16/90 1/16/90	1335 1352	1.14E-3	1.56E-2		1.90E-4	2.09E-3						1.90E-4		3.80E-4
1-CPR-90-10	1/17/90 1/17/90	0559 0611	1.09E-3	1.48E-2		1.81E-4	1.99E-3						1.81E-4		3.62E-4
1-CPR-90-11	1/19/90 1/19/90	1429 1447	3.20E-3	4.37E-2		5.33E-4	5.86E-3						5.33E-4		1.07E-3
1-CPR-90-12	1/20/90 1/20/90	0419 0437	1.45E-3	1.98E-2		2.42E-4	2.66E-3						2.42E-4		4.84E-4
1-CPR-90-13	1/20/90 1/20/90	1509 1527	1.37E-3	1.87E-2		2.28E-4	2.51E-3						2.28E-4		4.56E-4
1-CPR-90-14	1/22/90 1/22/90	0538 0557	1.58E-3	2.16E-2		2.64E-4	2.90E-3						2.64E-4		5.28E-4
1-CPR-90-15	1/23/90 1/23/90	1201 1220	1.54E-3	2.10E-2		2.56E-4	2.82E-3						2.56E-4		5.12E-4
1-CPR-90-16	1/23/90 1/23/90	1724 1743	1.53E-3	2.09E-2		2.55E-4	2.81E-3						2.55E-4		5.10E-4



Release Number	Start Date Stop Date	Start Time Stop Time	Xel31m	Xel33	Xel33m	Xel35	Ar41	Kr85	Kr85m	H3	I131	I133	Cs137	Rb88	Cr51
1-CPR-90-17	1/25/90 1/25/90	0424 0443	1.50E-3	2.05E-2		2.50E-4	2.75E-3						2.50E-4		5.00E-4
1-CPR-90-18	1/25/90 1/25/90	1436 1451	5.96E-4	8.15E-3		9.94E-5	1.09E-3						9.94E-5		1.99E-4
1-CPR-90-19	1/27/90 1/27/90	1441 1500	1.48E-3	2.02E-2		2.46E-4	2.71E-3						2.46E-4		4.92E-4
1-CPR-90-20	1/29/90 1/29/90	1143 1203	1.52E-3	2.07E-2		2.53E-4	2.78E-3						2.53E-4		5.06E-4
1-CPR-90-21	1/31/90 1/31/90	1730 1803	2.24E-3	3.06E-2		3.73E-4	4.10E-3						3.73E-4		7.46E-4
1-CPR-90-22	2/2/90 2/2/90	1153 1210	1.10E-3	1.50E-2		1.83E-4	2.01E-3						1.83E-4		3.66E-4
1-CPR-90-23	2/3/90 2/3/90	0843 0901	1.09E-3	1.49E-2		1.82E-4	2.00E-3						1.82E-4		2.64E-4
1-CPR-90-24	2/4/90 2/4/90	2023 2105	2.31E-3	3.16E-2		3.85E-4	4.24E-3						3.85E-4		7.70E-4
1-CPR-90-25	2/6/90 2/6/90	1740 1804	1.47E-3	2.01E-2		2.45E-4	2.70E-3						2.45E-4		4.90E-4
1-CPR-90-26	2/8/90 2/8/90	0941 1000	1.34E-3	1.84E-2		2.24E-4	2.46E-3						2.24E-4		4.48E-4
1-CPR-90-27	2/9/90 2/9/90	0021 0044	2.72E-3	3.72E-2		4.54E-4	4.99E-3						4.54E-4		9.08E-4
1-CPR-90-28	2/11/90 2/11/90	0445 0500	9.00E-4	1.23E-2		1.50E-4	1.65E-3						1.50E-4		3.00E-4
1-CPR-90-29	2/12/90 2/12/90	1712 1729	6.54E-4	8.94E-3		1.09E-4	1.20E-3						1.09E-4		2.18E-4
1-CPR-90-30	2/15/90 2/15/90	0026 0043	7.08E-4	9.68E-3		1.18E-4	1.30E-3						1.18E-4		2.36E-4
1-CPR-90-31	2/15/90 2/15/90	1629 1649	1.23E-3	1.68E-2		2.05E-4	2.26E-3						2.05E-4		4.10E-4
1-CPR-90-32	2/18/90 2/18/90	1018 1035	1.15E-3	1.57E-2		1.91E-4	2.10E-3						1.91E-4		3.82E-4
1-CPR-90-33	2/20/90 2/20/90	2211 2225	9.84E-4	1.34E-2		1.64E-4	1.80E-3						1.64E-4		3.28E-4
1-CPR-90-34	2/21/90 2/21/90	1357 1425	1.83E-3	2.50E-2		3.05E-4	3.36E-3						3.05E-4		6.10E-4
1-CPR-90-35	2/22/90 2/22/90	0625 0642	1.05E-3	1.44E-2		1.75E-4	1.93E-3						1.75E-4		3.50E-4
1-CPR-90-36	2/22/90 2/22/90	1655 1712	1.07E-3	1.46E-2		1.78E-4	1.96E-3						1.78E-4		3.56E-4
1-CPR-90-37	2/23/90 2/23/90	2335 2354	1.34E-3	1.84E-2		2.24E-4	2.46E-3						2.24E-4		4.48E-4
1-CPR-90-38	2/26/90 2/26/90	2210 2230	4.61E-4	6.31E-3		7.69E-5	8.46E-4						7.69E-5		1.54E-4



Release Number	Start Date Stop Date	Start Time Stop Time	Xe131m	Xe133	Xe133m	Xe135	Ar41	Kr85	Kr85m	H3	I131	I133	Cs137	Rb88	Cr51
1-CPR-90-39	3/1/90 3/1/90	0716 0734	8.64E-4	1.18E-2		1.44E-4	1.58E-3						1.44E-4		2.88E-4
1-CPR-90-40	3/2/90 3/2/90	0548 0609	1.36E-3	1.86E-2		2.27E-4	2.50E-3						2.27E-4		4.54E-4
1-CPR-90-41	3/4/90 3/4/90	1142 1159	7.44E-4	1.02E-2		1.24E-4	1.36E-3						1.24E-4		2.48E-4
1-CPR-90-42	3/5/90 3/5/90	2041 2102	1.19E-3	1.63E-2		1.99E-4	2.19E-3						1.99E-4		3.98E-4
1-CPR-90-43	3/7/90 3/7/90	1726 1736	5.57E-4	7.61E-3		9.28E-5	1.02E-3						9.28E-5		1.86E-4
1-CPR-90-44	3/8/90 3/8/90	0331 0352	1.45E-3	1.98E-2		2.42E-4	2.66E-3						2.42E-4		4.84E-4
1-CPR-90-45	3/8/90 3/8/90	1446 1522	2.51E-3	3.43E-2		4.18E-4	4.60E-3						4.18E-4		8.36E-4
1-CPR-90-46	3/10/90 3/10/90	1225 1250	1.51E-3	2.06E-2		2.51E-4	2.76E-3						2.51E-4		5.02E-4
1-CPR-90-47	3/12/90 3/12/90	0347 0412	1.28E-3	1.75E-2		2.13E-4	2.34E-3						2.13E-4		4.26E-4
1-CPR-90-48	3/13/90 3/13/90	1527 1547	1.00E-3	1.37E-2		1.67E-4	1.84E-3						1.67E-4		3.34E-4
1-CPR-90-49	3/14/90 3/14/90	1355 1414	1.19E-3	1.63E-2		1.99E-4	2.19E-3						1.99E-4		3.98E-4
1-CPR-90-50	3/15/90 3/15/90	0847 0903	1.18E-3	1.62E-2		1.97E-4	2.17E-3						1.97E-4		3.94E-4
1-CPR-90-51	3/16/90 3/16/90	1700 1722	1.03E-3	1.41E-2		1.72E-4	1.89E-3						1.72E-4		3.44E-4
1-CPR-90-52	3/18/90 3/18/90	1907 1928	9.66E-4	1.32E-2		1.61E-4	1.77E-3						1.61E-4		3.22E-4
1-CPR-90-53	3/20/90 3/20/90	2027 2047	1.27E-3	1.74E-2		2.12E-4	2.33E-3						2.12E-4		4.24E-4
1-CPR-90-54	3/21/90 3/21/90	1431 1511	2.93E-3	4.00E-2		4.88E-4	5.37E-3						4.88E-4		9.76E-4
1-CPR-90-55	3/24/90 3/24/90	2017 2037	1.35E-3	1.85E-2		2.25E-4	2.48E-3						2.25E-4		4.50E-4
1-CPR-90-56	3/25/90 3/25/90	1959 2019	1.76E-3	2.41E-2		2.94E-4	3.23E-3						2.94E-4		5.88E-4
1-CPR-90-57	3/27/90 3/27/90	0528 0547	9.36E-4	1.28E-2		1.56E-4	1.72E-3						1.56E-4		3.12E-4
1-CPR-90-58	3/27/90 3/27/90	2324 2348	1.30E-3	1.77E-2		2.16E-4	2.38E-3						2.16E-4		4.32E-4
1-CPR-90-59	3/29/90 3/29/90	0247 0307	9.84E-4	1.34E-2		1.64E-4	1.80E-3						1.64E-4		3.28E-4
1-CPR-90-60	3/30/90 3/30/90	0447 0508	1.28E-3	1.75E-2		2.14E-4	2.35E-3						2.14E-4		4.28E-4



Release Number	Start Date Stop Date	Start Time Stop Time	Xel131m	Xel133	Xel133m	Xel135	Ar41	Kr85	Kr85m	H3	I131	I133	Cs137	Rb88	Cr51
1-CPR-90-61	3/31/90 3/31/90	1854 1918	1.48E-3	2.03E-2		2.47E-4	2.72E-3						2.47E-4		4.94E-4
1-CPR-90-62	4/1/90 4/1/90	1921 1947	1.23E-3	2.11E-2		2.22E-4	6.14E-3						2.13E-4		3.36E-4
1-CPR-90-63	4/3/90 4/3/90	2014 2038	1.03E-3	1.77E-2		1.86E-4	5.15E-3						1.79E-4		2.82E-4
1-CPR-90-64	4/4/90 4/4/90	2018 2042	8.86E-4	1.52E-2		1.60E-4	4.44E-3						1.54E-4		2.43E-4
1-CPR-90-65	4/6/90 4/6/90	1633 1710	1.60E-3	2.75E-2		2.90E-4	8.01E-3						2.78E-4		4.38E-4
1-CPR-90-66	4/9/90 4/9/90	1510 1533	1.03E-3	1.77E-2		1.86E-4	5.15E-3						1.79E-4		2.82E-4
1-CPR-90-67	4/10/90 4/10/90	0505 0525	6.43E-4	1.10E-2		1.16E-4	3.22E-3						1.12E-4		1.76E-4
1-CPR-90-68	4/12/90 4/12/90	2020 2043	9.79E-4	1.68E-2		1.77E-4	4.90E-3						1.70E-4		2.68E-4
1-CPR-90-69	4/13/90 4/14/90	2355 0019	1.35E-3	2.32E-2		2.44E-4	6.75E-3						2.34E-4		3.69E-4
1-CPR-90-70	4/15/90 4/15/90	1753 1816	9.66E-4	1.66E-2		1.75E-4	4.84E-3						1.68E-4		2.65E-4
1-CPR-90-71	4/16/90 4/16/90	1822 1844	1.13E-3	1.95E-2		2.05E-4	5.68E-3						1.97E-4		3.11E-4
1-CPR-90-72	4/19/90 4/19/90	1406 1429	9.58E-4	1.64E-2		1.73E-4	4.79E-3						1.66E-4		2.62E-4
1-CPR-90-73	4/20/90 4/20/90	1615 1640	1.09E-3	1.87E-2		1.97E-4	5.45E-3						1.89E-4		2.98E-4
1-CPR-90-74	4/22/90 4/22/90	1320 1405	2.67E-3	4.58E-2		4.83E-4	1.34E-2						4.64E-4		7.30E-4
1-CPR-90-75	4/24/90 4/24/90	0257 0327	1.47E-3	2.52E-2		2.65E-4	7.34E-3						2.55E-4		4.01E-4
1-CPR-90-76	4/26/90 4/26/90	0223 0247	1.20E-3	2.06E-2		2.17E-4	5.99E-3						2.08E-4		3.28E-4
1-CPR-90-77	4/27/90 4/27/90	1500 1524	1.07E-3	1.83E-2		1.93E-4	5.34E-3						1.85E-4		2.92E-4
1-CPR-90-78	4/28/90 4/28/90	0738 0820	2.02E-3	3.48E-2		3.66E-4	1.01E-2						3.52E-4		5.54E-4
1-CPR-90-79	5/3/90 5/3/90	1907 1925	5.46E-4	9.38E-3		9.88E-5	2.73E-3						9.49E-5		1.50E-4
1-CPR-90-80	5/4/90 5/4/90	0923 0953	1.50E-3	2.57E-2		2.71E-4	7.49E-3						2.60E-4		4.09E-4
1-CPR-90-81	5/6/90 5/6/90	0433 0513	2.19E-3	3.76E-2		3.96E-4	1.10E-2						3.80E-4		5.99E-4
1-CPR-90-82	5/8/90 5/8/90	1423 1443	5.75E-4	9.88E-3		1.04E-4	2.88E-3						1.00E-4		1.58E-4



Release Number	Start Date Stop Date	Start Time Stop Time	Xel131m	Xel133	Xel133m	Xel135	Ar41	Kr85	Kr85m	H3	I131	I133	Cs137	Rb88	Cr51
1-CPR-90-83	5/8/90 5/8/90	2120 2250	3.62E-3	6.21E-2		6.54E-4	1.81E-2						6.29E-4		9.90E-4
1-CPR-90-84	5/9/90 5/9/90	1610 1643	1.63E-3	2.79E-2		2.94E-4	8.14E-3						2.83E-4		4.45E-4
1-CPR-90-85	5/12/90 5/12/90	1240 1302	8.11E-4	1.39E-2		1.47E-4	4.06E-3						1.41E-4		2.22E-4
1-CPR-90-86	5/14/90 5/14/90	1938 2008	1.47E-3	2.52E-2		2.66E-4	7.36E-3						2.56E-4		4.03E-4
1-CPR-90-87	5/16/90 5/16/90	0108 0142	1.36E-3	2.34E-2		2.46E-4	6.81E-3						2.37E-4		3.73E-4
1-CPR-90-88	5/17/90 5/17/90	1255 1320	3.36E-3	5.78E-2		6.09E-4	1.68E-2						5.85E-4		9.21E-4
1-CPR-90-89	5/19/90 5/19/90	1505 1531	9.95E-4	1.71E-2		1.80E-4	4.98E-3						1.73E-4		2.73E-4
1-CPR-90-90	5/23/90 5/23/90	0449 0511	1.12E-3	1.92E-2		2.02E-4	5.59E-3						1.94E-4		3.06E-4
1-CPR-90-91	5/24/90 5/24/90	1922 1948	1.08E-3	1.86E-2		1.96E-4	5.43E-3						1.88E-4		2.97E-4
1-CPR-90-92	5/25/90 5/25/90	1722 1745	1.54E-3	2.64E-2		2.78E-4	7.70E-3						2.67E-4		4.21E-4
1-CPR-90-93	5/27/90 5/27/90	1919 1947	1.58E-3	2.71E-2		2.85E-4	7.89E-3						2.74E-4		4.31E-4
1-CPR-90-94	5/30/90 5/30/90	2025 2048	8.02E-4	1.38E-2		1.45E-4	4.02E-3						1.39E-4		2.20E-4
1-CPR-90-95	6/1/90 6/1/90	0630 0654	8.44E-4	1.45E-2		1.53E-4	4.23E-3						1.47E-4		2.31E-4
1-CPR-90-96	6/2/90 6/2/90	1200 1225	1.06E-3	1.83E-2		1.92E-4	5.32E-3						1.85E-4		2.91E-4
1-CPR-90-97	6/3/90 6/3/90	1409 1440	1.34E-3	2.31E-2		2.43E-4	6.73E-3						2.34E-4		3.68E-4
1-CPR-90-98	6/5/90 6/5/90	2121 2142	5.84E-4	1.00E-2		1.06E-4	2.92E-3						1.01E-4		1.60E-4
1-CPR-90-99	6/7/90 6/7/90	1833 1853	6.09E-4	1.05E-2		1.10E-4	3.05E-3						1.06E-4		1.67E-4
1-CPR-90-100	6/11/90 6/11/90	1805 1833	1.29E-3	2.21E-2		2.33E-4	6.46E-3						2.24E-4		3.53E-4
1-CPR-90-101	6/13/90 6/13/90	0234 0300	8.90E-4	1.53E-2		1.61E-4	4.46E-3						1.55E-4		2.44E-4
1-CPR-90-102	6/15/90 6/15/90	1734 1755	8.53E-4	1.46E-2		1.54E-4	4.27E-3						1.48E-4		2.33E-4
1-CPR-90-103	6/16/90 6/16/90	2252 2316	1.41E-3	2.42E-2		2.55E-4	7.07E-3						2.45E-4		3.86E-4
1-CPR-90-104	6/18/90 6/18/90	1841 1902	9.07E-4	1.56E-2		1.64E-4	3.05E-3						1.58E-4		2.48E-4



Number	Stop Date	Stop Time	Xe131m	Xe133	Xe133m	Xe135	Ar41	Kr85	Kr85m	H3	I131	I133	Cs137	Rb88	Cr51
1-CPR-90-105	6/20/90	0149													
	6/20/90	0210	2.06E-3	3.53E-2		3.72E-4	1.03E-2						3.58E-4		5.64E-4
1-CPR-90-106	6/22/90	0250													
	6/22/90	0314	9.58E-4	1.64E-2		1.73E-4	4.79E-3						1.66E-4		2.62E-4
1-CPR-90-107	6/22/90	1507													
	6/22/90	1533	1.50E-3	2.58E-2		2.72E-4	7.53E-3						2.61E-4		4.12E-4
1-CPR-90-108	6/26/90	0937													
	6/26/90	1000	1.28E-3	2.19E-2		2.31E-4	6.39E-3						2.22E-4		3.50E-4
1-CPR-90-109	6/27/90	1930													
	6/27/90	1949	8.36E-4	1.44E-2		1.51E-4	4.18E-3						1.45E-4		2.29E-4
1-CPR-90-110	6/28/90	1944													
	6/28/90	2010	1.30E-3	2.24E-2		2.36E-4	6.52E-3						2.26E-4		3.57E-4
2-CPR-90-001	1/3/90	0327													
	1/3/90	0355	1.17E-2	5.43E-1	5.84E-3	1.17E-2	5.84E-3	2.34E-2							
2-CPR-90-002	1/4/90	0300													
	1/4/90	0327	1.15E-2	5.37E-1	5.77E-3	1.15E-2	5.77E-3	2.31E-2							
2-CPR-90-003	1/11/90	0220													
	1/11/90	0305	1.15E-3	5.34E-2	5.74E-4	1.15E-3	5.74E-4	2.30E-3							
2-CPR-90-004	1/22/90	1016													
	1/22/90	1036	1.54E-4	7.16E-3	7.70E-5	1.54E-4	7.70E-5	3.08E-4							
2-CPR-90-005	1/23/90	1220													
	1/23/90	1248	1.52E-4	7.06E-3	7.59E-5	1.52E-4	7.59E-5	3.04E-4							
2-CPR-90-006	1/25/90	0230													
	1/25/90	0254	2.96E-4	1.38E-2	1.48E-4	2.96E-4	1.48E-4	5.92E-4							
2-CPR-90-007	1/25/90	0905													
	1/25/90	0931	1.74E-4	8.08E-3	8.69E-5	1.74E-4	8.69E-5	3.48E-4							
2-CPR-90-008	1/29/90	0348													
	1/29/90	0412	2.62E-4	1.22E-2	1.31E-4	2.62E-4	1.31E-4	5.24E-4							
2-CPR-90-009	1/31/90	1835													
	1/31/90	1857	2.20E-4	1.02E-2	1.10E-4	2.20E-4	1.10E-4	4.40E-4							
2-CPR-90-10	2/3/90	1511													
	2/3/90	1535	4.46E-4	2.07E-2	2.23E-4	4.46E-4	2.23E-4	8.92E-4							
2-CPR-90-11	2/5/90	1540													
	2/5/90	1602	5.34E-4	2.48E-2	2.67E-4	5.34E-4	2.67E-4	1.07E-3							
2-CPR-90-12	2/8/90	0443													
	2/8/90	0515	7.48E-4	3.48E-2	3.74E-4	7.48E-4	3.74E-4	1.50E-3							
2-CPR-90-13	2/9/90	2337													
	2/9/90	2356	5.58E-4	2.59E-2	2.79E-4	5.58E-4	2.79E-4	1.12E-3							
2-CPR-90-14	2/12/90	1658													
	2/12/90	1722	8.10E-4	3.77E-2	4.05E-4	8.10E-4	4.05E-4	1.62E-3							
2-CPR-90-15	2/15/90	0145													
	2/15/90	0208	7.04E-4	3.27E-2	3.52E-4	7.04E-4	3.52E-4	1.41E-3							



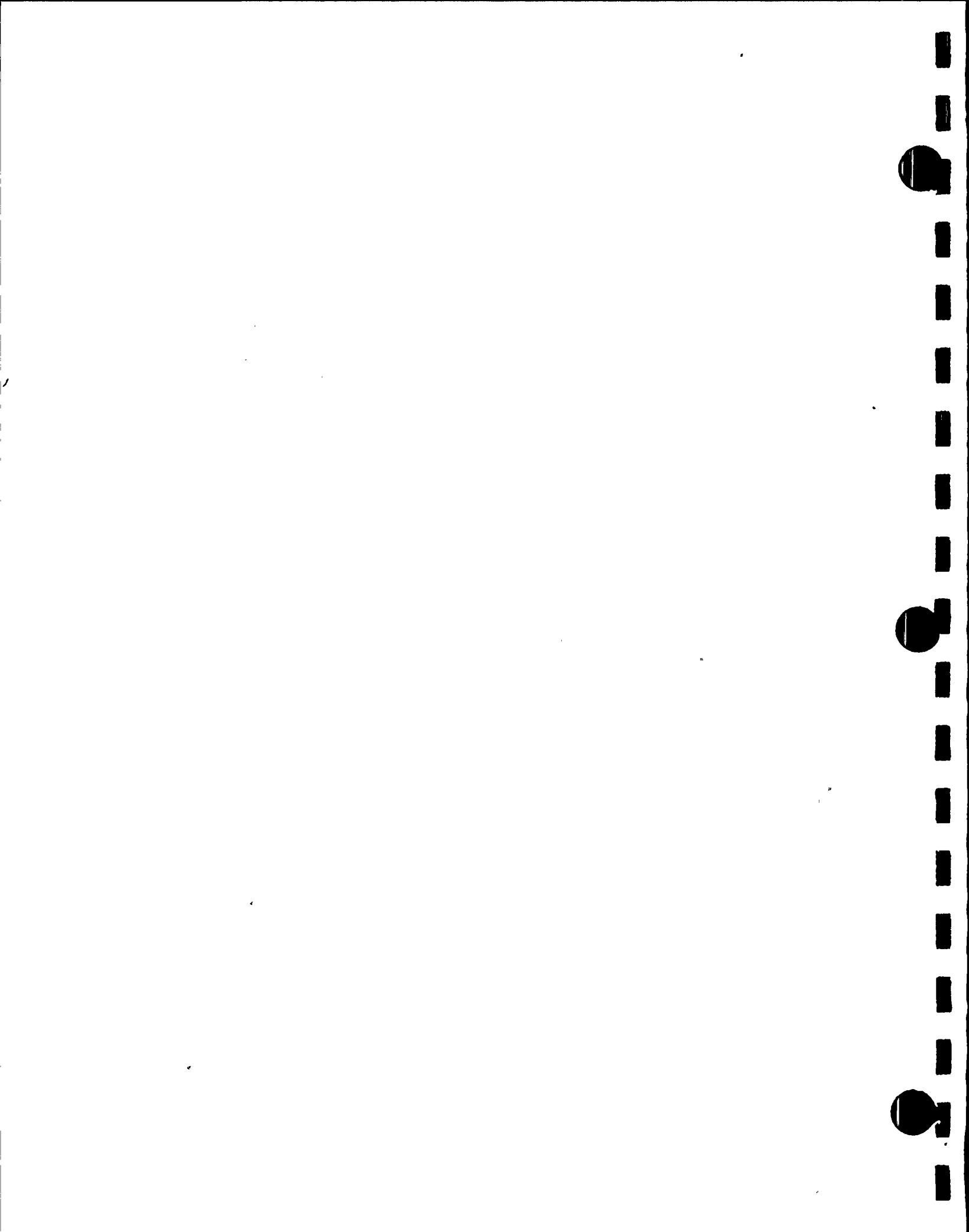
Release Number	Start Date Stop Date	Start Time Stop Time	Xe131m	Xe133	Xe133m	Xe135	Ar41	Kr85	Kr85m	H3	I131	I133	Cs137	Rb88	Cr51
2-CPR-90-16	2/16/90 2/16/90	0414 0437	8.52E-4	3.96E-2	4.26E-4	8.52E-4	4.26E-4	1.70E-3							
2-CPR-90-17	2/21/90 2/21/90	0228 0252	1.13E-3	5.24E-2	5.63E-4	1.13E-3	5.63E-4	2.25E-3							
2-CPR-90-18	2/21/90 2/21/90	1700 1723	8.42E-4	3.92E-2	4.21E-4	8.42E-4	4.21E-4	1.68E-3							
2-CPR-90-19	2/22/90 2/22/90	0800 0830	1.26E-3	5.85E-2	6.29E-4	1.26E-3	6.29E-4	2.52E-3							
2-CPR-90-20	2/24/90 2/24/90	0034 0108	1.70E-3	7.92E-2	8.52E-4	1.70E-3	8.52E-4	3.41E-3							
2-CPR-90-21	3/1/90 3/1/90	1411 1430	8.26E-4	3.84E-2	4.13E-4	8.26E-4	4.13E-4	1.65E-3							
2-CPR-90-22	3/2/90 3/2/90	0445 0511	5.14E-4	2.39E-2	2.57E-4	5.14E-4	2.57E-4	1.03E-3							
2-CPR-90-23	3/5/90 3/5/90	0329 0352	9.78E-4	4.55E-2	4.89E-4	9.78E-4	4.89E-4	1.96E-3							
2-CPR-90-24	3/8/90 3/8/90	0217 0242	1.32E-3	6.12E-2	6.58E-4	1.32E-3	6.58E-4	2.63E-3							
2-CPR-90-25	3/8/90 3/8/90	2000 2027	1.19E-3	5.54E-2	5.96E-4	1.19E-3	5.96E-4	2.38E-3							
2-CPR-90-26	3/10/90 3/10/90	1457 1529	1.61E-3	7.48E-2	8.04E-4	1.61E-3	8.04E-4	3.22E-3							
2-CPR-90-27	3/12/90 3/12/90	1208 1257	2.68E-3	1.25E-1	1.34E-3	2.68E-3	1.34E-3	5.36E-3							
2-CPR-90-28	3/14/90 3/14/90	0318 0344	1.22E-3	5.66E-2	6.09E-4	1.22E-3	6.09E-4	2.44E-3							
2-CPR-90-29	3/15/90 3/15/90	0510 0533	1.10E-3	5.12E-2	5.50E-4	1.10E-3	5.50E-4	2.20E-3							
2-CPR-90-30	3/20/90 3/20/90	2035 2123	2.72E-3	1.26E-1	1.36E-3	2.72E-3	1.36E-3	5.44E-3							
2-CPR-90-31	3/22/90 3/22/90	1122 1146	1.32E-3	6.13E-2	6.59E-4	1.32E-3	6.59E-4	2.64E-3							
2-CPR-90-32	3/25/90 3/25/90	1758 1818	1.22E-3	5.67E-2	6.10E-4	1.22E-3	6.10E-4	2.44E-3							
2-CPR-90-33	3/28/90 3/28/90	1514 1536	9.98E-4	4.64E-2	4.99E-4	9.98E-4	4.99E-4	2.00E-3							
2-CPR-90-34	3/29/90 3/29/90	1913 1936	7.78E-4	3.62E-2	3.89E-4	7.78E-4	3.89E-4	1.56E-3							
2-CPR-90-35	3/31/90 3/31/90	2248 2316	1.60E-3	7.46E-2	8.02E-4	1.60E-3	8.02E-4	3.21E-3							
2-CPR-90-36	4/2/90 4/2/90	0459 0523	1.00E-3	6.06E-2	5.20E-4	1.24E-3	9.21E-5	2.32E-3							
2-CPR-90-37	4/4/90 4/4/90	0738 0802	1.05E-3	6.34E-2	5.44E-4	1.30E-3	9.63E-5	2.42E-3							



Release Number	Start Date Stop Date	Start Time Stop Time	Xel131m	Xel133	Xel133m	Xel135	Ar41	Kr85	Kr85m	H3	I131	I133	Cs137	Rb88	Cr51
2-CPR-90-38	4/9/90 4/9/90	1740 1805	1.17E-3	7.12E-2	6.11E-4	1.46E-3	1.08E-4	2.72E-3							
2-CPR-90-39	4/10/90 4/10/90	1735 1753	8.80E-4	5.33E-2	4.57E-4	1.09E-3	8.11E-5	2.04E-3							
2-CPR-90-40	4/13/90 4/13/90	2045 2108	7.48E-4	4.53E-2	3.89E-4	9.30E-4	6.89E-5	1.73E-3							
2-CPR-90-41	4/16/90 4/16/90	1400 1416	7.63E-4	4.63E-2	3.97E-4	9.49E-4	7.03E-5	1.77E-3							
2-CPR-90-42	4/19/90 4/19/90	1615 1635	6.64E-4	4.03E-2	3.45E-4	8.26E-4	6.12E-5	1.54E-3							
2-CPR-90-43	4/22/90 4/22/90	1604 1627	7.04E-4	4.27E-2	3.66E-4	8.75E-4	6.48E-5	1.63E-3							
2-CPR-90-44	4/24/90 4/24/90	1504 1518	5.61E-4	3.40E-2	2.92E-4	6.97E-4	5.17E-5	1.30E-3							
2-CPR-90-45	4/26/90 4/26/90	1607 1628	1.09E-3	6.61E-2	5.66E-4	1.36E-3	1.00E-4	2.52E-3							
2-CPR-90-46	4/27/90 4/27/90	2329 2346	9.70E-4	5.88E-2	5.04E-4	1.21E-3	8.93E-5	2.25E-3							
2-CPR-90-47	5/4/90 5/4/90	0442 0503	8.69E-4	5.27E-2	4.52E-4	1.08E-3	8.01E-5	2.01E-3							
2-CPR-90-48	5/7/90 5/7/90	1418 1438	1.05E-3	6.37E-2	5.46E-4	1.31E-3	9.67E-5	2.43E-3							
2-CPR-90-49	5/9/90 5/9/90	1319 1336	6.90E-4	4.18E-2	3.59E-4	8.58E-4	6.36E-5	1.60E-3							
2-CPR-90-50	5/10/90 5/10/90	0024 0047	1.02E-3	6.16E-2	5.29E-4	1.26E-3	9.37E-5	2.35E-3							
2-CPR-90-51	5/15/90 5/15/90	1139 1156	6.90E-4	4.18E-2	3.59E-4	8.58E-4	6.36E-5	1.60E-3							
2-CPR-90-52	5/16/90 5/16/90	0210 0230	7.31E-4	4.43E-2	3.80E-4	9.09E-4	6.73E-5	1.69E-3							
2-CPR-90-53	5/19/90 5/19/90	1252 1322	1.10E-3	6.65E-2	5.70E-4	1.36E-3	1.01E-4	2.54E-3							
2-CPR-90-54	5/23/90 5/23/90	1906 1922	4.82E-4	2.92E-2	2.50E-4	5.99E-4	4.44E-5	1.12E-3							
2-CPR-90-55	5/25/90 5/25/90	1358 1415	6.02E-4	3.65E-2	3.13E-4	7.48E-4	5.54E-5	1.39E-3							
2-CPR-90-56	5/28/90 5/28/90	1509 1525	6.35E-4	3.85E-2	3.30E-4	7.90E-4	5.85E-5	1.47E-3							
2-CPR-90-57	6/1/90 6/1/90	1053 1113	1.31E-3	7.91E-2	6.79E-4	1.62E-3	1.20E-4	3.02E-3							
2-CPR-90-58	6/2/90 6/2/90	1452 1513	1.17E-3	7.09E-2	6.08E-4	1.46E-3	1.08E-4	2.71E-3							
2-CPR-90-59	6/5/90 6/5/90	1550 1606	1.12E-3	6.76E-2	5.80E-4	1.39E-3	1.03E-4	2.58E-3							



[illegible]



The following distances were used in the calculation of the maximum individual doses:

<u>Sector</u>	<u>Direction</u>	<u>Boundary (Meters)</u>	<u>Nearest Residence (Meters)</u>
A	N	651	659
B	NNE	617	660
C	NE	789	943
D	ENE	1497	1747
E	E	1274	1716
F	ESE	972	1643
G	SE	629	1136
H	SSE	594	1507
J	S	594	1026
K	SSW	629	942



APPENDIX 1.2

Summary of Maximum Individual Doses
First Quarter, 1990



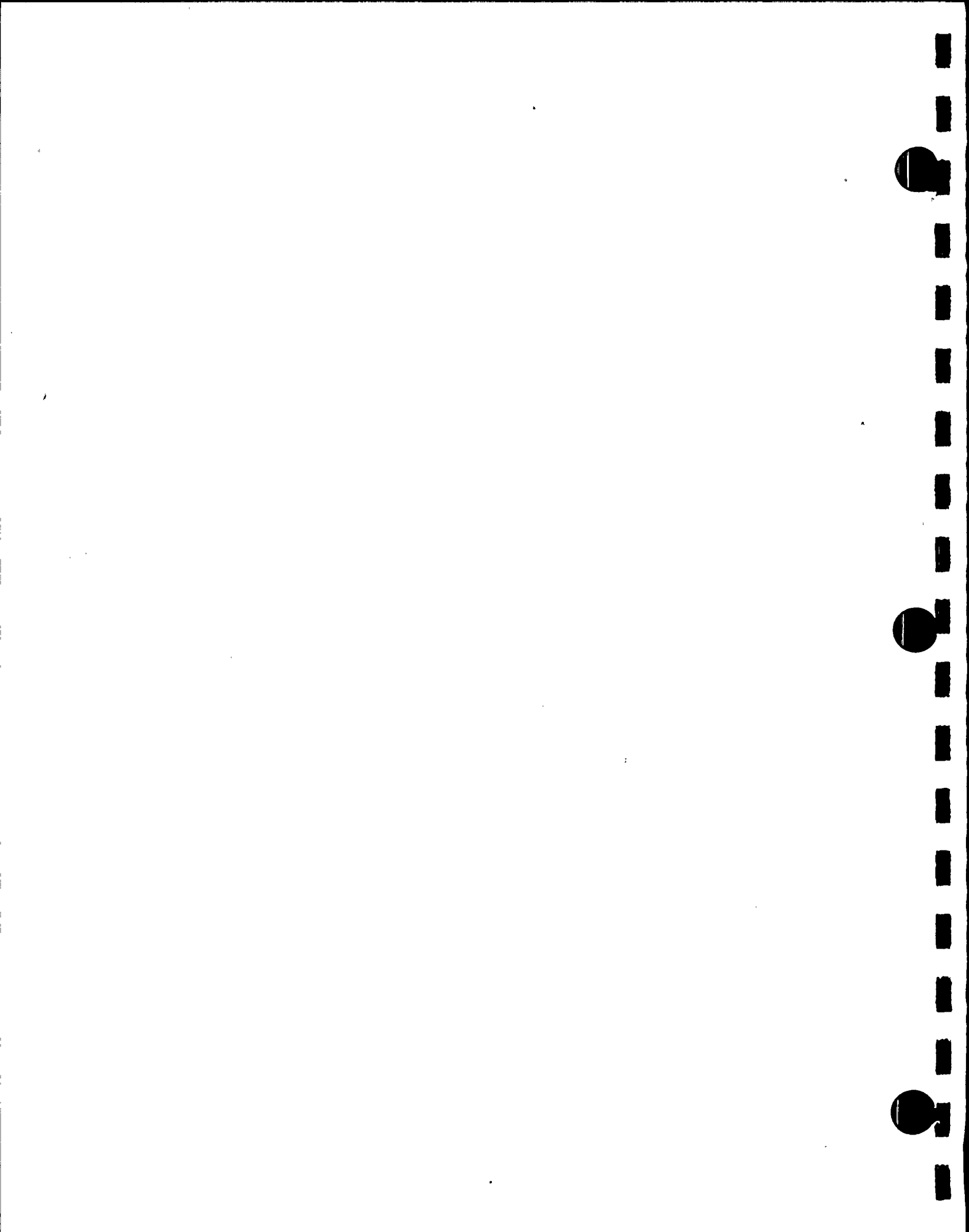
SUMMARY OF MAXIMUM INDIVIDUAL DOSES 1ST QUARTER 90

EFFLUENT	APPLICABLE ORGAN	ESTIMATED DOSE (MREM)	AGE GROUP	LOCATION DIST DIR (M) (Toward)	% OF APPLICABLE LIMIT	QUARTERLY LIMIT (MR)
Liquid	Total Body	4.22 E-2	Adult	Receptor 1	2.81 E+0	1.5 E+0
Liquid	Liver	5.42 E-2	Adult	Receptor 1	1.08 E+0	5.0 E+0
Noble Gas	Air Dose (Gamma-mrad)	5.12 E-3		629 SE	1.02 E-1	5.0 E+0
Noble Gas	Air Dose (Beta-mrad)	1.45 E-2		629 SE	1.45 E-1	1.0 E+1
Noble Gas	Total Body	1.41 E-2	All	659 N	2.82 E-1	Annual 5.0 E+0
Noble Gas	Skin	4.01 E-2	All	659 N	2.67 E-1	Annual 1.5 E+1
Iodines and Particulates	Bone	5.12 E-1	Child	659 N	6.83 E+0	7.5 E+0



FOR RECEPTOR NUMBER 1

LAST LIQUID DOSE ACCUMULATIONS(MREM)								
START DATE	90 1 1 1	END DATE 90 33124						
	BONE	LIVER	T.BODY	THYRD	KIDNEY	LUNG	GI-LLI	SKIN
WATER								
ADULT	1.7E-04	9.1E-03	9.0E-03	8.8E-03	8.9E-03	8.8E-03	9.0E-03	0.0E+00
TEEN	1.7E-04	6.5E-03	6.3E-03	6.2E-03	6.3E-03	6.2E-03	6.3E-03	0.0E+00
CHILD	4.8E-04	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	0.0E+00
INFANT	5.0E-04	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	0.0E+00
SHORE								
ADULT	2.0E-05	2.0E-05	2.0E-05	2.0E-05	2.0E-05	2.0E-05	2.0E-05	2.3E-05
TEEN	1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.3E-04
CHILD	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.7E-05
INFANT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
FW SPT FISH								
ADULT	2.6E-02	4.5E-02	3.3E-02	6.0E-04	1.5E-02	5.5E-03	2.2E-03	0.0E+00
TEEN	2.7E-02	4.6E-02	1.9E-02	4.6E-04	1.6E-02	6.3E-03	1.6E-03	0.0E+00
CHILD	3.4E-02	4.0E-02	7.6E-03	3.9E-04	1.3E-02	5.0E-03	8.0E-04	0.0E+00
INFANT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TOTAL								
ADULT	2.6E-02	5.4E-02	4.2E-02	9.4E-03	2.4E-02	1.4E-02	1.1E-02	2.3E-05
TEEN	2.8E-02	5.3E-02	2.5E-02	6.8E-03	2.2E-02	1.3E-02	8.1E-03	1.3E-04
CHILD	3.5E-02	5.3E-02	2.0E-02	1.2E-02	2.5E-02	1.7E-02	1.3E-02	2.7E-05
INFANT	5.0E-04	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	1.2E-02	0.0E+00



DATES OF LAST AIR DOSE ACCUMULATION ARE FROM 90 1 1 1 0 TO 90 33124 0
DOSE ACCUMULATION FOR GAMMA MRAD
FOR RELEASE POINT 1

**DIRECTION FROM N

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NNE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ENE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM E

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ESE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SSE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM S

1.6526E-02	1.9121E-03	8.4043E-04	4.7603E-04	3.2083E-04
1.4673E-04	4.9704E-05	2.2634E-05	1.3583E-05	7.7121E-06

**DIRECTION FROM SSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM W

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NW

2.8362E-03	3.2815E-04	1.4423E-04	8.1696E-05	5.5061E-05
2.5182E-05	8.5301E-06	3.8843E-06	2.3312E-06	1.3235E-06

**DIRECTION FROM NNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0



FOR RELEASE POINT 2

**DIRECTION FROM N

1.4137E-03	1.6145E-04	7.2750E-05	4.1981E-05	2.8844E-05
1.3804E-05	5.0176E-06	2.3928E-06	1.4877E-06	8.9743E-07

**DIRECTION FROM NNE

6.8885E-04	8.3803E-05	3.7311E-05	2.1274E-05	1.4631E-05
7.0535E-06	2.5678E-06	1.2265E-06	7.6485E-07	4.6120E-07

**DIRECTION FROM NE

6.6712E-04	8.2709E-05	3.8356E-05	2.2461E-05	1.5771E-05
7.9282E-06	3.0581E-06	1.4977E-06	9.4852E-07	5.9159E-07

**DIRECTION FROM ENE

1.7441E-03	2.0722E-04	9.8223E-05	5.8616E-05	4.1142E-05
2.0552E-05	7.9835E-06	3.9357E-06	2.5032E-06	1.5681E-06

**DIRECTION FROM E

3.3979E-03	3.9106E-04	1.8956E-04	1.1480E-04	8.1427E-05
4.1495E-05	1.6512E-05	8.2003E-06	5.2347E-06	3.3233E-06

**DIRECTION FROM ESE

2.8066E-03	3.3122E-04	1.5821E-04	9.4979E-05	6.6801E-05
3.3473E-05	1.3094E-05	6.4803E-06	4.1310E-06	2.5953E-06

**DIRECTION FROM SE

3.9316E-03	4.6494E-04	2.2806E-04	1.3944E-04	9.8615E-05
4.9827E-05	1.9888E-05	9.9691E-06	6.4103E-06	4.0678E-06

**DIRECTION FROM SSE

4.6883E-03	5.8052E-04	2.8107E-04	1.7037E-04	1.1983E-04
5.9981E-05	2.3723E-05	1.1915E-05	7.6849E-06	4.8513E-06

**DIRECTION FROM S

1.1468E-02	1.4065E-03	6.6855E-04	3.9964E-04	2.8067E-04
1.4042E-04	5.4832E-05	2.7209E-05	1.7389E-05	1.0901E-05

**DIRECTION FROM SSW

4.5127E-03	5.5391E-04	2.5206E-04	1.4603E-04	1.0104E-04
4.9210E-05	1.8328E-05	8.8740E-06	5.5858E-06	3.4173E-06

**DIRECTION FROM SW

2.6708E-03	3.1377E-04	1.3929E-04	7.9426E-05	5.4429E-05
2.6009E-05	9.3869E-06	4.4758E-06	2.7897E-06	1.6787E-06

**DIRECTION FROM WSW

2.7157E-03	2.9629E-04	1.3069E-04	7.4576E-05	5.1054E-05
2.4366E-05	8.8279E-06	4.2550E-06	2.6792E-06	1.6322E-06

**DIRECTION FROM W

2.6506E-03	2.8817E-04	1.2932E-04	7.4701E-05	5.1332E-05
2.4620E-05	9.0222E-06	4.3575E-06	2.7446E-06	1.6831E-06

**DIRECTION FROM WNW

3.0948E-03	3.4680E-04	1.5268E-04	8.6790E-05	5.8855E-05
2.7409E-05	9.5912E-06	4.5108E-06	2.7914E-06	1.6589E-06

**DIRECTION FROM NW

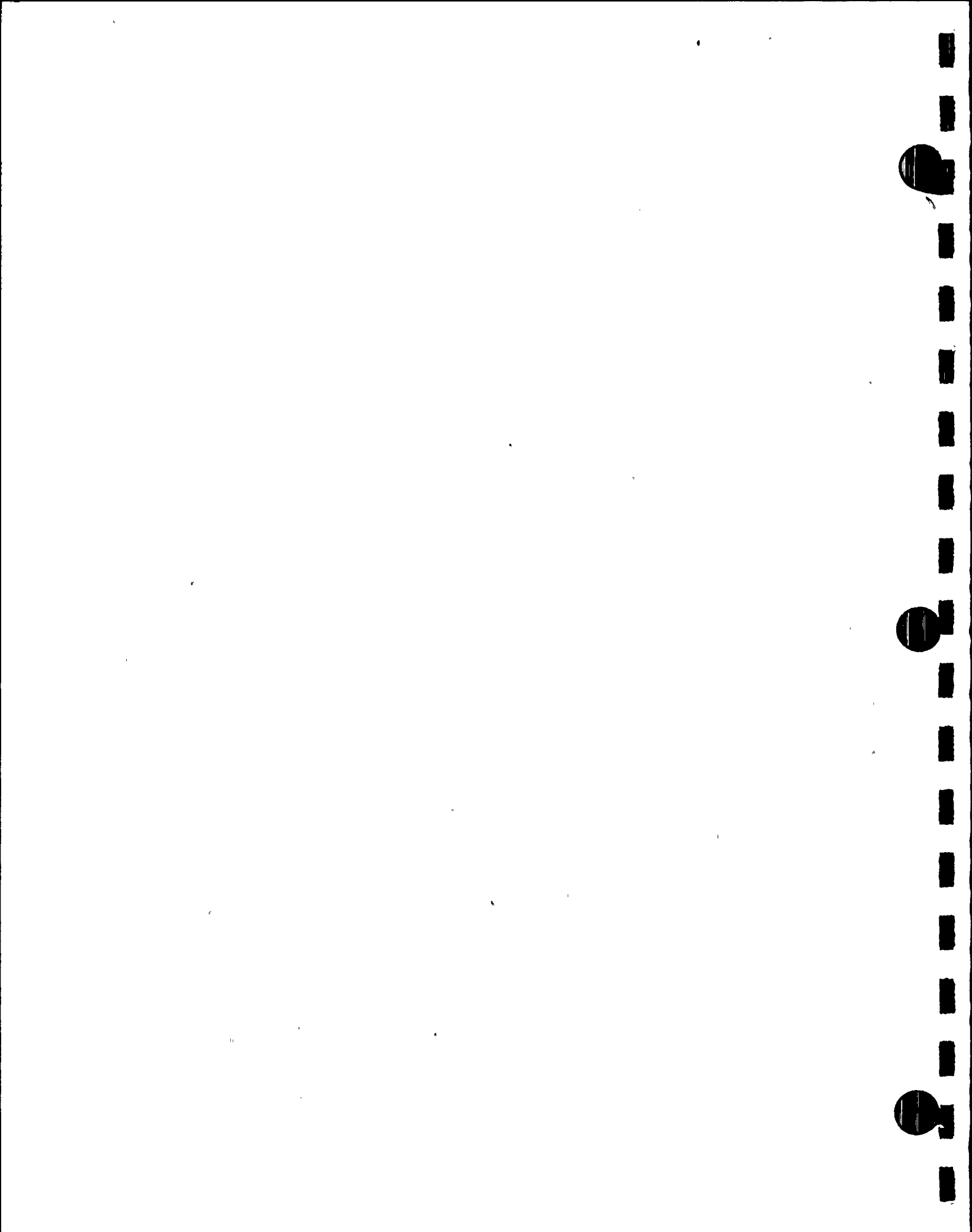
2.7576E-03	3.0211E-04	1.3356E-04	7.6231E-05	5.1686E-05
2.4008E-05	8.3857E-06	3.9320E-06	2.4240E-06	1.4369E-06

**DIRECTION FROM NNW

1.5866E-03	1.6976E-04	7.4815E-05	4.2692E-05	2.9062E-05
1.3667E-05	4.8706E-06	2.3347E-06	1.4658E-06	8.8777E-07

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0



DATES OF LAST AIR DOSE ACCUMULATION ARE FROM 90 1 1 1 0 TO 90 33124 0
DOSE ACCUMULATION FOR BETA MRAD
FOR RELEASE POINT 1

**DIRECTION FROM N

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NNE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ENE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM E

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ESE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SSE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM S

4.5280E-02	5.2389E-03	2.3027E-03	1.3043E-03	8.7905E-04
4.0203E-04	1.3618E-04	6.2013E-05	3.7217E-05	2.1130E-05

**DIRECTION FROM SSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM W

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NW

8.5318E-03	9.8715E-04	4.3388E-04	2.4576E-04	1.6564E-04
7.5753E-05	2.5660E-05	1.1685E-05	7.0126E-06	3.9815E-06

**DIRECTION FROM NNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0



FOR RELEASE POINT 2

**DIRECTION FROM N

3.2728E-03	3.7595E-04	1.6882E-04	9.7146E-05	6.6597E-05
3.1716E-05	1.1440E-05	5.4304E-06	3.3648E-06	2.0173E-06

**DIRECTION FROM NNE

1.6777E-03	2.0747E-04	9.2569E-05	5.2807E-05	3.6368E-05
1.7587E-05	6.4231E-06	3.0702E-06	1.9146E-06	1.1550E-06

**DIRECTION FROM NE

1.5349E-03	1.8828E-04	8.7928E-05	5.1755E-05	3.6407E-05
1.8347E-05	7.1094E-06	3.4851E-06	2.2071E-06	1.3796E-06

**DIRECTION FROM ENE

4.0723E-03	4.8597E-04	2.3106E-04	1.3818E-04	9.7017E-05
4.8465E-05	1.8854E-05	9.3022E-06	5.9184E-06	3.7071E-06

**DIRECTION FROM E

7.9819E-03	9.2066E-04	4.4695E-04	2.7093E-04	1.9223E-04
9.7991E-05	3.9025E-05	1.9389E-05	1.2379E-05	7.8593E-06

**DIRECTION FROM ESE

6.4248E-03	7.6266E-04	3.6137E-04	2.1578E-04	1.5136E-04
7.5491E-05	2.9328E-05	1.4483E-05	9.2226E-06	5.7737E-06

**DIRECTION FROM SE

9.3204E-03	1.1156E-03	5.4444E-04	3.3182E-04	2.3416E-04
1.1786E-04	4.6858E-05	2.3489E-05	1.5112E-05	9.5693E-06

**DIRECTION FROM SSE

1.1481E-02	1.4255E-03	6.8808E-04	4.1625E-04	2.9243E-04
1.4607E-04	5.7617E-05	2.8919E-05	1.8647E-05	1.1756E-05

**DIRECTION FROM S

3.0118E-02	3.6895E-03	1.7532E-03	1.0479E-03	7.3585E-04
3.6807E-04	1.4367E-04	7.1264E-05	4.5530E-05	2.8536E-05

**DIRECTION FROM SSW

1.1583E-02	1.4198E-03	6.4303E-04	3.7125E-04	2.5641E-04
1.2445E-04	4.6067E-05	2.2229E-05	1.3962E-05	8.5115E-06

**DIRECTION FROM SW

6.9802E-03	8.2058E-04	3.6416E-04	2.0760E-04	1.4225E-04
6.7973E-05	2.4523E-05	1.1688E-05	7.2825E-06	4.3804E-06

**DIRECTION FROM WSW

6.8984E-03	7.5195E-04	3.3152E-04	1.8914E-04	1.2938E-04
6.1629E-05	2.2269E-05	1.0713E-05	6.7351E-06	4.0939E-06

**DIRECTION FROM W

6.7743E-03	7.3276E-04	3.2651E-04	1.8772E-04	1.2853E-04
6.1178E-05	2.2173E-05	1.0658E-05	6.6956E-06	4.0841E-06

**DIRECTION FROM WNW

7.9712E-03	8.8393E-04	3.8811E-04	2.2032E-04	1.4911E-04
6.9125E-05	2.4036E-05	1.1271E-05	6.9638E-06	4.1273E-06

**DIRECTION FROM NW

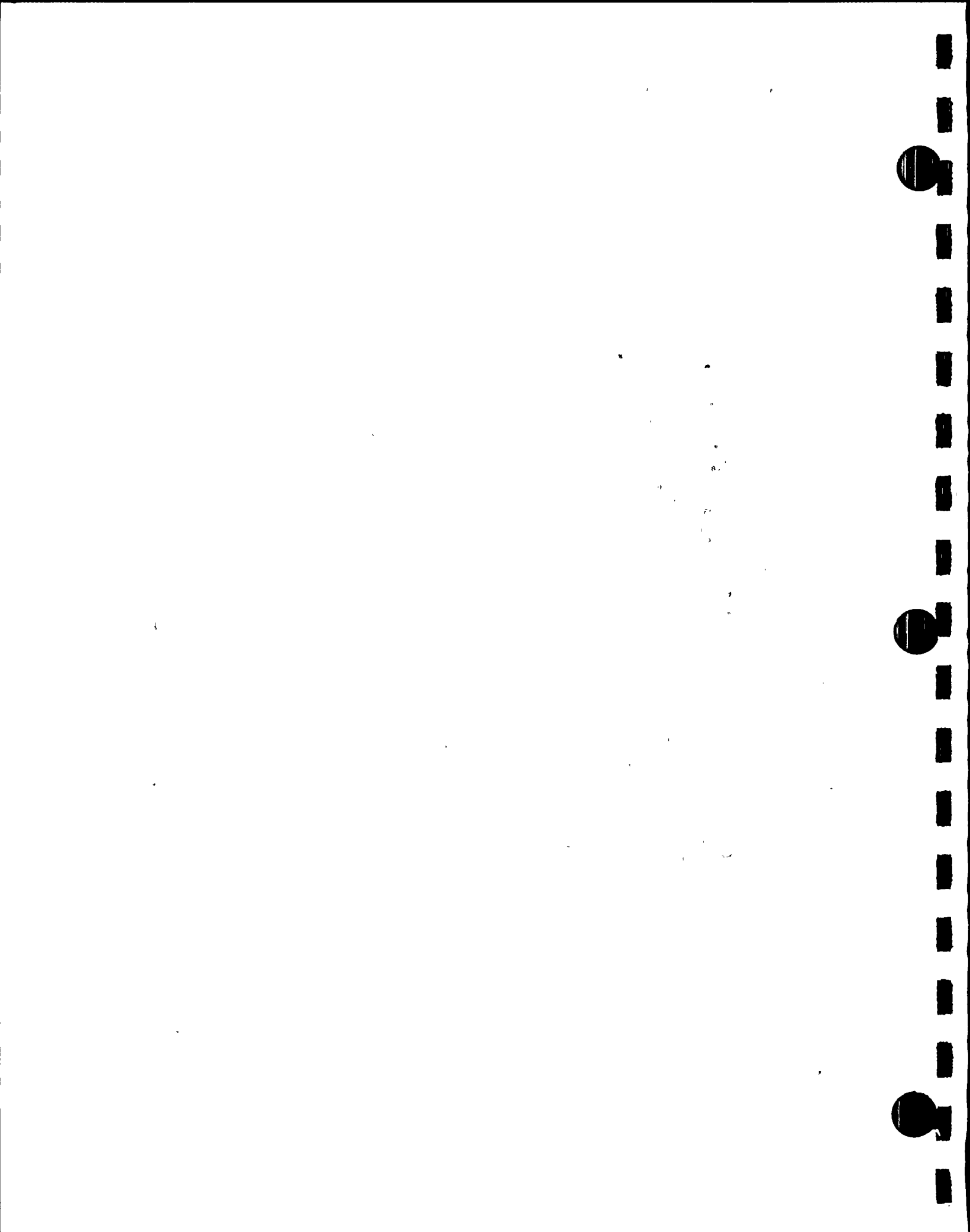
7.3054E-03	7.9977E-04	3.5229E-04	2.0055E-04	1.3567E-04
6.2700E-05	2.1728E-05	1.0145E-05	6.2379E-06	3.6792E-06

**DIRECTION FROM NNW

3.6572E-03	3.8737E-04	1.7037E-04	9.7151E-05	6.6026E-05
3.0929E-05	1.0971E-05	5.2501E-06	3.2939E-06	1.9921E-06

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.5E-02 4.0E-02
TEEN 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.5E-02 4.0E-02
CHILD 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.5E-02 4.0E-02
INFNT 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.5E-02 4.0E-02

GROUND PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.5E-01
TEEN 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.5E-01
CHILD 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.5E-01
INFNT 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.1E-01 2.5E-01

VEGET PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD N
ADULT 1.8E-03 1.2E-04 2.0E-03 2.8E-03 9.8E-04 9.4E-04 3.6E-04 0.0E+00
TEEN 1.5E-03 1.3E-04 3.2E-03 4.3E-03 1.5E-03 7.9E-04 6.2E-04 0.0E+00
CHILD 1.2E-03 1.5E-04 7.5E-03 7.3E-03 2.4E-03 1.2E-03 9.4E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD N
ADULT 1.8E-04 1.4E-05 2.0E-04 2.8E-04 1.0E-04 1.2E-04 3.8E-05 0.0E+00
TEEN 8.1E-05 8.5E-06 1.6E-04 2.2E-04 7.9E-05 8.2E-05 3.4E-05 0.0E+00
CHILD 4.9E-05 7.9E-06 3.0E-04 2.9E-04 1.0E-04 1.2E-04 4.0E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD N
ADULT 6.5E-03 2.8E-04 7.2E-03 1.0E-02 3.5E-03 1.3E-02 1.2E-03 0.0E+00
TEEN 6.2E-03 3.6E-04 1.3E-02 1.8E-02 6.1E-03 2.0E-02 2.4E-03 0.0E+00
CHILD 4.7E-03 3.4E-04 3.2E-02 3.0E-02 1.0E-02 4.0E-02 3.7E-03 0.0E+00
INFNT 4.5E-03 4.0E-04 5.0E-02 5.9E-02 1.6E-02 9.7E-02 6.6E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD N
ADULT 2.0E-02 7.1E-04 2.2E-02 3.0E-02 1.0E-02 1.5E-02 3.5E-03 0.0E+00
TEEN 1.8E-02 9.3E-04 3.9E-02 5.3E-02 1.8E-02 2.4E-02 7.1E-03 0.0E+00
CHILD 1.4E-02 8.4E-04 9.5E-02 9.1E-02 3.0E-02 4.8E-02 1.1E-02 0.0E+00
INFNT 1.3E-02 9.6E-04 1.5E-01 1.8E-01 4.8E-02 1.2E-01 2.0E-02 0.0E+00

INHAL PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 2.4E-03 1.3E-03 1.3E-03 3.0E-03 1.9E-03 6.5E-03 1.5E-03 0.0E+00
TEEN 2.1E-03 1.3E-03 1.8E-03 3.6E-03 2.1E-03 7.7E-03 1.7E-03 0.0E+00
CHILD 1.5E-03 1.1E-03 2.5E-03 3.4E-03 1.9E-03 8.4E-03 1.5E-03 0.0E+00
INFNT 7.8E-04 6.5E-04 1.5E-03 2.3E-03 1.1E-03 7.3E-03 9.1E-04 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 2.4E-01 2.1E-01 2.4E-01 2.6E-01 2.3E-01 2.5E-01 2.2E-01 2.5E-01
TEEN 2.4E-01 2.1E-01 2.7E-01 2.9E-01 2.4E-01 2.6E-01 2.2E-01 2.5E-01
CHILD 2.3E-01 2.1E-01 3.5E-01 3.4E-01 2.6E-01 3.1E-01 2.3E-01 2.5E-01
INFNT 2.3E-01 2.1E-01 4.1E-01 4.5E-01 2.8E-01 4.3E-01 2.4E-01 2.5E-01

TOTALS
ADULT 2.6E-01 2.3E-01 2.6E-01 2.7E-01 2.4E-01 2.6E-01 2.3E-01 2.9E-01
TEEN 2.5E-01 2.3E-01 2.8E-01 3.0E-01 2.5E-01 2.8E-01 2.4E-01 2.9E-01
CHILD 2.5E-01 2.3E-01 3.6E-01 3.6E-01 2.7E-01 3.2E-01 2.4E-01 2.9E-01
INFNT 2.4E-01 2.3E-01 4.3E-01 4.6E-01 2.9E-01 4.5E-01 2.5E-01 2.9E-01



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.4E-03 6.3E-03
TEEN 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.4E-03 6.3E-03
CHILD 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.4E-03 6.3E-03
INFNT 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.3E-03 2.4E-03 6.3E-03

GROUND PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.4E-01
TEEN 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.4E-01
CHILD 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.4E-01
INFNT 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.4E-01

VEGET PATHWAY, DIST GP= 1, 814. METERS, WINDS TOWARD NNE
ADULT 4.9E-02 2.3E-03 5.4E-02 7.4E-02 2.6E-02 2.5E-02 8.9E-03 0.0E+00
TEEN 4.0E-02 2.5E-03 8.5E-02 1.1E-01 3.9E-02 2.1E-02 1.6E-02 0.0E+00
CHILD 3.0E-02 2.5E-03 2.0E-01 1.9E-01 6.4E-02 3.2E-02 2.4E-02 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NNE
ADULT 1.1E-04 6.9E-06 1.2E-04 1.6E-04 5.8E-05 6.9E-05 2.1E-05 0.0E+00
TEEN 4.7E-05 4.1E-06 9.7E-05 1.3E-04 4.6E-05 5.0E-05 1.9E-05 0.0E+00
CHILD 2.8E-05 3.5E-06 1.8E-04 1.7E-04 5.9E-05 7.4E-05 2.2E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE
ADULT 3.6E-03 1.5E-04 4.0E-03 5.6E-03 1.9E-03 7.4E-03 6.5E-04 0.0E+00
TEEN 3.4E-03 1.9E-04 7.3E-03 9.8E-03 3.4E-03 1.2E-02 1.3E-03 0.0E+00
CHILD 2.6E-03 1.7E-04 1.8E-02 1.7E-02 5.6E-03 2.3E-02 2.0E-03 0.0E+00
INFNT 2.5E-03 1.9E-04 2.8E-02 3.3E-02 9.1E-03 5.6E-02 3.6E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE
ADULT 1.1E-02 3.8E-04 1.2E-02 1.7E-02 5.7E-03 8.9E-03 1.9E-03 0.0E+00
TEEN 1.0E-02 4.9E-04 2.2E-02 2.9E-02 1.0E-02 1.4E-02 3.9E-03 0.0E+00
CHILD 7.6E-03 4.3E-04 5.3E-02 5.1E-02 1.7E-02 2.8E-02 6.0E-03 0.0E+00
INFNT 7.2E-03 4.7E-04 8.4E-02 9.9E-02 2.7E-02 6.7E-02 1.1E-02 0.0E+00

INHAL PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 9.7E-04 5.2E-04 5.3E-04 1.2E-03 7.5E-04 2.4E-03 6.1E-04 0.0E+00
TEEN 8.5E-04 5.2E-04 7.4E-04 1.4E-03 8.5E-04 2.8E-03 6.8E-04 0.0E+00
CHILD 5.9E-04 4.5E-04 1.0E-03 1.4E-03 7.7E-04 3.0E-03 6.0E-04 0.0E+00
INFNT 3.1E-04 2.6E-04 6.1E-04 9.3E-04 4.5E-04 2.6E-03 3.6E-04 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 1.8E-01 1.2E-01 1.9E-01 2.1E-01 1.5E-01 1.6E-01 1.3E-01 1.4E-01
TEEN 1.7E-01 1.2E-01 2.3E-01 2.7E-01 1.7E-01 1.7E-01 1.4E-01 1.4E-01
CHILD 1.6E-01 1.2E-01 3.9E-01 3.8E-01 2.0E-01 2.0E-01 1.5E-01 1.4E-01
INFNT 1.3E-01 1.2E-01 2.3E-01 2.5E-01 1.5E-01 2.4E-01 1.3E-01 1.4E-01

TOTALS

ADULT 1.8E-01 1.2E-01 1.9E-01 2.2E-01 1.5E-01 1.6E-01 1.3E-01 1.4E-01
TEEN 1.7E-01 1.2E-01 2.3E-01 2.7E-01 1.7E-01 1.7E-01 1.4E-01 1.4E-01
CHILD 1.6E-01 1.2E-01 3.9E-01 3.8E-01 2.1E-01 2.1E-01 1.5E-01 1.4E-01
INFNT 1.3E-01 1.2E-01 2.3E-01 2.5E-01 1.6E-01 2.5E-01 1.3E-01 1.4E-01



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 7.8E-04 7.8E-04 7.8E-04 7.8E-04 7.8E-04 7.8E-04 8.1E-04 2.1E-03
TEEN 7.8E-04 7.8E-04 7.8E-04 7.8E-04 7.8E-04 7.8E-04 8.1E-04 2.1E-03
CHILD 7.8E-04 7.8E-04 7.8E-04 7.8E-04 7.8E-04 7.8E-04 8.1E-04 2.1E-03
INFNT 7.8E-04 7.8E-04 7.8E-04 7.8E-04 7.8E-04 7.8E-04 8.1E-04 2.1E-03

GROUND PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 5.3E-02
TEEN 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 5.3E-02
CHILD 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 5.3E-02
INFNT 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 4.5E-02 5.3E-02

VEGET PATHWAY, DIST GP= 1, 1052. METERS, WINDS TOWARD NE
ADULT 2.2E-02 1.0E-03 2.4E-02 3.4E-02 1.2E-02 8.9E-03 4.0E-03 0.0E+00
TEEN 1.8E-02 1.1E-03 3.9E-02 5.2E-02 1.8E-02 7.5E-03 7.1E-03 0.0E+00
CHILD 1.3E-02 1.1E-03 9.1E-02 8.8E-02 2.9E-02 1.1E-02 1.1E-02 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NE
ADULT 7.5E-05 4.3E-06 8.2E-05 1.1E-04 4.0E-05 3.8E-05 1.4E-05 0.0E+00
TEEN 3.3E-05 2.6E-06 6.8E-05 9.2E-05 3.2E-05 2.7E-05 1.3E-05 0.0E+00
CHILD 1.9E-05 2.1E-06 1.3E-04 1.2E-04 4.0E-05 4.0E-05 1.5E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE
ADULT 2.5E-03 9.7E-05 2.8E-03 3.9E-03 1.3E-03 4.0E-03 4.5E-04 0.0E+00
TEEN 2.4E-03 1.3E-04 5.1E-03 6.8E-03 2.4E-03 6.3E-03 9.1E-04 0.0E+00
CHILD 1.8E-03 1.1E-04 1.2E-02 1.2E-02 3.9E-03 1.3E-02 1.4E-03 0.0E+00
INFNT 1.7E-03 1.2E-04 2.0E-02 2.3E-02 6.3E-03 3.0E-02 2.5E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE
ADULT 7.6E-03 2.5E-04 8.4E-03 1.2E-02 3.9E-03 4.8E-03 1.3E-03 0.0E+00
TEEN 7.1E-03 3.3E-04 1.5E-02 2.0E-02 7.0E-03 7.6E-03 2.7E-03 0.0E+00
CHILD 5.3E-03 2.8E-04 3.7E-02 3.5E-02 1.2E-02 1.5E-02 4.2E-03 0.0E+00
INFNT 5.0E-03 3.1E-04 5.9E-02 6.9E-02 1.9E-02 3.7E-02 7.5E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 3.5E-04 1.8E-04 2.0E-04 4.3E-04 2.7E-04 8.5E-04 2.2E-04 0.0E+00
TEEN 3.1E-04 1.8E-04 2.8E-04 5.3E-04 3.1E-04 1.0E-03 2.4E-04 0.0E+00
CHILD 2.1E-04 1.6E-04 3.7E-04 5.0E-04 2.8E-04 1.1E-03 2.1E-04 0.0E+00
INFNT 1.1E-04 9.1E-05 2.3E-04 3.4E-04 1.6E-04 9.4E-04 1.3E-04 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 7.8E-02 4.7E-02 8.1E-02 9.5E-02 6.2E-02 6.4E-02 5.1E-02 5.3E-02
TEEN 7.3E-02 4.7E-02 1.0E-01 1.2E-01 7.3E-02 6.8E-02 5.6E-02 5.3E-02
CHILD 6.6E-02 4.7E-02 1.9E-01 1.8E-01 9.0E-02 8.5E-02 6.2E-02 5.3E-02
INFNT 5.2E-02 4.6E-02 1.2E-01 1.4E-01 7.0E-02 1.1E-01 5.5E-02 5.3E-02

TOTALS

ADULT 7.9E-02 4.7E-02 8.2E-02 9.5E-02 6.3E-02 6.5E-02 5.2E-02 5.5E-02
TEEN 7.4E-02 4.8E-02 1.1E-01 1.3E-01 7.3E-02 6.8E-02 5.7E-02 5.5E-02
CHILD 6.7E-02 4.8E-02 1.9E-01 1.8E-01 9.1E-02 8.6E-02 6.2E-02 5.5E-02
INFNT 5.3E-02 4.6E-02 1.2E-01 1.4E-01 7.1E-02 1.1E-01 5.6E-02 5.5E-02



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 3.0E-04 7.9E-04
TEEN 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 3.0E-04 7.9E-04
CHILD 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 3.0E-04 7.9E-04
INFNT 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 3.0E-04 7.9E-04

GROUND PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.4E-02
TEEN 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.4E-02
CHILD 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.4E-02
INFNT 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.0E-02 2.4E-02

VEGET PATHWAY, DIST GP= 1, 1852. METERS, WINDS TOWARD ENE
ADULT 1.1E-02 4.7E-04 1.2E-02 1.6E-02 5.6E-03 4.0E-03 1.9E-03 0.0E+00
TEEN 8.9E-03 5.2E-04 1.9E-02 2.5E-02 8.7E-03 3.3E-03 3.5E-03 0.0E+00
CHILD 6.5E-03 4.9E-04 4.5E-02 4.3E-02 1.4E-02 5.1E-03 5.2E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 3862. METERS, WINDS TOWARD ENE
ADULT 3.3E-04 1.6E-05 3.6E-04 5.1E-04 1.8E-04 1.5E-04 6.1E-05 0.0E+00
TEEN 1.4E-04 9.7E-06 3.0E-04 4.1E-04 1.4E-04 1.1E-04 5.6E-05 0.0E+00
CHILD 8.3E-05 7.4E-06 5.6E-04 5.4E-04 1.8E-04 1.6E-04 6.6E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

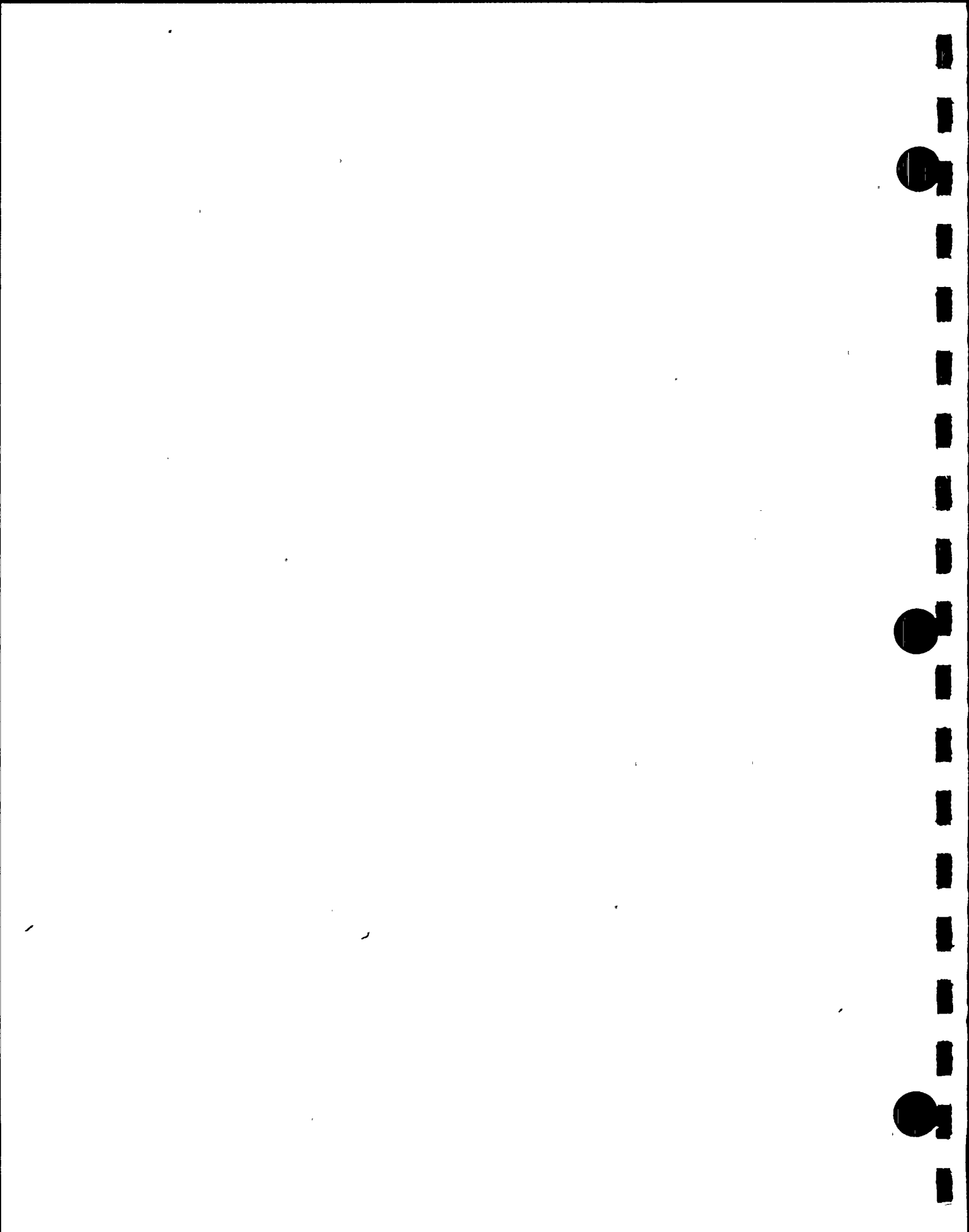
COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE
ADULT 3.2E-03 1.2E-04 3.5E-03 4.8E-03 1.7E-03 4.6E-03 5.6E-04 0.0E+00
TEEN 3.0E-03 1.5E-04 6.4E-03 8.5E-03 2.9E-03 7.3E-03 1.1E-03 0.0E+00
CHILD 2.2E-03 1.3E-04 1.5E-02 1.5E-02 4.9E-03 1.4E-02 1.7E-03 0.0E+00
INFNT 2.1E-03 1.4E-04 2.4E-02 2.9E-02 7.8E-03 3.5E-02 3.2E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE
ADULT 9.5E-03 3.1E-04 1.1E-02 1.4E-02 4.9E-03 5.5E-03 1.7E-03 0.0E+00
TEEN 8.9E-03 4.0E-04 1.9E-02 2.5E-02 8.7E-03 8.7E-03 3.4E-03 0.0E+00
CHILD 6.6E-03 3.4E-04 4.6E-02 4.4E-02 1.4E-02 1.7E-02 5.2E-03 0.0E+00
INFNT 6.2E-03 3.6E-04 7.3E-02 8.6E-02 2.3E-02 4.2E-02 9.4E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 1.3E-04 6.9E-05 7.0E-05 1.6E-04 1.0E-04 2.8E-04 8.2E-05 0.0E+00
TEEN 1.1E-04 6.9E-05 9.8E-05 1.9E-04 1.1E-04 3.3E-04 9.1E-05 0.0E+00
CHILD 7.9E-05 6.0E-05 1.3E-04 1.8E-04 1.0E-04 3.6E-04 8.0E-05 0.0E+00
INFNT 4.1E-05 3.5E-05 8.0E-05 1.2E-04 6.0E-05 3.1E-04 4.8E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 4.4E-02 2.1E-02 4.7E-02 5.7E-02 3.3E-02 3.5E-02 2.5E-02 2.4E-02
TEEN 4.1E-02 2.1E-02 6.5E-02 8.0E-02 4.1E-02 4.0E-02 2.8E-02 2.4E-02
CHILD 3.6E-02 2.1E-02 1.3E-01 1.2E-01 5.4E-02 5.7E-02 3.3E-02 2.4E-02
INFNT 2.9E-02 2.1E-02 1.2E-01 1.4E-01 5.1E-02 9.7E-02 3.3E-02 2.4E-02

TOTALS
ADULT 4.4E-02 2.2E-02 4.7E-02 5.7E-02 3.3E-02 3.5E-02 2.5E-02 2.4E-02
TEEN 4.2E-02 2.2E-02 6.5E-02 8.0E-02 4.1E-02 4.0E-02 2.9E-02 2.4E-02
CHILD 3.6E-02 2.2E-02 1.3E-01 1.2E-01 5.4E-02 5.8E-02 3.3E-02 2.4E-02
INFNT 2.9E-02 2.1E-02 1.2E-01 1.4E-01 5.2E-02 9.8E-02 3.3E-02 2.4E-02



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 3.0E-04 7.9E-04
TEEN 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 3.0E-04 7.9E-04
CHILD 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 3.0E-04 7.9E-04
INFNT 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 2.9E-04 3.0E-04 7.9E-04

GROUND PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 2.0E-02
TEEN 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 2.0E-02
CHILD 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 2.0E-02
INFNT 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 1.7E-02 2.0E-02

VEGET PATHWAY, DIST GP= 1, 1705. METERS, WINDS TOWARD E
ADULT 1.0E-02 4.6E-04 1.1E-02 1.5E-02 5.3E-03 4.9E-03 1.8E-03 0.0E+00
TEEN 8.3E-03 5.2E-04 1.7E-02 2.3E-02 8.1E-03 4.1E-03 3.2E-03 0.0E+00
CHILD 6.1E-03 5.0E-04 4.1E-02 4.0E-02 1.3E-02 6.3E-03 4.9E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 6810. METERS, WINDS TOWARD E
ADULT 9.5E-05 5.4E-06 1.0E-04 1.4E-04 5.0E-05 5.7E-05 1.8E-05 0.0E+00
TEEN 4.1E-05 3.2E-06 8.6E-05 1.2E-04 4.0E-05 4.1E-05 1.6E-05 0.0E+00
CHILD 2.4E-05 2.6E-06 1.6E-04 1.5E-04 5.1E-05 6.2E-05 1.9E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

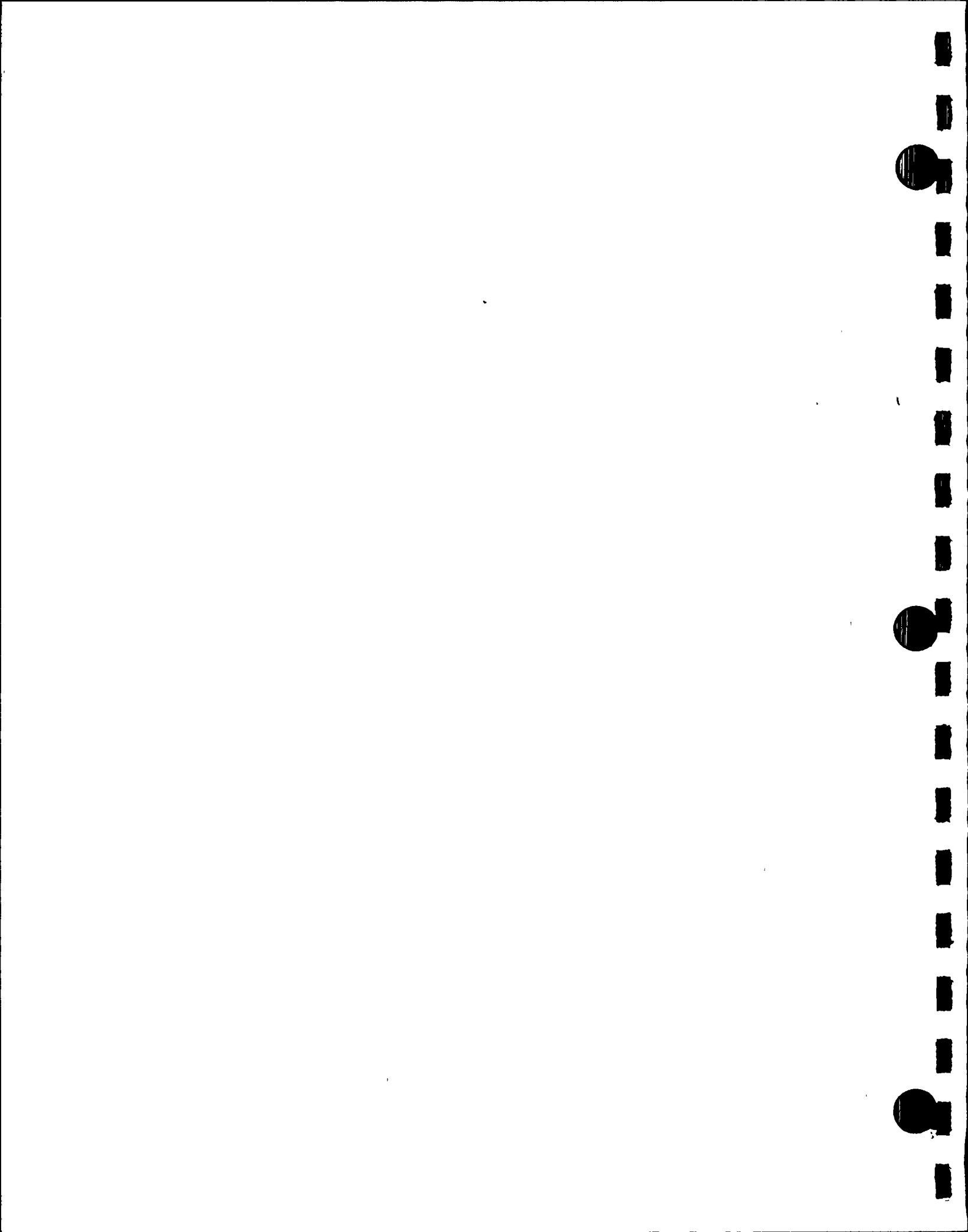
COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E
ADULT 2.6E-03 9.9E-05 2.8E-03 3.9E-03 1.4E-03 5.0E-03 4.5E-04 0.0E+00
TEEN 2.4E-03 1.3E-04 5.2E-03 6.9E-03 2.4E-03 7.8E-03 9.2E-04 0.0E+00
CHILD 1.8E-03 1.1E-04 1.2E-02 1.2E-02 4.0E-03 1.5E-02 1.4E-03 0.0E+00
INFNT 1.7E-03 1.2E-04 2.0E-02 2.3E-02 6.4E-03 3.8E-02 2.6E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E
ADULT 7.7E-03 2.6E-04 8.5E-03 1.2E-02 4.0E-03 6.0E-03 1.3E-03 0.0E+00
TEEN 7.2E-03 3.4E-04 1.5E-02 2.1E-02 7.1E-03 9.4E-03 2.7E-03 0.0E+00
CHILD 5.3E-03 2.9E-04 3.7E-02 3.6E-02 1.2E-02 1.9E-02 4.2E-03 0.0E+00
INFNT 5.1E-03 3.1E-04 5.9E-02 7.0E-02 1.9E-02 4.5E-02 7.6E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 1.4E-04 7.3E-05 7.8E-05 1.7E-04 1.1E-04 2.9E-04 8.7E-05 0.0E+00
TEEN 1.2E-04 7.3E-05 1.1E-04 2.1E-04 1.2E-04 3.4E-04 9.7E-05 0.0E+00
CHILD 8.4E-05 6.3E-05 1.5E-04 2.0E-04 1.1E-04 3.7E-04 8.5E-05 0.0E+00
INFNT 4.4E-05 3.6E-05 8.9E-05 1.4E-04 6.5E-05 3.2E-04 5.2E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 3.7E-02 1.8E-02 3.9E-02 4.8E-02 2.8E-02 3.3E-02 2.1E-02 2.0E-02
TEEN 3.5E-02 1.8E-02 5.5E-02 6.8E-02 3.5E-02 3.9E-02 2.4E-02 2.0E-02
CHILD 3.0E-02 1.8E-02 1.1E-01 1.0E-01 4.6E-02 5.8E-02 2.7E-02 2.0E-02
INFNT 2.4E-02 1.7E-02 9.6E-02 1.1E-01 4.2E-02 1.0E-01 2.7E-02 2.0E-02

TOTALS
ADULT 3.8E-02 1.8E-02 4.0E-02 4.8E-02 2.8E-02 3.3E-02 2.1E-02 2.0E-02
TEEN 3.5E-02 1.8E-02 5.5E-02 6.8E-02 3.5E-02 3.9E-02 2.4E-02 2.0E-02
CHILD 3.0E-02 1.8E-02 1.1E-01 1.0E-01 4.6E-02 5.8E-02 2.8E-02 2.0E-02
INFNT 2.4E-02 1.8E-02 9.6E-02 1.1E-01 4.2E-02 1.0E-01 2.7E-02 2.0E-02



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE
ADULT 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.9E-04 1.0E-03
TEEN 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.9E-04 1.0E-03
CHILD 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.9E-04 1.0E-03
INFNT 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.7E-04 3.9E-04 1.0E-03

GROUND PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE
ADULT 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.9E-02
TEEN 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.9E-02
CHILD 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.9E-02
INFNT 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.6E-02 1.9E-02

VEGET PATHWAY, DIST GP= 1, 1628. METERS, WINDS TOWARD ESE
ADULT 9.6E-03 4.7E-04 1.0E-02 1.4E-02 5.0E-03 5.3E-03 1.8E-03 0.0E+00
TEEN 7.9E-03 5.3E-04 1.7E-02 2.2E-02 7.8E-03 4.4E-03 3.1E-03 0.0E+00
CHILD 5.9E-03 5.3E-04 3.9E-02 3.8E-02 1.3E-02 6.7E-03 4.7E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 2434. METERS, WINDS TOWARD ESE
ADULT 4.9E-04 2.9E-05 5.3E-04 7.4E-04 2.6E-04 3.3E-04 9.4E-05 0.0E+00
TEEN 2.1E-04 1.7E-05 4.4E-04 6.0E-04 2.1E-04 2.4E-04 8.5E-05 0.0E+00
CHILD 1.2E-04 1.4E-05 8.1E-04 7.9E-04 2.6E-04 3.6E-04 1.0E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE
ADULT 2.3E-03 9.1E-05 2.5E-03 3.4E-03 1.2E-03 4.9E-03 4.0E-04 0.0E+00
TEEN 2.1E-03 1.2E-04 4.5E-03 6.1E-03 2.1E-03 7.7E-03 8.2E-04 0.0E+00
CHILD 1.6E-03 1.1E-04 1.1E-02 1.1E-02 3.5E-03 1.5E-02 1.3E-03 0.0E+00
INFNT 1.5E-03 1.2E-04 1.7E-02 2.0E-02 5.6E-03 3.7E-02 2.3E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE
ADULT 6.8E-03 2.3E-04 7.5E-03 1.0E-02 3.5E-03 5.9E-03 1.2E-03 0.0E+00
TEEN 6.4E-03 3.1E-04 1.4E-02 1.8E-02 6.2E-03 9.3E-03 2.4E-03 0.0E+00
CHILD 4.7E-03 2.7E-04 3.3E-02 3.1E-02 1.0E-02 1.8E-02 3.7E-03 0.0E+00
INFNT 4.5E-03 2.9E-04 5.2E-02 6.1E-02 1.7E-02 4.4E-02 6.7E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE
ADULT 1.7E-04 8.8E-05 9.0E-05 2.0E-04 1.3E-04 3.7E-04 1.0E-04 0.0E+00
TEEN 1.4E-04 8.9E-05 1.3E-04 2.4E-04 1.4E-04 4.4E-04 1.2E-04 0.0E+00
CHILD 1.0E-04 7.7E-05 1.7E-04 2.3E-04 1.3E-04 4.7E-04 1.0E-04 0.0E+00
INFNT 5.3E-05 4.4E-05 1.0E-04 1.6E-04 7.7E-05 4.1E-04 6.2E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 3.5E-02 1.7E-02 3.7E-02 4.5E-02 2.6E-02 3.3E-02 2.0E-02 1.9E-02
TEEN 3.3E-02 1.7E-02 5.1E-02 6.3E-02 3.2E-02 3.8E-02 2.3E-02 1.9E-02
CHILD 2.8E-02 1.7E-02 1.0E-01 9.7E-02 4.3E-02 5.7E-02 2.6E-02 1.9E-02
INFNT 2.2E-02 1.6E-02 8.6E-02 9.8E-02 3.8E-02 9.8E-02 2.5E-02 1.9E-02

TOTALS
ADULT 3.6E-02 1.7E-02 3.7E-02 4.5E-02 2.6E-02 3.3E-02 2.0E-02 2.0E-02
TEEN 3.3E-02 1.7E-02 5.2E-02 6.4E-02 3.3E-02 3.8E-02 2.3E-02 2.0E-02
CHILD 2.9E-02 1.7E-02 1.0E-01 9.7E-02 4.3E-02 5.7E-02 2.6E-02 2.0E-02
INFNT 2.2E-02 1.7E-02 8.6E-02 9.8E-02 3.9E-02 9.8E-02 2.5E-02 2.0E-02



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 3.3E-03
TEEN 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 3.3E-03
CHILD 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 3.3E-03
INFNT 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 1.2E-03 3.3E-03

GROUND PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.5E-02
TEEN 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.5E-02
CHILD 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.5E-02
INFNT 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.0E-02 3.5E-02

VEGET PATHWAY, DIST GP= 1, 914. METERS, WINDS TOWARD SE
ADULT 2.5E-02 1.2E-03 2.8E-02 3.8E-02 1.3E-02 1.8E-02 4.6E-03 0.0E+00
TEEN 2.1E-02 1.3E-03 4.4E-02 5.9E-02 2.0E-02 1.5E-02 8.1E-03 0.0E+00
CHILD 1.5E-02 1.3E-03 1.0E-01 1.0E-01 3.3E-02 2.3E-02 1.2E-02 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 4354. METERS, WINDS TOWARD SE
ADULT 1.9E-04 1.1E-05 2.1E-04 2.9E-04 1.0E-04 1.7E-04 3.6E-05 0.0E+00
TEEN 8.4E-05 6.3E-06 1.7E-04 2.4E-04 8.2E-05 1.2E-04 3.3E-05 0.0E+00
CHILD 4.9E-05 5.1E-06 3.2E-04 3.1E-04 1.0E-04 1.9E-04 3.9E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE
ADULT 2.3E-03 9.0E-05 2.5E-03 3.5E-03 1.2E-03 6.6E-03 4.0E-04 0.0E+00
TEEN 2.2E-03 1.2E-04 4.6E-03 6.1E-03 2.1E-03 1.0E-02 8.2E-04 0.0E+00
CHILD 1.6E-03 1.0E-04 1.1E-02 1.1E-02 3.5E-03 2.0E-02 1.3E-03 0.0E+00
INFNT 1.6E-03 1.1E-04 1.8E-02 2.1E-02 5.7E-03 5.0E-02 2.3E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE
ADULT 6.8E-03 2.3E-04 7.5E-03 1.0E-02 3.6E-03 7.9E-03 1.2E-03 0.0E+00
TEEN 6.4E-03 3.0E-04 1.4E-02 1.8E-02 6.3E-03 1.2E-02 2.4E-03 0.0E+00
CHILD 4.7E-03 2.6E-04 3.3E-02 3.2E-02 1.0E-02 2.5E-02 3.7E-03 0.0E+00
INFNT 4.5E-03 2.8E-04 5.3E-02 6.2E-02 1.7E-02 6.0E-02 6.8E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 2.4E-04 1.3E-04 1.3E-04 3.0E-04 1.9E-04 8.2E-04 1.6E-04 0.0E+00
TEEN 2.1E-04 1.3E-04 1.8E-04 3.6E-04 2.2E-04 9.8E-04 1.7E-04 0.0E+00
CHILD 1.5E-04 1.2E-04 2.5E-04 3.4E-04 1.9E-04 1.1E-03 1.5E-04 0.0E+00
INFNT 7.9E-05 6.6E-05 1.5E-04 2.3E-04 1.1E-04 9.3E-04 9.2E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 6.4E-02 3.1E-02 6.8E-02 8.2E-02 4.8E-02 6.3E-02 3.6E-02 3.5E-02
TEEN 5.9E-02 3.1E-02 9.2E-02 1.1E-01 5.9E-02 6.9E-02 4.1E-02 3.5E-02
CHILD 5.1E-02 3.1E-02 1.8E-01 1.7E-01 7.7E-02 9.9E-02 4.7E-02 3.5E-02
INFNT 3.6E-02 3.0E-02 1.0E-01 1.1E-01 5.2E-02 1.4E-01 3.9E-02 3.5E-02

TOTALS
ADULT 6.5E-02 3.2E-02 6.9E-02 8.3E-02 4.9E-02 6.4E-02 3.7E-02 3.8E-02
TEEN 6.0E-02 3.3E-02 9.3E-02 1.1E-01 6.0E-02 7.0E-02 4.2E-02 3.8E-02
CHILD 5.3E-02 3.3E-02 1.8E-01 1.7E-01 7.8E-02 1.0E-01 4.8E-02 3.8E-02
INFNT 3.7E-02 3.1E-02 1.0E-01 1.1E-01 5.3E-02 1.4E-01 4.0E-02 3.8E-02



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.2E-04 5.7E-04
TEEN 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.2E-04 5.7E-04
CHILD 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.2E-04 5.7E-04
INFNT 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.1E-04 2.2E-04 5.7E-04

GROUND PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 2.2E-02
TEEN 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 2.2E-02
CHILD 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 2.2E-02
INFNT 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 2.2E-02

VEGET PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE
ADULT 1.9E-02 8.2E-04 2.1E-02 2.9E-02 9.9E-03 4.2E-03 3.4E-03 0.0E+00
TEEN 1.6E-02 9.2E-04 3.3E-02 4.4E-02 1.5E-02 3.6E-03 6.1E-03 0.0E+00
CHILD 1.1E-02 8.6E-04 7.8E-02 7.5E-02 2.5E-02 5.4E-03 9.1E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE
ADULT 1.9E-03 9.4E-05 2.1E-03 2.9E-03 9.9E-04 5.2E-04 3.5E-04 0.0E+00
TEEN 8.1E-04 5.5E-05 1.7E-03 2.3E-03 8.0E-04 3.7E-04 3.2E-04 0.0E+00
CHILD 4.7E-04 4.2E-05 3.1E-03 3.0E-03 1.0E-03 5.6E-04 3.8E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE
ADULT 2.3E-03 8.5E-05 2.6E-03 3.5E-03 1.2E-03 2.0E-03 4.1E-04 0.0E+00
TEEN 2.2E-03 1.1E-04 4.6E-03 6.2E-03 2.1E-03 3.2E-03 8.3E-04 0.0E+00
CHILD 1.6E-03 9.4E-05 1.1E-02 1.1E-02 3.5E-03 6.2E-03 1.3E-03 0.0E+00
INFNT 1.5E-03 1.0E-04 1.8E-02 2.1E-02 5.7E-03 1.5E-02 2.3E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE
ADULT 6.9E-03 2.3E-04 7.7E-03 1.1E-02 3.6E-03 2.4E-03 1.2E-03 0.0E+00
TEEN 6.5E-03 2.9E-04 1.4E-02 1.9E-02 6.3E-03 3.8E-03 2.5E-03 0.0E+00
CHILD 4.8E-03 2.5E-04 3.4E-02 3.2E-02 1.1E-02 7.5E-03 3.8E-03 0.0E+00
INFNT 4.5E-03 2.6E-04 5.3E-02 6.3E-02 1.7E-02 1.8E-02 6.9E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 1.4E-04 6.8E-05 8.3E-05 1.7E-04 1.1E-04 1.8E-04 8.4E-05 0.0E+00
TEEN 1.2E-04 6.9E-05 1.2E-04 2.1E-04 1.2E-04 2.0E-04 9.5E-05 0.0E+00
CHILD 8.1E-05 6.0E-05 1.6E-04 2.0E-04 1.1E-04 2.1E-04 8.3E-05 0.0E+00
INFNT 4.2E-05 3.4E-05 9.6E-05 1.4E-04 6.4E-05 1.7E-04 5.1E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 4.9E-02 2.0E-02 5.2E-02 6.5E-02 3.5E-02 2.8E-02 2.4E-02 2.2E-02
TEEN 4.4E-02 2.0E-02 7.2E-02 9.0E-02 4.4E-02 3.0E-02 2.9E-02 2.2E-02
CHILD 3.7E-02 2.0E-02 1.4E-01 1.4E-01 5.9E-02 3.9E-02 3.4E-02 2.2E-02
INFNT 2.5E-02 1.9E-02 9.0E-02 1.0E-01 4.2E-02 5.2E-02 2.8E-02 2.2E-02

TOTALS
ADULT 4.9E-02 2.0E-02 5.2E-02 6.5E-02 3.5E-02 2.8E-02 2.5E-02 2.3E-02
TEEN 4.4E-02 2.1E-02 7.2E-02 9.1E-02 4.4E-02 3.0E-02 2.9E-02 2.3E-02
CHILD 3.7E-02 2.0E-02 1.5E-01 1.4E-01 5.9E-02 3.9E-02 3.4E-02 2.3E-02
INFNT 2.5E-02 1.9E-02 9.0E-02 1.0E-01 4.2E-02 5.3E-02 2.8E-02 2.3E-02



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.5E-04 6.4E-04
TEEN 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.5E-04 6.4E-04
CHILD 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.5E-04 6.4E-04
INFNT 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.4E-04 2.5E-04 6.4E-04

GROUND PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 2.2E-02
TEEN 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 2.2E-02
CHILD 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 2.2E-02
INFNT 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 1.8E-02 2.2E-02

VEGET PATHWAY, DIST GP= 1, 863. METERS, WINDS TOWARD S
ADULT 1.4E-02 6.7E-04 1.6E-02 2.2E-02 7.6E-03 1.7E-03 2.6E-03 0.0E+00
TEEN 1.2E-02 7.5E-04 2.5E-02 3.4E-02 1.2E-02 1.4E-03 4.7E-03 0.0E+00
CHILD 8.8E-03 7.3E-04 6.0E-02 5.8E-02 1.9E-02 2.2E-03 7.0E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 6115. METERS, WINDS TOWARD S
ADULT 5.4E-05 3.1E-06 5.8E-05 8.1E-05 2.8E-05 7.8E-06 1.0E-05 0.0E+00
TEEN 2.3E-05 1.8E-06 4.8E-05 6.5E-05 2.3E-05 5.5E-06 9.3E-06 0.0E+00
CHILD 1.4E-05 1.5E-06 8.9E-05 8.6E-05 2.9E-05 8.1E-06 1.1E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S
ADULT 1.2E-03 4.5E-05 1.3E-03 1.8E-03 6.2E-04 4.9E-04 2.1E-04 0.0E+00
TEEN 1.1E-03 5.8E-05 2.4E-03 3.2E-03 1.1E-03 7.8E-04 4.3E-04 0.0E+00
CHILD 8.3E-04 5.2E-05 5.7E-03 5.5E-03 1.8E-03 1.5E-03 6.6E-04 0.0E+00
INFNT 7.9E-04 5.8E-05 9.1E-03 1.1E-02 2.9E-03 3.7E-03 1.2E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S
ADULT 3.6E-03 1.2E-04 3.9E-03 5.4E-03 1.9E-03 6.0E-04 6.2E-04 0.0E+00
TEEN 3.4E-03 1.6E-04 7.2E-03 9.6E-03 3.3E-03 9.4E-04 1.3E-03 0.0E+00
CHILD 2.5E-03 1.3E-04 1.7E-02 1.7E-02 5.4E-03 1.8E-03 2.0E-03 0.0E+00
INFNT 2.3E-03 1.5E-04 2.8E-02 3.2E-02 8.7E-03 4.5E-03 3.5E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 1.7E-04 8.4E-05 1.0E-04 2.2E-04 1.3E-04 1.5E-04 1.0E-04 0.0E+00
TEEN 1.5E-04 8.4E-05 1.5E-04 2.7E-04 1.5E-04 1.6E-04 1.2E-04 0.0E+00
CHILD 1.0E-04 7.3E-05 2.0E-04 2.5E-04 1.3E-04 1.6E-04 1.0E-04 0.0E+00
INFNT 5.1E-05 4.2E-05 1.2E-04 1.7E-04 7.9E-05 1.2E-04 6.3E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 3.8E-02 1.9E-02 4.0E-02 4.8E-02 2.9E-02 2.1E-02 2.2E-02 2.2E-02
TEEN 3.5E-02 1.9E-02 5.3E-02 6.5E-02 3.5E-02 2.2E-02 2.5E-02 2.2E-02
CHILD 3.1E-02 1.9E-02 1.0E-01 9.8E-02 4.5E-02 2.4E-02 2.8E-02 2.2E-02
INFNT 2.2E-02 1.9E-02 5.5E-02 6.2E-02 3.0E-02 2.7E-02 2.3E-02 2.2E-02

TOTALS
ADULT 3.8E-02 2.0E-02 4.0E-02 4.8E-02 2.9E-02 2.2E-02 2.2E-02 2.2E-02
TEEN 3.5E-02 2.0E-02 5.4E-02 6.6E-02 3.5E-02 2.2E-02 2.5E-02 2.2E-02
CHILD 3.1E-02 2.0E-02 1.0E-01 9.9E-02 4.5E-02 2.4E-02 2.8E-02 2.2E-02
INFNT 2.2E-02 1.9E-02 5.5E-02 6.2E-02 3.0E-02 2.7E-02 2.3E-02 2.2E-02



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 1 1 1 THRU 90 33124

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.1E-04 5.5E-04
TEEN 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.1E-04 5.5E-04
CHILD 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.1E-04 5.5E-04
INFNT 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.1E-04 5.5E-04

GROUND PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.4E-02
TEEN 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.4E-02
CHILD 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.4E-02
INFNT 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.4E-02

VEGET PATHWAY, DIST GP= 1, 770. METERS, WINDS TOWARD SSW
ADULT 1.7E-02 7.4E-04 1.9E-02 2.6E-02 8.9E-03 1.8E-03 3.1E-03 0.0E+00
TEEN 1.4E-02 8.2E-04 3.0E-02 4.0E-02 1.4E-02 1.6E-03 5.5E-03 0.0E+00
CHILD 1.0E-02 7.6E-04 7.1E-02 6.8E-02 2.2E-02 2.4E-03 8.3E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD SSW
ADULT 3.2E-05 1.7E-06 3.5E-05 4.9E-05 1.7E-05 4.4E-06 6.0E-06 0.0E+00
TEEN 1.4E-05 1.0E-06 2.9E-05 3.9E-05 1.4E-05 3.1E-06 5.5E-06 0.0E+00
CHILD 8.1E-06 8.0E-07 5.4E-05 5.2E-05 1.7E-05 4.6E-06 6.5E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW
ADULT 1.2E-03 4.2E-05 1.3E-03 1.8E-03 6.1E-04 4.6E-04 2.1E-04 0.0E+00
TEEN 1.1E-03 5.5E-05 2.3E-03 3.1E-03 1.1E-03 7.3E-04 4.2E-04 0.0E+00
CHILD 8.2E-04 4.7E-05 5.6E-03 5.4E-03 1.8E-03 1.4E-03 6.5E-04 0.0E+00
INFNT 7.7E-04 5.1E-05 9.0E-03 1.1E-02 2.9E-03 3.5E-03 1.2E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW
ADULT 3.5E-03 1.1E-04 3.9E-03 5.3E-03 1.8E-03 5.6E-04 6.1E-04 0.0E+00
TEEN 3.3E-03 1.5E-04 7.0E-03 9.4E-03 3.2E-03 8.8E-04 1.3E-03 0.0E+00
CHILD 2.4E-03 1.2E-04 1.7E-02 1.6E-02 5.3E-03 1.7E-03 1.9E-03 0.0E+00
INFNT 2.3E-03 1.3E-04 2.7E-02 3.2E-02 8.5E-03 4.2E-03 3.5E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 1.5E-04 7.0E-05 9.7E-05 1.9E-04 1.1E-04 2.2E-04 8.8E-05 0.0E+00
TEEN 1.3E-04 7.0E-05 1.4E-04 2.4E-04 1.3E-04 2.6E-04 1.0E-04 0.0E+00
CHILD 8.6E-05 6.0E-05 1.8E-04 2.3E-04 1.2E-04 2.8E-04 8.8E-05 0.0E+00
INFNT 4.4E-05 3.4E-05 1.1E-04 1.6E-04 7.0E-05 2.3E-04 5.4E-05 0.0E+00

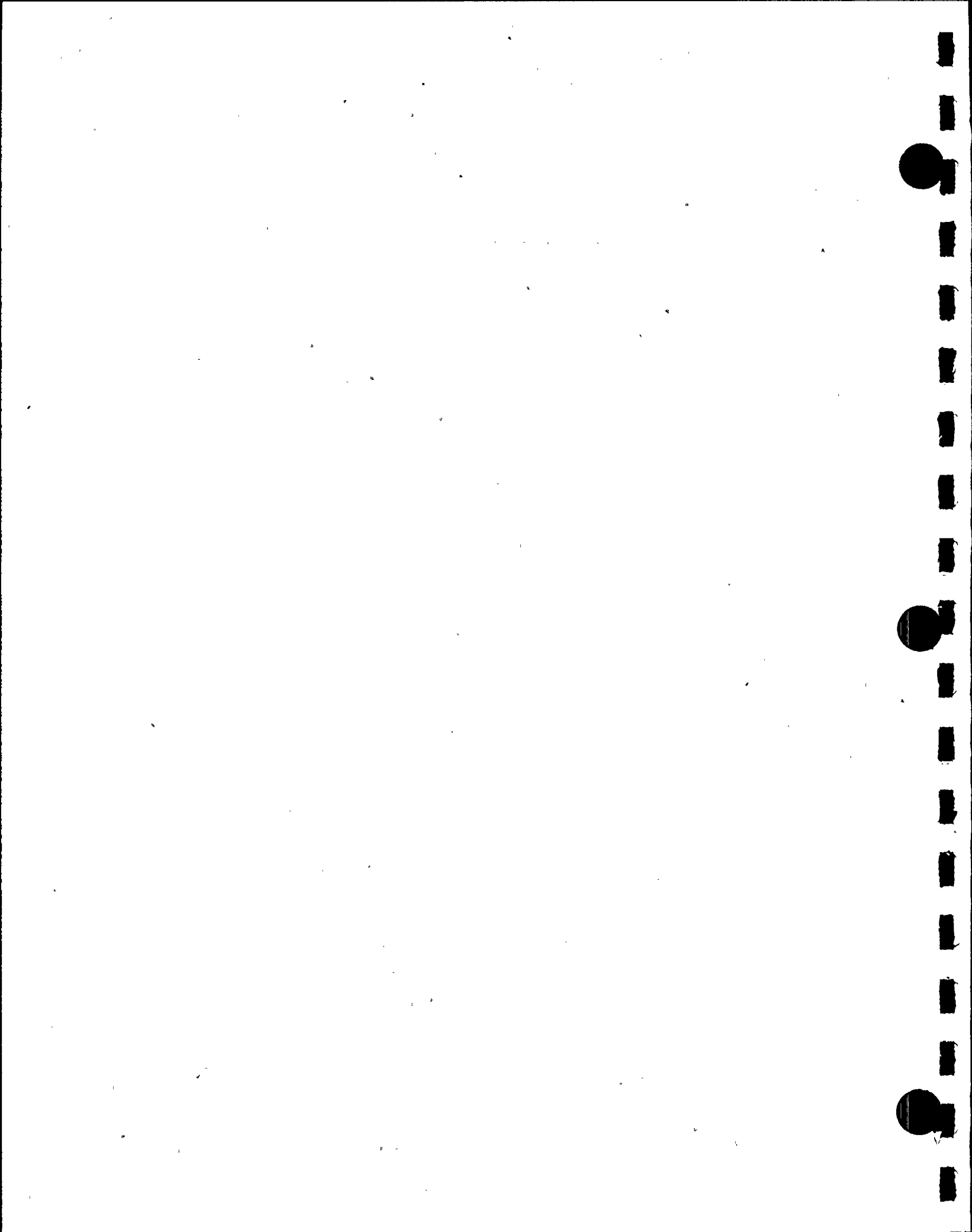
SUBTOTALS (NO PLUME)
ADULT 4.3E-02 2.2E-02 4.5E-02 5.4E-02 3.2E-02 2.4E-02 2.5E-02 2.4E-02
TEEN 4.0E-02 2.2E-02 6.0E-02 7.4E-02 3.9E-02 2.4E-02 2.8E-02 2.4E-02
CHILD 3.5E-02 2.2E-02 1.1E-01 1.1E-01 5.1E-02 2.7E-02 3.2E-02 2.4E-02
INFNT 2.4E-02 2.1E-02 5.7E-02 6.3E-02 3.2E-02 2.9E-02 2.6E-02 2.4E-02

TOTALS
ADULT 4.3E-02 2.2E-02 4.5E-02 5.4E-02 3.3E-02 2.4E-02 2.5E-02 2.5E-02
TEEN 4.0E-02 2.2E-02 6.0E-02 7.4E-02 3.9E-02 2.5E-02 2.8E-02 2.5E-02
CHILD 3.5E-02 2.2E-02 1.1E-01 1.1E-01 5.1E-02 2.7E-02 3.2E-02 2.5E-02
INFNT 2.4E-02 2.1E-02 5.7E-02 6.4E-02 3.3E-02 2.9E-02 2.6E-02 2.5E-02



APPENDIX 1.3

Summary of Maximum Individual Doses
Second Quarter, 1990



SUMMARY OF MAXIMUM INDIVIDUAL DOSES 2ND QUARTER 1990

EFFLUENT	APPLICABLE ORGAN	ESTIMATED DOSE (MREM)	AGE GROUP	LOCATION DIST DIR (M) (Toward)	% OF APPLICABLE LIMIT	QUARTERLY LIMIT (MR)
Liquid	Total Body	6.30 E-3	Adult	Receptor 1	4.20 E-1	1.5 E+0
Liquid	Liver	8.14 E-3	Child	Receptor 1	1.63 E-1	5.0 E+0
Noble Gas	Air Dose (Gamma-mrad)	2.00 E-3		617 NNE	4.00 E-2	5.0 E+0
Noble Gas	Air Dose (Beta-mrad)	2.72 E-3		617 NNE	2.72 E-2	1.0 E+1
Noble Gas	Total Body	1.87 E-3	All	659 N	3.74 E-2	Annual 5.0 E+0
Noble Gas	Skin	4.55 E-3	All	659 N	3.03 E-2	Annual 1.5 E+1
Iodines and Particulates	Bone	3.13 E-1	Child	659 N	4.17 E+0	7.5 E+0



FOR RECEPTOR NUMBER 1

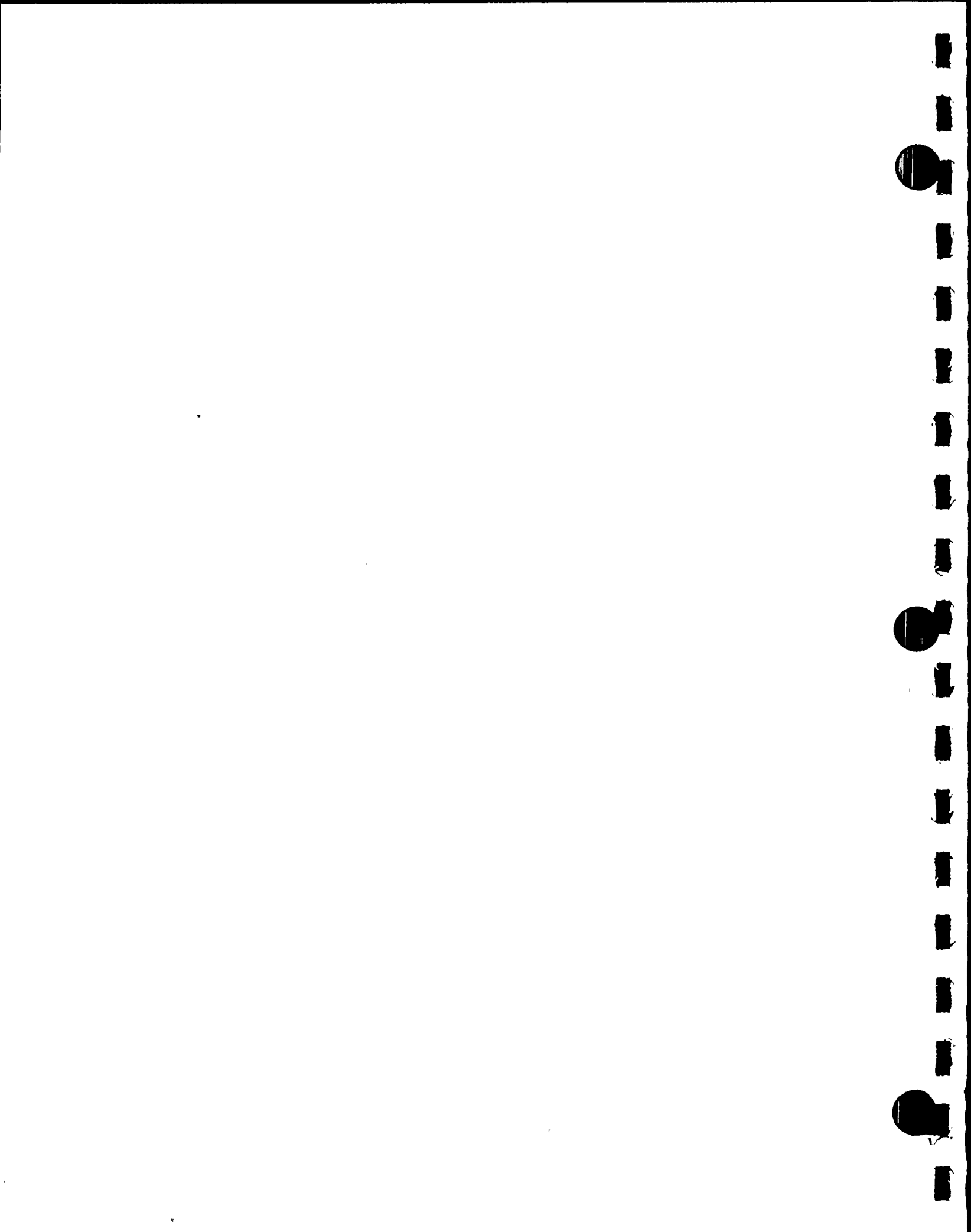
LAST LIQUID DOSE ACCUMULATIONS(MREM)
 START DATE 90 4 1 1 END DATE 90 63024

	BONE	LIVER	T.BODY	THYRD	KIDNEY	LUNG	GI-LLI	SKIN
WATER								
ADULT	1.1E-05	3.9E-03	3.9E-03	4.0E-03	3.9E-03	3.9E-03	4.2E-03	0.0E+00
TEEN	1.0E-05	2.8E-03	2.8E-03	2.8E-03	2.8E-03	2.8E-03	2.9E-03	0.0E+00
CHILD	2.9E-05	5.3E-03	5.3E-03	5.4E-03	5.3E-03	5.3E-03	5.4E-03	0.0E+00
INFANT	3.1E-05	5.3E-03	5.2E-03	5.3E-03	5.2E-03	5.2E-03	5.3E-03	0.0E+00

	BONE	LIVER	T.BODY	THYRD	KIDNEY	LUNG	GI-LLI	SKIN
SHORE								
ADULT	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.3E-05	2.7E-05
TEEN	1.3E-04	1.3E-04	1.3E-04	1.3E-04	1.3E-04	1.3E-04	1.3E-04	1.5E-04
CHILD	2.6E-05	2.6E-05	2.6E-05	2.6E-05	2.6E-05	2.6E-05	2.6E-05	3.1E-05
INFANT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

	BONE	LIVER	T.BODY	THYRD	KIDNEY	LUNG	GI-LLI	SKIN
FW SPT FISH								
ADULT	1.5E-03	3.2E-03	2.3E-03	3.1E-04	1.4E-03	5.5E-04	9.8E-04	0.0E+00
TEEN	1.6E-03	3.2E-03	1.6E-03	2.5E-04	1.4E-03	5.4E-04	6.9E-04	0.0E+00
CHILD	2.0E-03	2.8E-03	9.5E-04	2.2E-04	1.1E-03	4.4E-04	3.3E-04	0.0E+00
INFANT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

	BONE	LIVER	T.BODY	THYRD	KIDNEY	LUNG	GI-LLI	SKIN
TOTAL								
ADULT	1.5E-03	7.2E-03	6.3E-03	4.3E-03	5.4E-03	4.5E-03	5.2E-03	2.7E-05
TEEN	1.7E-03	6.1E-03	4.5E-03	3.2E-03	4.3E-03	3.4E-03	3.8E-03	1.5E-04
CHILD	2.0E-03	8.1E-03	6.3E-03	5.6E-03	6.5E-03	5.8E-03	5.8E-03	3.1E-05
INFANT	3.1E-05	5.3E-03	5.2E-03	5.3E-03	5.2E-03	5.2E-03	5.3E-03	0.0E+00



DATES OF LAST AIR DOSE ACCUMULATION ARE FROM 90 4 1 1 0 TO 90 63024 0

DOSE ACCUMULATION FOR GAMMA MRAD

FOR RELEASE POINT 1

**DIRECTION FROM N

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NNE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ENE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM E

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ESE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SSE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM S

1.4499E-03	1.6921E-04	7.4504E-05	4.2231E-05	2.8528E-05
1.3126E-05	4.4845E-06	2.0535E-06	1.2380E-06	7.0822E-07

**DIRECTION FROM SSW

6.0474E-04	8.1292E-05	3.6745E-05	2.1054E-05	1.4697E-05
7.3411E-06	2.7838E-06	1.3568E-06	8.5795E-07	5.2877E-07

**DIRECTION FROM SW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM W

1.3829E-03	5.4791E-05	2.6943E-05	1.8495E-05	1.4267E-05
8.5598E-06	4.2797E-06	2.5678E-06	1.8342E-06	1.2831E-06

**DIRECTION FROM WNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

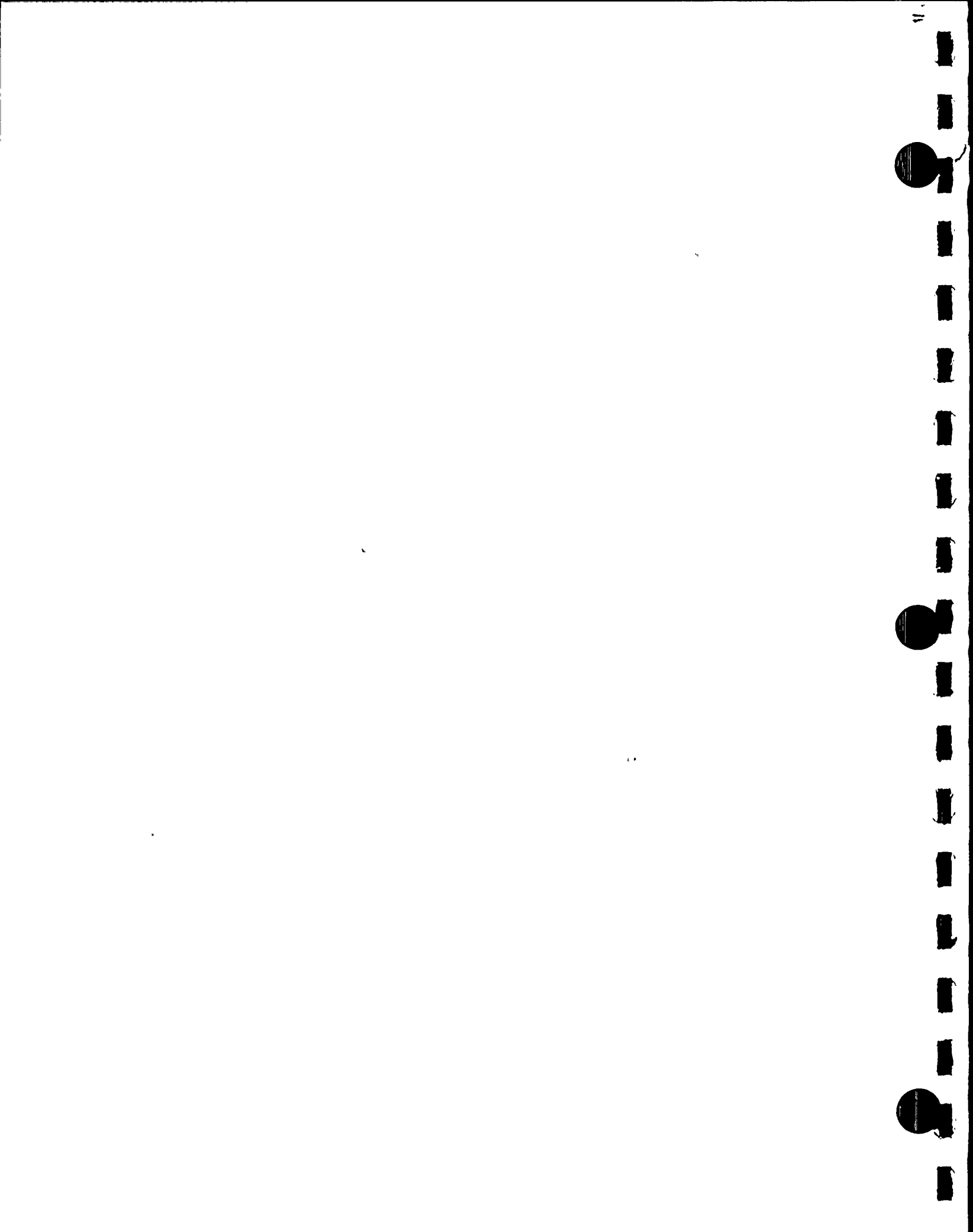
**DIRECTION FROM NNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

DISTANCES USED IN CALCULATIONS

594.0 2416.0 4020.0 5630.0 7240.0

12067.0 24135.0 40225.0 56315.0 80500.0



FOR RELEASE POINT 2

**DIRECTION FROM N				
8.4471E-04	9.8231E-05	4.6639E-05	2.7919E-05	1.9598E-05
9.7885E-06	3.8187E-06	1.8961E-06	1.2121E-06	7.6152E-07
**DIRECTION FROM NNE				
4.3055E-04	4.8014E-05	2.3699E-05	1.4533E-05	1.0366E-05
5.3324E-06	2.1519E-06	1.0743E-06	6.8793E-07	4.4038E-07
**DIRECTION FROM NE				
6.1438E-04	6.7878E-05	3.4883E-05	2.1972E-05	1.5776E-05
8.1777E-06	3.3730E-06	1.7044E-06	1.0987E-06	7.0805E-07
**DIRECTION FROM ENE				
6.5032E-04	7.7324E-05	3.9034E-05	2.4293E-05	1.7335E-05
8.8981E-06	3.6341E-06	1.8392E-06	1.1890E-06	7.6156E-07
**DIRECTION FROM E				
9.4710E-04	1.0504E-04	5.3813E-05	3.3791E-05	2.4295E-05
1.2640E-05	5.2158E-06	2.6322E-06	1.6954E-06	1.0936E-06
**DIRECTION FROM ESE				
8.1222E-04	9.2023E-05	4.6807E-05	2.9290E-05	2.0964E-05
1.0815E-05	4.4380E-06	2.2448E-06	1.4495E-06	9.3211E-07
**DIRECTION FROM SE				
1.8291E-03	2.0238E-04	1.0411E-04	6.5525E-05	4.7166E-05
2.4585E-05	1.0165E-05	5.1295E-06	3.3028E-06	2.1318E-06
**DIRECTION FROM SSE				
1.4673E-03	1.6621E-04	8.4640E-05	5.2933E-05	3.8012E-05
1.9749E-05	8.1304E-06	4.1036E-06	2.6441E-06	1.7024E-06
**DIRECTION FROM S				
2.2489E-03	2.5673E-04	1.2875E-04	7.9745E-05	5.7062E-05
2.9490E-05	1.2032E-05	6.0514E-06	3.8925E-06	2.4978E-06
**DIRECTION FROM SSW				
1.5094E-03	1.7056E-04	8.6543E-05	5.4022E-05	3.8725E-05
2.0050E-05	8.2245E-06	4.1456E-06	2.6694E-06	1.7163E-06
**DIRECTION FROM SW				
1.1080E-03	1.2743E-04	6.2242E-05	3.7929E-05	2.6916E-05
1.3717E-05	5.4910E-06	2.7458E-06	1.7620E-06	1.1224E-06
**DIRECTION FROM WSW				
7.8110E-04	8.7053E-05	4.2406E-05	2.5826E-05	1.8372E-05
9.4188E-06	3.7902E-06	1.9021E-06	1.2235E-06	7.8263E-07
**DIRECTION FROM W				
9.3437E-04	1.0514E-04	5.1874E-05	3.1849E-05	2.2672E-05
1.1612E-05	4.6893E-06	2.3571E-06	1.5168E-06	9.6985E-07
**DIRECTION FROM WNW				
9.4189E-04	1.1402E-04	5.5397E-05	3.3588E-05	2.3825E-05
1.2151E-05	4.8645E-06	2.4396E-06	1.5691E-06	9.9716E-07
**DIRECTION FROM NW				
5.3675E-04	6.3819E-05	3.0550E-05	1.8359E-05	1.2996E-05
6.6143E-06	2.6343E-06	1.3233E-06	8.5229E-07	5.4074E-07
**DIRECTION FROM NNW				
8.6601E-04	9.9474E-05	4.8365E-05	2.9432E-05	2.0838E-05
1.0573E-05	4.2271E-06	2.1253E-06	1.3692E-06	8.7084E-07

DISTANCES USED IN CALCULATIONS

594.0 2416.0 4020.0 5630.0 7240.0
12067.0 24135.0 40225.0 56315.0 80500.0



DATES OF LAST AIR DOSE ACCUMULATION ARE FROM 90 4 1 1 0 TO 90 63024 0

DOSE ACCUMULATION FOR BETA MRAD

FOR RELEASE POINT 1

**DIRECTION FROM N

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NNE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ENE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM E

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM ESE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM SSE

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM S

4.1534E-03	4.8472E-04	2.1342E-04	1.2097E-04	8.1719E-05
3.7602E-05	1.2846E-05	5.8824E-06	3.5463E-06	2.0288E-06

**DIRECTION FROM SSW

2.5777E-04	3.4651E-05	1.5663E-05	8.9743E-06	6.2649E-06
3.1292E-06	1.1866E-06	5.7835E-07	3.6570E-07	2.2539E-07

**DIRECTION FROM SW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM WSW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM W

3.2179E-03	1.2749E-04	6.2692E-05	4.3035E-05	3.3197E-05
1.9918E-05	9.9584E-06	5.9750E-06	4.2679E-06	2.9857E-06

**DIRECTION FROM WNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

**DIRECTION FROM NNW

0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0

FOR RELEASE POINT 2

**DIRECTION FROM N

1.0984E-03	1.2826E-04	6.0105E-05	3.5654E-05	2.4925E-05
1.2361E-05	4.7643E-06	2.3533E-06	1.4998E-06	9.3663E-07

**DIRECTION FROM NNE

5.5914E-04	6.1747E-05	3.0359E-05	1.8578E-05	1.3248E-05
6.8149E-06	2.7477E-06	1.3718E-06	8.7885E-07	5.6326E-07

**DIRECTION FROM NE

9.6910E-04	1.0625E-04	5.4954E-05	3.4761E-05	2.4981E-05
1.2960E-05	5.3601E-06	2.7116E-06	1.7490E-06	1.1283E-06

**DIRECTION FROM ENE

8.8016E-04	1.0525E-04	5.3101E-05	3.3024E-05	2.3575E-05
1.2116E-05	4.9505E-06	2.5052E-06	1.6193E-06	1.0372E-06

**DIRECTION FROM E

1.5020E-03	1.6528E-04	8.5200E-05	5.3703E-05	3.8673E-05
2.0170E-05	8.3501E-06	4.2168E-06	2.7163E-06	1.7545E-06

**DIRECTION FROM ESE

1.2915E-03	1.4550E-04	7.4251E-05	4.6577E-05	3.3351E-05
1.7212E-05	7.0765E-06	3.5849E-06	2.3173E-06	1.4917E-06

**DIRECTION FROM SE

2.8393E-03	3.1349E-04	1.6132E-04	1.0156E-04	7.3117E-05
3.8119E-05	1.5764E-05	7.9541E-06	5.1209E-06	3.3057E-06

**DIRECTION FROM SSE

2.2087E-03	2.4696E-04	1.2606E-04	7.8940E-05	5.6776E-05
2.9583E-05	1.2202E-05	6.1545E-06	3.9623E-06	2.5545E-06

**DIRECTION FROM S

3.4332E-03	3.9164E-04	1.9628E-04	1.2151E-04	8.6958E-05
4.4959E-05	1.8344E-05	9.2253E-06	5.9338E-06	3.8083E-06

**DIRECTION FROM SSW

2.6243E-03	2.9363E-04	1.4987E-04	9.3897E-05	6.7427E-05
3.5010E-05	1.4413E-05	7.2714E-06	4.6833E-06	3.0166E-06

**DIRECTION FROM SW

1.9036E-03	2.1719E-04	1.0643E-04	6.4979E-05	4.6205E-05
2.3636E-05	9.4920E-06	4.7453E-06	3.0431E-06	1.9412E-06

**DIRECTION FROM WSW

1.3504E-03	1.5075E-04	7.3679E-05	4.4952E-05	3.2017E-05
1.6448E-05	6.6328E-06	3.3286E-06	2.1402E-06	1.3694E-06

**DIRECTION FROM W

1.4971E-03	1.6896E-04	8.3529E-05	5.1345E-05	3.6549E-05
1.8712E-05	7.5586E-06	3.8000E-06	2.4454E-06	1.5634E-06

**DIRECTION FROM WNW

1.3558E-03	1.6562E-04	8.0455E-05	4.8786E-05	3.4552E-05
1.7562E-05	7.0177E-06	3.5219E-06	2.2672E-06	1.4390E-06

**DIRECTION FROM NW

8.2956E-04	9.8835E-05	4.7432E-05	2.8553E-05	2.0238E-05
1.0328E-05	4.1284E-06	2.0778E-06	1.3399E-06	8.5144E-07

**DIRECTION FROM NNW

1.2344E-03	1.4227E-04	6.9421E-05	4.2369E-05	2.9984E-05
1.5188E-05	6.0790E-06	3.0619E-06	1.9752E-06	1.2561E-06

DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 4.5E-03
TEEN 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 4.5E-03
CHILD 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 4.5E-03
INFNT 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 1.9E-03 4.5E-03

GROUND PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.4E-01
TEEN 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.4E-01
CHILD 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.4E-01
INFNT 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.2E-01 1.4E-01

VEGET PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD N
ADULT 1.1E-03 8.4E-05 1.1E-03 1.6E-03 5.7E-04 7.2E-05 2.2E-04 0.0E+00
TEEN 8.8E-04 9.5E-05 1.8E-03 2.4E-03 8.7E-04 7.5E-05 3.7E-04 0.0E+00
CHILD 6.9E-04 1.2E-04 4.2E-03 4.1E-03 1.4E-03 1.2E-04 5.6E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD N
ADULT 1.1E-04 1.1E-05 1.1E-04 1.6E-04 5.9E-05 9.8E-06 2.4E-05 0.0E+00
TEEN 4.7E-05 6.3E-06 9.2E-05 1.3E-04 4.6E-05 6.2E-06 2.1E-05 0.0E+00
CHILD 2.9E-05 6.4E-06 1.7E-04 1.7E-04 5.8E-05 8.0E-06 2.4E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

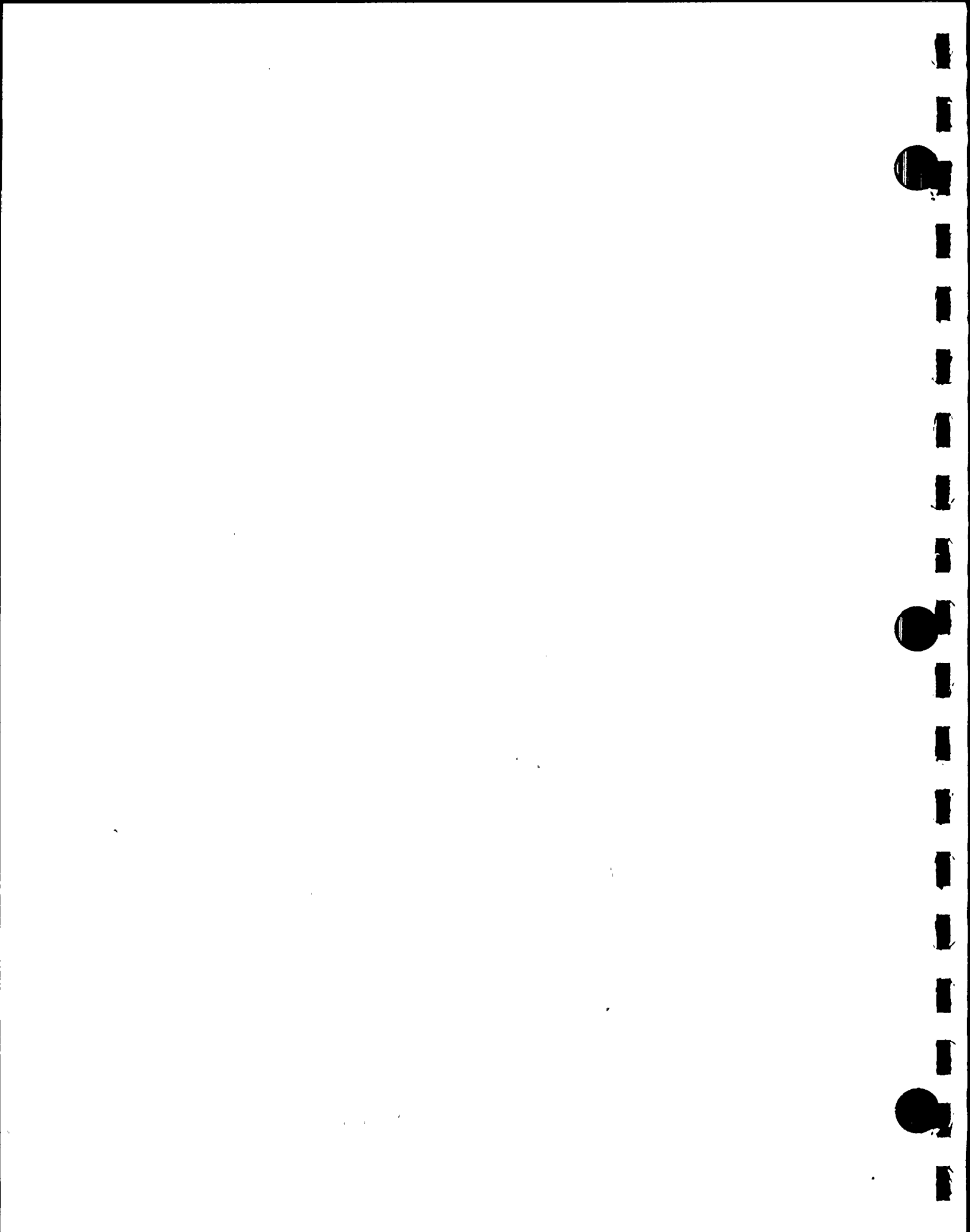
COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD N
ADULT 3.7E-03 1.7E-04 4.1E-03 5.6E-03 1.9E-03 3.6E-04 6.8E-04 0.0E+00
TEEN 3.5E-03 2.2E-04 7.4E-03 9.9E-03 3.4E-03 5.5E-04 1.4E-03 0.0E+00
CHILD 2.6E-03 2.2E-04 1.8E-02 1.7E-02 5.7E-03 1.1E-03 2.1E-03 0.0E+00
INFNT 2.5E-03 2.7E-04 2.8E-02 3.3E-02 9.1E-03 2.5E-03 3.8E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD N
ADULT 1.1E-02 4.3E-04 1.2E-02 1.7E-02 5.8E-03 4.7E-04 2.0E-03 0.0E+00
TEEN 1.0E-02 5.6E-04 2.2E-02 3.0E-02 1.0E-02 7.2E-04 4.0E-03 0.0E+00
CHILD 7.8E-03 5.4E-04 5.3E-02 5.1E-02 1.7E-02 1.4E-03 6.2E-03 0.0E+00
INFNT 7.4E-03 6.5E-04 8.5E-02 1.0E-01 2.7E-02 3.1E-03 1.1E-02 0.0E+00

INHAL PATHWAY, DIST GP= 1, 659. METERS, WINDS TOWARD N
ADULT 2.4E-03 1.1E-03 1.5E-03 3.0E-03 1.8E-03 1.3E-03 1.4E-03 0.0E+00
TEEN 2.1E-03 1.1E-03 2.1E-03 3.7E-03 2.0E-03 1.3E-03 1.6E-03 0.0E+00
CHILD 1.4E-03 9.7E-04 2.8E-03 3.5E-03 1.8E-03 1.2E-03 1.4E-03 0.0E+00
INFNT 6.9E-04 5.5E-04 1.7E-03 2.5E-03 1.1E-03 8.1E-04 8.4E-04 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 1.4E-01 1.2E-01 1.4E-01 1.5E-01 1.3E-01 1.2E-01 1.2E-01 1.4E-01
TEEN 1.4E-01 1.2E-01 1.5E-01 1.7E-01 1.4E-01 1.2E-01 1.3E-01 1.4E-01
CHILD 1.3E-01 1.2E-01 2.0E-01 2.0E-01 1.5E-01 1.2E-01 1.3E-01 1.4E-01
INFNT 1.3E-01 1.2E-01 2.3E-01 2.6E-01 1.6E-01 1.3E-01 1.4E-01 1.4E-01

TOTALS
ADULT 1.4E-01 1.2E-01 1.4E-01 1.5E-01 1.3E-01 1.2E-01 1.3E-01 1.4E-01
TEEN 1.4E-01 1.2E-01 1.5E-01 1.7E-01 1.4E-01 1.2E-01 1.3E-01 1.4E-01
CHILD 1.3E-01 1.2E-01 2.0E-01 2.0E-01 1.5E-01 1.3E-01 1.3E-01 1.4E-01
INFNT 1.3E-01 1.2E-01 2.4E-01 2.6E-01 1.6E-01 1.3E-01 1.4E-01 1.4E-01



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 2.3E-03
TEEN 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 2.3E-03
CHILD 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 2.3E-03
INFNT 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 1.1E-03 2.3E-03

GROUND PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 9.1E-02
TEEN 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 9.1E-02
CHILD 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 9.1E-02
INFNT 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 7.7E-02 9.1E-02

VEGET PATHWAY, DIST GP= 1, 814. METERS, WINDS TOWARD NNE
ADULT 3.3E-02 2.0E-03 3.5E-02 4.9E-02 1.7E-02 1.4E-03 6.4E-03 0.0E+00
TEEN 2.7E-02 2.3E-03 5.6E-02 7.6E-02 2.7E-02 1.5E-03 1.1E-02 0.0E+00
CHILD 2.0E-02 2.6E-03 1.3E-01 1.3E-01 4.3E-02 2.3E-03 1.7E-02 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NNE
ADULT 7.5E-05 7.7E-06 7.8E-05 1.1E-04 4.1E-05 6.6E-06 1.7E-05 0.0E+00
TEEN 3.3E-05 4.5E-06 6.4E-05 8.9E-05 3.2E-05 4.1E-06 1.4E-05 0.0E+00
CHILD 2.1E-05 4.6E-06 1.2E-04 1.2E-04 4.1E-05 5.2E-06 1.7E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE
ADULT 2.4E-03 1.1E-04 2.7E-03 3.7E-03 1.3E-03 1.7E-04 4.5E-04 0.0E+00
TEEN 2.3E-03 1.4E-04 4.8E-03 6.4E-03 2.2E-03 2.7E-04 8.9E-04 0.0E+00
CHILD 1.7E-03 1.5E-04 1.2E-02 1.1E-02 3.7E-03 5.1E-04 1.4E-03 0.0E+00
INFNT 1.6E-03 1.8E-04 1.8E-02 2.2E-02 5.9E-03 1.2E-03 2.5E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE
ADULT 7.2E-03 2.8E-04 7.9E-03 1.1E-02 3.8E-03 2.4E-04 1.3E-03 0.0E+00
TEEN 6.8E-03 3.7E-04 1.4E-02 1.9E-02 6.6E-03 3.6E-04 2.6E-03 0.0E+00
CHILD 5.1E-03 3.6E-04 3.5E-02 3.3E-02 1.1E-02 6.7E-04 4.0E-03 0.0E+00
INFNT 4.8E-03 4.3E-04 5.5E-02 6.5E-02 1.8E-02 1.5E-03 7.3E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 660. METERS, WINDS TOWARD NNE
ADULT 1.5E-03 7.6E-04 8.4E-04 1.8E-03 1.1E-03 8.8E-04 9.2E-04 0.0E+00
TEEN 1.3E-03 7.7E-04 1.2E-03 2.2E-03 1.3E-03 9.1E-04 1.0E-03 0.0E+00
CHILD 8.8E-04 6.7E-04 1.6E-03 2.1E-03 1.2E-03 8.5E-04 8.9E-04 0.0E+00
INFNT 4.6E-04 3.8E-04 9.7E-04 1.5E-03 6.8E-04 5.5E-04 5.4E-04 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 1.2E-01 8.1E-02 1.2E-01 1.4E-01 1.0E-01 8.0E-02 8.7E-02 9.1E-02
TEEN 1.1E-01 8.1E-02 1.5E-01 1.8E-01 1.1E-01 8.1E-02 9.3E-02 9.1E-02
CHILD 1.1E-01 8.1E-02 2.6E-01 2.5E-01 1.4E-01 8.2E-02 1.0E-01 9.1E-02
INFNT 8.4E-02 7.8E-02 1.5E-01 1.7E-01 1.0E-01 8.1E-02 8.8E-02 9.1E-02

TOTALS
ADULT 1.2E-01 8.2E-02 1.3E-01 1.4E-01 1.0E-01 8.1E-02 8.8E-02 9.3E-02
TEEN 1.2E-01 8.2E-02 1.6E-01 1.8E-01 1.2E-01 8.2E-02 9.4E-02 9.3E-02
CHILD 1.1E-01 8.2E-02 2.6E-01 2.5E-01 1.4E-01 8.3E-02 1.0E-01 9.3E-02
INFNT 8.6E-02 8.0E-02 1.5E-01 1.7E-01 1.0E-01 8.2E-02 8.9E-02 9.3E-02



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.3E-04 7.2E-04
TEEN 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.3E-04 7.2E-04
CHILD 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.3E-04 7.2E-04
INFNT 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.2E-04 3.3E-04 7.2E-04

GROUND PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 5.0E-02
TEEN 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 5.0E-02
CHILD 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 5.0E-02
INFNT 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 4.3E-02 5.0E-02

VEGET PATHWAY, DIST GP= 1, 1052. METERS, WINDS TOWARD NE
ADULT 2.1E-02 1.1E-03 2.3E-02 3.2E-02 1.1E-02 8.0E-04 4.0E-03 0.0E+00
TEEN 1.8E-02 1.3E-03 3.7E-02 5.0E-02 1.7E-02 8.1E-04 7.0E-03 0.0E+00
CHILD 1.3E-02 1.4E-03 8.7E-02 8.4E-02 2.8E-02 1.2E-03 1.1E-02 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NE
ADULT 7.3E-05 5.9E-06 7.8E-05 1.1E-04 4.0E-05 5.0E-06 1.6E-05 0.0E+00
TEEN 3.2E-05 3.5E-06 6.5E-05 8.8E-05 3.1E-05 3.1E-06 1.4E-05 0.0E+00
CHILD 1.9E-05 3.4E-06 1.2E-04 1.2E-04 4.0E-05 4.1E-06 1.6E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE
ADULT 2.4E-03 1.0E-04 2.7E-03 3.7E-03 1.3E-03 1.8E-04 4.4E-04 0.0E+00
TEEN 2.3E-03 1.3E-04 4.8E-03 6.5E-03 2.2E-03 2.8E-04 8.8E-04 0.0E+00
CHILD 1.7E-03 1.2E-04 1.2E-02 1.1E-02 3.7E-03 5.4E-04 1.4E-03 0.0E+00
INFNT 1.6E-03 1.5E-04 1.9E-02 2.2E-02 5.9E-03 1.3E-03 2.4E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE
ADULT 7.2E-03 2.6E-04 8.0E-03 1.1E-02 3.8E-03 2.4E-04 1.3E-03 0.0E+00
TEEN 6.8E-03 3.4E-04 1.5E-02 1.9E-02 6.6E-03 3.7E-04 2.6E-03 0.0E+00
CHILD 5.0E-03 3.1E-04 3.5E-02 3.4E-02 1.1E-02 7.0E-04 4.0E-03 0.0E+00
INFNT 4.8E-03 3.6E-04 5.6E-02 6.6E-02 1.8E-02 1.6E-03 7.3E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 943. METERS, WINDS TOWARD NE
ADULT 6.2E-04 3.1E-04 3.5E-04 7.6E-04 4.7E-04 3.6E-04 3.7E-04 0.0E+00
TEEN 5.3E-04 3.1E-04 5.0E-04 9.3E-04 5.3E-04 3.7E-04 4.2E-04 0.0E+00
CHILD 3.6E-04 2.7E-04 6.7E-04 8.8E-04 4.8E-04 3.4E-04 3.7E-04 0.0E+00
INFNT 1.9E-04 1.6E-04 4.1E-04 6.1E-04 2.8E-04 2.2E-04 2.2E-04 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 7.5E-02 4.5E-02 7.7E-02 9.1E-02 6.0E-02 4.5E-02 4.9E-02 5.0E-02
TEEN 7.0E-02 4.5E-02 1.0E-01 1.2E-01 7.0E-02 4.5E-02 5.4E-02 5.0E-02
CHILD 6.3E-02 4.5E-02 1.8E-01 1.7E-01 8.6E-02 4.6E-02 5.9E-02 5.0E-02
INFNT 5.0E-02 4.4E-02 1.2E-01 1.3E-01 6.7E-02 4.6E-02 5.3E-02 5.0E-02

TOTALS
ADULT 7.5E-02 4.5E-02 7.8E-02 9.1E-02 6.0E-02 4.5E-02 5.0E-02 5.1E-02
TEEN 7.1E-02 4.5E-02 1.0E-01 1.2E-01 7.0E-02 4.5E-02 5.4E-02 5.1E-02
CHILD 6.4E-02 4.5E-02 1.8E-01 1.7E-01 8.7E-02 4.6E-02 6.0E-02 5.1E-02
INFNT 5.0E-02 4.4E-02 1.2E-01 1.3E-01 6.7E-02 4.6E-02 5.3E-02 5.1E-02



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.4E-05 1.9E-04
TEEN 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.4E-05 1.9E-04
CHILD 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.4E-05 1.9E-04
INFNT 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.1E-05 8.4E-05 1.9E-04

GROUND PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.6E-02
TEEN 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.6E-02
CHILD 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.6E-02
INFNT 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.4E-02 1.6E-02

VEGET PATHWAY, DIST GP= 1, 1852. METERS, WINDS TOWARD ENE
ADULT 7.2E-03 3.4E-04 7.9E-03 1.1E-02 3.8E-03 2.3E-04 1.3E-03 0.0E+00
TEEN 6.0E-03 3.9E-04 1.3E-02 1.7E-02 5.8E-03 2.3E-04 2.3E-03 0.0E+00
CHILD 4.4E-03 3.9E-04 3.0E-02 2.9E-02 9.5E-03 3.5E-04 3.5E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 3862. METERS, WINDS TOWARD ENE
ADULT 2.2E-04 1.3E-05 2.4E-04 3.4E-04 1.2E-04 1.0E-05 4.3E-05 0.0E+00
TEEN 9.7E-05 7.6E-06 2.0E-04 2.7E-04 9.5E-05 6.6E-06 3.9E-05 0.0E+00
CHILD 5.6E-05 6.4E-06 3.7E-04 3.6E-04 1.2E-04 8.9E-06 4.6E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE
ADULT 2.1E-03 8.0E-05 2.3E-03 3.2E-03 1.1E-03 1.6E-04 3.8E-04 0.0E+00
TEEN 2.0E-03 1.0E-04 4.3E-03 5.7E-03 1.9E-03 2.5E-04 7.7E-04 0.0E+00
CHILD 1.5E-03 9.4E-05 1.0E-02 9.8E-03 3.2E-03 4.8E-04 1.2E-03 0.0E+00
INFNT 1.4E-03 1.1E-04 1.6E-02 1.9E-02 5.2E-03 1.1E-03 2.1E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE
ADULT 6.3E-03 2.2E-04 7.0E-03 9.6E-03 3.3E-03 2.0E-04 1.1E-03 0.0E+00
TEEN 5.9E-03 2.8E-04 1.3E-02 1.7E-02 5.8E-03 3.1E-04 2.3E-03 0.0E+00
CHILD 4.4E-03 2.4E-04 3.1E-02 2.9E-02 9.6E-03 6.0E-04 3.5E-03 0.0E+00
INFNT 4.2E-03 2.7E-04 4.9E-02 5.7E-02 1.5E-02 1.4E-03 6.3E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1747. METERS, WINDS TOWARD ENE
ADULT 1.5E-04 7.0E-05 8.9E-05 1.8E-04 1.1E-04 8.2E-05 8.6E-05 0.0E+00
TEEN 1.2E-04 7.0E-05 1.2E-04 2.2E-04 1.2E-04 8.6E-05 9.6E-05 0.0E+00
CHILD 8.3E-05 6.1E-05 1.7E-04 2.1E-04 1.1E-04 8.0E-05 8.4E-05 0.0E+00
INFNT 4.3E-05 3.5E-05 1.0E-04 1.5E-04 6.6E-05 5.3E-05 5.2E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 3.0E-02 1.4E-02 3.1E-02 3.8E-02 2.2E-02 1.4E-02 1.6E-02 1.6E-02
TEEN 2.8E-02 1.4E-02 4.3E-02 5.4E-02 2.7E-02 1.4E-02 1.9E-02 1.6E-02
CHILD 2.4E-02 1.4E-02 8.5E-02 8.2E-02 3.6E-02 1.5E-02 2.2E-02 1.6E-02
INFNT 1.9E-02 1.4E-02 7.9E-02 9.0E-02 3.4E-02 1.6E-02 2.2E-02 1.6E-02

TOTALS
ADULT 3.0E-02 1.4E-02 3.1E-02 3.8E-02 2.2E-02 1.4E-02 1.7E-02 1.6E-02
TEEN 2.8E-02 1.4E-02 4.4E-02 5.4E-02 2.7E-02 1.4E-02 1.9E-02 1.6E-02
CHILD 2.4E-02 1.4E-02 8.5E-02 8.2E-02 3.6E-02 1.5E-02 2.2E-02 1.6E-02
INFNT 1.9E-02 1.4E-02 7.9E-02 9.0E-02 3.4E-02 1.6E-02 2.2E-02 1.6E-02



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.8E-04 4.2E-04
TEEN 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.8E-04 4.2E-04
CHILD 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.8E-04 4.2E-04
INFNT 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.7E-04 1.8E-04 4.2E-04

GROUND PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.7E-02
TEEN 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.7E-02
CHILD 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.7E-02
INFNT 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.5E-02 1.7E-02

VEGET PATHWAY, DIST GP= 1, 1705. METERS, WINDS TOWARD E
ADULT 8.8E-03 4.3E-04 9.7E-03 1.3E-02 4.6E-03 6.1E-04 1.6E-03 0.0E+00
TEEN 7.3E-03 4.8E-04 1.5E-02 2.1E-02 7.2E-03 5.5E-04 2.9E-03 0.0E+00
CHILD 5.4E-03 4.9E-04 3.6E-02 3.5E-02 1.2E-02 8.4E-04 4.3E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 6810. METERS, WINDS TOWARD E
ADULT 8.4E-05 5.7E-06 9.1E-05 1.3E-04 4.5E-05 8.2E-06 1.7E-05 0.0E+00
TEEN 3.7E-05 3.3E-06 7.5E-05 1.0E-04 3.6E-05 5.6E-06 1.5E-05 0.0E+00
CHILD 2.2E-05 3.0E-06 1.4E-04 1.4E-04 4.5E-05 7.9E-06 1.8E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E
ADULT 2.2E-03 8.7E-05 2.5E-03 3.4E-03 1.2E-03 5.0E-04 4.0E-04 0.0E+00
TEEN 2.1E-03 1.1E-04 4.5E-03 6.0E-03 2.1E-03 7.8E-04 8.2E-04 0.0E+00
CHILD 1.6E-03 1.0E-04 1.1E-02 1.0E-02 3.4E-03 1.5E-03 1.3E-03 0.0E+00
INFNT 1.5E-03 1.2E-04 1.7E-02 2.0E-02 5.5E-03 3.7E-03 2.3E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E
ADULT 6.7E-03 2.3E-04 7.5E-03 1.0E-02 3.5E-03 6.1E-04 1.2E-03 0.0E+00
TEEN 6.3E-03 3.0E-04 1.4E-02 1.8E-02 6.2E-03 9.5E-04 2.4E-03 0.0E+00
CHILD 4.7E-03 2.7E-04 3.3E-02 3.1E-02 1.0E-02 1.9E-03 3.7E-03 0.0E+00
INFNT 4.4E-03 3.0E-04 5.2E-02 6.1E-02 1.6E-02 4.5E-03 6.7E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1716. METERS, WINDS TOWARD E
ADULT 1.9E-04 8.4E-05 1.2E-04 2.4E-04 1.4E-04 1.0E-04 1.1E-04 0.0E+00
TEEN 1.6E-04 8.4E-05 1.7E-04 3.0E-04 1.6E-04 1.0E-04 1.2E-04 0.0E+00
CHILD 1.1E-04 7.3E-05 2.3E-04 2.9E-04 1.4E-04 9.9E-05 1.1E-04 0.0E+00
INFNT 5.3E-05 4.2E-05 1.4E-04 2.0E-04 8.6E-05 6.6E-05 6.5E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 3.3E-02 1.6E-02 3.5E-02 4.2E-02 2.4E-02 1.7E-02 1.8E-02 1.7E-02
TEEN 3.1E-02 1.6E-02 4.9E-02 6.0E-02 3.0E-02 1.7E-02 2.1E-02 1.7E-02
CHILD 2.7E-02 1.6E-02 9.5E-02 9.2E-02 4.0E-02 1.9E-02 2.4E-02 1.7E-02
INFNT 2.1E-02 1.5E-02 8.5E-02 9.7E-02 3.7E-02 2.3E-02 2.4E-02 1.7E-02

TOTALS
ADULT 3.3E-02 1.6E-02 3.5E-02 4.2E-02 2.5E-02 1.7E-02 1.8E-02 1.8E-02
TEEN 3.1E-02 1.6E-02 4.9E-02 6.0E-02 3.1E-02 1.7E-02 2.1E-02 1.8E-02
CHILD 2.7E-02 1.6E-02 9.5E-02 9.2E-02 4.1E-02 1.9E-02 2.4E-02 1.8E-02
INFNT 2.1E-02 1.5E-02 8.5E-02 9.7E-02 3.7E-02 2.3E-02 2.4E-02 1.8E-02



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE
ADULT 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.2E-04 2.5E-04
TEEN 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.2E-04 2.5E-04
CHILD 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.2E-04 2.5E-04
INFNT 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.2E-04 2.5E-04

GROUND PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE
ADULT 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.5E-02
TEEN 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.5E-02
CHILD 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.5E-02
INFNT 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.2E-02 1.5E-02

VEGET PATHWAY, DIST GP= 1, 1628. METERS, WINDS TOWARD ESE
ADULT 7.5E-03 4.3E-04 8.2E-03 1.1E-02 4.0E-03 2.7E-04 1.5E-03 0.0E+00
TEEN 6.2E-03 4.8E-04 1.3E-02 1.8E-02 6.1E-03 2.8E-04 2.5E-03 0.0E+00
CHILD 4.7E-03 5.3E-04 3.1E-02 3.0E-02 9.9E-03 4.4E-04 3.8E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 2434. METERS, WINDS TOWARD ESE
ADULT 3.9E-04 2.7E-05 4.2E-04 5.8E-04 2.1E-04 2.0E-05 7.9E-05 0.0E+00
TEEN 1.7E-04 1.6E-05 3.4E-04 4.7E-04 1.7E-04 1.3E-05 7.0E-05 0.0E+00
CHILD 1.0E-04 1.5E-05 6.4E-04 6.2E-04 2.1E-04 1.6E-05 8.2E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE
ADULT 1.8E-03 7.5E-05 2.0E-03 2.7E-03 9.3E-04 1.0E-04 3.2E-04 0.0E+00
TEEN 1.7E-03 9.7E-05 3.5E-03 4.7E-03 1.6E-03 1.5E-04 6.5E-04 0.0E+00
CHILD 1.2E-03 9.5E-05 8.5E-03 8.2E-03 2.7E-03 2.9E-04 1.0E-03 0.0E+00
INFNT 1.2E-03 1.1E-04 1.4E-02 1.6E-02 4.3E-03 6.7E-04 1.8E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE
ADULT 5.3E-03 2.0E-04 5.9E-03 8.1E-03 2.8E-03 1.4E-04 9.5E-04 0.0E+00
TEEN 5.0E-03 2.6E-04 1.1E-02 1.4E-02 4.9E-03 2.0E-04 1.9E-03 0.0E+00
CHILD 3.7E-03 2.4E-04 2.6E-02 2.5E-02 8.1E-03 3.8E-04 3.0E-03 0.0E+00
INFNT 3.5E-03 2.8E-04 4.1E-02 4.8E-02 1.3E-02 8.5E-04 5.3E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1643. METERS, WINDS TOWARD ESE
ADULT 2.4E-04 1.1E-04 1.6E-04 3.1E-04 1.8E-04 1.2E-04 1.3E-04 0.0E+00
TEEN 2.1E-04 1.1E-04 2.2E-04 3.8E-04 2.0E-04 1.2E-04 1.5E-04 0.0E+00
CHILD 1.3E-04 9.3E-05 3.0E-04 3.6E-04 1.8E-04 1.1E-04 1.3E-04 0.0E+00
INFNT 6.7E-05 5.3E-05 1.8E-04 2.6E-04 1.1E-04 7.2E-05 8.3E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 2.8E-02 1.3E-02 2.9E-02 3.6E-02 2.1E-02 1.3E-02 1.5E-02 1.5E-02
TEEN 2.6E-02 1.3E-02 4.0E-02 5.0E-02 2.5E-02 1.3E-02 1.8E-02 1.5E-02
CHILD 2.2E-02 1.3E-02 7.8E-02 7.6E-02 3.4E-02 1.4E-02 2.0E-02 1.5E-02
INFNT 1.7E-02 1.3E-02 6.7E-02 7.7E-02 3.0E-02 1.4E-02 2.0E-02 1.5E-02

TOTALS
ADULT 2.8E-02 1.3E-02 2.9E-02 3.6E-02 2.1E-02 1.3E-02 1.6E-02 1.5E-02
TEEN 2.6E-02 1.4E-02 4.0E-02 5.0E-02 2.6E-02 1.3E-02 1.8E-02 1.5E-02
CHILD 2.2E-02 1.4E-02 7.8E-02 7.6E-02 3.4E-02 1.4E-02 2.1E-02 1.5E-02
INFNT 1.7E-02 1.3E-02 6.7E-02 7.7E-02 3.0E-02 1.4E-02 2.0E-02 1.5E-02



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 2.4E-04
TEEN 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 2.4E-04
CHILD 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 2.4E-04
INFNT 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 1.1E-04 2.4E-04

GROUND PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 2.2E-02
TEEN 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 2.2E-02
CHILD 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 2.2E-02
INFNT 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 1.9E-02 2.2E-02

VEGET PATHWAY, DIST GP= 1, 914. METERS, WINDS TOWARD SE
ADULT 1.6E-02 7.7E-04 1.7E-02 2.4E-02 8.3E-03 4.6E-04 2.9E-03 0.0E+00
TEEN 1.3E-02 8.7E-04 2.8E-02 3.7E-02 1.3E-02 4.7E-04 5.2E-03 0.0E+00
CHILD 9.7E-03 8.8E-04 6.5E-02 6.3E-02 2.1E-02 7.2E-04 7.8E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 4354. METERS, WINDS TOWARD SE
ADULT 1.2E-04 7.7E-06 1.3E-04 1.8E-04 6.5E-05 5.5E-06 2.4E-05 0.0E+00
TEEN 5.3E-05 4.5E-06 1.1E-04 1.5E-04 5.2E-05 3.5E-06 2.2E-05 0.0E+00
CHILD 3.1E-05 4.0E-06 2.0E-04 2.0E-04 6.6E-05 4.7E-06 2.5E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE
ADULT 1.4E-03 5.6E-05 1.6E-03 2.2E-03 7.5E-04 8.5E-05 2.6E-04 0.0E+00
TEEN 1.3E-03 7.3E-05 2.9E-03 3.8E-03 1.3E-03 1.3E-04 5.2E-04 0.0E+00
CHILD 1.0E-03 6.7E-05 6.9E-03 6.6E-03 2.2E-03 2.5E-04 8.0E-04 0.0E+00
INFNT 9.5E-04 7.8E-05 1.1E-02 1.3E-02 3.5E-03 5.9E-04 1.4E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE
ADULT 4.3E-03 1.5E-04 4.7E-03 6.5E-03 2.2E-03 1.1E-04 7.6E-04 0.0E+00
TEEN 4.0E-03 1.9E-04 8.6E-03 1.1E-02 3.9E-03 1.7E-04 1.5E-03 0.0E+00
CHILD 3.0E-03 1.7E-04 2.1E-02 2.0E-02 6.5E-03 3.2E-04 2.4E-03 0.0E+00
INFNT 2.8E-03 2.0E-04 3.3E-02 3.9E-02 1.0E-02 7.4E-04 4.3E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1136. METERS, WINDS TOWARD SE
ADULT 2.3E-04 1.1E-04 1.4E-04 2.9E-04 1.7E-04 1.2E-04 1.4E-04 0.0E+00
TEEN 2.0E-04 1.1E-04 2.0E-04 3.6E-04 2.0E-04 1.3E-04 1.5E-04 0.0E+00
CHILD 1.3E-04 9.5E-05 2.7E-04 3.4E-04 1.8E-04 1.2E-04 1.3E-04 0.0E+00
INFNT 6.8E-05 5.4E-05 1.7E-04 2.4E-04 1.1E-04 7.4E-05 8.2E-05 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 4.1E-02 2.0E-02 4.3E-02 5.2E-02 3.0E-02 1.9E-02 2.3E-02 2.2E-02
TEEN 3.7E-02 2.0E-02 5.8E-02 7.1E-02 3.7E-02 2.0E-02 2.6E-02 2.2E-02
CHILD 3.2E-02 2.0E-02 1.1E-01 1.1E-01 4.8E-02 2.0E-02 3.0E-02 2.2E-02
INFNT 2.3E-02 1.9E-02 6.3E-02 7.1E-02 3.3E-02 2.0E-02 2.4E-02 2.2E-02

TOTALS
ADULT 4.1E-02 2.0E-02 4.3E-02 5.2E-02 3.0E-02 2.0E-02 2.3E-02 2.2E-02
TEEN 3.7E-02 2.0E-02 5.8E-02 7.2E-02 3.7E-02 2.0E-02 2.6E-02 2.2E-02
CHILD 3.3E-02 2.0E-02 1.1E-01 1.1E-01 4.9E-02 2.0E-02 3.0E-02 2.2E-02
INFNT 2.3E-02 1.9E-02 6.3E-02 7.1E-02 3.3E-02 2.0E-02 2.5E-02 2.2E-02



INDIVIDUAL DOSES (MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 2.5E-04
TEEN 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 2.5E-04
CHILD 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 2.5E-04
INFNT 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 2.5E-04

GROUND PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.4E-02
TEEN 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.4E-02
CHILD 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.4E-02
INFNT 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.1E-02 2.4E-02

VEGET PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE
ADULT 2.1E-02 1.0E-03 2.3E-02 3.2E-02 1.1E-02 5.4E-04 3.9E-03 0.0E+00
TEEN 1.7E-02 1.1E-03 3.6E-02 4.9E-02 1.7E-02 5.6E-04 6.8E-03 0.0E+00
CHILD 1.3E-02 1.2E-03 8.6E-02 8.3E-02 2.7E-02 8.6E-04 1.0E-02 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE
ADULT 2.1E-03 1.2E-04 2.3E-03 3.2E-03 1.1E-03 7.3E-05 4.0E-04 0.0E+00
TEEN 9.0E-04 7.0E-05 1.9E-03 2.5E-03 8.8E-04 4.7E-05 3.6E-04 0.0E+00
CHILD 5.3E-04 5.9E-05 3.5E-03 3.4E-03 1.1E-03 6.1E-05 4.3E-04 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE
ADULT 2.5E-03 9.9E-05 2.8E-03 3.9E-03 1.3E-03 1.1E-04 4.5E-04 0.0E+00
TEEN 2.4E-03 1.3E-04 5.1E-03 6.8E-03 2.3E-03 1.7E-04 9.2E-04 0.0E+00
CHILD 1.8E-03 1.2E-04 1.2E-02 1.2E-02 3.9E-03 3.3E-04 1.4E-03 0.0E+00
INFNT 1.7E-03 1.4E-04 2.0E-02 2.3E-02 6.2E-03 7.7E-04 2.6E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE
ADULT 7.6E-03 2.6E-04 8.4E-03 1.2E-02 4.0E-03 1.5E-04 1.3E-03 0.0E+00
TEEN 7.1E-03 3.4E-04 1.5E-02 2.0E-02 7.0E-03 2.3E-04 2.7E-03 0.0E+00
CHILD 5.3E-03 3.1E-04 3.7E-02 3.5E-02 1.2E-02 4.3E-04 4.2E-03 0.0E+00
INFNT 5.0E-03 3.4E-04 5.9E-02 6.9E-02 1.9E-02 9.7E-04 7.6E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1507. METERS, WINDS TOWARD SSE
ADULT 2.6E-04 1.2E-04 1.6E-04 3.3E-04 1.9E-04 1.3E-04 1.5E-04 0.0E+00
TEEN 2.3E-04 1.2E-04 2.3E-04 4.1E-04 2.2E-04 1.4E-04 1.7E-04 0.0E+00
CHILD 1.5E-04 1.1E-04 3.1E-04 3.9E-04 2.0E-04 1.3E-04 1.5E-04 0.0E+00
INFNT 7.6E-05 6.1E-05 1.9E-04 2.7E-04 1.2E-04 8.0E-05 9.2E-05 0.0E+00

SUBTOTALS (NO PLUME)

ADULT 5.4E-02 2.2E-02 5.7E-02 7.1E-02 3.8E-02 2.2E-02 2.7E-02 2.4E-02
TEEN 4.9E-02 2.3E-02 8.0E-02 1.0E-01 4.8E-02 2.2E-02 3.2E-02 2.4E-02
CHILD 4.1E-02 2.3E-02 1.6E-01 1.5E-01 6.5E-02 2.3E-02 3.7E-02 2.4E-02
INFNT 2.8E-02 2.1E-02 9.9E-02 1.1E-01 4.6E-02 2.3E-02 3.1E-02 2.4E-02

TOTALS

ADULT 5.4E-02 2.3E-02 5.7E-02 7.1E-02 3.8E-02 2.2E-02 2.7E-02 2.5E-02
TEEN 4.9E-02 2.3E-02 8.0E-02 1.0E-01 4.8E-02 2.2E-02 3.2E-02 2.5E-02
CHILD 4.1E-02 2.3E-02 1.6E-01 1.5E-01 6.5E-02 2.3E-02 3.7E-02 2.5E-02
INFNT 2.8E-02 2.1E-02 9.9E-02 1.1E-01 4.6E-02 2.3E-02 3.1E-02 2.5E-02



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.1E-04 4.2E-04
TEEN 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.1E-04 4.2E-04
CHILD 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.1E-04 4.2E-04
INFNT 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.0E-04 2.1E-04 4.2E-04

GROUND PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.8E-02
TEEN 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.8E-02
CHILD 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.8E-02
INFNT 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.1E-02 4.8E-02

VEGET PATHWAY, DIST GP= 1, 863. METERS, WINDS TOWARD S
ADULT 3.2E-02 1.4E-03 3.6E-02 4.9E-02 1.7E-02 7.5E-04 5.9E-03 0.0E+00
TEEN 2.7E-02 1.6E-03 5.7E-02 7.6E-02 2.6E-02 7.5E-04 1.0E-02 0.0E+00
CHILD 2.0E-02 1.5E-03 1.3E-01 1.3E-01 4.3E-02 1.1E-03 1.6E-02 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 6115. METERS, WINDS TOWARD S
ADULT 1.2E-04 6.9E-06 1.3E-04 1.8E-04 6.4E-05 4.6E-06 2.3E-05 0.0E+00
TEEN 5.2E-05 4.1E-06 1.1E-04 1.5E-04 5.1E-05 2.9E-06 2.1E-05 0.0E+00
CHILD 3.0E-05 3.4E-06 2.0E-04 1.9E-04 6.4E-05 3.9E-06 2.5E-05 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S
ADULT 2.7E-03 9.9E-05 3.0E-03 4.1E-03 1.4E-03 1.4E-04 4.7E-04 0.0E+00
TEEN 2.5E-03 1.3E-04 5.4E-03 7.1E-03 2.4E-03 2.1E-04 9.6E-04 0.0E+00
CHILD 1.9E-03 1.1E-04 1.3E-02 1.2E-02 4.1E-03 4.1E-04 1.5E-03 0.0E+00
INFNT 1.8E-03 1.3E-04 2.1E-02 2.4E-02 6.5E-03 9.6E-04 2.7E-03 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S
ADULT 8.0E-03 2.7E-04 8.9E-03 1.2E-02 4.1E-03 1.8E-04 1.4E-03 0.0E+00
TEEN 7.5E-03 3.5E-04 1.6E-02 2.1E-02 7.3E-03 2.7E-04 2.9E-03 0.0E+00
CHILD 5.5E-03 3.0E-04 3.9E-02 3.7E-02 1.2E-02 5.1E-04 4.4E-03 0.0E+00
INFNT 5.2E-03 3.2E-04 6.2E-02 7.2E-02 1.9E-02 1.2E-03 8.0E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 1026. METERS, WINDS TOWARD S
ADULT 4.3E-04 1.7E-04 3.0E-04 5.5E-04 3.0E-04 1.9E-04 2.3E-04 0.0E+00
TEEN 3.6E-04 1.7E-04 4.2E-04 6.9E-04 3.5E-04 2.0E-04 2.6E-04 0.0E+00
CHILD 2.3E-04 1.5E-04 5.6E-04 6.6E-04 3.2E-04 1.8E-04 2.3E-04 0.0E+00
INFNT 1.1E-04 8.6E-05 3.4E-04 4.6E-04 1.9E-04 1.1E-04 1.4E-04 0.0E+00

SUBTOTALS (NO PLUME)
ADULT 8.5E-02 4.3E-02 8.9E-02 1.1E-01 6.4E-02 4.3E-02 4.9E-02 4.8E-02
TEEN 7.9E-02 4.4E-02 1.2E-01 1.5E-01 7.8E-02 4.3E-02 5.6E-02 4.8E-02
CHILD 6.9E-02 4.4E-02 2.3E-01 2.2E-01 1.0E-01 4.4E-02 6.3E-02 4.8E-02
INFNT 4.9E-02 4.2E-02 1.2E-01 1.4E-01 6.8E-02 4.4E-02 5.2E-02 4.8E-02

TOTALS
ADULT 8.5E-02 4.4E-02 9.0E-02 1.1E-01 6.4E-02 4.3E-02 5.0E-02 4.9E-02
TEEN 7.9E-02 4.4E-02 1.2E-01 1.5E-01 7.8E-02 4.3E-02 5.6E-02 4.9E-02
CHILD 6.9E-02 4.4E-02 2.3E-01 2.2E-01 1.0E-01 4.4E-02 6.3E-02 4.9E-02
INFNT 4.9E-02 4.2E-02 1.2E-01 1.4E-01 6.8E-02 4.4E-02 5.2E-02 4.9E-02



INDIVIDUAL DOSES(MREM) DUE TO GASEOUS EFFLUENT
FOR DATES 90 4 1 1 THRU 90 63024

T.BODY GI-TRCT BONE LIVER KIDNEY THYRD LUNG SKIN

PLUME PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 2.5E-04
TEEN 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 2.5E-04
CHILD 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 2.5E-04
INFNT 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 1.2E-04 2.5E-04

GROUND PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.3E-02
TEEN 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.3E-02
CHILD 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.3E-02
INFNT 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.1E-02 1.3E-02

VEGET PATHWAY, DIST GP= 1, 770. METERS, WINDS TOWARD SSW
ADULT 9.5E-03 5.2E-04 1.0E-02 1.4E-02 5.0E-03 3.1E-04 1.8E-03 0.0E+00
TEEN 7.9E-03 5.8E-04 1.6E-02 2.2E-02 7.7E-03 3.3E-04 3.1E-03 0.0E+00
CHILD 5.9E-03 6.3E-04 3.9E-02 3.8E-02 1.3E-02 5.0E-04 4.7E-03 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

MEAT PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD SSW
ADULT 1.8E-05 1.5E-06 1.9E-05 2.7E-05 1.0E-05 1.2E-06 3.9E-06 0.0E+00
TEEN 8.0E-06 9.2E-07 1.6E-05 2.2E-05 7.9E-06 7.4E-07 3.4E-06 0.0E+00
CHILD 4.9E-06 8.9E-07 3.0E-05 2.9E-05 9.9E-06 9.4E-07 4.0E-06 0.0E+00
INFNT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

COW PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW
ADULT 6.4E-04 2.7E-05 7.1E-04 9.8E-04 3.4E-04 3.4E-05 1.2E-04 0.0E+00
TEEN 6.1E-04 3.5E-05 1.3E-03 1.7E-03 5.9E-04 5.2E-05 2.4E-04 0.0E+00
CHILD 4.5E-04 3.4E-05 3.1E-03 3.0E-03 9.8E-04 9.9E-05 3.6E-04 0.0E+00
INFNT 4.3E-04 4.0E-05 4.9E-03 5.8E-03 1.6E-03 2.3E-04 6.5E-04 0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW
ADULT 1.9E-03 7.0E-05 2.1E-03 2.9E-03 1.0E-03 4.7E-05 3.4E-04 0.0E+00
TEEN 1.8E-03 9.2E-05 3.9E-03 5.2E-03 1.8E-03 7.0E-05 7.0E-04 0.0E+00
CHILD 1.3E-03 8.5E-05 9.3E-03 8.9E-03 2.9E-03 1.3E-04 1.1E-03 0.0E+00
INFNT 1.3E-03 9.8E-05 1.5E-02 1.7E-02 4.7E-03 2.9E-04 1.9E-03 0.0E+00

INHAL PATHWAY, DIST GP= 1, 942. METERS, WINDS TOWARD SSW
ADULT 2.5E-04 9.1E-05 1.9E-04 3.3E-04 1.7E-04 1.0E-04 1.2E-04 0.0E+00
TEEN 2.1E-04 9.2E-05 2.6E-04 4.2E-04 2.1E-04 1.0E-04 1.5E-04 0.0E+00
CHILD 1.3E-04 7.9E-05 3.6E-04 4.0E-04 1.9E-04 9.7E-05 1.3E-04 0.0E+00
INFNT 6.2E-05 4.5E-05 2.2E-04 2.8E-04 1.1E-04 6.3E-05 8.0E-05 0.0E+00

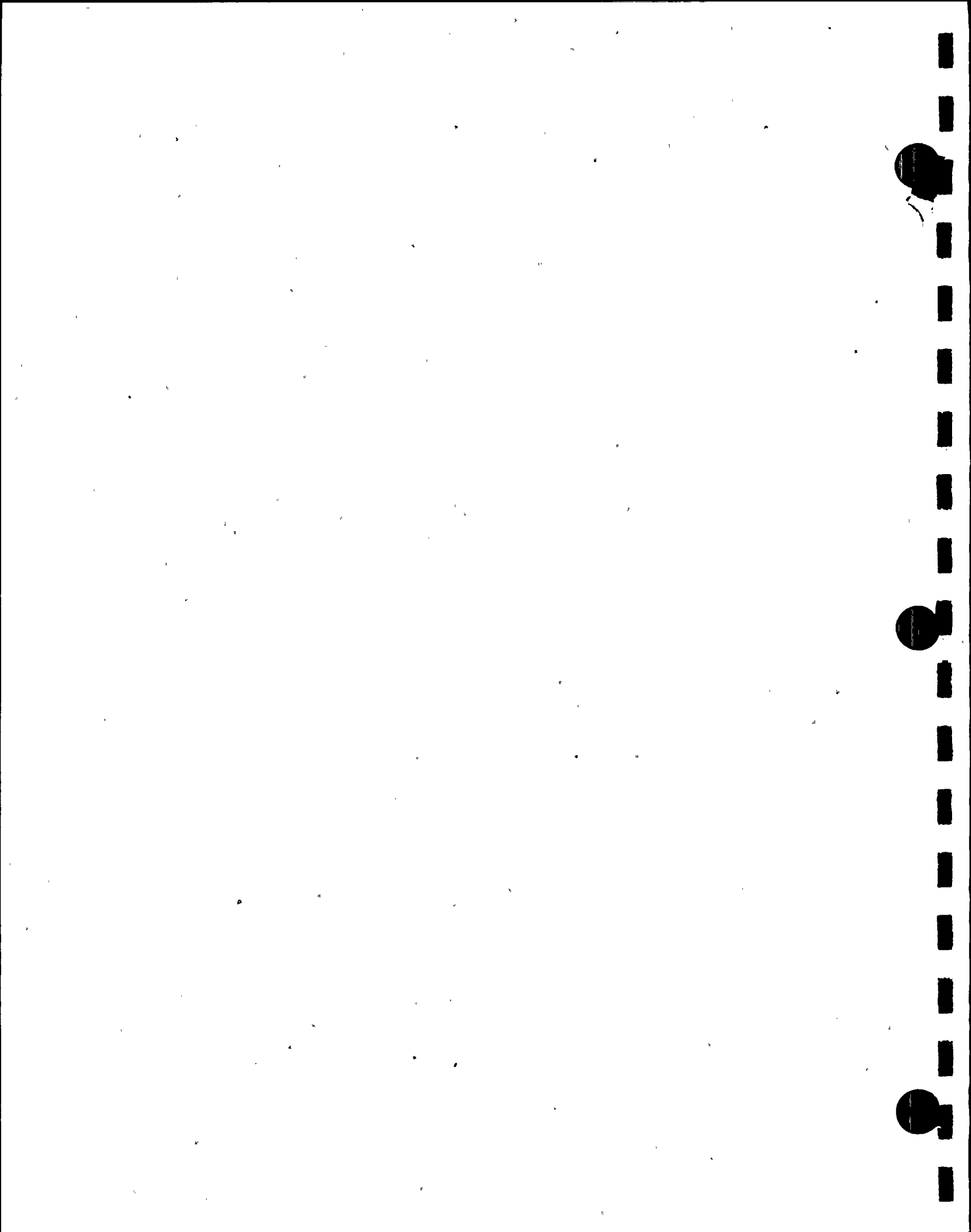
SUBTOTALS (NO PLUME)
ADULT 2.4E-02 1.2E-02 2.5E-02 3.0E-02 1.8E-02 1.2E-02 1.4E-02 1.3E-02
TEEN 2.2E-02 1.2E-02 3.3E-02 4.1E-02 2.2E-02 1.2E-02 1.6E-02 1.3E-02
CHILD 1.9E-02 1.2E-02 6.3E-02 6.1E-02 2.8E-02 1.2E-02 1.8E-02 1.3E-02
INFNT 1.3E-02 1.2E-02 3.1E-02 3.5E-02 1.8E-02 1.2E-02 1.4E-02 1.3E-02

TOTALS
ADULT 2.4E-02 1.2E-02 2.5E-02 3.0E-02 1.8E-02 1.2E-02 1.4E-02 1.4E-02
TEEN 2.2E-02 1.2E-02 3.3E-02 4.1E-02 2.2E-02 1.2E-02 1.6E-02 1.4E-02
CHILD 1.9E-02 1.2E-02 6.3E-02 6.2E-02 2.8E-02 1.2E-02 1.8E-02 1.4E-02
INFNT 1.3E-02 1.2E-02 3.2E-02 3.5E-02 1.8E-02 1.2E-02 1.4E-02 1.4E-02



APPENDIX 2.1

Summary of Hourly Meteorological Data
First Quarter, 1990



.SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90010101-90033124

STABILITY CLASS: A DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	3	9	0	0	0	12
NNE	0	1	0	0	0	0	1
NE	0	0	1	0	0	0	1
ENE	0	0	4	8	0	0	12
E	0	1	5	2	0	0	8
ESE	0	0	1	0	0	0	1
SE	0	0	3	0	0	0	3
SSE	0	6	6	2	0	0	14
S	0	3	17	8	1	0	29
SSW	0	0	2	3	1	0	6
SW	0	4	5	2	0	0	11
WSW	0	2	22	5	0	0	29
W	0	8	13	2	0	0	23
WNW	0	6	1	0	1	0	8
NW	0	15	10	0	0	0	25
NNW	1	10	21	0	0	0	32
TOTAL	1	59	120	32	3	0	215

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 11



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90010101-90033124

STABILITY CLASS: B DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED (MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	2	2	0	0	0	5
NNE	1	5	6	0	0	0	12
NE	0	3	2	2	0	0	7
ENE	0	0	6	4	0	0	10
E	2	1	3	2	0	0	8
ESE	0	2	0	0	0	0	2
SE	0	1	0	0	0	0	1
SSE	0	2	1	0	0	0	3
S	0	2	7	6	1	0	16
SSW	0	0	1	4	0	0	5
SW	0	4	3	1	0	0	8
WSW	0	9	17	3	0	0	29
W	0	9	4	1	2	0	16
WNW	0	3	2	0	0	0	5
NW	1	3	3	0	0	0	7
NNW	0	4	2	0	0	0	6
TOTAL	5	50	59	23	3	0	140

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 11



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90010101-90033124

STABILITY CLASS: C DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	4	4	3	0	0	12
NNE	2	4	12	0	0	0	18
NE	1	3	5	2	0	0	11
ENE	1	6	6	6	0	0	19
E	1	9	7	4	0	0	21
ESE	2	4	1	0	0	0	7
SE	3	5	1	0	0	0	9
SSE	2	10	3	1	0	0	16
S	0	3	8	8	2	0	21
SSW	0	1	5	7	4	0	17
SW	0	3	4	4	0	0	11
WSW	1	8	13	2	0	0	24
W	0	5	8	1	1	0	15
WNW	0	9	5	3	2	0	19
NW	0	4	8	1	0	0	13
NNW	0	8	5	1	0	0	14
TOTAL	14	86	95	43	9	0	247

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 11



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90010101-90033124

STABILITY CLASS: D DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	3	16	13	1	0	0	33
NNE	2	12	18	4	0	0	36
NE	2	5	2	2	0	0	11
ENE	3	10	15	0	0	0	28
E	0	10	27	3	0	0	40
ESE	2	12	19	0	0	0	33
SE	6	12	7	0	0	0	25
SSE	1	16	16	10	0	0	43
S	2	37	71	27	7	1	145
SSW	0	11	64	37	3	1	116
SW	3	12	48	21	0	0	84
WSW	1	16	42	14	1	0	74
W	3	16	25	18	5	0	67
WNW	8	22	45	6	0	0	81
NW	3	26	35	16	0	0	80
NNW	4	29	33	5	3	1	75
TOTAL	43	262	480	164	19	3	971

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 11



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90010101-90033124

STABILITY CLASS: E DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	5	1	0	0	0	0	6
NNE	2	2	3	0	0	0	7
NE	2	13	2	0	0	0	17
ENE	3	10	3	0	0	0	16
E	5	9	20	0	0	0	34
ESE	4	11	0	0	0	0	15
SE	5	7	4	1	0	0	17
SSE	2	29	14	3	2	0	50
S	6	62	38	8	0	0	114
SSW	4	15	21	8	0	0	48
SW	4	6	15	2	0	0	27
WSW	1	15	5	0	0	0	21
W	6	9	6	0	0	0	21
WNW	4	7	1	0	0	0	12
NW	1	3	0	0	0	0	4
NNW	6	0	1	0	0	0	7
TOTAL	60	199	133	22	2	0	416

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 11



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90010101-90033124

STABILITY CLASS: F DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	1	4	0	0	0	0	5
E	2	2	0	0	0	0	4
ESE	2	1	0	0	0	0	3
SE	4	10	0	0	0	0	14
SSE	7	28	1	0	0	0	36
S	9	25	1	0	0	0	35
SSW	1	7	0	0	0	0	8
SW	1	0	0	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	1	0	0	0	0	1
WNW	0	1	0	0	0	0	1
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
TOTAL	27	79	2	0	0	0	108

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 11



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90010101-90033124

STABILITY CLASS: G DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	0	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	1	0	0	0	1
ENE	1	2	0	0	0	0	3
E	3	8	0	0	0	0	11
ESE	4	2	0	0	0	0	6
SE	4	6	0	0	0	0	10
SSE	3	5	0	0	0	0	8
S	3	5	0	0	0	0	8
SSW	0	2	0	0	0	0	2
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	1	0	0	0	0	0	1
WNW	0	0	0	0	0	0	0
NW	1	0	0	0	0	0	1
NNW	0	0	0	0	0	0	0
TOTAL	21	30	1	0	0	0	52

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 11



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90010101-90033124

STABILITY CLASS: ALL DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	11	26	28	4	0	0	69
NNE	7	24	39	4	0	0	74
NE	5	24	13	6	0	0	48
ENE	9	32	34	18	0	0	93
E	13	40	62	11	0	0	126
ESE	14	32	21	0	0	0	67
SE	22	41	15	1	0	0	79
SSE	15	96	41	16	2	0	170
S	20	137	142	57	11	1	368
SSW	5	36	93	59	8	1	202
SW	8	29	75	30	0	0	142
WSW	3	50	99	24	1	0	177
W	10	48	56	22	8	0	144
WNW	12	48	54	9	3	0	126
NW	6	51	56	17	0	0	130
NNW	11	51	62	6	3	1	134
TOTAL	171	765	890	284	36	3	2149

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 11



APPENDIX 2.2

Summary of Hourly Data Meteorological Data
Second Quarter, 1990



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90040101-90063024

STABILITY CLASS: A DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	26	22	0	0	0	49
NNE	0	0	1	0	0	0	1
NE	0	2	1	0	0	0	3
ENE	0	0	1	0	0	0	1
E	0	6	2	0	0	0	8
ESE	0	7	1	0	0	0	8
SE	0	2	0	0	0	0	2
SSE	0	4	6	0	0	0	10
S	0	3	12	8	1	0	24
SSW	1	0	2	4	0	0	7
SW	0	5	7	6	0	0	18
WSW	0	13	28	2	0	0	43
W	1	27	19	0	0	0	47
WNW	0	21	7	0	0	0	28
NW	0	42	5	0	0	0	47
NNW	0	38	31	0	0	0	69
TOTAL	3	196	145	20	1	0	365

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 15



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90040101-90063024

STABILITY CLASS: B DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	9	2	0	0	0	11
NNE	0	1	0	0	0	0	1
NE	1	2	0	0	0	0	3
ENE	0	1	3	0	0	0	4
E	0	2	1	0	0	0	3
ESE	0	2	0	0	0	0	2
SE	0	2	0	0	0	0	2
SSE	0	3	3	0	1	0	7
S	0	3	3	9	1	0	16
SSW	0	2	4	4	0	0	10
SW	0	4	3	2	0	0	9
WSW	0	8	8	1	0	0	17
W	0	9	4	0	0	0	13
WNW	0	4	1	0	0	0	5
NW	0	5	0	0	0	0	5
NNW	0	10	4	0	0	0	14
TOTAL	1	67	36	16	2	0	122

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 15



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90040101-90063024

STABILITY CLASS: C DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	6	2	1	0	0	10
NNE	1	2	1	0	0	0	4
NE	0	1	1	0	0	0	2
ENE	0	2	2	0	0	0	4
E	0	4	1	0	0	0	5
ESE	1	2	1	0	0	0	4
SE	0	2	2	0	0	0	4
SSE	0	1	1	1	0	0	3
S	1	2	10	6	1	0	20
SSW	0	1	4	3	0	0	8
SW	0	10	12	1	0	0	23
WSW	0	10	6	1	2	0	19
W	0	6	3	1	0	0	10
WNW	0	4	2	0	0	0	6
NW	0	1	1	0	0	0	2
NNW	1	4	2	0	0	0	7
TOTAL	5	58	51	14	3	0	131

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 15



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90040101-90063024

STABILITY CLASS: D DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED (MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	4	23	21	14	0	0	62
NNE	4	8	1	0	0	0	13
NE	3	4	2	0	0	0	9
ENE	1	5	2	0	0	0	8
E	3	6	1	0	0	0	10
ESE	3	4	5	0	0	0	12
SE	0	11	4	0	0	0	15
SSE	2	5	5	0	0	0	12
S	5	16	23	5	1	0	50
SSW	0	8	28	8	0	0	44
SW	4	13	26	7	1	0	51
WSW	2	8	14	7	2	0	33
W	4	11	21	4	2	0	42
WNW	4	14	7	1	0	0	26
NW	5	12	2	0	0	0	19
NNW	8	19	10	2	0	0	39
TOTAL	52	167	172	48	6	0	445

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 15



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90040101-90063024

STABILITY CLASS: E DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED (MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	6	23	11	2	0	0	42
NNE	6	3	6	0	0	0	15
NE	0	13	2	0	0	0	15
ENE	1	14	3	0	0	0	18
E	8	7	5	1	0	0	21
ESE	2	14	6	0	0	0	22
SE	7	29	7	0	0	0	43
SSE	8	36	2	0	0	0	46
S	14	54	21	0	1	0	90
SSW	3	21	37	7	0	0	68
SW	6	25	17	5	0	0	53
WSW	6	15	10	2	0	0	33
W	8	11	12	3	0	0	34
WNW	20	16	7	1	0	0	44
NW	10	8	6	0	0	0	24
NNW	11	19	1	4	0	0	35
TOTAL	116	308	153	25	1	0	603

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 15



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90040101-90063024

STABILITY CLASS: F DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	7	5	2	0	0	0	14
NNE	0	3	4	0	0	0	7
NE	6	3	4	1	0	0	14
ENE	5	13	5	8	0	0	31
E	6	10	3	0	0	0	19
ESE	10	7	0	0	0	0	17
SE	15	14	1	0	0	0	30
SSE	10	25	1	0	0	0	36
S	12	32	2	0	0	0	46
SSW	9	15	1	0	0	0	25
SW	5	15	2	0	0	0	22
WSW	1	7	0	3	0	0	11
W	7	1	0	3	0	0	11
WNW	8	3	3	0	0	0	14
NW	3	1	3	0	0	0	7
NNW	7	3	2	0	0	0	12
TOTAL	111	157	33	15	0	0	316

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 15



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90040101-90063024

STABILITY CLASS: G DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	4	1	0	0	0	0	5
NNE	4	0	0	0	0	0	4
NE	5	1	0	0	0	0	6
ENE	8	1	0	0	0	0	9
E	15	1	0	0	0	0	16
ESE	12	0	0	0	0	0	12
SE	28	1	0	0	0	0	29
SSE	19	4	0	0	0	0	23
S	24	7	0	0	0	0	31
SSW	13	5	0	0	0	0	18
SW	5	1	1	0	0	0	7
WSW	5	0	0	0	0	0	5
W	8	0	0	0	0	0	8
WNW	5	0	0	0	0	0	5
NW	2	0	0	0	0	0	2
NNW	5	2	0	0	0	0	7
TOTAL	162	24	1	0	0	0	187

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 15



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 90040101-90063024

STABILITY CLASS: ALL DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	23	93	60	17	0	0	193
NNE	15	17	13	0	0	0	45
NE	15	26	10	1	0	0	52
ENE	15	36	16	8	0	0	75
E	32	36	13	1	0	0	82
ESE	28	36	13	0	0	0	77
SE	50	61	14	0	0	0	125
SSE	39	78	18	1	1	0	137
S	56	117	71	28	5	0	277
SSW	26	52	76	26	0	0	180
SW	20	73	68	21	1	0	183
WSW	14	61	66	16	4	0	161
W	28	65	59	11	2	0	165
WNW	37	62	27	2	0	0	128
NW	20	69	17	0	0	0	106
NNW	32	95	50	6	0	0	183
TOTAL	450	977	591	138	13	0	2169

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 15



APPENDIX 3.0

Process Control Program (PCP) Changes



DONALD C. COOK NUCLEAR PLANT

PROCEDURE COVER SHEET

Procedure No.12 PMP 3150 PCP.001

Revision No. Rev. 15

TITLE RADIOACTIVE WASTE PROCESS CONTROL MANUAL

SCOPE OF REVISION

Minor Revision - Deleted portions of procedure which have been incorporated into 12 THP 3150 RMC.104. These deleted portions include Attachments XXI and XXVIII. Procedure sections and page numbers have been renumbered as necessary. Attachment XXVII was reworded to better clarify its intent. Section and page renumberings are not marginally marked. Text changes are marginally marked. Changed text references to section numbers to account for changed or deleted section numbers.

SIGNATURES	REVISION NUMBER			
.....	REV. 15			
PREPARED BY	<i>[Signature]</i>			
DEPARTMENT HEAD APPROVAL	<i>[Signature]</i>			
INTERFACING DEPARTMENT HEAD CONCURRENCE	<i>[Signature]</i>			
QUALITY ASSURANCE SUPERVISOR APPROVAL	<i>[Signature]</i>			
PLANT NUCLEAR SAFETY COMMITTEE	1-11-90 2325			
PLANT MANAGER APPROVAL	<i>[Signature]</i>			
APPROVAL DATE	1/11/90			
EFFECTIVE DATE	1/18/90			

VOID
NOT FOR PLANT USE
SEE
DOCUMENT # _____





DONALD C. COOK NUCLEAR PLAN

PROCEDURE COVER SHEET

Procedure No.12 PMP 3150 PCP.001

Revision No. 16

TITLE RADIOACTIVE WASTE PROCESS CONTROL MANUAL

SCOPE OF REVISION

Minor Revision. Deleted portions of procedure which were redundant with 12 PMP 3150. PCP.100 or replaced by 12 THP.SP.202. These deletions include Attachments II, III, IV, XIX, and XXV. Added Attachment XVIII A to Section 4.0. Changed Attachment VIII to reflect changes in the Barnwell Site RSM. Added 2 HIC's to Attachment XXIV. Deleted certain precautions which are no longer necessary due to current plant methods of packaging and handling of radwaste, and materials used. Changed the distribution of vehicle surveys to reflect current practices. Procedure sections and pages were renumbered due to deleted portions of the procedure. Section and page numbering changes are not marginally marked. Text changes have been marginally marked.

SIGNATURES	REVISION NUMBER			
.....	REV. 16			
PREPARED BY	<i>OF</i> <i>James L. [Signature]</i>			
DEPARTMENT HEAD APPROVAL	<i>James L. [Signature]</i>			
INTERFACING DEPARTMENT HEAD CONCURRENCE				
QUALITY ASSURANCE SUPERVISOR APPROVAL	<i>[Signature]</i>			
PLANT NUCLEAR SAFETY COMMITTEE	<i>Meeting # 2355</i>			
PLANT MANAGER APPROVAL	<i>[Signature]</i>			
APPROVAL DATE	<i>4/26/90</i>			
EFFECTIVE DATE	<i>4/30/90</i>			



APPENDIX 4.0

Offsite Calculation Manual (ODCM) Changes



INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT
INSTRUCTION AND PROCEDURE CHANGE SHEET

PMP 6010

INSTRUCTION OR PROCEDURE NO.: OSD.001 REVISION NO.: 2 CHANGE SHEET NO.: 8

TITLE: Offsite Dose Calculation Manual PAGE 1 of 1

ORIGINATED BY: <u>[Signature]</u>	DATE: <u>3-13-90</u>
MANAGEMENT STAFF: <u>[Signature]</u>	DATE: <u>3/13/90</u>
SENIOR REACTOR OPERATOR: <u>[Signature]</u>	DATE: <u>3-13-90</u>
Q.A. SUPERVISOR: <u>[Signature]</u>	DATE: <u>3/14/90</u>
PNSRC: <u># 2344</u>	DATE: <u>3/16/90</u>
PLANT MANAGER: <u>[Signature]</u>	DATE: <u>3-16-90</u>

PROCEDURE SUBC. 7/11/11 DATE 7/11/11 EXPIRATION DATE: N/A

DESCRIPTION OF CHANGE

- 1) Update the X/Q and D/Q values from 1988 to 1989 values.
- 2) Changed method of presenting sector information.

REASON(S) FOR CHANGE

- 1) Required by the ODCM
- 2) Provide more rooms on Attachment

CHANGE SHEET REQUESTED TO OBTAIN INTERIM COMPLIANCE PENDING ODCM MAJOR REVISION

INSTRUCTIONS FOR INCORPORATING CHANGE

Replace the following:

List of Effective Pages, Page 4 of 6, Rev. 2, CS-1, CS-4, CS-6, CS-7 with
Page 4 of 6, Rev. 2, Cs-1, Cs-4, Cs-6, CS-7, CS-8
Attachment 3.17, Page 1 of 1, Rev. 2, CS-1, CS-4, CS-7 with Page 1 of 1,
Rev. 2, CS-1, CS-4, CS-7, CS-8
Attachment 3.18, Page 1 of 1, Rev. 2, CS-1, CS-4, CS-7 with Page 1 of 1,
Rev. 2, CS-1, CS-4, CS-7, CS-8

