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Semi-Annual Radioactive Effluent Release Report

July 1, through December 31, 1988

Indiana & Michigan Electric Company
Bridgman, Michigan

Docket Nos. 50-315 & 50-316

License Nos. DPR-58 & DPR-74

Donald C. Cook Nuclear Plant • Units 1 & 2

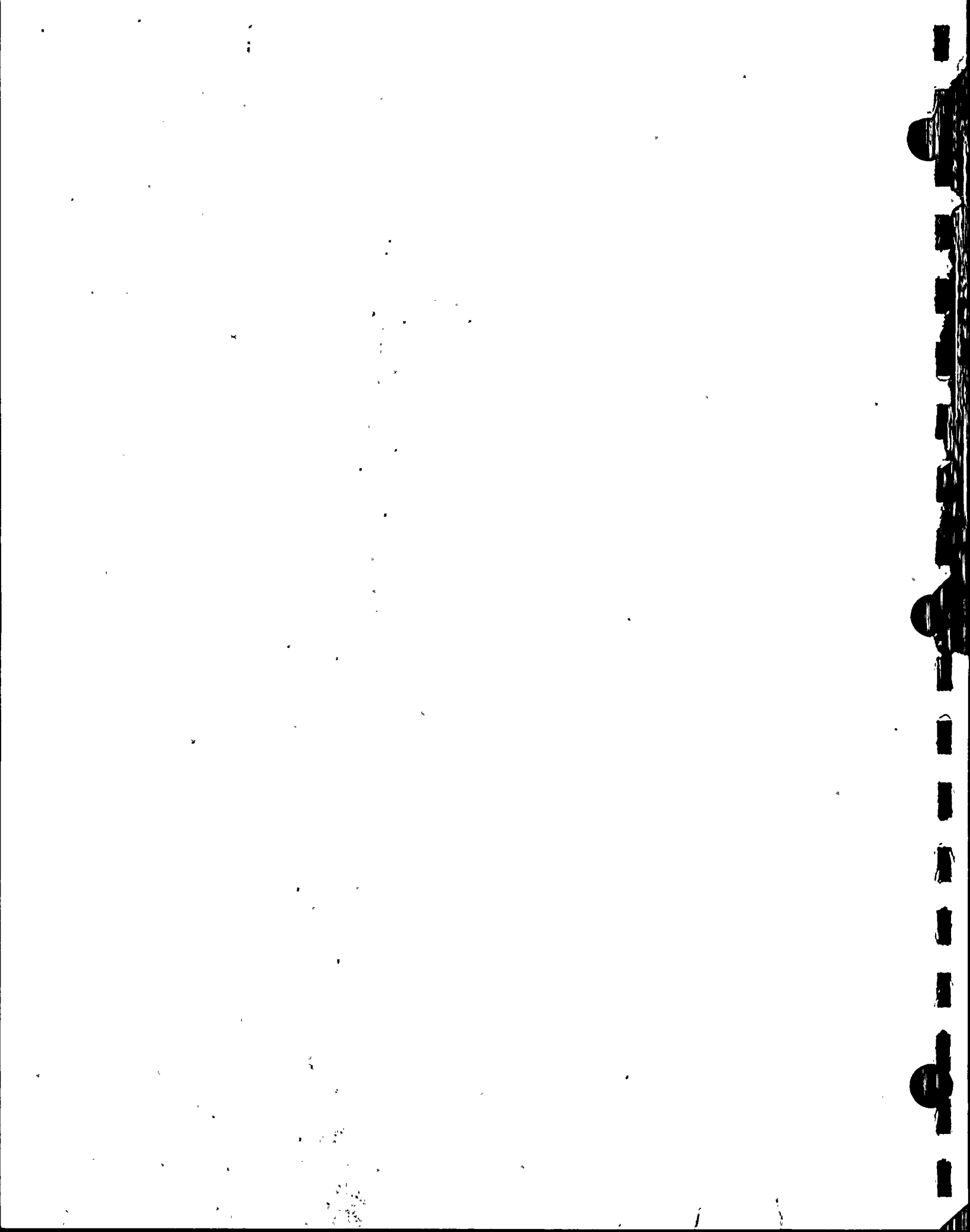


TABLE OF CONTENTS

	<u>Page</u>
Table of Contents.	i
List of Appendices	ii
I. Introduction	1 - 2
II. Radioactive Releases and Radiological Impact on Man.	2
Liquid Releases.	2
Gaseous Releases	2
III. Meteorological Data.	2 - 3
IV. Process Control Program (PCP) Changes.	3
V. Offsite Dose Calculation Manual (ODCM) Changes	3
VI. Total Dose	3
VII. Conclusions.	3

LIST OF APPENDICES

APPENDIX	TITLE
1.1	Radioactive Release Data: July 1 - December 31, 1988
1.2	Summary of Maximum Individual Doses: Third Quarter, 1988
1.3	Summary of Maximum Individual Doses: Fourth Quarter, 1988
2.1	Summary of Hourly Meteorological Data: Third Quarter, 1988
2.2	Summary of Hourly Meteorological Data: Fourth Quarter, 1988
3	Process Control Program (PCP) Changes
4	Offsite Dose Calculation Manual (ODCM) Changes

I. INTRODUCTION

This report discusses the radioactive discharges from Units 1 and 2 of the Donald C. Cook Nuclear Plant during the second half of 1988 in accordance with the requirements of Technical Specification 6.9.1.8 of the Facility Operating Licenses.

The table below summarizes the pertinent statistics concerning the Plant's operation during the period from July 1, 1988 to December 31, 1988. The data in this table and the descriptive information on plant operation is based upon the respective Unit's Monthly Operating Reports for the reporting period.

Parameter	Unit 1	Unit 2
Gross Electrical Generation (MWhr)	3767490	.0
Unit Service Factor (%)	92.3	0.0
Unit Capacity Factor - MDC Net (%)	80.2	0.0

Unit 1 entered the reporting period in Mode 1 at 90% reactor thermal power until August 3, 1988; when a power increase to 100% was initiated. The Unit reached 100% power on August 5, 1988 and remained at this power level until August 20, 1988 when the Unit was returned to the 90% administrative power limit. Unit 1 remained at the 90% power level until September 7, 1988 when the unit was shutdown due to elevated primary system leakage rates were noted. The Unit remained in Mode 4 from September 7 through September 14, 1988 to allow the repair of the broken instrument line which was the cause of the elevated reactor coolant leakage rates. The Unit entered Mode 1 on September 15, 1988 and was taken to 48% power on September 16, 1988 to permit warming of the turbine in preparation for a scheduled turbine overspeed test. Reactor power was reduced to 9% power to perform the overspeed test and was subsequently returned to service. The Unit reach 90% power on September 17, 1988 and remained at this power level until October 11, 1988 when the unit was shutdown due to environmental concerns with the reactor vessel head vent and pressurizer steam space vent solenoid valves conduit installation. The Unit was returned to service October 14 and reached 90% power on October 15, 1988. On October 19, 1988 a spurious reactor coolant pump breaker open indication resulted in Unit 1 tripping offline. The Unit was taken critical on October 20, 1988 and reached 90% power on October 21, 1988. The Unit remained at the 90% power level until November 23, 1988 when the reactor tripped due to a spurious underfrequency-RCP-Buses signal was generated. The Unit was taken critical on November 25, 1988 and was held at 48% power for chemistry cleanup. The Unit reached 90% power on

November 27, 1988 and remained at the 90% power level throughout the rest of the reporting period (December 30, 1988).

Unit 2 was removed from service on April 23, 1988 for the cycle 6-7 refueling and steam generator repair project. The Unit's core was removed from service prior to entering the reporting period and remained in this status throughout the 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 in previous reports, the effluents were well within the limits specified in the Technical Specifications and 10 CFR Part 50, Appendix I.

Liquid Releases

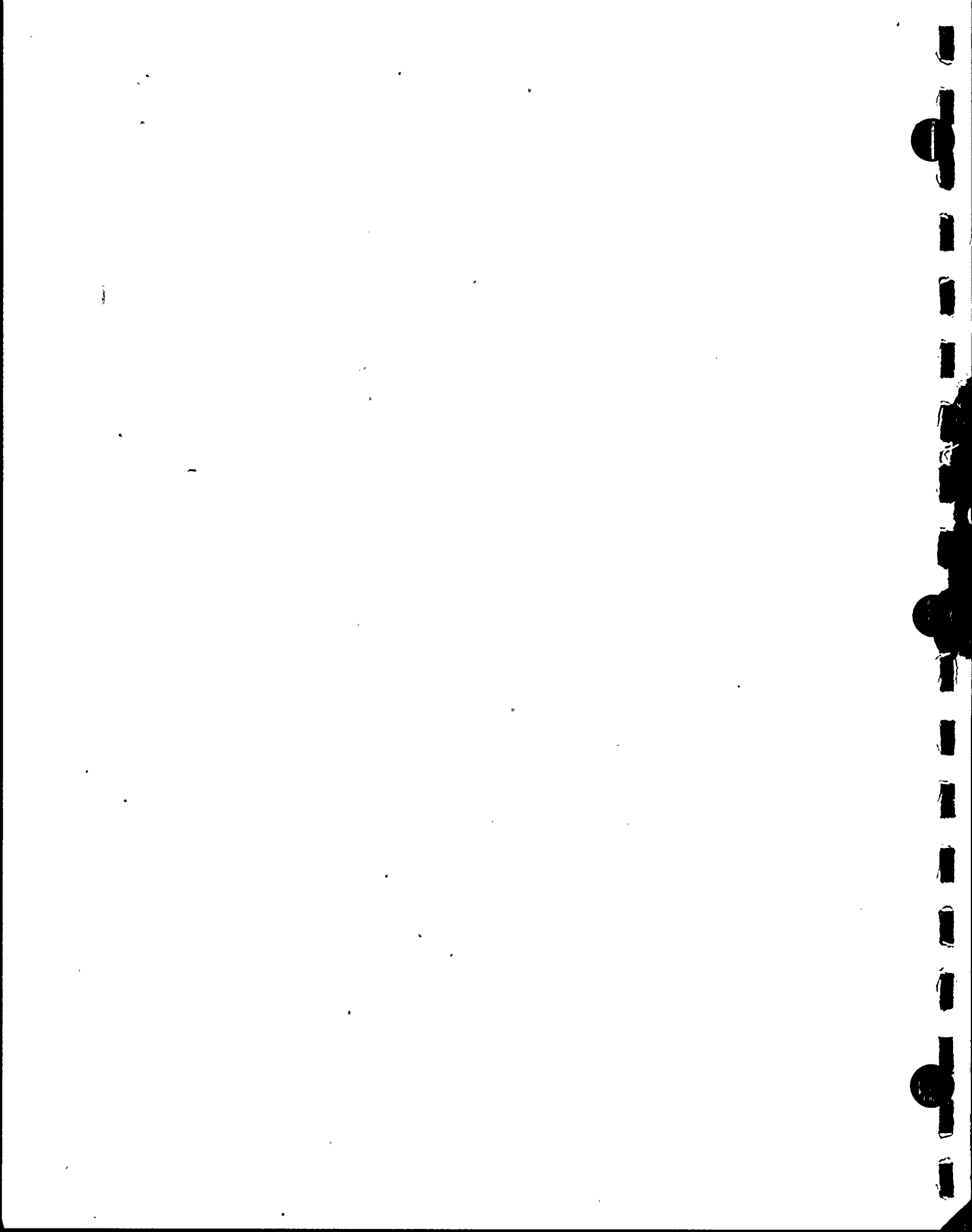
During the third quarter of 1988, there were 26 liquid batch releases, and 47 liquid batch releases during the fourth quarter. There were no abnormal liquid releases during the last half of 1988. For purposes of dose assessment, the batch releases are treated as continuous releases. The estimated doses (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 third quarter of 1988, there were no gaseous batch releases and no gaseous batch releases during the fourth quarter. There were no abnormal gaseous releases during the last half of 1988. In calculating the dose consequences of continuous and batch gaseous releases during the last half of 1988 the meteorological data measured at the time of these releases were used. The estimated doses (in millirem) to the maximally exposed individual via the gaseous release pathway are given in Appendices 1.2 and 1.3 to this report.

III. METEOROLOGICAL DATA

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 quarters of 1988. Hourly meteorological data for the same period are not contained in this report.

IV. PROCESS CONTROL PROGRAM (PCP) CHANGES

The Radioactive Waste Process Control Manual, 12 PMP 3150 PCP.001, was revised during the report period and these page changes are included as Minor Revision No. 10. The affected pages are included as Appendix 3 of this report. The reasons for the change and PNSRC approval is documented on the procedure change sheet. This revision 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, 12 PMP 6010 OSD.001, was revised during the report period and these page changes are included as Change Sheet No. 6 to Revision 2. The affected pages are included as Appendix 4 of this report. The reasons for the change and PNSRC approval is documented on the procedure change sheet.

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 1988 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. CONCLUSIONS

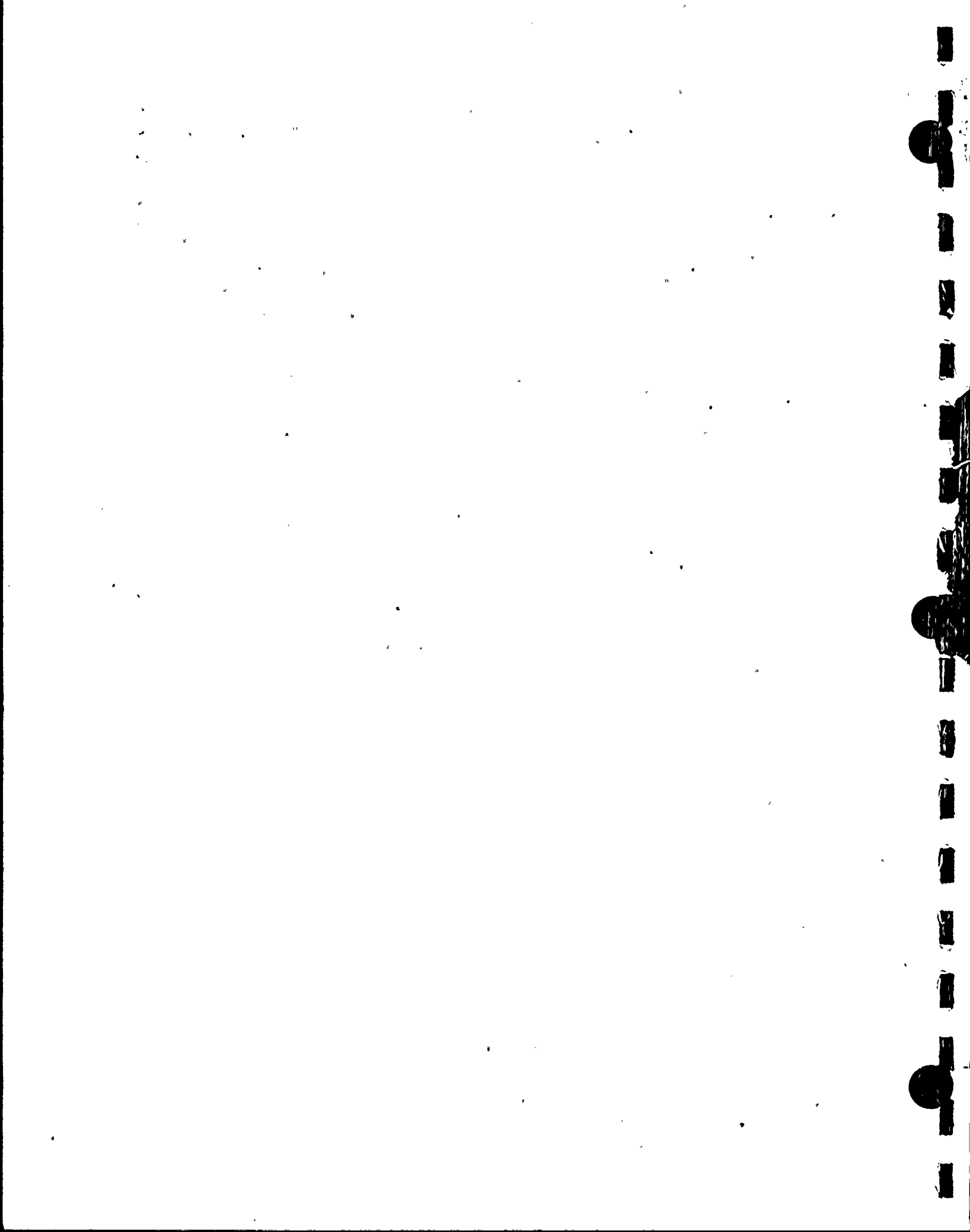
Based on the information presented in this report, it is concluded that the Donald C. Cook Units 1 and 2 performed their intended design function with no demonstrable hazard to the health and safety of the general public.



APPENDIX 1.1

RADIOACTIVE RELEASE DATA

JULY 1 - DECEMBER 31, 1988



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT - 2ND Half 1988

Supplemental Information

Facility: D.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.

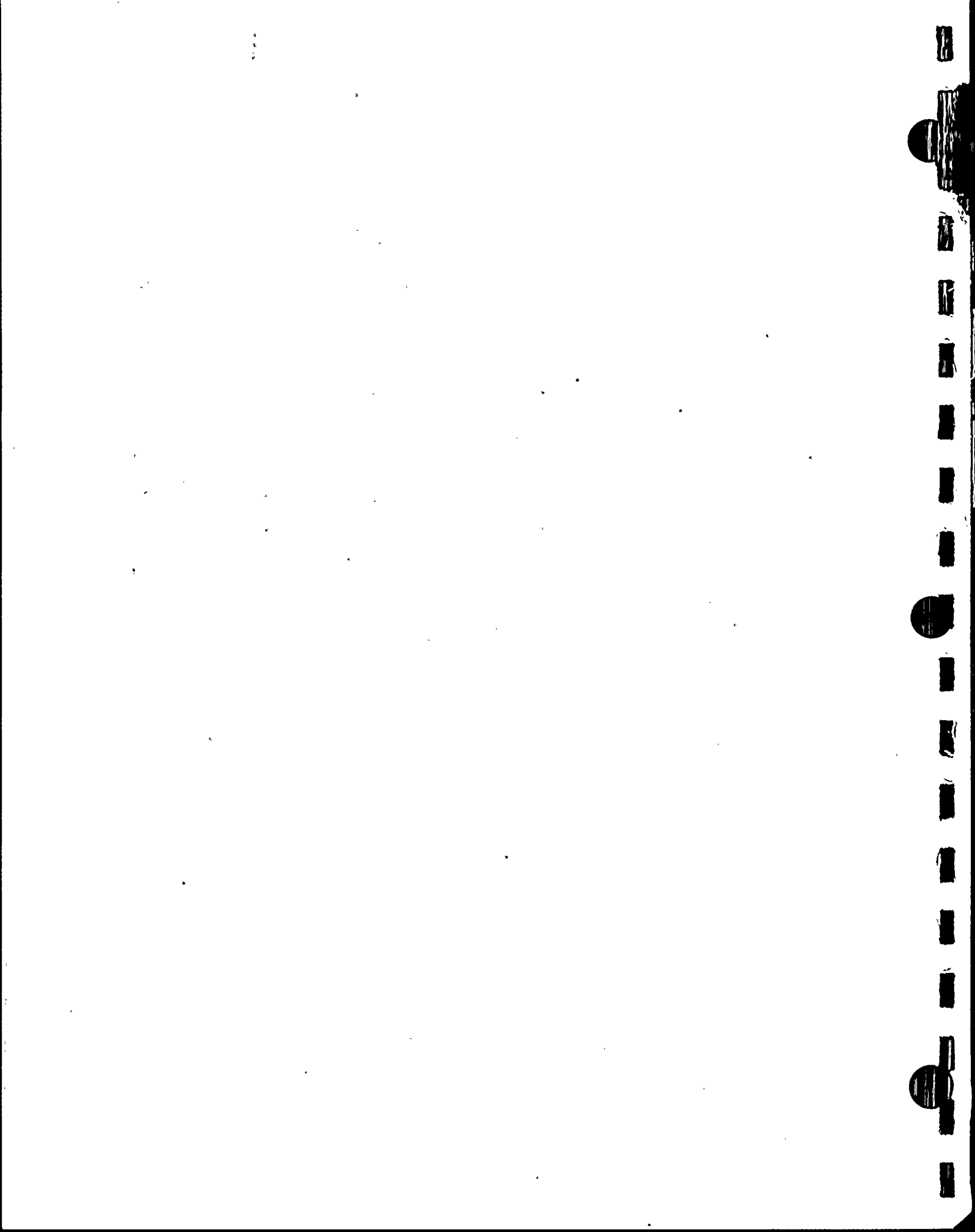
3. Average Energy

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 Hp Ge detector.



B. Iodines

Sampled on iodine adsorbing media and analyzed on a 4096 channel analyzer and Hp Ge detector

C. Particulates

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

D. Liquid Effluents

Sampled and analyzed on a 4096 channel analyzer and Hp Ge detector.

5. Batch Releases

A. Liquid

1. Number of batch releases:

26 releases in the 3rd quarter, 1988
47 releases in the 4th quarter, 1988

2. Total time period for batch releases:

10847 minutes

3. Maximum time for a batch release:

314 minutes

4. Average time period for batch release:

149 minutes

5. Minimum time period for a batch release:

106 minutes

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

504110 gpm circulating water

B. Gaseous

1. Number of batch releases:

0 in 3rd quarter, 1988
0 in 4th quarter, 1988



2. Total time period of batch releases:

0 minutes

3. Maximum time period for a batch release:

0 minutes

4. Average time period for batch releases:

0 minutes

5. Minimum time period for a batch release:

0 minutes

6. Abnormal Releases

A. Liquid

1. Number of Releases:

Quarter
0

Quarter
0

2. Total activity released:

Quarter
0

Quarter
0

B. Gaseous

1. Number of Releases:

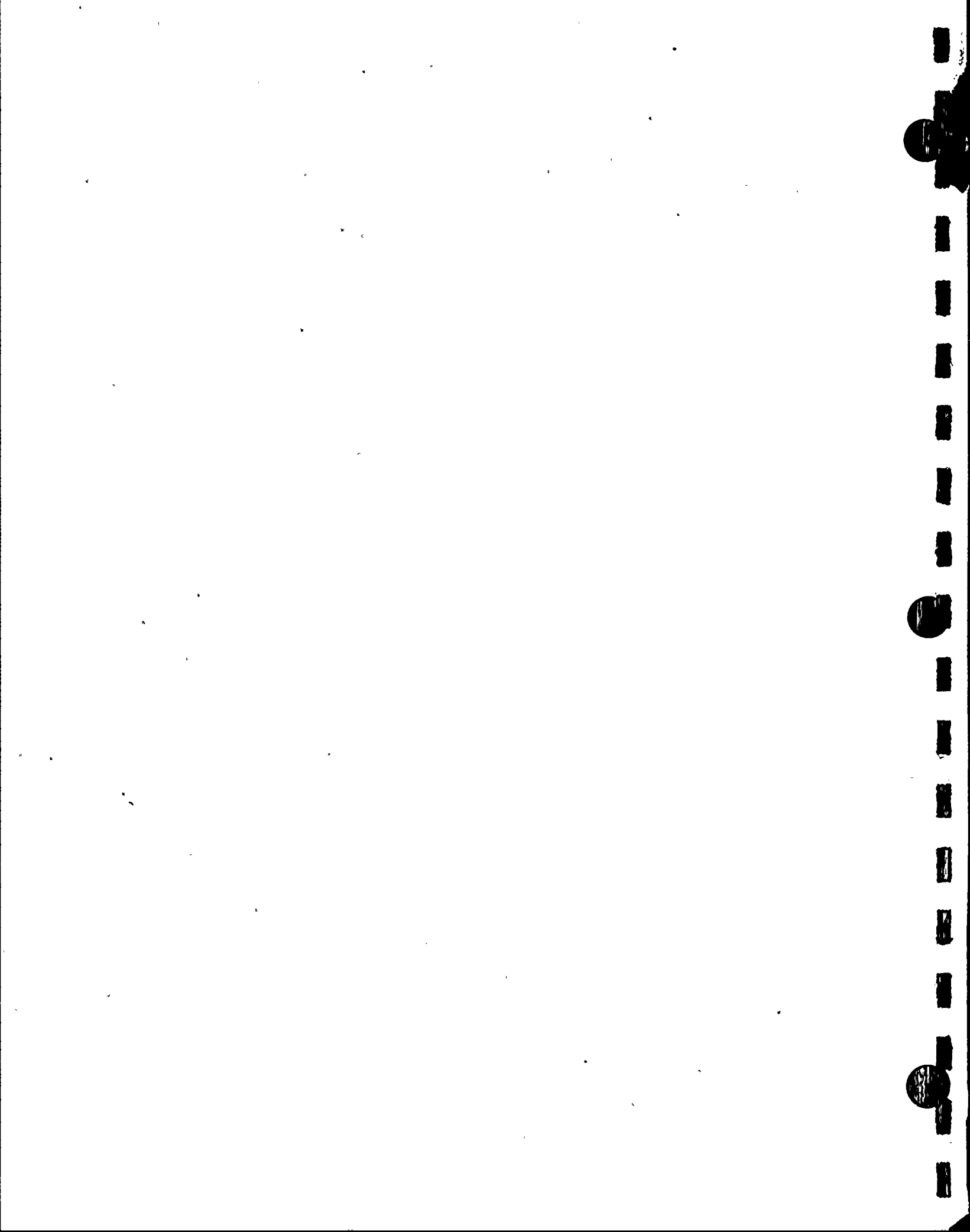
Quarter
0

Quarter
0

2. Total activity released:

Quarter
0

Quarter
0



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1st Half 1988
Revised
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	Units	Quarter	Quarter	Est. Total Error, %
A. FISSION AND ACTIVATION GASES				
1. Total release.	Ci	1.02 E+2	1.50 E+2	1.33 E+1
2. Average release rate for period.	μCi/sec	1.30 E+1	1.91 E+1	
3. Percent of Technical Specification limit. (T/S 3.11.2.2 Limit)	%	4.72 E-1	1.11 E-1	
	γ β	5.12 E-1	1.37 E-1	
B. IODINES				
1. Total Iodine-131.	Ci	1.86 E-4	7.22 E-3	2.50 E0
2. Average release rate for period.	μCi/sec	2.37 E-5	9.18 E-4	
3. Percent of Technical Specification limit. (T/S 3.11.2.3 Limit)	%	5.43 E-2	2.05 E0	
C. PARTICULATES				
1. Particulates with half-lives > 8 days.	Ci	1.91 E-4	1.02 E-4	2.50 E+1
2. Average release rate for period.	μCi/sec	2.43 E-5	1.30 E-5	
3. Percent of Technical Specification limit.*	%	5.43 E-2	2.05 E0	
4. Gross alpha radio-activity. *(T/S 3.11.2.3 Limit)	Ci	<1.54 E-6	<1.53 E-6	
D. TRITIUM				
1. Total release.	Ci	3.18 E0	2.34 E0	1.32 E0
2. Average release rate for period.	μCi/sec	4.04 E-1	2.98 E-1	
3. Percent of Technical Specification limit. (10 CFR 20 Limit)	%	3.22 E0	2.18 E0	



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND Half 1988

GASEOUS EFFLUENTS - GROUND-LEVEL RELEASES

Nuclides Released	Unit	Continuous Mode		Batch Mode	
		Quarter 3	Quarter 4	Quarter 3	Quarter 4
1. FISSION GASES					
Krypton-85	Ci				
Krypton-85m	Ci				
Krypton-87	Ci				
Krypton-88	Ci				
Xenon-133	Ci	3.26 E0	2.34 E0		
Xenon-135	Ci	9.17 E-4	2.69 E-3		
Xenon-135m	Ci		8.38 E-4		
Xenon-138	Ci				
Xenon-133m	Ci				
Xenon-131m	Ci				
Argon-41	Ci	2.78 E-2	5.61 E-2		
Total for Period	Ci	3.29 E0	2.40 E0	*	*
2. IODINES					
Iodine-131	Ci	2.61 E-4			
Iodine-133	Ci				
Iodine-135	Ci				
Total for Period	Ci	2.61 E-4		*	*
3. PARTICULATES					
Zirconium-95	Ci		3.33 E-6		
Strontium-89	Ci	**	**		
Strontium-90	Ci	**	**		
Cesium-134	Ci	1.02 E-4	1.59 E-4		
Cesium-137	Ci	2.34 E-4	3.98 E-4		
Iron-59	Ci				
Cobalt-58	Ci		2.60 E-5		
Cobalt-60	Ci		3.42 E-7		
Manganese-54	Ci		3.39 E-6		
Zinc-65	Ci				
Molybdenum-99	Ci				
Cerium-141	Ci				
Cerium-144	Ci				
Cadmium-109	Ci	3.49 E-5			
Niobium-95	Ci		1.34 E-7		
Total for Period	Ci	3.71 E-4	5.90 E-4	*	*

*There were no batch releases made during the 3rd or 4th Quarter of 1988.

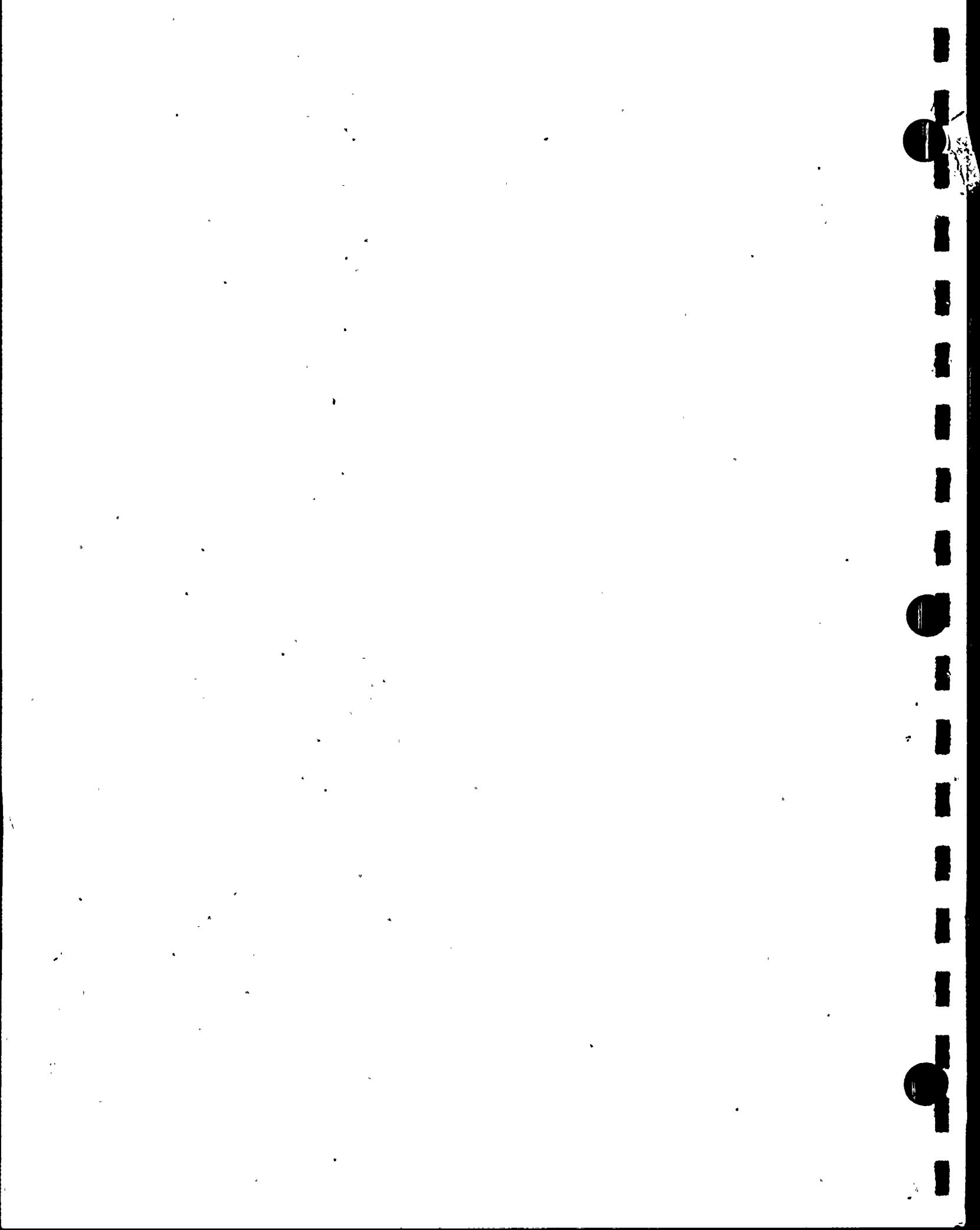
**Data not available. Will be updated with a revision.



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND Half 1988

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	Units	Quarter 3	Quarter 4	Est. Total Error, %
A. FISSION AND ACTIVATION GASES				
1. Total release.	Ci	3.29 E0	2.40 E0	1.29 E1
2. Average release rate for period.	μCi/sec	4.14 E-1	3.02 E-1	
3. Percent of Technical Specification limit. (T/S 3.11.2.2 Limit)	% γ β	9.34 E-3 1.18 E-2	3.82 E-3 3.67 E-3	
B. IODINES				
1. Total Iodine-131.	Ci	2.61 E-4	None	1.42 E1
2. Average release rate for period.	μCi/sec	3.28 E-5	Detected	
3. Percent of Technical Specification limit. (T/S 3.11.2.3 Limit)	%	1.20 E-1		
C. PARTICULATES				
1. Particulates with half-lives > 8 days.	Ci	3.71 E-4	5.90 E-4	1.02 E1
2. Average release rate for period.	μCi/sec	4.67 E-5	7.42 E-5	
3. Percent of Technical Specification limit.*	%	1.20 E-1	1.48 E-1	
4. Gross alpha radio-activity. *(T/S 3.11.2.3 Limit)	Ci	<5.23 E-6	<7.24 E-7	
D. TRITIUM				
1. Total release.	Ci	3.06 E-1	2.15 E-1	9.60 E-1
2. Average release rate for period.	μCi/sec	3.85 E-2	2.70 E-2	
3. Percent of Technical Specification limit. (10 CFR 20 Limit)	%	2.93 E-1	2.14 E-1	



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST Half 1988
Revised

LIQUID EFFLUENTS

Nuclides Released	BATCH MODE		CONTINUOUS MODE	
	Quarter 1	Quarter 2	Quarter 1	Quarter 2
Strontium-89	Ci 5.23 E-5	1.24 E-4		
Strontium-90	Ci 2.05 E-5	1.18 E-4		
Cesium-134	Ci 1.48 E-3	1.83 E-3	1.74 E-4	1.75 E-2
Cesium-137	Ci 1.86 E-3	2.81 E-3	5.44 E-4	1.84 E-2
Iodine-131	Ci 1.05 E-3	1.46 E-3		3.65 E-2
Strontium-85	Ci 4.70 E-6	3.98 E-6		
Cobalt-58	Ci 1.63 E-2	1.18 E-2	4.13 E-5	1.44 E-4
Cobalt-60	Ci 1.09 E-2	7.04 E-3		2.80 E-5
Iron-59	Ci			
Zinc-65	Ci 4.11 E-4	3.52 E-4		
Manganese-54	Ci 5.35 E-4	6.77 E-4		
Chromium-51	Ci 1.73 E-3	1.59 E-3		
Iron-55	Ci 4.40 E-3	5.47 E-3	7.68 E-3	
Zirconium-Niobium-95	Ci 7.01 E-4	5.64 E-4		
Molybdenum-99	Ci			
Technetium-99M	Ci			8.85 E-5
Barium-Lanthanum-140	Ci	5.66 E-4		
Cerium-141	Ci			
Cesium-136	Ci 6.27 E-4	8.33 E-4		1.79 E-3
Sodium-24	Ci			
Iodine-133	Ci			1.14 E-3
Cobalt-57	Ci 2.68 E-5	2.92 E-5		
Zirconium-97	Ci 4.21 E-4	2.64 E-4		
Silver-110M	Ci 1.05 E-2	1.27 E-2		
Cerium-144	Ci			
Antimony-124	Ci	1.41 E-3		
Antimony-125	Ci 1.77 E-3	1.08 E-2		
Xenon-133	Ci 2.67 E-1	2.87 E-1	3.79 E-4	4.52 E-3
Xenon-131M	Ci 9.25 E-4	6.43 E-3		
Xenon-133M	Ci 1.96 E-3	3.27 E-3		
Xenon-135	Ci 9.99 E-4	2.06 E-4	1.34 E-4	1.32 E-5
Argon-41	Ci			
Krypton-85	Ci 1.06 E-3	9.00 E-4		



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST Half 1988
Revised
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	<u>UNIT</u>	<u>BATCH</u>		<u>CONTINUOUS</u>		<u>Est. Total</u>
		<u>Quarter</u> 1	<u>Quarter</u> 2	<u>Quarter</u> 1	<u>Quarter</u> 2	<u>Error, %</u>
A. FISSION AND ACTIVATION PRODUCTS						
1. Total Release (Not including Tritium, Alpha, Gases)	Ci	5.94 E-2	8.40E-2	8.44E-3	7.56 E-2	9.37 E0
2. Average diluted concentration during period.	µCi/ml	2.70 E-9	4.83E-9	1.02E-11	1.39 E-10	
3. Percent of applicable limit.	%	2.18 E-2	3.60E-2	5.82E-6	2.30 E-2	
B. TRITIUM						
1. Total Release	Ci	2.84 E+2	2.02E+2	5.92E-1	4.54 E-1	2.53 E-1
2. Average diluted concentration during period.	µCi/ml	1.29 E-5	1.16E-5	7.18E-10	8.33E-10	
3. Percent of applicable limit..	%	4.30 E-1	3.87E-1	2.39E-5	2.78 E-5	
C. DISSOLVED AND ENTRAINED GASES						
1. Total Release	Ci	2.72 E-1	2.98E-1	5.13E-4	4.53 E-3	1.17 E+1
2. Average diluted concentration during period.	µCi/ml	1.24 E-8	1.71E-8	6.23E-13	8.31E-12	
3. Percent of applicable limit.	%	6.18 E-3	8.56E-3	3.11E-7	4.16E-6	



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 1ST HALF 1988
Revised

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	<u>UNIT</u>	<u>BATCH</u>		<u>CONTINUOUS</u>		Est. Total Error, %
		Quarter 1	Quarter 2	Quarter 1	Quarter 2	
D. GROSS ALPHA RADIOACTIVITY						
1. Total Release	ci	<1.05E-4	<1.12E-4	NA	NA	NA
E. VOLUME OF WASTE RELEASED	Liters	2.83E+6	2.39E+6	1.16E+8	6.65E+7	2.00 E0
F. VOLUME OF DILUTION WATER USED DURING PERIOD	Liters	2.20E+10	1.74E+10	8.24E+11	5.45E+11	3.48 E0

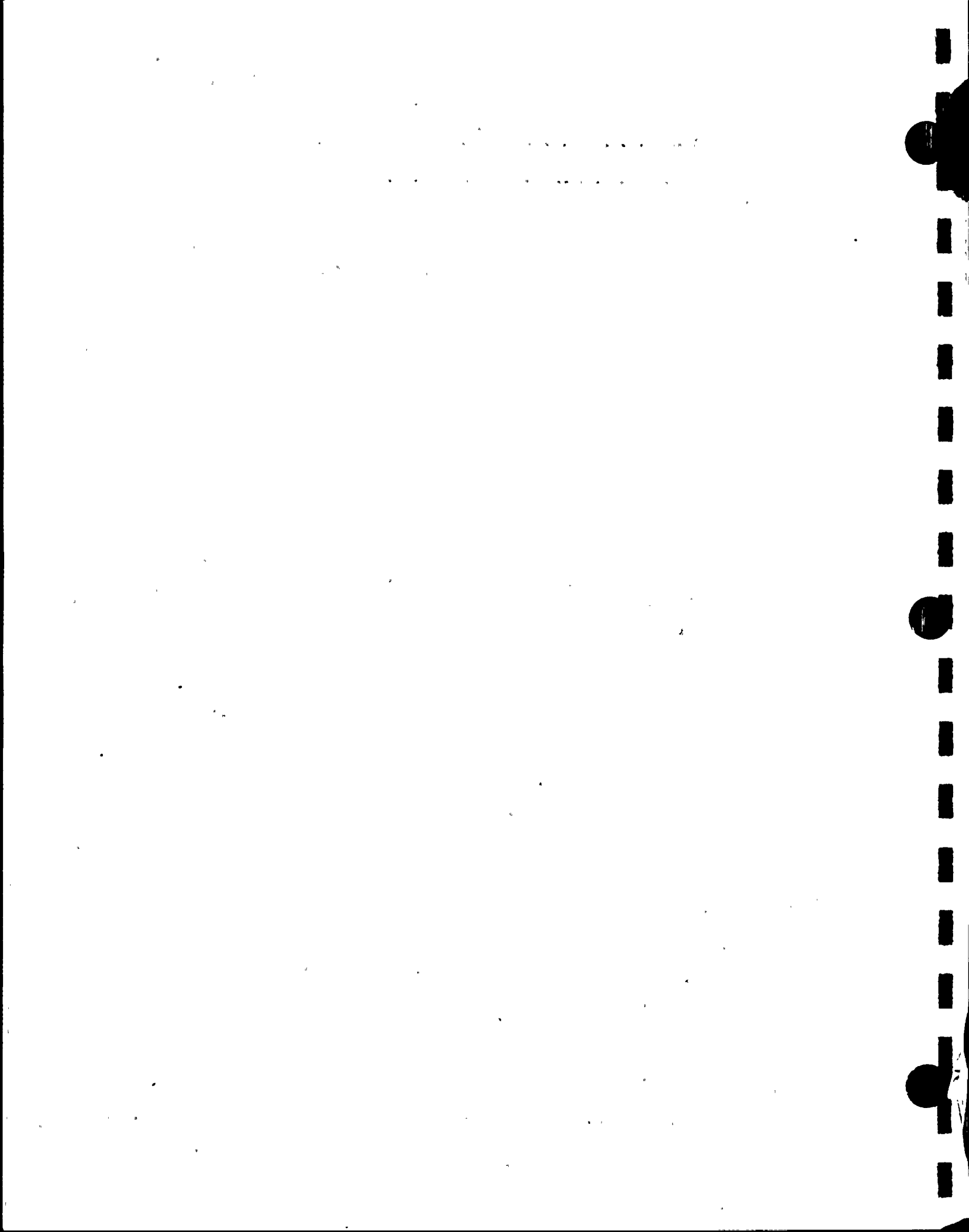
EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND Half 1988

LIQUID EFFLUENTS

Nuclides Released	BATCH MODE		CONTINUOUS MODE	
	Quarter 3	Quarter 4	Quarter 3	Quarter 4
Strontium-89	Ci *	*		
Strontium-90	Ci *	*		
Cesium-134	Ci 2.66 E-3	4.12 E-3	1.01 E-3	5.02 E-4
Cesium-137	Ci 4.12 E-3	6.45 E-3	2.13 E-3	1.45 E-3
Iodine-131	Ci 1.45 E-4	2.94 E-4		
Cobalt-58	Ci 1.39 E-2	3.07 E-2	1.46 E-5	7.62 E-5
Cobalt-60	Ci 6.37 E-3	4.28 E-2		1.49 E-5
Iron-59	Ci			
Zinc-65	Ci 2.22 E-4	7.99 E-4		
Manganese-54	Ci 8.54 E-3	1.41 E-2	3.39 E-5	2.88 E-5
Chromium-51	Ci 1.32 E-3	2.48 E-3		
Tin-113	Ci 5.39 E-5	2.15 E-4		
Zirconium-Niobium-95	Ci 4.54 E-4	1.18 E-3		8.94 E-6
Molybdenum-99	Ci			
Technetium-99M	Ci			
Barium-Lanthanum-140	Ci			
Cerium-141	Ci			
Cesium-136	Ci 3.70 E-5	1.25 E-5		
Sodium-24	Ci	1.62 E-5		3.90 E-4
Iodine-133	Ci			
Cobalt-57	Ci 8.89 E-6	4.30 E-4		
Zirconium-97	Ci			
Silver-110M	Ci 1.40 E-3	2.33 E-3		
Cerium-144	Ci			
Antimony-125	Ci 1.48 E-3	3.26 E-2		
Antimony-124	Ci	5.72 E-4		
Xenon-133	Ci 2.12 E-4	1.04 E-2		
Xenon-131M	Ci			
Xenon-133M	Ci	1.05 E-4		
Xenon-135	Ci	9.13 E-5		3.43 E-5
Argon-41	Ci			

*Data not available. Will be updated
with a revision.

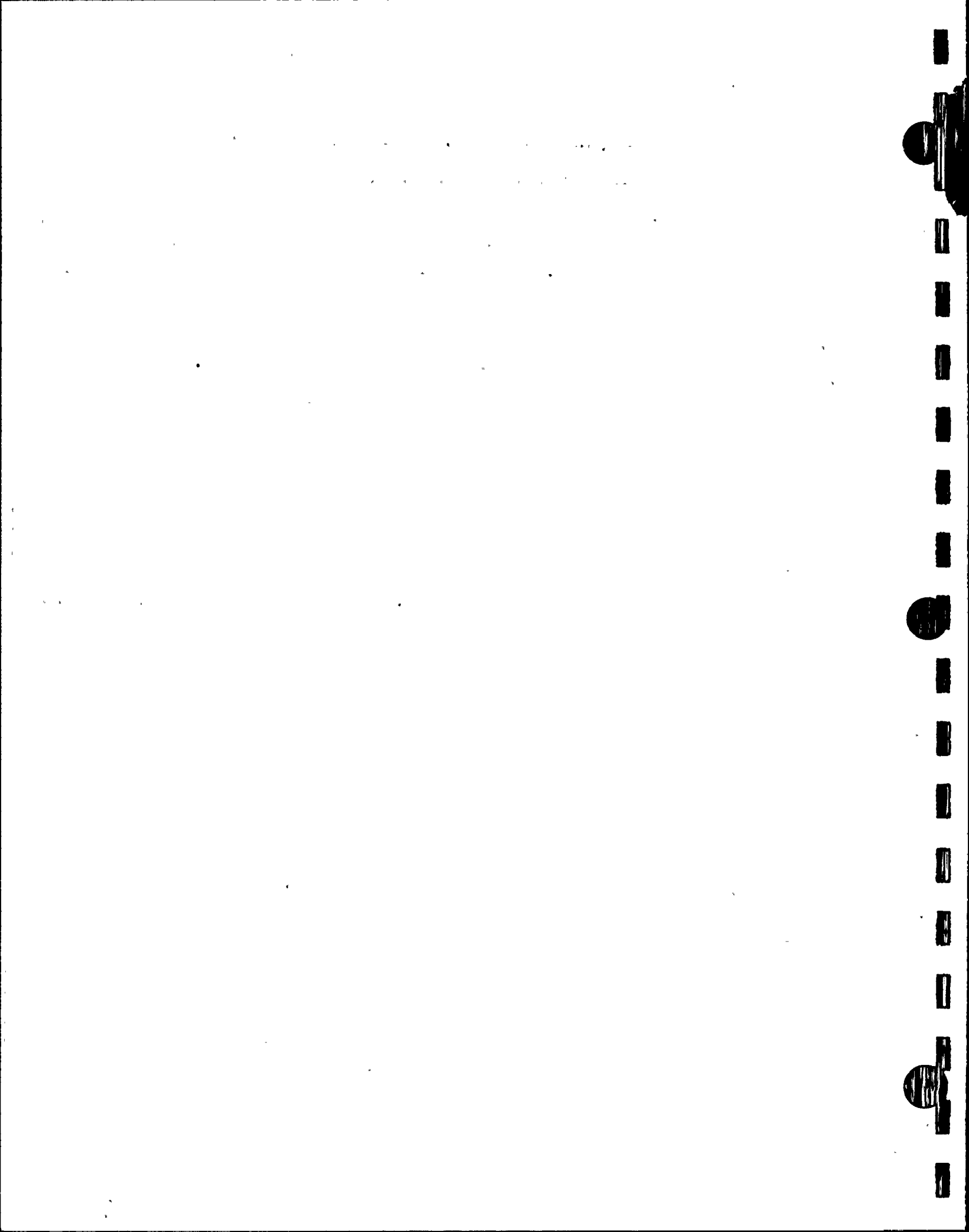
PAGE 1 OF 1
REV. 0



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND Half 1988

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

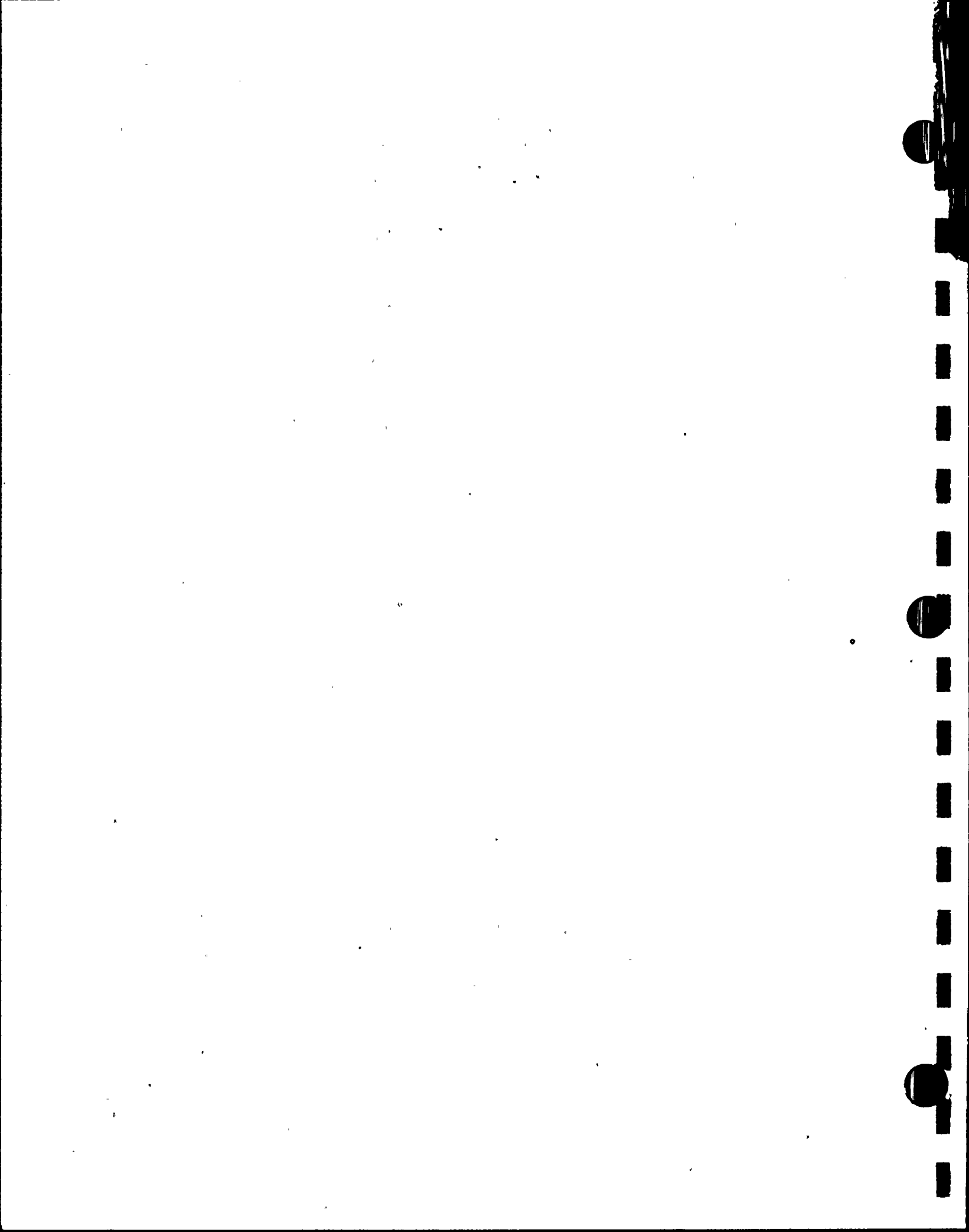
	UNIT	BATCH		CONTINUOUS		Est. Total Error, %
		Quarter 3	Quarter 4	Quarter 3	Quarter 4	
A. FISSION AND ACTIVATION PRODUCTS						
1. Total Release (Not including Tritium, Alpha, Gases)	Ci	4.09 E-2	1.51 E-1	3.16 E-3	2.47 E-3	5.31 E0
2. Average diluted concen- tration during period.	µCi/ml	5.27 E-9	1.17 E-8	7.60 E-12	5.87E-12	
3. Percent of applicable limit.	%	1.95 E-2	3.20E-2	5.25E-5	4.52 E -5	
B. TRITIUM						
1. Total Release	Ci	1.98 E+2	4.12E+2	4.89 E-1	1.42E-1	1.95 E-1
2. Average diluted concen- tration during period.	µCi/ml	2.55 E-5	3.19 E-5	1.18E-9	3.37E-10	
3. Percent of applicable limit.	%	8.50 E-1	1.06E0	3.93 E-5	1.12 E-5	
C. DISSOLVED AND ENTRAINED GASES						
1. Total Release	Ci	2.12 E-4	1.06E-2	NONE RELEASED	3.43 E-5	1.70 E0
2. Average diluted concen- tration during period.	µCi/ml	2.73 E-11	8.22E-10		8.15 E-14	
3. Percent of applicable limit.	%	1.37 E-5	4.11E-4		4.08 E-6	



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND Half 1988

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	<u>UNIT</u>	<u>BATCH</u>		<u>CONTINUOUS</u>		Est. Total Error, %
		Quarter 3	Quarter 4	Quarter 3	Quarter 4	
D. GROSS ALPHA RADIOACTIVITY						
1. Total Release	ci	<1.28 E-4	<9.15E-5	NA	NA	NA
E. VOLUME OF WASTE RELEASED	Liters	1.64 E+6	2.83E+6	3.40 E+7	5.18 E+7	2.00 E0
F. VOLUME OF DILUTION WATER USED DURING PERIOD	Liters	7.76 E+9	1.29E+10	4.16E+11	4.21E+11	3.48 E0



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT 2ND Half 1988
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		
b. Dry compressible waste, contaminated equipment, etc.	m ³ Ci	1.30 E2 1.25 E0	1.0 E0 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	%
	CS-134	%
	CO-58	%
	CO-60	%
b.	CO-60	38 %
	CO-58 C-14	0.2 %
	CS-137	47 %
	CS-134	14 %
	H-3	0.7 %

3. Solid Waste Disposition

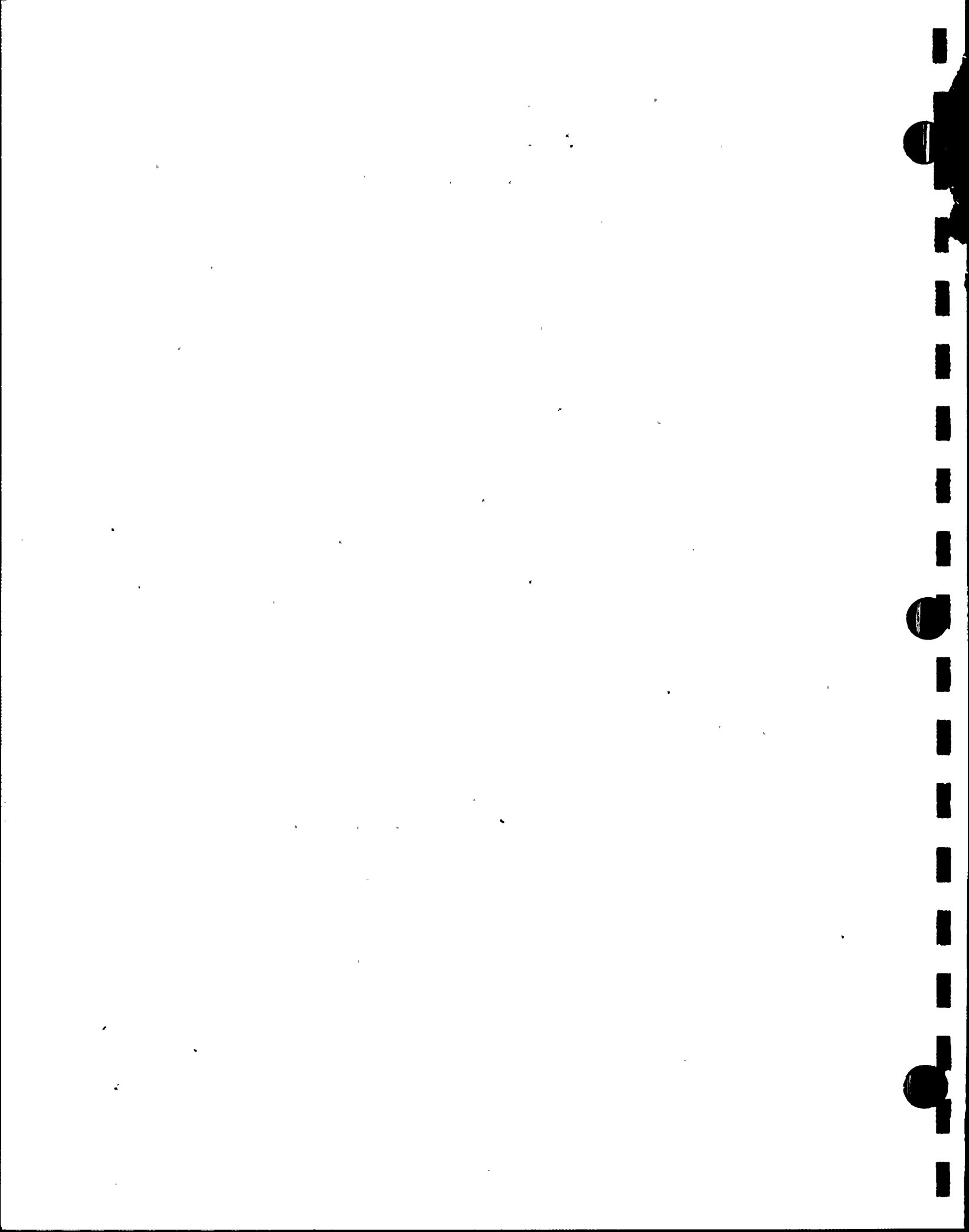
<u>No. of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
36	Truck	Barnwell, SC
1	Truck	Richland, WA

4. Type of Containers Used for Shipment

Containers used are strong tight B-25 metal boxes.

5. Solidification Agent

There were no solidifications performed during the report period.



EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT
YEARLY RELEASE RATES

I. Gases

A. <u>Fission and Activation Gases</u>		<u>Units</u>	
1.	Total Release	ci	2.58 E2
2.	Average Release Rate	μ ci/sec	8.18 E0
3.	% of Technical Specification		
	Limits	γ %	2.98 E-1
		β %	3.32 E-1
B. <u>Iodines</u>			
1.	Total Iodine-131 Released	ci	7.67 E-3
2.	Average Release Rate	μ ci/sec	2.43 E-4
3.	% of Technical Specification		
	Limit	%	1.19 E0
C. <u>Particulates</u>			
1.	Total Release	ci	1.22 E-3
2.	Average Release Rate	μ ci/sec	3.87 E-5
3.	% of Technical Specification		
	Limit	%	1.19 E0

II. Liquids

A. <u>Fission and Activation Products</u>			
1.	Total Release	ci	3.35 E-1
2.	Average Diluted Concentration	μ ci/ml	5.57 E-9
3.	% of Technical Specification		
	Limit	Total Body %	6.07 E0
		Liver %	2.39 E0



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

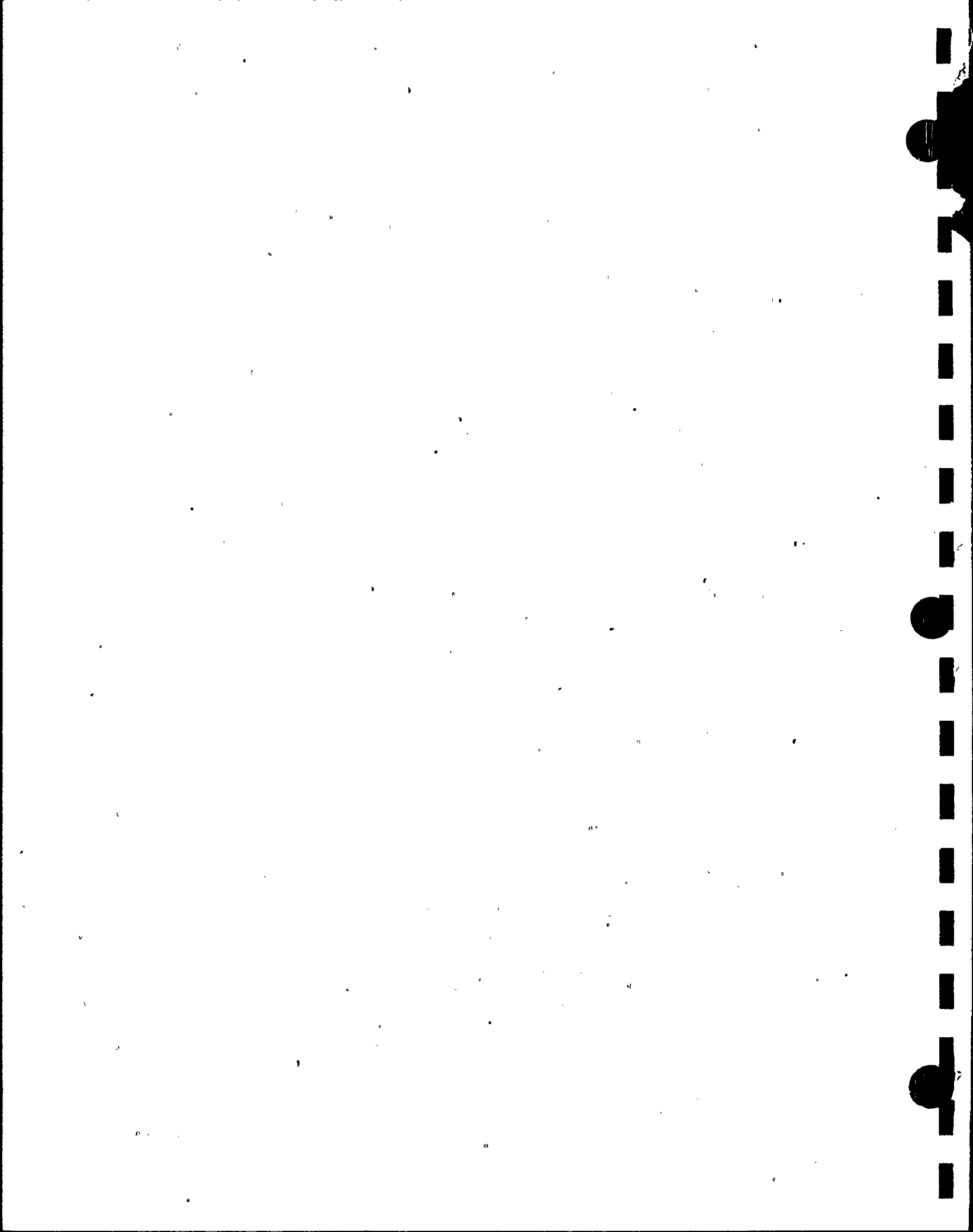
<u>SECTOR - DIRECTION</u>	<u>SITE BOUNDARY (METERS)</u>	<u>NEAREST RESIDENCE (METERS)</u>
B - NNE	617	664
C - NE	789	950
D - ENE	1497	1820
E - E	1274	1721
F - ESE	972	1654
G - SE	629	1144
H - SSE	594	1511
J - S	594	1049
K - SSW	629	948



APPENDIX 1.2

SUMMARY OF MAXIMUM INDIVIDUAL DOSES

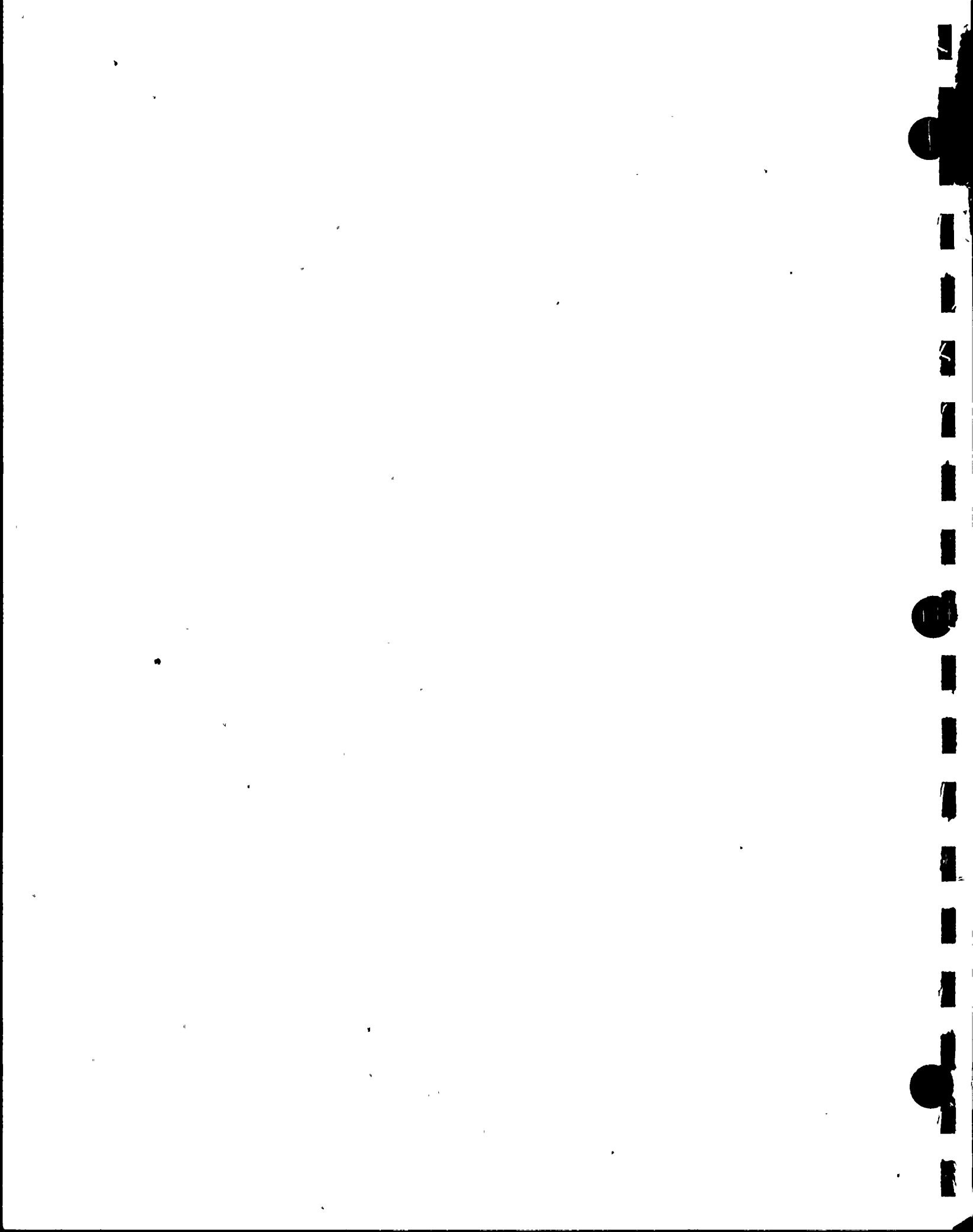
THIRD QUARTER, 1988



SUMMARY OF MAXIMUM INDIVIDUAL DOSES 3RD Quarter 1988

EFFLUENT	APPLICABLE ORGAN	ESTIMATED DOSE (MREM)	AGE GROUP	LOCATION DIST DIR (M)(Toward)	% OF APPLICABLE LIMIT	QUARTERLY LIMIT (MR)
Liquid	Total Body	3.94 E-2	Adult	Receptor 1	2.63 E0	1.5
Liquid	Liver	5.25 E-2	Teen	Receptor 1	1.05 E0	5.0
Noble Gas	Air Dose (Gamma-mrad)	4.67 E-4		617 NNE	9.34 E-3	5.0
Noble Gas	Air Dose (Beta-mrad)	1.18 E-3		617 NNE	1.18 E-2	10.0
Noble Gas	Total Body	2.33 E-4	All	664 NNE	4.66 E-3	Yearly 5.0
Noble Gas	Skin	6.06 E-4	All	664 NNE	4.04 E-3	Yearly 15.0
Iodines and Particulates	Thyroid	1.56 E-2	Infant	664 NNE	2.08 E-1	7.5

Revised After Distance Changes.



FOR RECEPTOR NUMBER 1

TOTAL LIQUID DOSE ACCUMULATIONS(REM)

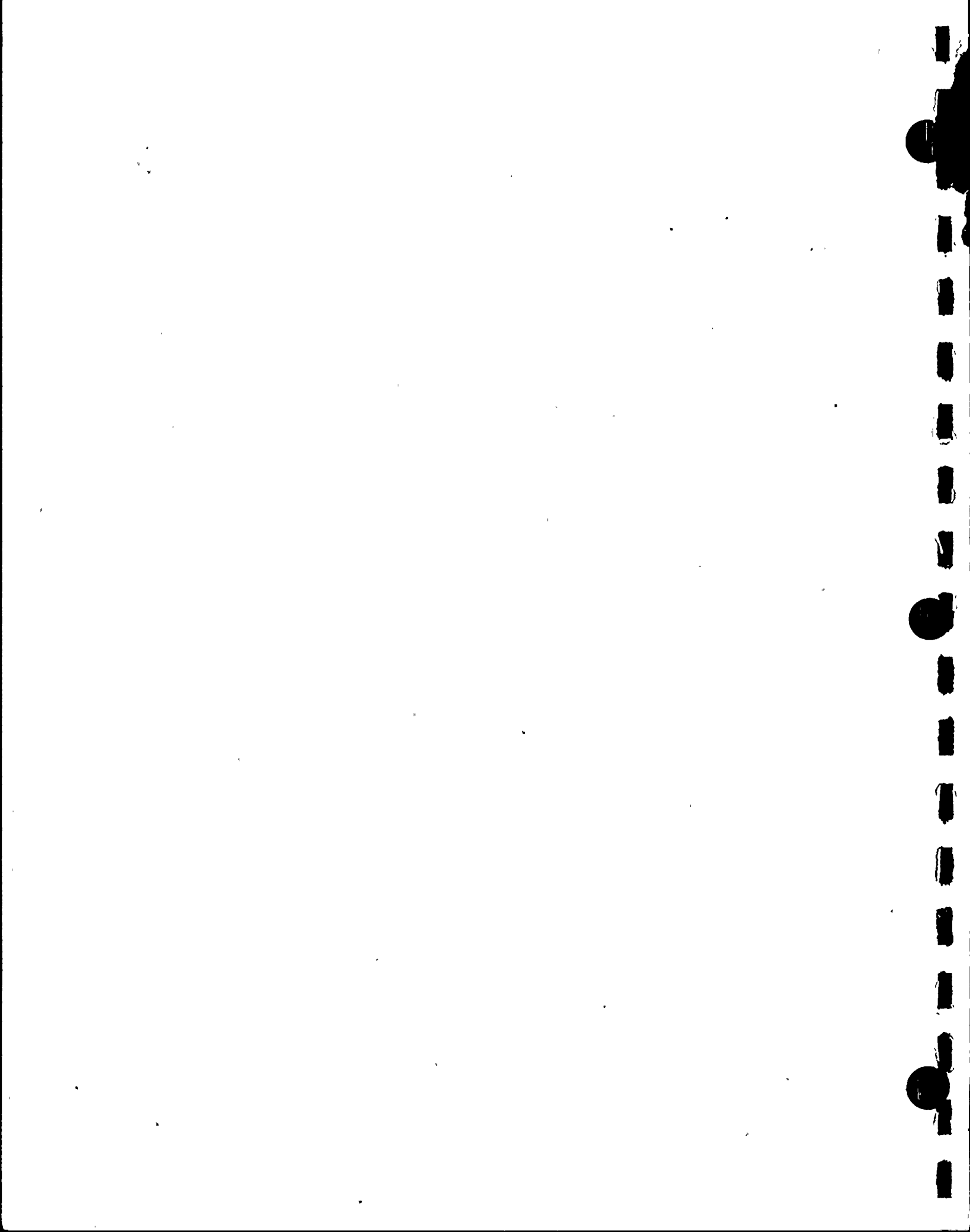
START DATE 88 7 1 1 END DATE 88 93024

	BONE	LIVER	T.BODY	THYRD	KIDNEY	LUNG	GI-LLI	SKIN
WATER								
ADULT	1.9E-07	4.9E-06	4.8E-06	4.6E-06	4.7E-06	4.6E-06	4.8E-06	0.0E+00
TEEN	1.8E-07	3.5E-06	3.4E-06	3.3E-06	3.3E-06	3.3E-06	3.3E-06	0.0E+00
CHILD	5.2E-07	6.8E-06	6.3E-06	6.3E-06	6.4E-06	6.2E-06	6.3E-06	0.0E+00
INFANT	5.4E-07	6.8E-06	6.2E-06	6.3E-06	6.2E-06	6.1E-06	6.1E-06	0.0E+00
SHORE								
ADULT	3.1E-08	3.1E-08	3.1E-08	3.1E-08	3.1E-08	3.1E-08	3.1E-08	3.6E-08
TEEN	1.7E-07	1.7E-07	1.7E-07	1.7E-07	1.7E-07	1.7E-07	1.7E-07	2.0E-07
CHILD	3.6E-08	3.6E-08	3.6E-08	3.6E-08	3.6E-08	3.6E-08	3.6E-08	4.2E-08
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	2.8E-05	4.8E-05	3.5E-05	3.9E-07	1.6E-05	5.5E-06	5.6E-06	0.0E+00
TEEN	2.9E-05	4.9E-05	2.0E-05	3.1E-07	1.6E-05	6.4E-06	3.9E-06	0.0E+00
CHILD	3.6E-05	4.3E-05	7.8E-06	2.7E-07	1.4E-05	5.0E-06	1.5E-06	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 LIQUID DOSE ACCUMULATIONS(REM)

START DATE 88 7 1 1 END DATE 88 93024

	BONE	LIVER	T.BODY	THYRD	KIDNEY	LUNG	GI-LLI	SKIN
TOTAL								
ADULT	2.8E-05	5.2E-05	3.9E-05	5.1E-06	2.1E-05	1.0E-05	1.0E-05	3.6E-08
TEEN	3.0E-05	5.3E-05	2.3E-05	3.8E-06	2.0E-05	9.8E-06	7.4E-06	2.0E-07
CHILD	3.7E-05	5.0E-05	1.4E-05	6.6E-06	2.0E-05	1.1E-05	7.8E-06	4.2E-08
INFANT	5.4E-07	6.8E-06	6.2E-06	6.3E-06	6.2E-06	6.1E-06	6.1E-06	0.0E+00

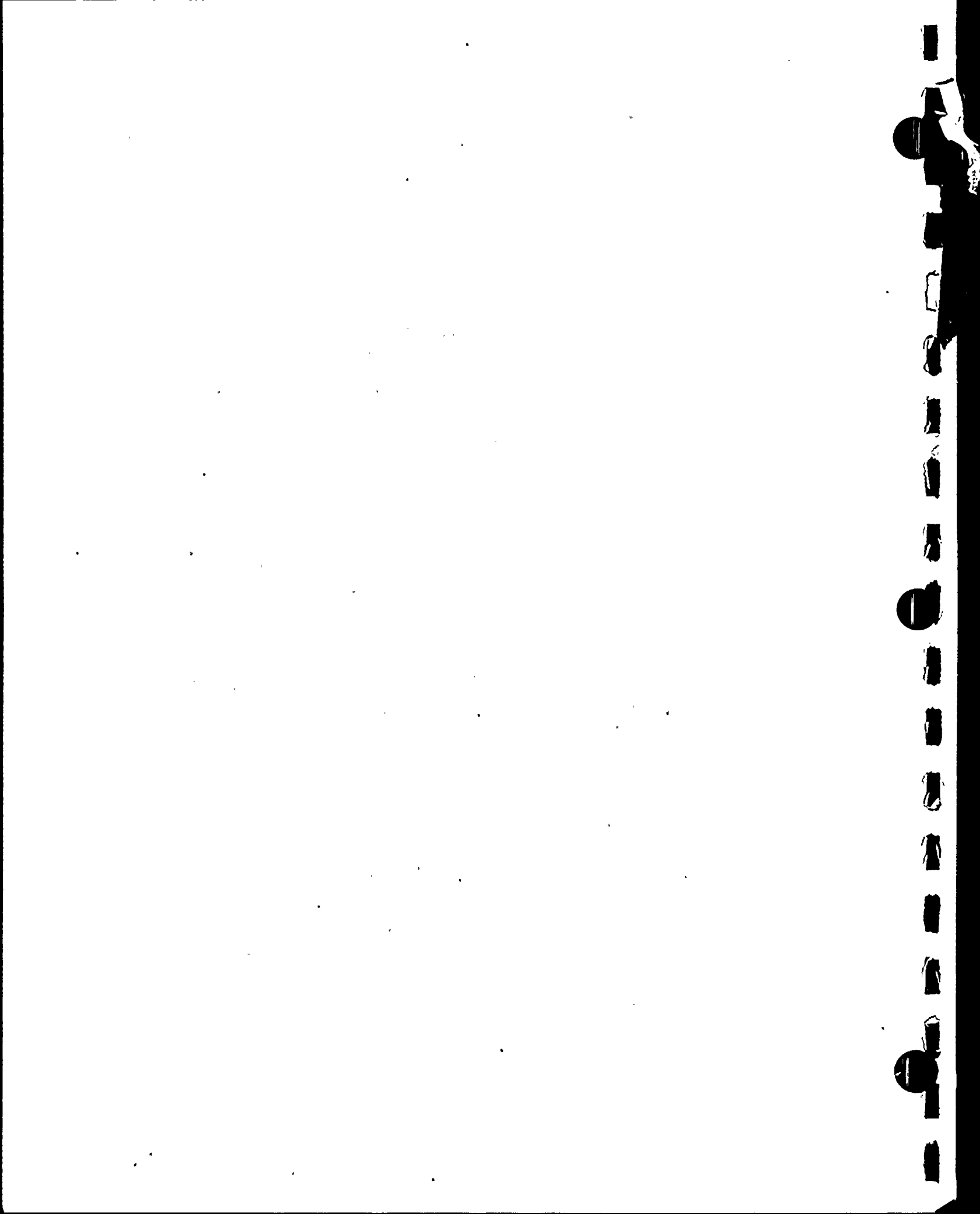


DATES OF TOTAL AIR DOSE ACCUMULATION ARE FROM 88 7 1 1 0 TO 8893024 0
DOSE ACCUMULATION FOR GAMMA RAD

**DIRECTION FROM N				
2.3075E-07	2.5806E-08	1.2081E-08	7.1735E-09	5.0140E-09
2.4842E-09	9.5643E-10	4.7200E-10	3.0060E-10	1.8814E-10
**DIRECTION FROM NNE				
1.2927E-07	1.6131E-08	7.6563E-09	4.5734E-09	3.2121E-09
1.6087E-09	6.3026E-10	3.1443E-10	2.0183E-10	1.2671E-10
**DIRECTION FROM NE				
2.3699E-07	2.7717E-08	1.3873E-08	8.5703E-09	6.1426E-09
3.1885E-09	1.3038E-09	6.5596E-10	4.2201E-10	2.7082E-10
**DIRECTION FROM ENE				
2.6740E-07	2.9503E-08	1.4899E-08	9.2656E-09	6.6546E-09
3.4611E-09	1.4180E-09	7.1128E-10	4.5618E-10	2.9352E-10
**DIRECTION FROM E				
3.6273E-07	3.8997E-08	2.0137E-08	1.2717E-08	9.1599E-09
4.7765E-09	1.9779E-09	9.9827E-10	6.4266E-10	4.1537E-10
**DIRECTION FROM ESE				
3.7438E-07	4.1558E-08	2.1096E-08	1.3161E-08	9.4652E-09
4.9347E-09	2.0301E-09	1.0208E-09	6.5579E-10	4.2252E-10
**DIRECTION FROM SE				
6.8386E-07	7.2164E-08	3.7806E-08	2.4065E-08	1.7419E-08
9.1599E-09	3.8252E-09	1.9322E-09	1.2436E-09	8.0714E-10
**DIRECTION FROM SSE				
6.9212E-07	7.4261E-08	3.8574E-08	2.4427E-08	1.7638E-08
9.2392E-09	3.8398E-09	1.9372E-09	1.2463E-09	8.0680E-10
**DIRECTION FROM S				
9.7349E-07	1.0861E-07	5.5556E-08	3.4858E-08	2.5029E-08
1.2985E-08	5.3457E-09	2.6963E-09	1.7360E-09	1.1179E-09
**DIRECTION FROM SSW				
4.9543E-07	5.5747E-08	2.7991E-08	1.7343E-08	1.2435E-08
6.4516E-09	2.6367E-09	1.3236E-09	8.4983E-10	5.4603E-10
**DIRECTION FROM SW				
2.2716E-07	2.5937E-08	1.2653E-08	7.7079E-09	5.4766E-09
2.7985E-09	1.1227E-09	5.6192E-10	3.6057E-10	2.2963E-10
**DIRECTION FROM WSW				
1.3223E-07	1.4073E-08	6.9486E-09	4.2800E-09	3.0487E-09
1.5631E-09	6.3359E-10	3.1991E-10	2.0663E-10	1.3289E-10
**DIRECTION FROM W				
1.1937E-07	1.2294E-08	6.0163E-09	3.6904E-09	2.6240E-09
1.3414E-09	5.4139E-10	2.7347E-10	1.7667E-10	1.1356E-10
**DIRECTION FROM WNW				
9.6356E-08	1.0662E-08	5.0485E-09	3.0195E-09	2.1271E-09
1.0717E-09	4.2079E-10	2.0937E-10	1.3411E-10	8.4990E-11
**DIRECTION FROM NW				
9.9604E-08	1.1670E-08	5.2993E-09	3.0743E-09	2.1334E-09
1.0473E-09	3.9543E-10	1.9468E-10	1.2409E-10	7.6922E-11
**DIRECTION FROM NNW				
1.0003E-07	1.1680E-08	5.3662E-09	3.1372E-09	2.1940E-09
1.0943E-09	4.2099E-10	2.0845E-10	1.3318E-10	8.3276E-11

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 TOTAL AIR DOSE ACCUMULATION ARE FROM 88 7 1 1 0 TO 8892024 0
DOSE ACCUMULATION FOR BETA RAD

**DIRECTION FROM N

5.8744E-07	6.5722E-08	3.0815E-08	1.8316E-08	1.2809E-08
6.3525E-09	2.4494E-09	1.2096E-09	7.7060E-10	4.8262E-10

**DIRECTION FROM NNE

3.2961E-07	4.1145E-08	1.9549E-08	1.1686E-08	8.2098E-09
4.1138E-09	1.6132E-09	8.0516E-10	5.1699E-10	3.2473E-10

**DIRECTION FROM NE

5.9762E-07	7.0163E-08	3.5074E-08	2.1649E-08	1.5511E-08
8.0465E-09	3.2879E-09	1.6542E-09	1.0643E-09	6.8274E-10

**DIRECTION FROM ENE

6.7392E-07	7.4398E-08	3.7576E-08	2.3372E-08	1.6785E-08
8.7289E-09	3.5765E-09	1.7943E-09	1.1509E-09	7.4054E-10

**DIRECTION FROM E

9.1947E-07	9.8733E-08	5.1015E-08	3.2229E-08	2.3219E-08
1.2111E-08	5.0168E-09	2.5320E-09	1.6299E-09	1.0537E-09

**DIRECTION FROM ESE

9.3725E-07	1.0370E-07	5.2730E-08	3.2932E-08	2.3695E-08
1.2361E-08	5.0900E-09	2.5601E-09	1.6447E-09	1.0602E-09

**DIRECTION FROM SE

1.6997E-06	1.7929E-07	9.3965E-08	5.9827E-08	4.3309E-08
2.2777E-08	9.5137E-09	4.8056E-09	3.0930E-09	2.0077E-09

**DIRECTION FROM SSE

1.7063E-06	1.8295E-07	9.5037E-08	6.0186E-08	4.3463E-08
2.2771E-08	9.4644E-09	4.7746E-09	3.0714E-09	1.9885E-09

**DIRECTION FROM S

2.4088E-06	2.6858E-07	1.3741E-07	8.6231E-08	6.1920E-08
3.2131E-08	1.3229E-08	6.6724E-09	4.2959E-09	2.7665E-09

**DIRECTION FROM SSW

1.2497E-06	1.4047E-07	7.0592E-08	4.3764E-08	3.1384E-08
1.6288E-08	6.6601E-09	3.3439E-09	2.1472E-09	1.3799E-09

**DIRECTION FROM SW

5.7718E-07	6.6025E-08	3.2216E-08	1.9626E-08	1.3945E-08
7.1270E-09	2.8598E-09	1.4316E-09	9.1880E-10	5.8517E-10

**DIRECTION FROM WSW

3.3854E-07	3.6088E-08	1.7852E-08	1.1007E-08	7.8440E-09
4.0249E-09	1.6331E-09	8.2463E-10	5.3257E-10	3.4257E-10

**DIRECTION FROM W

2.9786E-07	3.0662E-08	1.5009E-08	9.2088E-09	6.5480E-09
3.3473E-09	1.3516E-09	6.8327E-10	4.4166E-10	2.8398E-10

**DIRECTION FROM WNW

2.4782E-07	2.7412E-08	1.2999E-08	7.7821E-09	5.4854E-09
2.7670E-09	1.0881E-09	5.4173E-10	3.4711E-10	2.2014E-10

**DIRECTION FROM NW

2.4837E-07	2.9093E-08	1.3221E-08	7.6749E-09	5.3281E-09
2.6177E-09	9.8962E-10	4.8765E-10	3.1102E-10	1.9294E-10

**DIRECTION FROM NNW

2.5084E-07	2.9291E-08	1.3478E-08	7.8872E-09	5.5194E-09
2.7564E-09	1.0623E-09	5.2647E-10	3.3655E-10	2.1064E-10

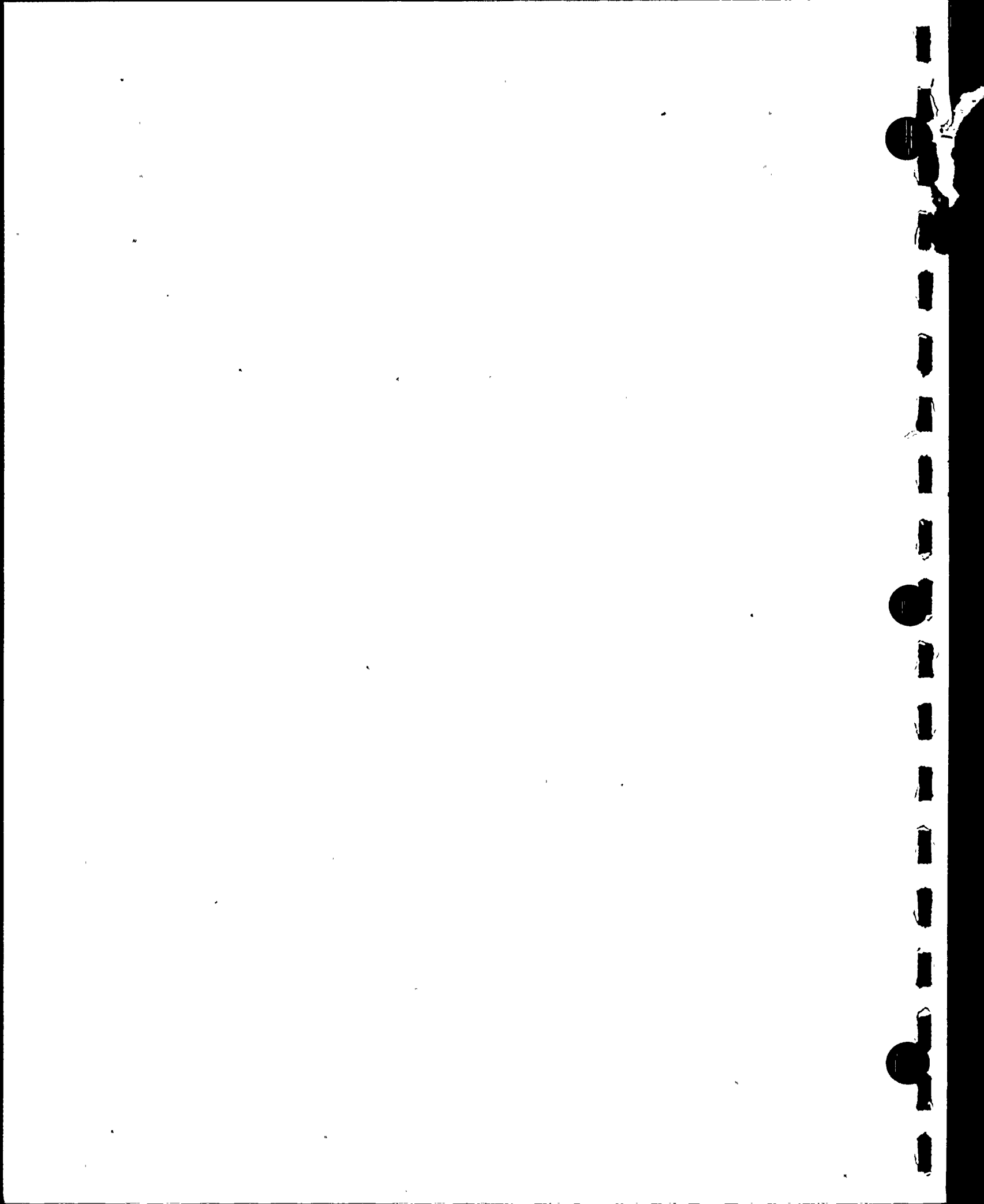
DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 88 7 1 1 THRU 88 93024

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 664. METERS, WINDS TOWARD NNE							
ADULT	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.4E-07	6.1E-07
TEEN	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.4E-07	6.1E-07
CHILD	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.4E-07	6.1E-07
INFNT	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.3E-07	2.4E-07	6.1E-07
GROUND	PATHWAY, DIST GP= 1, 664. METERS, WINDS TOWARD NNE							
ADULT	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.9E-06
TEEN	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.9E-06
CHILD	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.9E-06
INFNT	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.9E-06
VEGET	PATHWAY, DIST GP= 1, 814. METERS, WINDS TOWARD NNE							
ADULT	1.3E-06	4.2E-08	1.2E-06	1.8E-06	6.3E-07	3.1E-06	2.1E-07	0.0E+00
TEEN	1.1E-06	4.6E-08	1.8E-06	2.8E-06	9.6E-07	2.6E-06	3.7E-07	0.0E+00
CHILD	8.0E-07	3.8E-08	4.2E-06	4.7E-06	1.5E-06	3.9E-06	5.5E-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
MEAT	PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NNE							
ADULT	3.0E-09	1.1E-10	2.6E-09	4.2E-09	1.4E-09	8.4E-09	4.9E-10	0.0E+00
TEEN	1.3E-09	6.6E-11	2.1E-09	3.3E-09	1.1E-09	6.1E-09	4.4E-10	0.0E+00
CHILD	7.6E-10	4.8E-11	3.9E-09	4.3E-09	1.4E-09	9.2E-09	5.1E-10	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	1.0E-07	3.6E-09	9.0E-08	1.4E-07	5.2E-08	9.3E-07	1.6E-08	0.0E+00
TEEN	1.0E-07	4.6E-09	1.6E-07	2.5E-07	9.1E-08	1.5E-06	3.2E-08	0.0E+00
CHILD	7.6E-08	3.7E-09	3.8E-07	4.3E-07	1.5E-07	2.9E-06	4.9E-08	0.0E+00
INFNT	7.4E-08	3.7E-09	6.2E-07	8.2E-07	2.4E-07	7.1E-06	8.7E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE							
ADULT	3.1E-07	9.2E-09	2.7E-07	4.3E-07	1.5E-07	1.1E-06	4.8E-08	0.0E+00
TEEN	2.9E-07	1.2E-08	4.8E-07	7.5E-07	2.6E-07	1.8E-06	9.6E-08	0.0E+00
CHILD	2.2E-07	9.2E-09	1.1E-06	1.3E-06	4.2E-07	3.5E-06	1.5E-07	0.0E+00
INFNT	2.1E-07	9.3E-09	1.8E-06	2.4E-06	6.6E-07	8.5E-06	2.6E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 664. METERS, WINDS TOWARD NNE							
ADULT	4.2E-08	5.2E-09	3.4E-08	5.5E-08	2.7E-08	1.3E-06	9.6E-09	0.0E+00
TEEN	3.3E-08	5.3E-09	4.7E-08	7.4E-08	3.5E-08	1.5E-06	1.3E-08	0.0E+00
CHILD	1.7E-08	4.1E-09	6.2E-08	7.0E-08	3.2E-08	1.7E-06	1.1E-08	0.0E+00
INFNT	7.8E-09	2.2E-09	3.9E-08	5.1E-08	2.0E-08	1.6E-06	7.1E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	4.2E-06	2.5E-06	4.0E-06	4.9E-06	3.3E-06	8.9E-06	2.8E-06	2.9E-06
TEEN	4.0E-06	2.5E-06	5.0E-06	6.4E-06	3.8E-06	9.8E-06	3.0E-06	2.9E-06
CHILD	3.6E-06	2.5E-06	8.3E-06	8.9E-06	4.6E-06	1.5E-05	3.2E-06	2.9E-06
INFNT	2.8E-06	2.5E-06	5.0E-06	5.8E-06	3.4E-06	2.0E-05	2.8E-06	2.9E-06
TOTALS								
ADULT	4.5E-06	2.8E-06	4.2E-06	5.2E-06	3.6E-06	9.1E-06	3.0E-06	3.5E-06
TEEN	4.2E-06	2.8E-06	5.2E-06	6.6E-06	4.0E-06	1.0E-05	3.2E-06	3.5E-06
CHILD	3.8E-06	2.8E-06	8.5E-06	9.1E-06	4.8E-06	1.5E-05	3.5E-06	3.5E-06
INFNT	3.0E-06	2.7E-06	5.2E-06	6.0E-06	3.6E-06	2.0E-05	3.1E-06	3.5E-06



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 88 7 1 1 THRU 88 93024

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 950. METERS, WINDS TOWARD NE							
ADULT	5.8E-08	5.8E-08	5.8E-08	5.8E-08	5.8E-08	5.8E-08	6.0E-08	1.5E-07
TEEN	5.8E-08	5.8E-08	5.8E-08	5.8E-08	5.8E-08	5.8E-08	6.0E-08	1.5E-07
CHILD	5.8E-08	5.8E-08	5.8E-08	5.8E-08	5.8E-08	5.8E-08	6.0E-08	1.5E-07
INFNT	5.8E-08	5.8E-08	5.8E-08	5.8E-08	5.8E-08	5.8E-08	6.0E-08	1.5E-07
GROUND	PATHWAY, DIST GP= 1, 950. METERS, WINDS TOWARD NE							
ADULT	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	7.9E-07
TEEN	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	7.9E-07
CHILD	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	7.9E-07
INFNT	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	6.8E-07	7.9E-07
VEGET	PATHWAY, DIST GP= 1, 1052. METERS, WINDS TOWARD NE							
ADULT	4.3E-07	1.3E-08	3.8E-07	6.0E-07	2.1E-07	1.1E-06	6.7E-08	0.0E+00
TEEN	3.6E-07	1.5E-08	5.9E-07	9.2E-07	3.1E-07	8.8E-07	1.2E-07	0.0E+00
CHILD	2.6E-07	1.2E-08	1.4E-06	1.5E-06	5.0E-07	1.3E-06	1.8E-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
MEAT	PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NE							
ADULT	1.5E-09	5.2E-11	1.3E-09	2.1E-09	7.2E-10	4.4E-09	2.4E-10	0.0E+00
TEEN	6.5E-10	3.1E-11	1.1E-09	1.7E-09	5.7E-10	3.2E-09	2.2E-10	0.0E+00
CHILD	3.8E-10	2.1E-11	1.9E-09	2.2E-09	7.1E-10	4.8E-09	2.5E-10	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	5.1E-08	1.8E-09	4.5E-08	7.3E-08	2.6E-08	4.9E-07	7.9E-09	0.0E+00
TEEN	5.0E-08	2.3E-09	8.1E-08	1.3E-07	4.6E-08	7.7E-07	1.6E-08	0.0E+00
CHILD	3.8E-08	1.8E-09	1.9E-07	2.1E-07	7.5E-08	1.5E-06	2.4E-08	0.0E+00
INFNT	3.7E-08	1.8E-09	3.1E-07	4.1E-07	1.2E-07	3.7E-06	4.3E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE							
ADULT	1.5E-07	4.6E-09	1.3E-07	2.1E-07	7.4E-08	5.9E-07	2.4E-08	0.0E+00
TEEN	1.5E-07	5.9E-09	2.4E-07	3.8E-07	1.3E-07	9.3E-07	4.8E-08	0.0E+00
CHILD	1.1E-07	4.5E-09	5.7E-07	6.3E-07	2.1E-07	1.8E-06	7.3E-08	0.0E+00
INFNT	1.0E-07	4.5E-09	9.1E-07	1.2E-06	3.3E-07	4.5E-06	1.3E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 950. METERS, WINDS TOWARD NE							
ADULT	7.1E-09	1.1E-09	5.5E-09	9.3E-09	4.7E-09	2.3E-07	1.8E-09	0.0E+00
TEEN	5.7E-09	1.1E-09	7.7E-09	1.2E-08	6.1E-09	2.8E-07	2.3E-09	0.0E+00
CHILD	3.0E-09	8.5E-10	1.0E-08	1.2E-08	5.6E-09	3.1E-07	2.0E-09	0.0E+00
INFNT	1.4E-09	4.7E-10	6.4E-09	8.5E-09	3.4E-09	2.8E-07	1.3E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	1.3E-06	7.0E-07	1.2E-06	1.6E-06	9.9E-07	3.0E-06	7.8E-07	7.9E-07
TEEN	1.2E-06	7.0E-07	1.6E-06	2.1E-06	1.2E-06	3.5E-06	8.7E-07	7.9E-07
CHILD	1.1E-06	7.0E-07	2.8E-06	3.1E-06	1.5E-06	5.7E-06	9.6E-07	7.9E-07
INFNT	8.2E-07	6.9E-07	1.9E-06	2.3E-06	1.1E-06	9.1E-06	8.5E-07	7.9E-07
TOTALS								
ADULT	1.4E-06	7.6E-07	1.3E-06	1.6E-06	1.0E-06	3.1E-06	8.4E-07	9.5E-07
TEEN	1.3E-06	7.6E-07	1.7E-06	2.2E-06	1.2E-06	3.6E-06	9.3E-07	9.5E-07
CHILD	1.1E-06	7.6E-07	2.9E-06	3.1E-06	1.5E-06	5.7E-06	1.0E-06	9.5E-07
INFNT	8.8E-07	7.4E-07	2.0E-06	2.4E-06	1.2E-06	9.2E-06	9.1E-07	9.5E-07



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INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 88 7 1 1 THRU 88 93024

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1820. METERS, WINDS TOWARD ENE							
ADULT	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.3E-08	3.2E-08
TEEN	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.3E-08	3.2E-08
CHILD	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.3E-08	3.2E-08
INFNT	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.2E-08	1.3E-08	3.2E-08
GROUND	PATHWAY, DIST GP= 1, 1820. METERS, WINDS TOWARD ENE							
ADULT	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.6E-07
TEEN	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.6E-07
CHILD	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.6E-07
INFNT	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.2E-07	2.6E-07
VEGET	PATHWAY, DIST GP= 1, 1852. METERS, WINDS TOWARD ENE							
ADULT	1.6E-07	4.8E-09	1.4E-07	2.3E-07	7.7E-08	3.1E-07	2.5E-08	0.0E+00
TEEN	1.3E-07	5.3E-09	2.2E-07	3.5E-07	1.2E-07	2.6E-07	4.5E-08	0.0E+00
CHILD	9.7E-08	4.2E-09	5.2E-07	5.7E-07	1.9E-07	3.9E-07	6.7E-08	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	5.1E-09	1.6E-10	4.4E-09	7.2E-09	2.4E-09	1.2E-08	8.0E-10	0.0E+00
TEEN	2.2E-09	9.4E-11	3.6E-09	5.7E-09	1.9E-09	8.5E-09	7.4E-10	0.0E+00
CHILD	1.3E-09	6.0E-11	6.6E-09	7.4E-09	2.4E-09	1.3E-08	8.6E-10	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	5.0E-08	1.6E-09	4.3E-08	7.0E-08	2.5E-08	3.7E-07	7.7E-09	0.0E+00
TEEN	4.8E-08	2.1E-09	7.8E-08	1.2E-07	4.3E-08	5.8E-07	1.5E-08	0.0E+00
CHILD	3.6E-08	1.6E-09	1.9E-07	2.1E-07	7.1E-08	1.1E-06	2.3E-08	0.0E+00
INFNT	3.5E-08	1.6E-09	3.0E-07	4.0E-07	1.1E-07	2.8E-06	4.2E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE							
ADULT	1.5E-07	4.3E-09	1.3E-07	2.1E-07	7.1E-08	4.4E-07	2.3E-08	0.0E+00
TEEN	1.4E-07	5.5E-09	2.3E-07	3.6E-07	1.2E-07	7.0E-07	4.6E-08	0.0E+00
CHILD	1.1E-07	4.2E-09	5.5E-07	6.1E-07	2.0E-07	1.4E-06	7.0E-08	0.0E+00
INFNT	9.8E-08	4.1E-09	8.8E-07	1.2E-06	3.2E-07	3.3E-06	1.3E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1820. METERS, WINDS TOWARD ENE							
ADULT	1.1E-09	2.5E-10	7.7E-10	1.4E-09	8.5E-10	5.7E-08	3.2E-10	0.0E+00
TEEN	8.9E-10	2.5E-10	1.1E-09	1.8E-09	1.1E-09	7.0E-08	3.9E-10	0.0E+00
CHILD	5.4E-10	2.0E-10	1.4E-09	1.7E-09	9.9E-10	7.8E-08	3.4E-10	0.0E+00
INFNT	2.8E-10	1.1E-10	9.1E-10	1.2E-09	6.1E-10	7.1E-08	2.1E-10	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	5.9E-07	2.3E-07	5.4E-07	7.4E-07	4.0E-07	1.4E-06	2.8E-07	2.6E-07
TEEN	5.5E-07	2.4E-07	7.6E-07	1.1E-06	5.1E-07	1.8E-06	3.3E-07	2.6E-07
CHILD	4.6E-07	2.3E-07	1.5E-06	1.6E-06	6.9E-07	3.2E-06	3.8E-07	2.6E-07
INFNT	3.6E-07	2.3E-07	1.4E-06	1.8E-06	6.6E-07	6.4E-06	3.9E-07	2.6E-07
TOTALS								
ADULT	6.0E-07	2.5E-07	5.5E-07	7.5E-07	4.1E-07	1.4E-06	2.9E-07	2.9E-07
TEEN	5.6E-07	2.5E-07	7.7E-07	1.1E-06	5.2E-07	1.8E-06	3.4E-07	2.9E-07
CHILD	4.8E-07	2.5E-07	1.5E-06	1.6E-06	7.0E-07	3.2E-06	4.0E-07	2.9E-07
INFNT	3.7E-07	2.4E-07	1.4E-06	1.8E-06	6.7E-07	6.4E-06	4.0E-07	2.9E-07

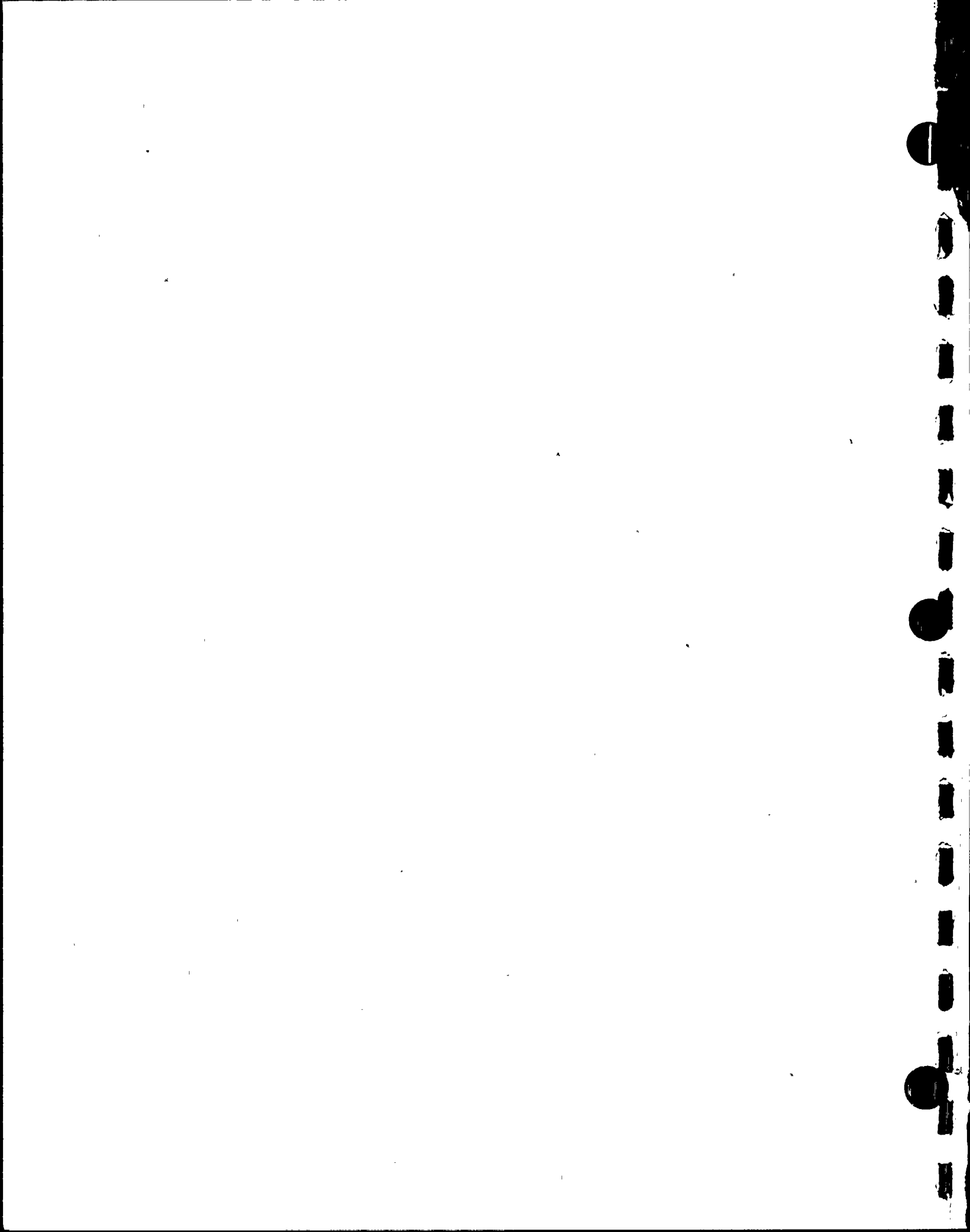
THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 88 7 1 1 THRU 88 93024

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1721. METERS, WINDS TOWARD E							
ADULT	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	2.8E-08
TEEN	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	2.8E-08
CHILD	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	2.8E-08
INFNT	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	1.1E-08	2.8E-08
GROUND	PATHWAY, DIST GP= 1, 1721. METERS, WINDS TOWARD E							
ADULT	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	2.2E-07
TEEN	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	2.2E-07
CHILD	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	2.2E-07
INFNT	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	1.9E-07	2.2E-07
VEGET	PATHWAY, DIST GP= 1, 1705. METERS, WINDS TOWARD E							
ADULT	1.4E-07	4.5E-09	1.3E-07	2.0E-07	7.0E-08	6.4E-07	2.2E-08	0.0E+00
TEEN	1.2E-07	4.9E-09	2.0E-07	3.1E-07	1.0E-07	5.3E-07	3.9E-08	0.0E+00
CHILD	8.6E-08	3.8E-09	4.6E-07	5.1E-07	1.7E-07	8.0E-07	5.9E-08	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	1.4E-09	4.8E-11	1.2E-09	1.9E-09	6.8E-10	7.4E-09	2.2E-10	0.0E+00
TEEN	6.1E-10	2.8E-11	9.8E-10	1.5E-09	5.4E-10	5.3E-09	2.0E-10	0.0E+00
CHILD	3.5E-10	1.9E-11	1.8E-09	2.0E-09	6.7E-10	8.0E-09	2.3E-10	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	3.9E-08	1.5E-09	3.4E-08	5.5E-08	2.1E-08	6.6E-07	5.9E-09	0.0E+00
TEEN	3.8E-08	2.0E-09	6.1E-08	9.5E-08	3.7E-08	1.0E-06	1.2E-08	0.0E+00
CHILD	3.0E-08	1.6E-09	1.5E-07	1.6E-07	6.0E-08	2.0E-06	1.8E-08	0.0E+00
INFNT	3.1E-08	1.5E-09	2.4E-07	3.1E-07	9.6E-08	5.0E-06	3.2E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E							
ADULT	1.1E-07	3.7E-09	9.9E-08	1.6E-07	5.7E-08	7.9E-07	1.8E-08	0.0E+00
TEEN	1.1E-07	4.7E-09	1.8E-07	2.8E-07	9.9E-08	1.2E-06	3.5E-08	0.0E+00
CHILD	8.3E-08	3.6E-09	4.3E-07	4.7E-07	1.6E-07	2.5E-06	5.4E-08	0.0E+00
INFNT	8.0E-08	3.5E-09	6.8E-07	9.1E-07	2.6E-07	6.0E-06	9.6E-08	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1721. METERS, WINDS TOWARD E							
ADULT	2.6E-09	2.5E-10	2.1E-09	3.4E-09	1.5E-09	5.4E-08	5.4E-10	0.0E+00
TEEN	2.0E-09	2.5E-10	2.9E-09	4.5E-09	2.0E-09	6.7E-08	7.5E-10	0.0E+00
CHILD	9.8E-10	1.9E-10	3.9E-09	4.3E-09	1.8E-09	7.4E-08	6.4E-10	0.0E+00
INFNT	4.2E-10	1.0E-10	2.4E-09	3.1E-09	1.1E-09	6.7E-08	4.2E-10	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	4.9E-07	2.0E-07	4.5E-07	6.1E-07	3.4E-07	2.3E-06	2.3E-07	2.2E-07
TEEN	4.6E-07	2.0E-07	6.3E-07	8.7E-07	4.3E-07	3.1E-06	2.8E-07	2.2E-07
CHILD	3.9E-07	2.0E-07	1.2E-06	1.3E-06	5.8E-07	5.6E-06	3.2E-07	2.2E-07
INFNT	3.0E-07	1.9E-07	1.1E-06	1.4E-06	5.4E-07	1.1E-05	3.2E-07	2.2E-07
TOTALS								
ADULT	5.0E-07	2.1E-07	4.6E-07	6.2E-07	3.5E-07	2.3E-06	2.5E-07	2.5E-07
TEEN	4.7E-07	2.1E-07	6.4E-07	8.8E-07	4.4E-07	3.1E-06	2.9E-07	2.5E-07
CHILD	4.0E-07	2.1E-07	1.2E-06	1.3E-06	5.9E-07	5.6E-06	3.3E-07	2.5E-07
INFNT	3.1E-07	2.0E-07	1.1E-06	1.4E-06	5.5E-07	1.1E-05	3.3E-07	2.5E-07



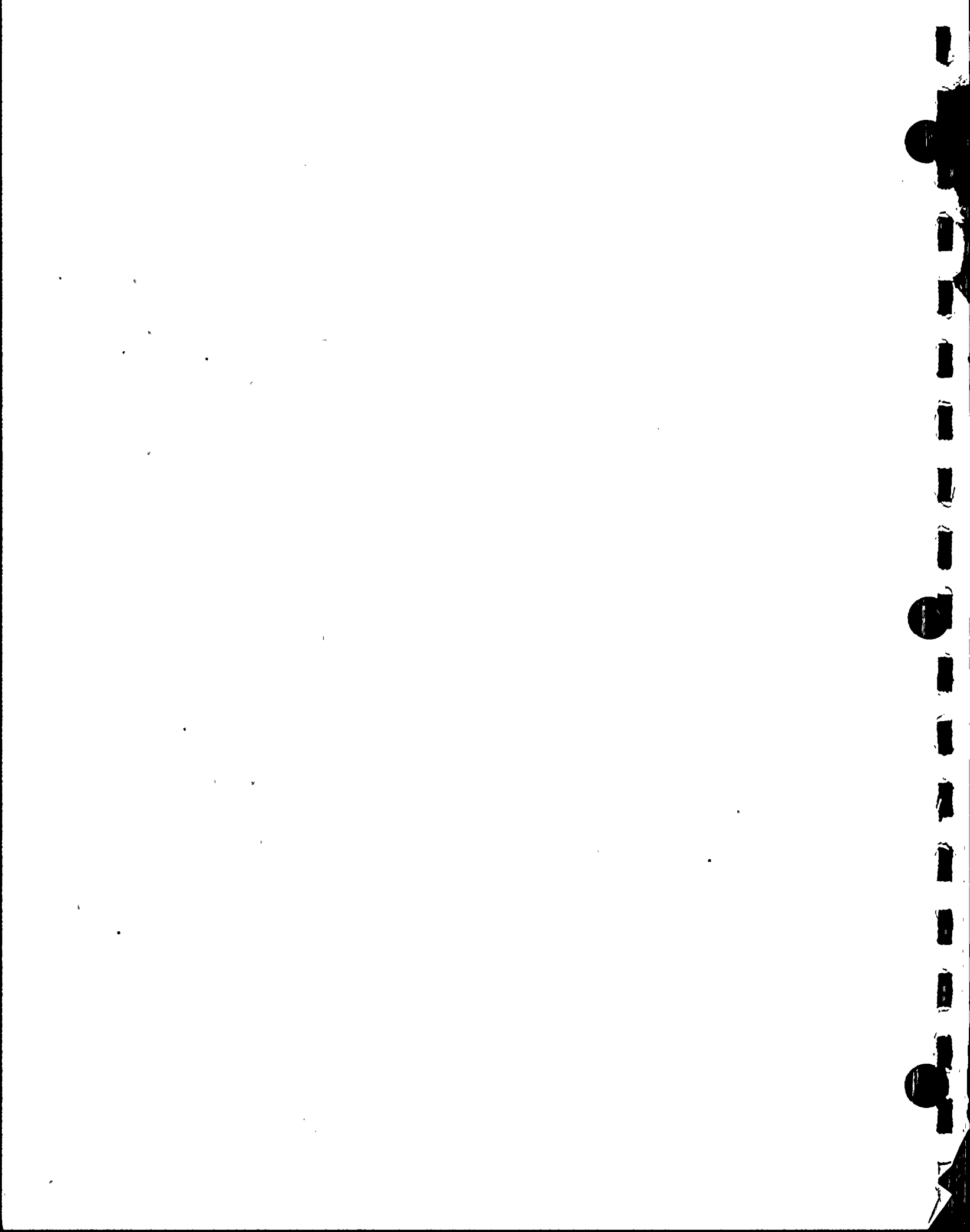
THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 88 7 1 1 THRU 88 93024

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1654. METERS, WINDS TOWARD ESE							
ADULT	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.7E-09	2.4E-08
TEEN	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.7E-09	2.4E-08
CHILD	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.7E-09	2.4E-08
INFNT	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.3E-09	9.7E-09	2.4E-08
GROUND	PATHWAY, DIST GP= 1, 1654. METERS, WINDS TOWARD ESE							
ADULT	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	8.5E-08
TEEN	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	8.5E-08
CHILD	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	8.5E-08
INFNT	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	7.3E-08	8.5E-08
VEGET	PATHWAY, DIST GP= 1, 1628. METERS, WINDS TOWARD ESE							
ADULT	5.6E-08	2.1E-09	4.9E-08	7.9E-08	2.8E-08	3.7E-07	8.9E-09	0.0E+00
TEEN	4.7E-08	2.2E-09	7.7E-08	1.2E-07	4.2E-08	3.0E-07	1.6E-08	0.0E+00
CHILD	3.4E-08	1.9E-09	1.8E-07	2.0E-07	6.6E-08	4.6E-07	2.3E-08	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-09	1.2E-10	2.6E-09	4.1E-09	1.5E-09	2.3E-08	4.7E-10	0.0E+00
TEEN	1.3E-09	7.0E-11	2.1E-09	3.3E-09	1.2E-09	1.7E-08	4.3E-10	0.0E+00
CHILD	7.6E-10	5.0E-11	3.8E-09	4.3E-09	1.5E-09	2.5E-08	5.0E-10	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	1.4E-08	6.7E-10	1.3E-08	2.0E-08	8.2E-09	3.5E-07	2.1E-09	0.0E+00
TEEN	1.4E-08	8.7E-10	2.3E-08	3.5E-08	1.4E-08	5.5E-07	4.3E-09	0.0E+00
CHILD	1.1E-08	7.0E-10	5.4E-08	6.0E-08	2.3E-08	1.1E-06	6.5E-09	0.0E+00
INFNT	1.2E-08	7.2E-10	8.8E-08	1.2E-07	3.8E-08	2.6E-06	1.2E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE							
ADULT	4.1E-08	1.5E-09	3.6E-08	5.8E-08	2.1E-08	4.2E-07	6.4E-09	0.0E+00
TEEN	4.0E-08	1.9E-09	6.5E-08	1.0E-07	3.7E-08	6.6E-07	1.3E-08	0.0E+00
CHILD	3.1E-08	1.5E-09	1.6E-07	1.7E-07	6.1E-08	1.3E-06	2.0E-08	0.0E+00
INFNT	3.0E-08	1.5E-09	2.5E-07	3.3E-07	9.7E-08	3.2E-06	3.5E-08	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1654. METERS, WINDS TOWARD ESE							
ADULT	8.7E-10	2.2E-10	6.3E-10	1.1E-09	7.5E-10	5.7E-08	2.8E-10	0.0E+00
TEEN	7.4E-10	2.3E-10	8.8E-10	1.5E-09	9.5E-10	7.0E-08	3.3E-10	0.0E+00
CHILD	4.7E-10	1.8E-10	1.2E-09	1.4E-09	8.8E-10	7.8E-08	2.9E-10	0.0E+00
INFNT	2.5E-10	1.0E-10	7.5E-10	1.0E-09	5.4E-10	7.1E-08	1.8E-10	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	1.9E-07	7.7E-08	1.7E-07	2.4E-07	1.3E-07	1.3E-06	9.1E-08	8.5E-08
TEEN	1.8E-07	7.8E-08	2.4E-07	3.4E-07	1.7E-07	1.7E-06	1.1E-07	8.5E-08
CHILD	1.5E-07	7.7E-08	4.7E-07	5.1E-07	2.3E-07	3.0E-06	1.2E-07	8.5E-08
INFNT	1.2E-07	7.5E-08	4.1E-07	5.2E-07	2.1E-07	6.0E-06	1.2E-07	8.5E-08
TOTALS								
ADULT	2.0E-07	8.7E-08	1.8E-07	2.4E-07	1.4E-07	1.3E-06	1.0E-07	1.1E-07
TEEN	1.9E-07	8.7E-08	2.5E-07	3.4E-07	1.8E-07	1.7E-06	1.2E-07	1.1E-07
CHILD	1.6E-07	8.6E-08	4.8E-07	5.2E-07	2.3E-07	3.0E-06	1.3E-07	1.1E-07
INFNT	1.3E-07	8.4E-08	4.2E-07	5.3E-07	2.2E-07	6.0E-06	1.3E-07	1.1E-07



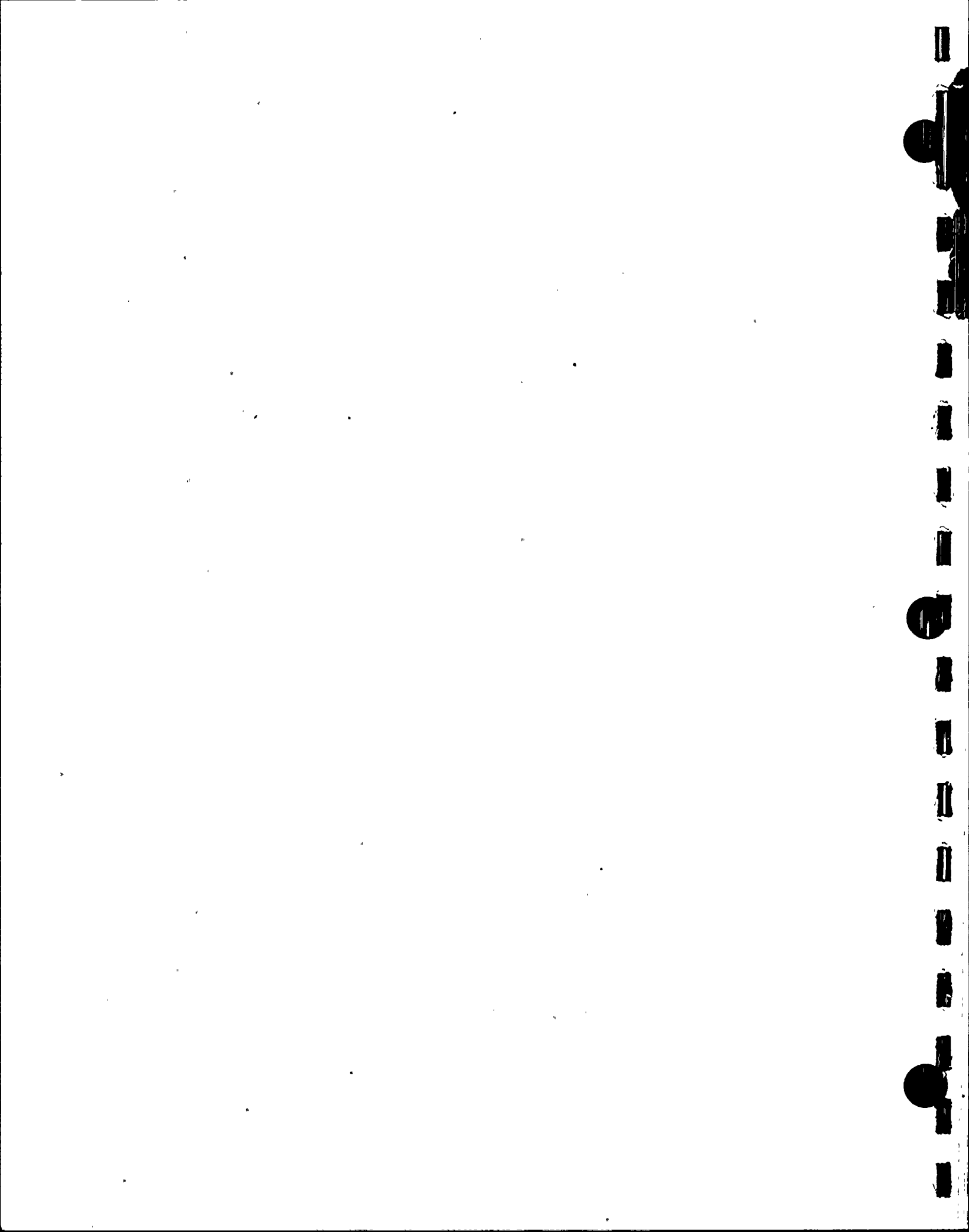
THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 88 7 1 1 THRU 88 93024

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1144. METERS, WINDS TOWARD SE							
ADULT	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	4.8E-08
TEEN	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	4.8E-08
CHILD	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	4.8E-08
INFNT	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	4.8E-08
GROUND	PATHWAY, DIST GP= 1, 1144. METERS, WINDS TOWARD SE							
ADULT	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.9E-07
TEEN	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.9E-07
CHILD	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.9E-07
INFNT	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.4E-07	3.9E-07
VEGET	PATHWAY, DIST GP= 1, 914. METERS, WINDS TOWARD SE							
ADULT	3.6E-07	1.1E-08	3.2E-07	5.1E-07	1.8E-07	8.9E-07	5.7E-08	0.0E+00
TEEN	3.0E-07	1.2E-08	5.0E-07	7.9E-07	2.7E-07	7.4E-07	1.0E-07	0.0E+00
CHILD	2.2E-07	9.0E-09	1.2E-06	1.3E-06	4.2E-07	1.1E-06	1.5E-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
MEAT	PATHWAY, DIST GP= 1, 4354. METERS, WINDS TOWARD SE							
ADULT	2.9E-09	8.8E-11	2.5E-09	4.0E-09	1.4E-09	8.4E-09	4.5E-10	0.0E+00
TEEN	1.3E-09	5.2E-11	2.0E-09	3.2E-09	1.1E-09	6.1E-09	4.1E-10	0.0E+00
CHILD	7.2E-10	3.2E-11	3.7E-09	4.2E-09	1.4E-09	9.2E-09	4.8E-10	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	3.5E-08	1.2E-09	3.0E-08	4.9E-08	1.8E-08	3.3E-07	5.3E-09	0.0E+00
TEEN	3.4E-08	1.5E-09	5.5E-08	8.5E-08	3.1E-08	5.1E-07	1.1E-08	0.0E+00
CHILD	2.6E-08	1.2E-09	1.3E-07	1.4E-07	5.0E-08	1.0E-06	1.6E-08	0.0E+00
INFNT	2.5E-08	1.1E-09	2.1E-07	2.8E-07	8.0E-08	2.5E-06	2.9E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE							
ADULT	1.0E-07	3.0E-09	9.0E-08	1.5E-07	5.0E-08	3.9E-07	1.6E-08	0.0E+00
TEEN	9.9E-08	3.9E-09	1.6E-07	2.5E-07	8.7E-08	6.2E-07	3.2E-08	0.0E+00
CHILD	7.4E-08	3.0E-09	3.8E-07	4.3E-07	1.4E-07	1.2E-06	4.9E-08	0.0E+00
INFNT	6.9E-08	2.9E-09	6.2E-07	8.2E-07	2.2E-07	3.0E-06	8.7E-08	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1144. METERS, WINDS TOWARD SE							
ADULT	3.9E-09	2.9E-10	3.2E-09	5.1E-09	2.1E-09	4.4E-08	7.7E-10	0.0E+00
TEEN	3.0E-09	2.9E-10	4.4E-09	6.8E-09	2.8E-09	5.3E-08	1.1E-09	0.0E+00
CHILD	1.4E-09	2.2E-10	5.9E-09	6.5E-09	2.5E-09	5.9E-08	9.4E-10	0.0E+00
INFNT	5.5E-10	1.2E-10	3.6E-09	4.7E-09	1.5E-09	5.4E-08	6.1E-10	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	8.5E-07	3.5E-07	7.8E-07	1.1E-06	5.8E-07	2.0E-06	4.2E-07	3.9E-07
TEEN	7.8E-07	3.6E-07	1.1E-06	1.5E-06	7.3E-07	2.3E-06	4.8E-07	3.9E-07
CHILD	6.6E-07	3.5E-07	2.0E-06	2.2E-06	9.6E-07	3.8E-06	5.5E-07	3.9E-07
INFNT	4.3E-07	3.4E-07	1.2E-06	1.4E-06	6.4E-07	5.8E-06	4.5E-07	3.9E-07
TOTALS								
ADULT	8.7E-07	3.7E-07	8.0E-07	1.1E-06	6.0E-07	2.0E-06	4.4E-07	4.4E-07
TEEN	8.0E-07	3.7E-07	1.1E-06	1.5E-06	7.4E-07	2.3E-06	5.0E-07	4.4E-07
CHILD	6.8E-07	3.7E-07	2.1E-06	2.2E-06	9.8E-07	3.8E-06	5.7E-07	4.4E-07
INFNT	4.5E-07	3.6E-07	1.2E-06	1.5E-06	6.6E-07	5.8E-06	4.7E-07	4.4E-07



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 88 7 1 1 THRU 88 93024

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1511. METERS, WINDS TOWARD SSE							
ADULT	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.4E-08	3.5E-08
TEEN	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.4E-08	3.5E-08
CHILD	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.4E-08	3.5E-08
INFNT	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.4E-08	3.5E-08
GROUND	PATHWAY, DIST GP= 1, 1511. METERS, WINDS TOWARD SSE							
ADULT	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.5E-07
TEEN	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.5E-07
CHILD	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.5E-07
INFNT	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.1E-07	2.5E-07
VEGET	PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE							
ADULT	2.7E-07	8.7E-09	2.4E-07	3.9E-07	1.3E-07	1.1E-06	4.3E-08	0.0E+00
TEEN	2.3E-07	9.4E-09	3.8E-07	5.9E-07	2.0E-07	9.4E-07	7.6E-08	0.0E+00
CHILD	1.7E-07	7.3E-09	8.8E-07	9.7E-07	3.2E-07	1.4E-06	1.1E-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
MEAT	PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE							
ADULT	2.8E-08	9.3E-10	2.4E-08	3.9E-08	1.4E-08	1.4E-07	4.4E-09	0.0E+00
TEEN	1.2E-08	5.5E-10	2.0E-08	3.1E-08	1.1E-08	1.0E-07	4.0E-09	0.0E+00
CHILD	7.1E-09	3.5E-10	3.6E-08	4.1E-08	1.4E-08	1.5E-07	4.7E-09	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	3.5E-08	1.4E-09	3.1E-08	5.0E-08	1.9E-08	5.6E-07	5.4E-09	0.0E+00
TEEN	3.5E-08	1.8E-09	5.6E-08	8.7E-08	3.3E-08	8.8E-07	1.1E-08	0.0E+00
CHILD	2.7E-08	1.4E-09	1.3E-07	1.5E-07	5.4E-08	1.7E-06	1.6E-08	0.0E+00
INFNT	2.8E-08	1.4E-09	2.2E-07	2.8E-07	8.7E-08	4.2E-06	2.9E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE							
ADULT	1.0E-07	3.3E-09	9.1E-08	1.5E-07	5.2E-08	6.7E-07	1.6E-08	0.0E+00
TEEN	1.0E-07	4.3E-09	1.6E-07	2.6E-07	9.0E-08	1.1E-06	3.3E-08	0.0E+00
CHILD	7.6E-08	3.3E-09	3.9E-07	4.3E-07	1.5E-07	2.1E-06	4.9E-08	0.0E+00
INFNT	7.3E-08	3.2E-09	6.3E-07	8.3E-07	2.3E-07	5.1E-06	8.8E-08	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1511. METERS, WINDS TOWARD SSE							
ADULT	2.6E-09	2.9E-10	2.1E-09	3.4E-09	1.6E-09	6.5E-08	5.8E-10	0.0E+00
TEEN	2.0E-09	2.9E-10	2.9E-09	4.6E-09	2.1E-09	7.9E-08	7.9E-10	0.0E+00
CHILD	1.0E-09	2.3E-10	3.9E-09	4.3E-09	1.9E-09	8.8E-08	6.8E-10	0.0E+00
INFNT	4.6E-10	1.2E-10	2.4E-09	3.2E-09	1.2E-09	8.0E-08	4.4E-10	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	6.6E-07	2.3E-07	6.0E-07	8.4E-07	4.3E-07	2.8E-06	2.8E-07	2.5E-07
TEEN	5.9E-07	2.3E-07	8.3E-07	1.2E-06	5.5E-07	3.3E-06	3.4E-07	2.5E-07
CHILD	4.9E-07	2.3E-07	1.7E-06	1.8E-06	7.5E-07	5.7E-06	4.0E-07	2.5E-07
INFNT	3.2E-07	2.2E-07	1.1E-06	1.3E-06	5.4E-07	9.6E-06	3.3E-07	2.5E-07
TOTALS								
ADULT	6.7E-07	2.4E-07	6.2E-07	8.5E-07	4.5E-07	2.8E-06	3.0E-07	2.9E-07
TEEN	6.0E-07	2.4E-07	8.5E-07	1.2E-06	5.7E-07	3.3E-06	3.5E-07	2.9E-07
CHILD	5.0E-07	2.4E-07	1.7E-06	1.8E-06	7.6E-07	5.7E-06	4.1E-07	2.9E-07
INFNT	3.3E-07	2.3E-07	1.1E-06	1.3E-06	5.5E-07	9.6E-06	3.5E-07	2.9E-07



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 88 7 1 1 THRU 88 93024

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1049. METERS, WINDS TOWARD S							
ADULT	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.6E-08	1.2E-07
TEEN	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.6E-08	1.2E-07
CHILD	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.6E-08	1.2E-07
INFNT	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.4E-08	4.6E-08	1.2E-07
GROUND	PATHWAY, DIST GP= 1, 1049. METERS, WINDS TOWARD S							
ADULT	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	1.1E-06
TEEN	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	1.1E-06
CHILD	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	1.1E-06
INFNT	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	1.1E-06
VEGET	PATHWAY, DIST GP= 1, 863. METERS, WINDS TOWARD S							
ADULT	9.7E-07	3.1E-08	8.5E-07	1.4E-06	4.7E-07	3.8E-06	1.5E-07	0.0E+00
TEEN	8.1E-07	3.3E-08	1.3E-06	2.1E-06	7.1E-07	3.2E-06	2.7E-07	0.0E+00
CHILD	5.9E-07	2.6E-08	3.1E-06	3.4E-06	1.1E-06	4.8E-06	4.0E-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
MEAT	PATHWAY, DIST GP= 1, 6115. METERS, WINDS TOWARD S							
ADULT	3.7E-09	1.3E-10	3.2E-09	5.1E-09	1.8E-09	1.7E-08	5.8E-10	0.0E+00
TEEN	1.6E-09	7.4E-11	2.6E-09	4.1E-09	1.4E-09	1.2E-08	5.3E-10	0.0E+00
CHILD	9.3E-10	4.9E-11	4.8E-09	5.3E-09	1.8E-09	1.9E-08	6.2E-10	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	8.4E-08	3.3E-09	7.4E-08	1.2E-07	4.5E-08	1.3E-06	1.3E-08	0.0E+00
TEEN	8.2E-08	4.2E-09	1.3E-07	2.1E-07	7.9E-08	2.0E-06	2.6E-08	0.0E+00
CHILD	6.4E-08	3.3E-09	3.2E-07	3.5E-07	1.3E-07	4.0E-06	3.9E-08	0.0E+00
INFNT	6.5E-08	3.3E-09	5.1E-07	6.8E-07	2.1E-07	9.6E-06	7.0E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S							
ADULT	2.5E-07	7.9E-09	2.2E-07	3.5E-07	1.2E-07	1.5E-06	3.9E-08	0.0E+00
TEEN	2.4E-07	1.0E-08	3.9E-07	6.1E-07	2.2E-07	2.4E-06	7.8E-08	0.0E+00
CHILD	1.8E-07	7.7E-09	9.3E-07	1.0E-06	3.5E-07	4.7E-06	1.2E-07	0.0E+00
INFNT	1.7E-07	7.7E-09	1.5E-06	2.0E-06	5.6E-07	1.2E-05	2.1E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1049. METERS, WINDS TOWARD S							
ADULT	6.7E-09	1.2E-09	5.1E-09	8.8E-09	5.0E-09	3.2E-07	1.8E-09	0.0E+00
TEEN	5.5E-09	1.2E-09	7.2E-09	1.2E-08	6.5E-09	4.0E-07	2.2E-09	0.0E+00
CHILD	3.1E-09	9.5E-10	9.6E-09	1.1E-08	5.9E-09	4.4E-07	1.9E-09	0.0E+00
INFNT	1.5E-09	5.2E-10	6.0E-09	8.1E-09	3.6E-09	4.0E-07	1.2E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	2.3E-06	9.8E-07	2.1E-06	2.8E-06	1.6E-06	7.9E-06	1.1E-06	1.1E-06
TEEN	2.1E-06	9.9E-07	2.8E-06	3.9E-06	2.0E-06	8.9E-06	1.3E-06	1.1E-06
CHILD	1.8E-06	9.8E-07	5.3E-06	5.8E-06	2.6E-06	1.5E-05	1.5E-06	1.1E-06
INFNT	1.2E-06	9.5E-07	3.0E-06	3.6E-06	1.7E-06	2.2E-05	1.2E-06	1.1E-06
TOTALS								
ADULT	2.3E-06	1.0E-06	2.1E-06	2.8E-06	1.6E-06	7.9E-06	1.2E-06	1.2E-06
TEEN	2.1E-06	1.0E-06	2.9E-06	3.9E-06	2.0E-06	9.0E-06	1.4E-06	1.2E-06
CHILD	1.8E-06	1.0E-06	5.4E-06	5.8E-06	2.6E-06	1.5E-05	1.5E-06	1.2E-06
INFNT	1.2E-06	1.0E-06	3.0E-06	3.7E-06	1.8E-06	2.3E-05	1.3E-06	1.2E-06



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 88 7 1 1 THRU 88 93024

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 948. METERS, WINDS TOWARD SSW							
ADULT	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.9E-08	9.8E-08
TEEN	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.9E-08	9.8E-08
CHILD	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.9E-08	9.8E-08
INFNT	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.9E-08	9.8E-08
GROUND	PATHWAY, DIST GP= 1, 948. METERS, WINDS TOWARD SSW							
ADULT	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	6.6E-07
TEEN	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	6.6E-07
CHILD	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	6.6E-07
INFNT	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	5.6E-07	6.6E-07
VEGET	PATHWAY, DIST GP= 1, 770. METERS, WINDS TOWARD SSW							
ADULT	5.9E-07	1.9E-08	5.2E-07	8.4E-07	2.9E-07	1.9E-06	9.4E-08	0.0E+00
TEEN	5.0E-07	2.0E-08	8.2E-07	1.3E-00	4.3E-07	1.5E-06	1.7E-07	0.0E+00
CHILD	3.6E-07	1.7E-08	1.9E-06	2.1E-06	6.9E-07	2.3E-06	2.5E-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
MEAT	PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD SSW							
ADULT	1.1E-09	4.2E-11	9.9E-10	1.6E-09	5.6E-10	4.3E-09	1.8E-10	0.0E+00
TEEN	5.1E-10	2.5E-11	8.2E-10	1.3E-09	4.5E-10	3.1E-09	1.7E-10	0.0E+00
CHILD	2.9E-10	1.7E-11	1.5E-09	1.7E-09	5.5E-10	4.7E-09	2.0E-10	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	4.3E-08	1.6E-09	3.7E-08	6.0E-08	2.2E-08	5.1E-07	6.6E-09	0.0E+00
TEEN	4.1E-08	2.0E-09	6.7E-08	1.1E-07	3.9E-08	8.0E-07	1.3E-08	0.0E+00
CHILD	3.2E-08	1.6E-09	1.6E-07	1.8E-07	6.3E-08	1.6E-06	2.0E-08	0.0E+00
INFNT	3.2E-08	1.6E-09	2.6E-07	3.4E-07	1.0E-07	3.9E-06	3.6E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW							
ADULT	1.3E-07	3.9E-09	1.1E-07	1.8E-07	6.2E-08	6.1E-07	2.0E-08	0.0E+00
TEEN	1.2E-07	5.0E-09	2.0E-07	3.1E-07	1.1E-07	9.7E-07	4.0E-08	0.0E+00
CHILD	9.1E-08	3.9E-09	4.7E-07	5.2E-07	1.8E-07	1.9E-06	6.0E-08	0.0E+00
INFNT	8.6E-08	3.9E-09	7.6E-07	1.0E-06	2.8E-07	4.6E-06	1.1E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 948. METERS, WINDS TOWARD SSW							
ADULT	5.2E-09	9.5E-10	4.0E-09	6.9E-09	3.9E-09	2.5E-07	1.4E-09	0.0E+00
TEEN	4.3E-09	9.6E-10	5.6E-09	9.0E-09	5.0E-09	3.1E-07	1.8E-09	0.0E+00
CHILD	2.5E-09	7.6E-10	7.4E-09	8.5E-09	4.6E-09	3.4E-07	1.5E-09	0.0E+00
INFNT	1.2E-09	4.2E-10	4.7E-09	6.3E-09	2.9E-09	3.1E-07	9.6E-10	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	1.3E-06	5.9E-07	1.2E-06	1.6E-06	9.4E-07	3.8E-06	6.9E-07	6.6E-07
TEEN	1.2E-06	5.9E-07	1.7E-06	2.3E-06	1.2E-06	4.2E-06	7.8E-07	6.6E-07
CHILD	1.1E-06	5.9E-07	3.1E-06	3.4E-06	1.5E-06	6.7E-06	8.9E-07	6.6E-07
INFNT	6.8E-07	5.7E-07	1.6E-06	1.9E-06	9.5E-07	9.4E-06	7.1E-07	6.6E-07
TOTALS								
ADULT	1.4E-06	6.3E-07	1.3E-06	1.7E-06	9.8E-07	3.8E-06	7.2E-07	7.6E-07
TEEN	1.3E-06	6.3E-07	1.7E-06	2.3E-06	1.2E-06	4.2E-06	8.2E-07	7.6E-07
CHILD	1.1E-06	6.2E-07	3.2E-06	3.4E-06	1.5E-06	6.8E-06	9.3E-07	7.6E-07
INFNT	7.2E-07	6.1E-07	1.6E-06	2.0E-06	9.8E-07	9.4E-06	7.5E-07	7.6E-07



APPENDIX 1.3

SUMMARY OF MAXIMUM INDIVIDUAL DOSES

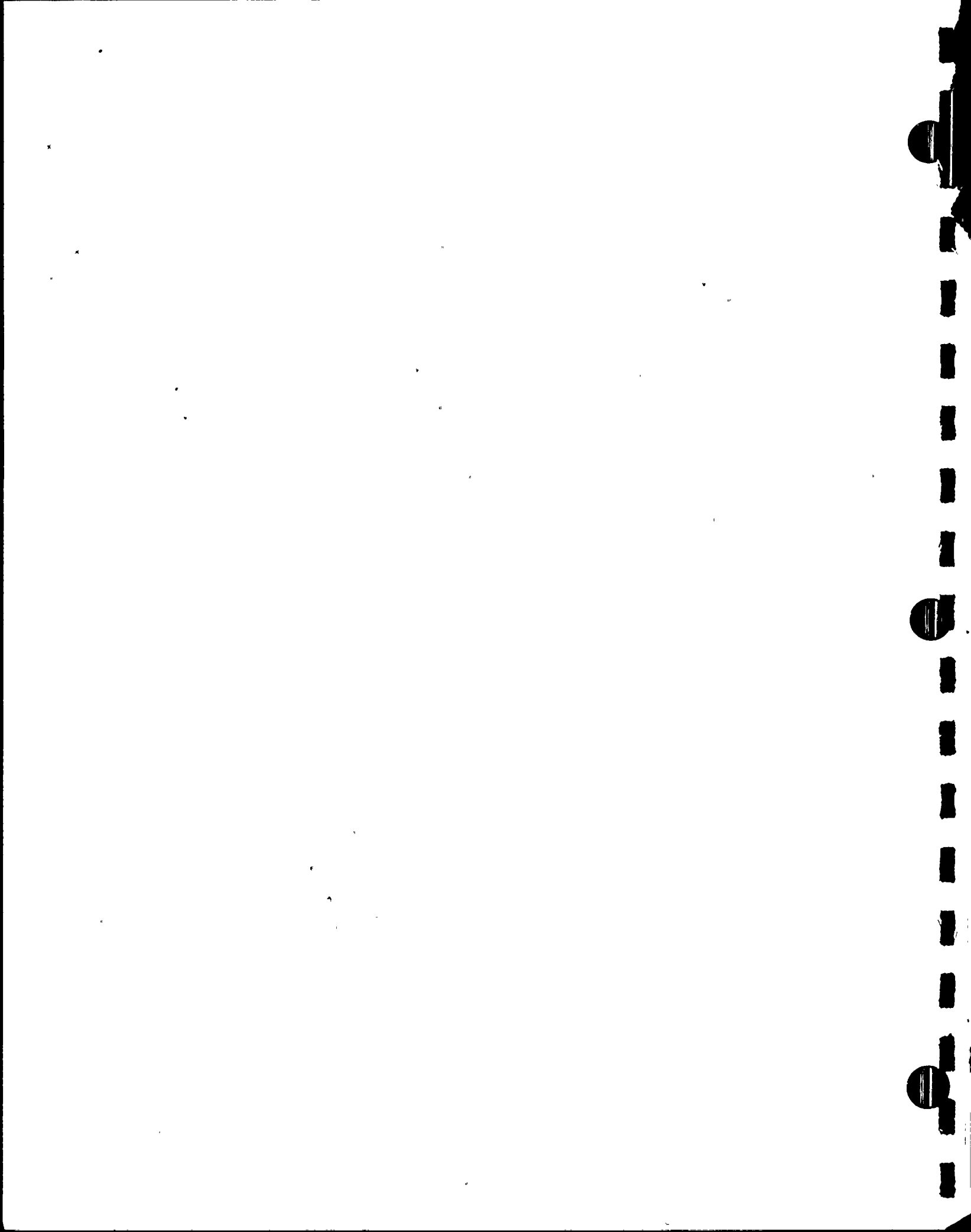
FOURTH QUARTER, 1988



SUMMARY OF MAXIMUM INDIVIDUAL DOSES 4TH Quarter 1988

EFFLUENT	APPLICABLE ORGAN	ESTIMATED DOSE (MREM)	AGE GROUP	LOCATION DIST DIR (M) (Toward)	% OF APPLICABLE LIMIT	QUARTERLY LIMIT (MR)
Liquid	Total Body	6.08 E-2	Adult	Receptor 1	4.05 E0	1.5
Liquid	Liver	7.90 E-2	Adult	Receptor 1	1.58 E0	5.0
Noble Gas	Air Dose (Gamma-mrad)	1.91 E-4		617 NNE	3.82 E-3	5.0
Noble Gas	Air Dose (Beta-mrad)	3.69 E-4		617 NNE	3.69 E-1	10.0
Noble Gas	Total Body	9.64 E-5	All	664 NNE	1.93 E-3	Yearly 5.0
Noble Gas	Skin	2.22 E-4	All	664 NNE	1.48 E-3	Yearly 15.0
Iodines and Particulates	Thyroid	1.37 E-2	Child	664 NNE	1.83 E-1	7.5

Revised After Distance Changes.



FOR RECEPTOR NUMBER 1

LAST LIQUID DOSE ACCUMULATIONS(REM)
 START DATE 8810 1 1 END DATE 88123124
 BONE LIVER T.BODY THYRD KIDNEY LUNG GI-LLI SKIN

WATER
 ADULT 2.6E-07 1.2E-05 1.2E-05 1.2E-05 1.2E-05 1.2E-05 1.3E-05 0.0E+00
 TEEN 2.5E-07 8.7E-06 8.5E-06 8.4E-06 8.4E-06 8.3E-06 8.8E-06 0.0E+00
 CHILD 7.1E-07 1.7E-05 1.6E-05 1.6E-05 1.6E-05 1.6E-05 1.6E-05 0.0E+00
 INFANT 7.4E-07 1.7E-05 1.6E-05 1.6E-05 1.6E-05 1.6E-05 1.6E-05 0.0E+00

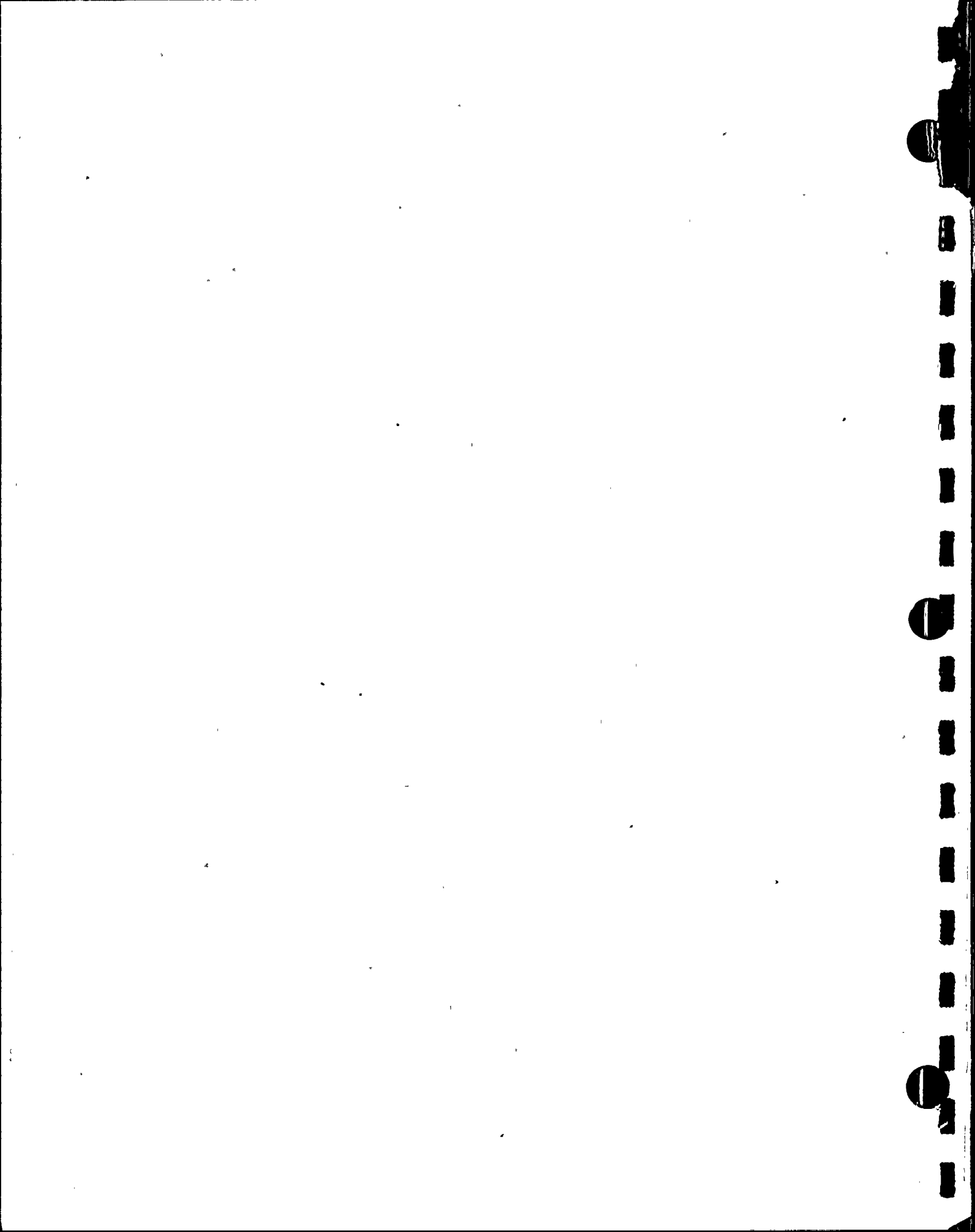
SHORE
 ADULT 1.7E-07 1.7E-07 1.7E-07 1.7E-07 1.7E-07 1.7E-07 1.7E-07 2.0E-07
 TEEN 9.6E-07 9.6E-07 9.6E-07 9.6E-07 9.6E-07 9.6E-07 9.6E-07 1.1E-06
 CHILD 2.0E-07 2.0E-07 2.0E-07 2.0E-07 2.0E-07 2.0E-07 2.0E-07 2.4E-07
 INFANT 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00

FW SPT FISH
 ADULT 3.8E-05 6.7E-05 4.8E-05 9.7E-07 2.3E-05 7.9E-06 1.9E-05 0.0E+00
 TEEN 4.0E-05 6.8E-05 2.8E-05 7.8E-07 2.3E-05 9.0E-06 1.3E-05 0.0E+00
 CHILD 5.0E-05 6.0E-05 1.1E-05 6.8E-07 2.0E-05 7.2E-06 5.0E-06 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

ENTER: [RETURN] CONTINUE,[SO] START OVER,[EX] EXIT

LAST LIQUID DOSE ACCUMULATIONS(REM)
 START DATE 8810 1 1 END DATE 88123124
 BONE LIVER T.BODY THYRD KIDNEY LUNG GI-LLI SKIN

TOTAL
 ADULT 3.9E-05 7.9E-05 6.1E-05 1.3E-05 3.5E-05 2.0E-05 3.2E-05 2.0E-07
 TEEN 4.2E-05 7.8E-05 3.7E-05 1.0E-05 3.2E-05 1.8E-05 2.3E-05 1.1E-06
 CHILD 5.1E-05 7.7E-05 2.8E-05 1.7E-05 3.6E-05 2.3E-05 2.1E-05 2.4E-07
 INFANT 7.4E-07 1.7E-05 1.6E-05 1.6E-05 1.6E-05 1.6E-05 1.6E-05 0.0E+00



DATES OF LAST AIR DOSE ACCUMULATION ARE FROM 8810 1 1 0 TO 88123124 0
DOSE ACCUMULATION FOR GAMMA RAD

FOR RELEASE POINT 2

**DIRECTION FROM N

8.0604E-08	9.5888E-09	4.2389E-09	2.4066E-09	1.6369E-09
7.6740E-10	2.6917E-10	1.2563E-10	7.7010E-11	4.5239E-11

**DIRECTION FROM NNE

3.5652E-08	4.3726E-09	1.9457E-09	1.1080E-09	7.6042E-10
3.6468E-10	1.3178E-10	6.2633E-11	3.8926E-11	2.3362E-11

**DIRECTION FROM NE

3.5273E-08	4.3898E-09	1.9601E-09	1.1180E-09	7.7239E-10
3.7690E-10	1.3930E-10	6.7246E-11	4.2339E-11	2.5897E-11

**DIRECTION FROM ENE

6.6188E-08	8.4522E-09	4.0629E-09	2.4450E-09	1.7239E-09
8.6932E-10	3.4400E-10	1.7215E-10	1.1066E-10	6.9699E-11

**DIRECTION FROM E

8.1624E-08	1.0323E-08	4.9675E-09	2.9979E-09	2.1051E-09
1.0507E-09	4.1352E-10	2.0716E-10	1.3330E-10	8.3683E-11

**DIRECTION FROM ESE

1.2368E-07	1.4885E-08	7.3431E-09	4.4985E-09	3.1974E-09
1.6334E-09	6.5831E-10	3.3081E-10	2.1300E-10	1.3575E-10

**DIRECTION FROM SE

3.0101E-07	3.5712E-08	1.7342E-08	1.0513E-08	7.4489E-09
3.7871E-09	1.5078E-09	7.5117E-10	4.8070E-10	3.0472E-10

**DIRECTION FROM SSE

3.6716E-07	4.3487E-08	2.1437E-08	1.3135E-08	9.3378E-09
4.7718E-09	1.9227E-09	9.6535E-10	6.2088E-10	3.9555E-10

**DIRECTION FROM S

3.8099E-07	4.3181E-08	2.1356E-08	1.3122E-08	9.3307E-09
4.7629E-09	1.9146E-09	9.5658E-10	6.1276E-10	3.9059E-10

**DIRECTION FROM SSW

2.0231E-07	2.4317E-08	1.1394E-08	6.7473E-09	4.7152E-09
2.3364E-09	8.9719E-10	4.4045E-10	2.7939E-10	1.7368E-10

**DIRECTION FROM SW

9.3174E-08	1.1028E-08	5.1153E-09	3.0184E-09	2.0930E-09
1.0202E-09	3.8699E-10	1.9071E-10	1.2161E-10	7.5329E-11

**DIRECTION FROM WSW

1.4090E-07	1.5926E-08	7.0066E-09	3.9785E-09	2.6905E-09
1.2427E-09	4.2884E-10	1.9903E-10	1.2162E-10	7.0939E-11

**DIRECTION FROM W

2.9464E-07	3.5685E-08	1.6331E-08	9.4914E-09	6.6087E-09
3.2638E-09	1.2324E-09	5.9854E-10	3.7716E-10	2.3277E-10

**DIRECTION FROM WNW

2.2135E-07	2.6459E-08	1.1819E-08	6.7646E-09	4.6432E-09
2.2255E-09	8.0824E-10	3.8673E-10	2.4172E-10	1.4605E-10

**DIRECTION FROM NW

1.3057E-07	1.4263E-08	6.2888E-09	3.5879E-09	2.4308E-09
1.1270E-09	3.9313E-10	1.8442E-10	1.1359E-10	6.6944E-11

**DIRECTION FROM NNW

9.3874E-08	1.0771E-08	4.7470E-09	2.6955E-09	1.8287E-09
8.5191E-10	2.9710E-10	1.3876E-10	8.5189E-11	5.0084E-11

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 8810 1 1 0 TO 88123124 0
DOSE ACCUMULATION FOR BETA RAD

FOR RELEASE POINT 2

**DIRECTION FROM N

1.5783E-07	1.8692E-08	8.2559E-09	4.6855E-09	3.1834E-09
1.4882E-09	5.1998E-10	2.4212E-10	1.4815E-10	8.6781E-11

**DIRECTION FROM NNE

7.4469E-08	9.1358E-09	4.0650E-09	2.3148E-09	1.5879E-09
7.6052E-10	2.7431E-10	1.3018E-10	8.0794E-11	4.8389E-11

**DIRECTION FROM NE

6.3948E-08	7.9247E-09	3.5355E-09	2.0160E-09	1.3903E-09
6.7531E-10	2.4811E-10	1.1927E-10	7.4823E-11	4.5526E-11

**DIRECTION FROM ENE

1.3600E-07	1.7246E-08	8.3080E-09	5.0083E-09	3.5314E-09
1.7798E-09	7.0446E-10	3.5246E-10	2.2649E-10	1.4268E-10

**DIRECTION FROM E

1.5614E-07	1.9773E-08	9.5412E-09	5.7703E-09	4.0501E-09
2.0184E-09	7.9448E-10	3.9828E-10	2.5640E-10	1.6091E-10

**DIRECTION FROM ESE

2.3243E-07	2.8127E-08	1.3877E-08	8.5027E-09	6.0405E-09
3.0828E-09	1.2423E-09	6.2484E-10	4.0263E-10	2.5657E-10

**DIRECTION FROM SE

6.4488E-07	7.7241E-08	3.7359E-08	2.2580E-08	1.5982E-08
8.1133E-09	3.2214E-09	1.6033E-09	1.0255E-09	6.4905E-10

**DIRECTION FROM SSE

7.3165E-07	8.6905E-08	4.2673E-08	2.6079E-08	1.8523E-08
9.4522E-09	3.7990E-09	1.9056E-09	1.2249E-09	7.7937E-10

**DIRECTION FROM S

7.1406E-07	8.0975E-08	3.9917E-08	2.4477E-08	1.7387E-08
8.8595E-09	3.5524E-09	1.7732E-09	1.1353E-09	7.2294E-10

**DIRECTION FROM SSW

3.9082E-07	4.7287E-08	2.2062E-08	1.3025E-08	9.0844E-09
4.4846E-09	1.7134E-09	8.3970E-10	5.3212E-10	3.2974E-10

**DIRECTION FROM SW

1.7366E-07	2.0428E-08	9.4818E-09	5.6004E-09	3.8804E-09
1.8873E-09	7.1475E-10	3.5204E-10	2.2437E-10	1.3884E-10

**DIRECTION FROM WSW

3.0780E-07	3.4915E-08	1.5361E-08	8.7194E-09	5.8951E-09
2.7209E-09	9.3757E-10	4.3447E-10	2.6511E-10	1.5432E-10

**DIRECTION FROM W

6.4088E-07	7.8006E-08	3.5802E-08	2.0843E-08	1.4540E-08
7.2095E-09	2.7358E-09	1.3314E-09	8.4000E-10	5.1973E-10

**DIRECTION FROM WNW

4.6364E-07	5.5979E-08	2.5064E-08	1.4361E-08	9.8737E-09
4.7507E-09	1.7339E-09	8.3159E-10	5.2051E-10	3.1521E-10

**DIRECTION FROM NW

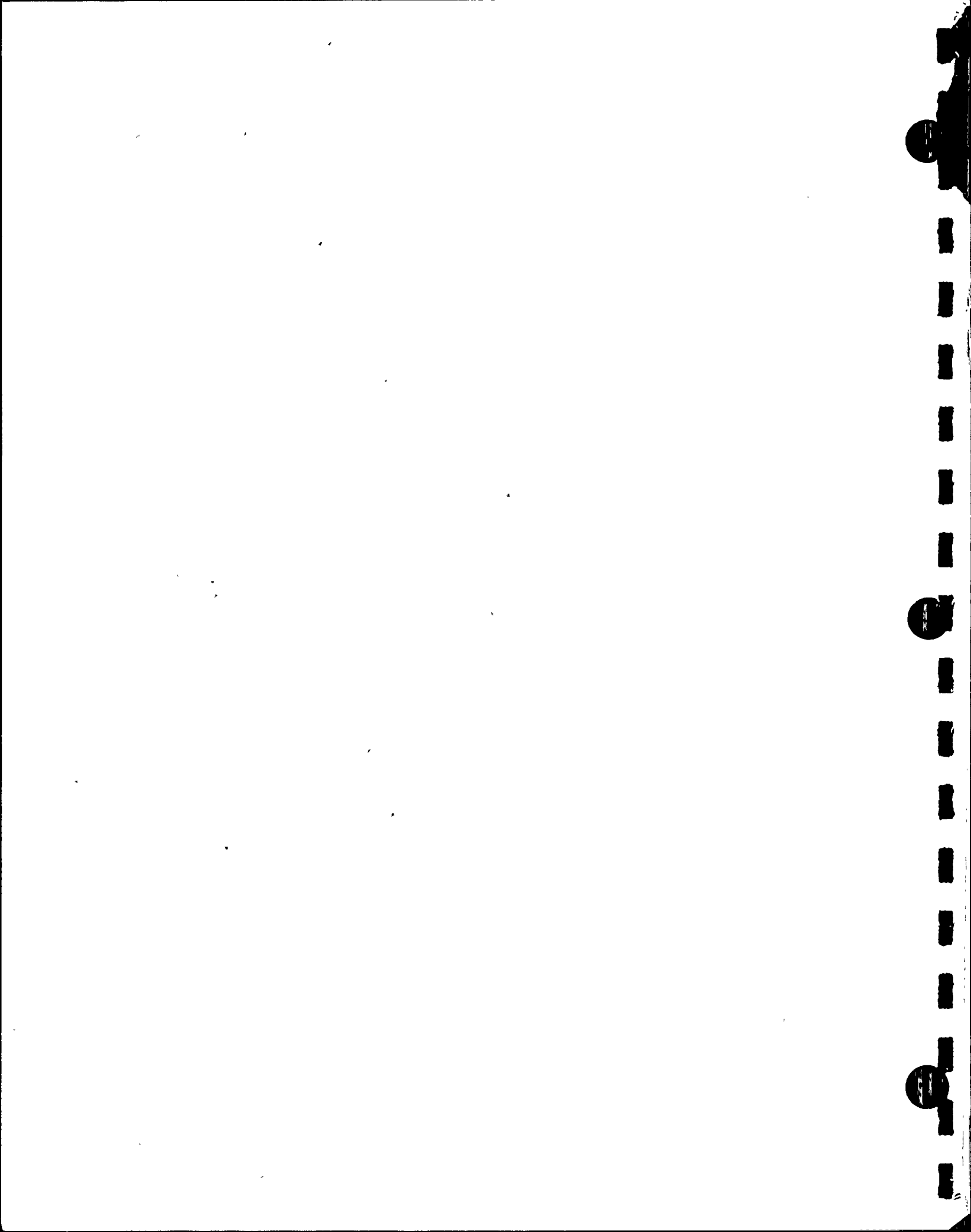
2.6952E-07	2.9385E-08	1.2939E-08	7.3747E-09	4.9927E-09
2.3112E-09	8.0415E-10	3.7668E-10	2.3181E-10	1.3645E-10

**DIRECTION FROM NNW

1.6968E-07	1.9606E-08	8.6491E-09	4.9122E-09	3.3335E-09
1.5537E-09	5.4199E-10	2.5294E-10	1.5514E-10	9.1094E-11

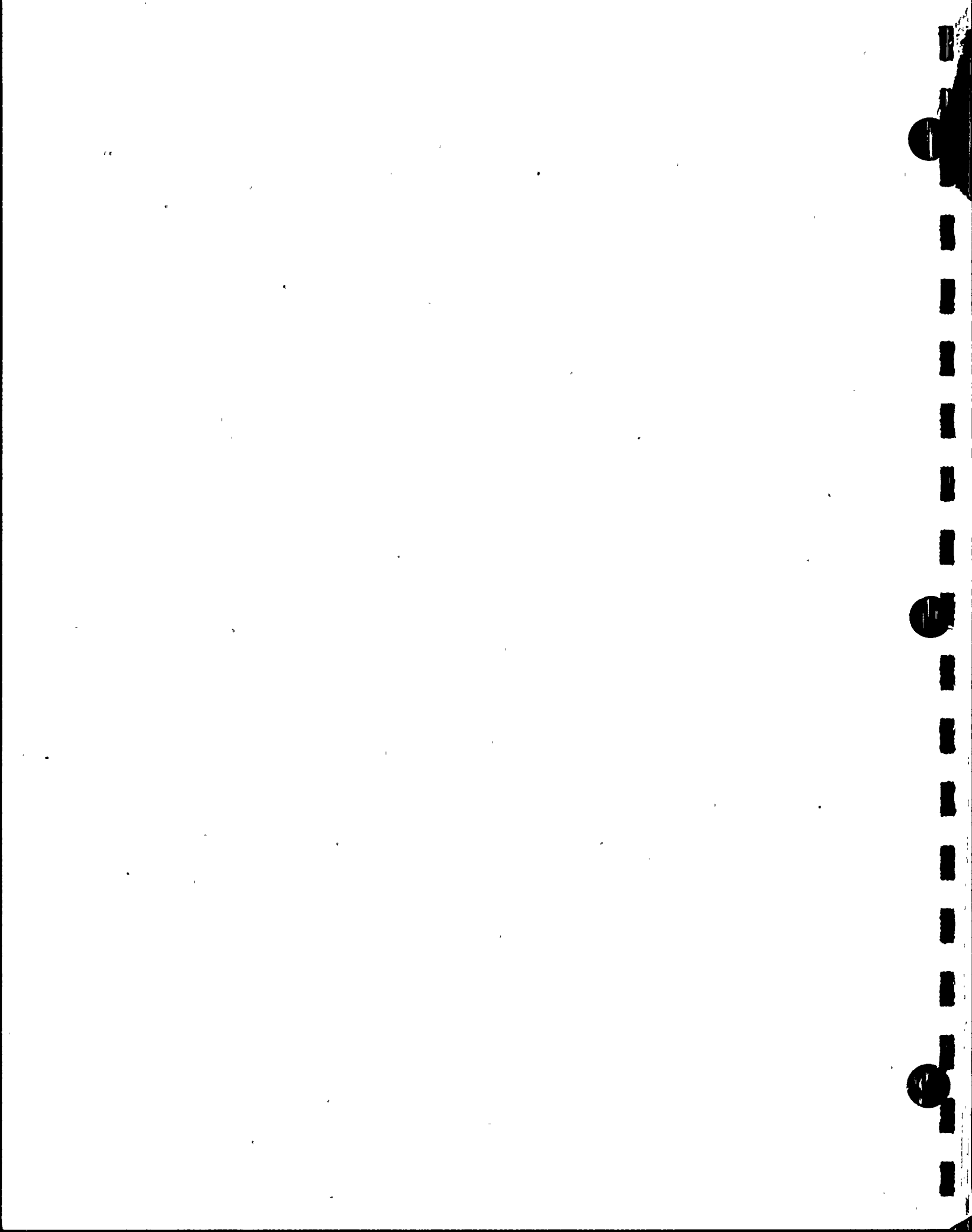
DISTANCES USED IN CALCULATIONS

594.0	2416.0	4020.0	5630.0	7240.0
12067.0	24135.0	40225.0	56315.0	80500.0



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 8810 1 1 THRU 88123124

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 664. METERS, WINDS TOWARD NNE							
ADULT	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.9E-08	2.2E-07
TEEN	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.9E-08	2.2E-07
CHILD	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.9E-08	2.2E-07
INFNT	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.6E-08	9.9E-08	2.2E-07
GROUND	PATHWAY, DIST GP= 1, 664. METERS, WINDS TOWARD NNE							
ADULT	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.6E-06
TEEN	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.6E-06
CHILD	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.6E-06
INFNT	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.0E-06	4.6E-06
VEGET	PATHWAY, DIST GP= 1, 814. METERS, WINDS TOWARD NNE							
ADULT	2.1E-06	6.6E-08	1.8E-06	2.9E-06	9.7E-07	2.6E-09	3.3E-07	0.0E+00
TEEN	1.7E-06	7.3E-08	2.9E-06	4.5E-06	1.5E-06	3.0E-09	5.8E-07	0.0E+00
CHILD	1.2E-06	5.5E-08	6.8E-06	7.4E-06	2.4E-06	4.6E-09	8.6E-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
MEAT	PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NNE							
ADULT	4.7E-09	2.5E-10	4.1E-09	6.6E-09	2.2E-09	1.3E-11	7.4E-10	0.0E+00
TEEN	2.0E-09	1.4E-10	3.4E-09	5.3E-09	1.8E-09	8.0E-12	6.8E-10	0.0E+00
CHILD	1.2E-09	8.2E-11	6.1E-09	6.8E-09	2.2E-09	9.7E-12	7.9E-10	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	1.6E-07	4.4E-09	1.4E-07	2.3E-07	7.5E-08	9.7E-11	2.5E-08	0.0E+00
TEEN	1.5E-07	5.6E-09	2.5E-07	3.9E-07	1.3E-07	1.3E-10	5.1E-08	0.0E+00
CHILD	1.1E-07	4.2E-09	6.0E-07	6.6E-07	2.1E-07	2.0E-10	7.7E-08	0.0E+00
INFNT	1.0E-07	4.2E-09	9.6E-07	1.3E-06	3.4E-07	3.0E-10	1.4E-07	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NNE							
ADULT	4.8E-07	1.3E-08	4.2E-07	6.7E-07	2.3E-07	2.0E-10	7.5E-08	0.0E+00
TEEN	4.6E-07	1.6E-08	7.6E-07	1.2E-06	3.9E-07	2.6E-10	1.5E-07	0.0E+00
CHILD	3.3E-07	1.2E-08	1.8E-06	2.0E-06	6.4E-07	4.1E-10	2.3E-07	0.0E+00
INFNT	3.1E-07	1.2E-08	2.9E-06	3.8E-06	1.0E-06	6.2E-10	4.1E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 664. METERS, WINDS TOWARD NNE							
ADULT	4.0E-08	2.9E-09	3.3E-08	5.2E-08	2.0E-08	2.0E-09	1.1E-08	0.0E+00
TEEN	3.0E-08	2.9E-09	4.6E-08	7.0E-08	2.6E-08	2.0E-09	1.6E-08	0.0E+00
CHILD	1.3E-08	2.1E-09	6.1E-08	6.6E-08	2.3E-08	1.7E-09	1.3E-08	0.0E+00
INFNT	4.9E-09	1.1E-09	3.7E-08	4.8E-08	1.4E-08	1.0E-09	8.9E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	6.7E-06	4.1E-06	6.4E-06	7.8E-06	5.3E-06	4.0E-06	4.4E-06	4.6E-06
TEEN	6.3E-06	4.1E-06	7.9E-06	1.0E-05	6.0E-06	4.0E-06	4.8E-06	4.6E-06
CHILD	5.7E-06	4.0E-06	1.3E-05	1.4E-05	7.2E-06	4.0E-06	5.2E-06	4.6E-06
INFNT	4.4E-06	4.0E-06	7.9E-06	9.1E-06	5.3E-06	4.0E-06	4.5E-06	4.6E-06
TOTALS								
ADULT	6.8E-06	4.2E-06	6.5E-06	7.9E-06	5.4E-06	4.1E-06	4.5E-06	4.9E-06
TEEN	6.4E-06	4.2E-06	8.0E-06	1.0E-05	6.1E-06	4.1E-06	4.9E-06	4.9E-06
CHILD	5.8E-06	4.1E-06	1.3E-05	1.4E-05	7.3E-06	4.1E-06	5.3E-06	4.9E-06
INFNT	4.5E-06	4.1E-06	8.0E-06	9.2E-06	5.4E-06	4.1E-06	4.6E-06	4.9E-06



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 8810 1 1 THRU 88123124

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 950. METERS, WINDS TOWARD NE							
ADULT	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.8E-08	6.2E-08
TEEN	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.8E-08	6.2E-08
CHILD	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.8E-08	6.2E-08
INFNT	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.7E-08	2.8E-08	6.2E-08
GROUND	PATHWAY, DIST GP= 1, 950. METERS, WINDS TOWARD NE							
ADULT	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.6E-06
TEEN	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.6E-06
CHILD	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.6E-06
INFNT	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.3E-06	1.6E-06
VEGET	PATHWAY, DIST GP= 1, 1052. METERS, WINDS TOWARD NE							
ADULT	8.3E-07	2.8E-08	7.4E-07	1.2E-06	3.9E-07	8.5E-10	1.3E-07	0.0E+00
TEEN	6.9E-07	3.0E-08	1.2E-06	1.8E-06	6.0E-07	9.8E-10	2.3E-07	0.0E+00
CHILD	5.0E-07	2.2E-08	2.7E-06	3.0E-06	9.5E-07	1.5E-09	3.4E-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
MEAT	PATHWAY, DIST GP= 1, 7725. METERS, WINDS TOWARD NE							
ADULT	2.9E-09	1.7E-10	2.5E-09	4.0E-09	1.3E-09	6.4E-12	4.5E-10	0.0E+00
TEEN	1.3E-09	9.6E-11	2.1E-09	3.2E-09	1.1E-09	3.8E-12	4.2E-10	0.0E+00
CHILD	7.1E-10	5.4E-11	3.8E-09	4.2E-09	1.3E-09	4.6E-12	4.8E-10	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	9.8E-08	2.7E-09	8.6E-08	1.4E-07	4.6E-08	4.7E-11	1.5E-08	0.0E+00
TEEN	9.4E-08	3.4E-09	1.6E-07	2.4E-07	8.0E-08	6.1E-11	3.1E-08	0.0E+00
CHILD	6.9E-08	2.6E-09	3.7E-07	4.1E-07	1.3E-07	9.6E-11	4.7E-08	0.0E+00
INFNT	6.3E-08	2.5E-09	5.9E-07	7.8E-07	2.1E-07	1.5E-10	8.4E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD NE							
ADULT	2.9E-07	7.8E-09	2.6E-07	4.1E-07	1.4E-07	9.5E-11	4.6E-08	0.0E+00
TEEN	2.8E-07	1.0E-08	4.6E-07	7.2E-07	2.4E-07	1.2E-10	9.3E-08	0.0E+00
CHILD	2.1E-07	7.5E-09	1.1E-06	1.2E-06	3.9E-07	2.0E-10	1.4E-07	0.0E+00
INFNT	1.9E-07	7.3E-09	1.8E-06	2.3E-06	6.2E-07	3.0E-10	2.5E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 950. METERS, WINDS TOWARD NE							
ADULT	1.1E-08	8.0E-10	8.8E-09	1.4E-08	5.3E-09	5.5E-10	2.9E-09	0.0E+00
TEEN	8.0E-09	8.0E-10	1.2E-08	1.9E-08	6.9E-09	5.5E-10	4.2E-09	0.0E+00
CHILD	3.6E-09	5.9E-10	1.6E-08	1.8E-08	6.3E-09	4.9E-10	3.6E-09	0.0E+00
INFNT	1.3E-09	3.2E-10	1.0E-08	1.3E-08	3.8E-09	2.8E-10	2.4E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	2.6E-06	1.4E-06	2.4E-06	3.1E-06	1.9E-06	1.3E-06	1.5E-06	1.6E-06
TEEN	2.4E-06	1.4E-06	3.1E-06	4.1E-06	2.3E-06	1.3E-06	1.7E-06	1.6E-06
CHILD	2.1E-06	1.4E-06	5.6E-06	6.0E-06	2.8E-06	1.3E-06	1.9E-06	1.6E-06
INFNT	1.6E-06	1.4E-06	3.7E-06	4.5E-06	2.2E-06	1.3E-06	1.7E-06	1.6E-06
TOTALS								
ADULT	2.6E-06	1.4E-06	2.5E-06	3.1E-06	2.0E-06	1.4E-06	1.6E-06	1.6E-06
TEEN	2.4E-06	1.4E-06	3.2E-06	4.1E-06	2.3E-06	1.4E-06	1.7E-06	1.6E-06
CHILD	2.1E-06	1.4E-06	5.6E-06	6.0E-06	2.9E-06	1.4E-06	1.9E-06	1.6E-06
INFNT	1.6E-06	1.4E-06	3.7E-06	4.5E-06	2.2E-06	1.4E-06	1.7E-06	1.6E-06



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 8810 1 1 THRU 88123124

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

PLUME PATHWAY, DIST GP= 1, 1820. METERS, WINDS TOWARD ENE

ADULT	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.4E-09	2.2E-08
TEEN	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.4E-09	2.2E-08
CHILD	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.4E-09	2.2E-08
INFNT	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.1E-09	9.4E-09	2.2E-08

GROUND PATHWAY, DIST GP= 1, 1820. METERS, WINDS TOWARD ENE

ADULT	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	6.4E-07
TEEN	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	6.4E-07
CHILD	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	6.4E-07
INFNT	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	5.5E-07	6.4E-07

VEGET PATHWAY, DIST GP= 1, 1852. METERS, WINDS TOWARD ENE

ADULT	3.8E-07	1.5E-08	3.4E-07	5.4E-07	1.8E-07	2.0E-10	6.0E-08	0.0E+00
TEEN	3.2E-07	1.6E-08	5.4E-07	8.3E-07	2.8E-07	2.3E-10	1.1E-07	0.0E+00
CHILD	2.3E-07	1.1E-08	1.3E-06	1.4E-06	4.4E-07	3.5E-10	1.6E-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

MEAT PATHWAY, DIST GP= 1, 3862. METERS, WINDS TOWARD ENE

ADULT	1.2E-08	1.0E-09	1.1E-08	1.7E-08	5.7E-09	8.8E-12	1.9E-09	0.0E+00
TEEN	5.3E-09	5.7E-10	8.8E-09	1.4E-08	4.5E-09	5.3E-12	1.8E-09	0.0E+00
CHILD	3.0E-09	3.1E-10	1.6E-08	1.8E-08	5.7E-09	6.3E-12	2.0E-09	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	1.2E-07	3.2E-09	1.0E-07	1.6E-07	5.5E-08	2.4E-11	1.8E-08	0.0E+00
TEEN	1.1E-07	4.1E-09	1.9E-07	2.9E-07	9.6E-08	3.1E-11	3.7E-08	0.0E+00
CHILD	8.2E-08	3.1E-09	4.4E-07	4.9E-07	1.6E-07	4.9E-11	5.6E-08	0.0E+00
INFNT	7.5E-08	3.0E-09	7.1E-07	9.3E-07	2.5E-07	7.4E-11	1.0E-07	0.0E+00

GOAT PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ENE

ADULT	3.5E-07	9.3E-09	3.1E-07	4.9E-07	1.6E-07	4.8E-11	5.5E-08	0.0E+00
TEEN	3.3E-07	1.2E-08	5.6E-07	8.6E-07	2.9E-07	6.3E-11	1.1E-07	0.0E+00
CHILD	2.4E-07	8.9E-09	1.3E-06	1.5E-06	4.7E-07	9.9E-11	1.7E-07	0.0E+00
INFNT	2.2E-07	8.5E-09	2.1E-06	2.8E-06	7.4E-07	1.5E-10	3.0E-07	0.0E+00

INHAL PATHWAY, DIST GP= 1, 1820. METERS, WINDS TOWARD ENE

ADULT	2.4E-09	2.0E-10	2.0E-09	3.2E-09	1.2E-09	1.1E-10	9.5E-10	0.0E+00
TEEN	1.8E-09	1.9E-10	2.8E-09	4.3E-09	1.6E-09	1.1E-10	1.4E-09	0.0E+00
CHILD	8.0E-10	1.3E-10	3.7E-09	4.0E-09	1.4E-09	1.0E-10	1.2E-09	0.0E+00
INFNT	3.0E-10	6.8E-11	2.3E-09	2.9E-09	8.5E-10	5.7E-11	7.9E-10	0.0E+00

SUBTOTALS (NO PLUME)

ADULT	1.4E-06	5.7E-07	1.3E-06	1.8E-06	9.5E-07	5.5E-07	6.8E-07	6.4E-07
TEEN	1.3E-06	5.8E-07	1.8E-06	2.5E-06	1.2E-06	5.5E-07	8.0E-07	6.4E-07
CHILD	1.1E-06	5.7E-07	3.6E-06	3.9E-06	1.6E-06	5.5E-07	9.3E-07	6.4E-07
INFNT	8.4E-07	5.6E-07	3.4E-06	4.3E-06	1.5E-06	5.5E-07	9.5E-07	6.4E-07

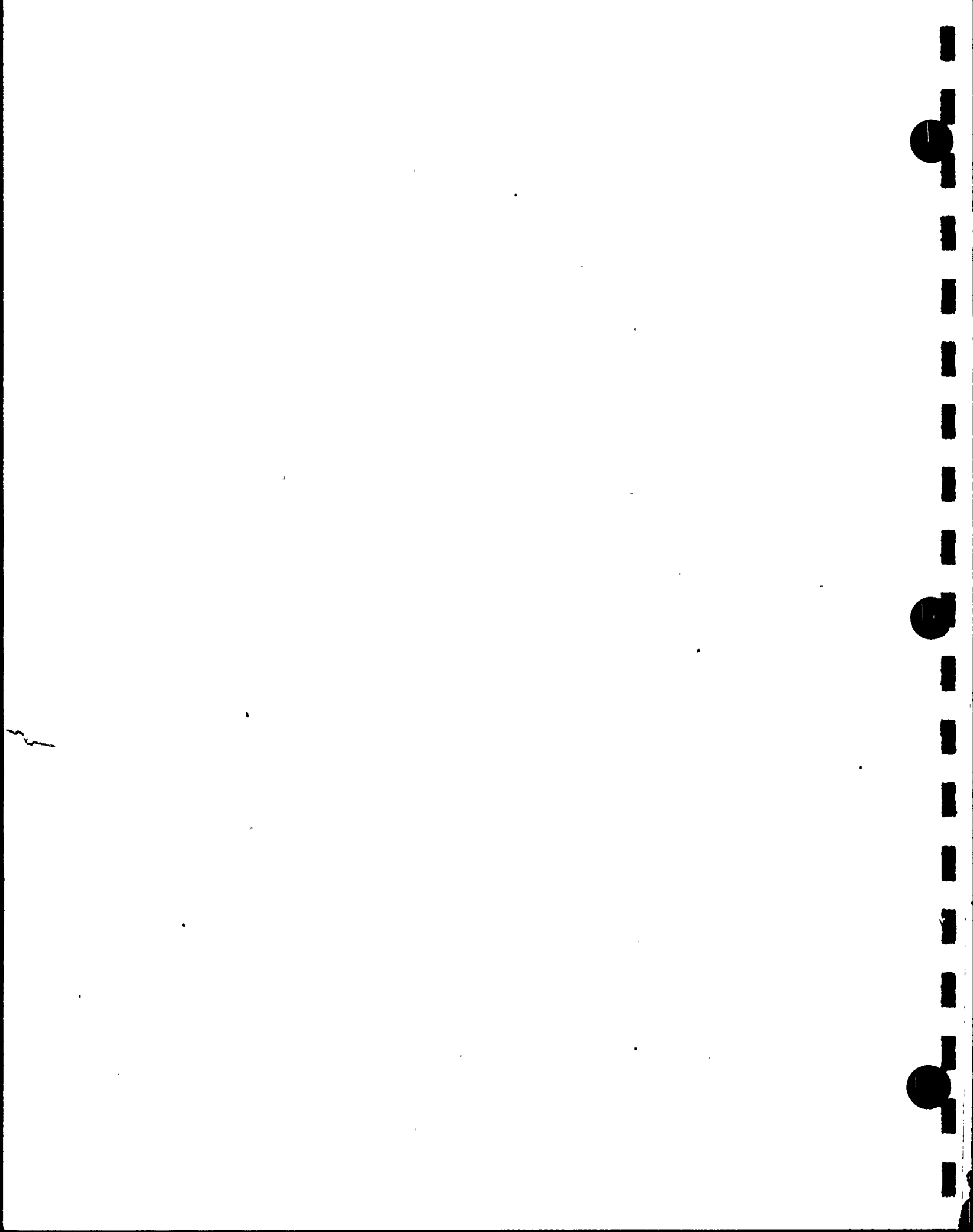
TOTALS

ADULT	1.4E-06	5.8E-07	1.3E-06	1.8E-06	9.6E-07	5.6E-07	6.9E-07	6.6E-07
TEEN	1.3E-06	5.9E-07	1.8E-06	2.6E-06	1.2E-06	5.6E-07	8.1E-07	6.6E-07
CHILD	1.1E-06	5.8E-07	3.6E-06	3.9E-06	1.6E-06	5.6E-07	9.4E-07	6.6E-07
INFNT	8.5E-07	5.7E-07	3.4E-06	4.3E-06	1.5E-06	5.6E-07	9.6E-07	6.6E-07



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 8810 1 1 THRU 88123124

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1721. METERS, WINDS TOWARD E							
ADULT	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	2.0E-08	4.7E-08
TEEN	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	2.0E-08	4.7E-08
CHILD	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	2.0E-08	4.7E-08
INFNT	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	2.0E-08	4.7E-08
GROUND	PATHWAY, DIST GP= 1, 1721. METERS, WINDS TOWARD E							
ADULT	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	9.8E-07
TEEN	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	9.8E-07
CHILD	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	9.8E-07
INFNT	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	8.4E-07	9.8E-07
VEGET	PATHWAY, DIST GP= 1, 1705. METERS, WINDS TOWARD E							
ADULT	6.2E-07	2.1E-08	5.5E-07	8.8E-07	2.9E-07	5.4E-10	9.8E-08	0.0E+00
TEEN	5.2E-07	2.3E-08	8.7E-07	1.3E-06	4.5E-07	6.1E-10	1.7E-07	0.0E+00
CHILD	3.7E-07	1.7E-08	2.0E-06	2.2E-06	7.2E-07	9.5E-10	2.6E-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
MEAT	PATHWAY, DIST GP= 1, 6810. METERS, WINDS TOWARD E							
ADULT	6.0E-09	3.6E-10	5.3E-09	8.5E-09	2.8E-09	9.1E-12	9.4E-10	0.0E+00
TEEN	2.6E-09	2.0E-10	4.3E-09	6.8E-09	2.3E-09	5.5E-12	8.7E-10	0.0E+00
CHILD	1.5E-09	1.1E-10	7.9E-09	8.8E-09	2.8E-09	6.6E-12	1.0E-09	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	1.6E-07	4.5E-09	1.5E-07	2.3E-07	7.8E-08	5.9E-11	2.6E-08	0.0E+00
TEEN	1.6E-07	5.7E-09	2.6E-07	4.1E-07	1.4E-07	7.6E-11	5.2E-08	0.0E+00
CHILD	1.2E-07	4.3E-09	6.2E-07	6.9E-07	2.2E-07	1.2E-10	7.9E-08	0.0E+00
INFNT	1.1E-07	4.2E-09	9.9E-07	1.3E-06	3.5E-07	1.8E-10	1.4E-07	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD E							
ADULT	5.0E-07	1.3E-08	4.4E-07	7.0E-07	2.3E-07	1.2E-10	7.8E-08	0.0E+00
TEEN	4.7E-07	1.7E-08	7.8E-07	1.2E-06	4.1E-07	1.6E-10	1.6E-07	0.0E+00
CHILD	3.5E-07	1.3E-08	1.9E-06	2.1E-06	6.6E-07	2.5E-10	2.4E-07	0.0E+00
INFNT	3.2E-07	1.2E-08	3.0E-06	3.9E-06	1.0E-06	3.7E-10	4.3E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1721. METERS, WINDS TOWARD E							
ADULT	6.1E-09	4.9E-10	5.1E-09	8.0E-09	3.0E-09	2.9E-10	2.1E-09	0.0E+00
TEEN	4.6E-09	4.8E-10	7.0E-09	1.1E-08	3.9E-09	2.9E-10	3.1E-09	0.0E+00
CHILD	2.0E-09	3.3E-10	9.4E-09	1.0E-08	3.6E-09	2.6E-10	2.6E-09	0.0E+00
INFNT	7.6E-10	1.8E-10	5.7E-09	7.3E-09	2.1E-09	1.5E-10	1.8E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	2.1E-06	8.8E-07	2.0E-06	2.7E-06	1.5E-06	8.4E-07	1.0E-06	9.8E-07
TEEN	2.0E-06	8.9E-07	2.8E-06	3.8E-06	1.8E-06	8.4E-07	1.2E-06	9.8E-07
CHILD	1.7E-06	8.8E-07	5.4E-06	5.8E-06	2.4E-06	8.4E-07	1.4E-06	9.8E-07
INFNT	1.3E-06	8.6E-07	4.8E-06	6.1E-06	2.2E-06	8.4E-07	1.4E-06	9.8E-07
TOTALS								
ADULT	2.2E-06	9.0E-07	2.0E-06	2.7E-06	1.5E-06	8.6E-07	1.1E-06	1.0E-06
TEEN	2.0E-06	9.1E-07	2.8E-06	3.9E-06	1.9E-06	8.6E-07	1.2E-06	1.0E-06
CHILD	1.7E-06	9.0E-07	5.4E-06	5.9E-06	2.5E-06	8.6E-07	1.4E-06	1.0E-06
INFNT	1.3E-06	8.8E-07	4.9E-06	6.1E-06	2.3E-06	8.6E-07	1.4E-06	1.0E-06



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FOR DATES 8810 1 1 THRU 88123124

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1654. METERS, WINDS TOWARD ESE							
ADULT	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	3.3E-08
TEEN	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	3.3E-08
CHILD	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	3.3E-08
INFNT	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	1.5E-08	3.3E-08
GROUND	PATHWAY, DIST GP= 1, 1654. METERS, WINDS TOWARD ESE							
ADULT	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	1.0E-06
TEEN	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	1.0E-06
CHILD	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	1.0E-06
INFNT	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	8.8E-07	1.0E-06
VEGET	PATHWAY, DIST GP= 1, 1628. METERS, WINDS TOWARD ESE							
ADULT	6.6E-07	2.1E-08	5.9E-07	9.3E-07	3.1E-07	4.5E-10	1.0E-07	0.0E+00
TEEN	5.5E-07	2.4E-08	9.2E-07	1.4E-06	4.8E-07	5.2E-10	1.8E-07	0.0E+00
CHILD	4.0E-07	1.7E-08	2.2E-06	2.4E-06	7.6E-07	8.0E-10	2.7E-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
MEAT	PATHWAY, DIST GP= 1, 2434. METERS, WINDS TOWARD ESE							
ADULT	3.4E-08	1.9E-09	3.0E-08	4.8E-08	1.6E-08	3.5E-11	5.4E-09	0.0E+00
TEEN	1.5E-08	1.1E-09	2.5E-08	3.9E-08	1.3E-08	2.1E-11	5.0E-09	0.0E+00
CHILD	8.5E-09	6.0E-10	4.5E-08	5.0E-08	1.6E-08	2.5E-11	5.8E-09	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	1.6E-07	4.4E-09	1.4E-07	2.3E-07	7.6E-08	4.4E-11	2.5E-08	0.0E+00
TEEN	1.5E-07	5.6E-09	2.6E-07	4.0E-07	1.3E-07	5.8E-11	5.1E-08	0.0E+00
CHILD	1.1E-07	4.2E-09	6.1E-07	6.7E-07	2.2E-07	9.1E-11	7.8E-08	0.0E+00
INFNT	1.0E-07	4.1E-09	9.8E-07	1.3E-06	3.4E-07	1.4E-10	1.4E-07	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD ESE							
ADULT	4.9E-07	1.3E-08	4.3E-07	6.8E-07	2.3E-07	9.1E-11	7.6E-08	0.0E+00
TEEN	4.6E-07	1.6E-08	7.7E-07	1.2E-06	4.0E-07	1.2E-10	1.5E-07	0.0E+00
CHILD	3.4E-07	1.2E-08	1.8E-06	2.0E-06	6.5E-07	1.9E-10	2.3E-07	0.0E+00
INFNT	3.1E-07	1.2E-08	2.9E-06	3.9E-06	1.0E-06	2.8E-10	4.2E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1654. METERS, WINDS TOWARD ESE							
ADULT	4.6E-09	3.7E-10	3.8E-09	6.0E-09	2.3E-09	2.4E-10	1.4E-09	0.0E+00
TEEN	3.4E-09	3.6E-10	5.2E-09	8.0E-09	3.0E-09	2.5E-10	2.1E-09	0.0E+00
CHILD	1.5E-09	2.6E-10	7.0E-09	7.6E-09	2.7E-09	2.2E-10	1.7E-09	0.0E+00
INFNT	5.8E-10	1.4E-10	4.2E-09	5.5E-09	1.6E-09	1.2E-10	1.2E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	2.2E-06	9.2E-07	2.1E-06	2.8E-06	1.5E-06	8.8E-07	1.1E-06	1.0E-06
TEEN	2.1E-06	9.3E-07	2.9E-06	4.0E-06	1.9E-06	8.8E-07	1.3E-06	1.0E-06
CHILD	1.7E-06	9.2E-07	5.5E-06	6.0E-06	2.5E-06	8.8E-07	1.5E-06	1.0E-06
INFNT	1.3E-06	9.0E-07	4.8E-06	6.1E-06	2.3E-06	8.8E-07	1.4E-06	1.0E-06
TOTALS								
ADULT	2.2E-06	9.4E-07	2.1E-06	2.8E-06	1.5E-06	9.0E-07	1.1E-06	1.1E-06
TEEN	2.1E-06	9.4E-07	2.9E-06	4.0E-06	1.9E-06	9.0E-07	1.3E-06	1.1E-06
CHILD	1.8E-06	9.3E-07	5.6E-06	6.0E-06	2.5E-06	9.0E-07	1.5E-06	1.1E-06
INFNT	1.3E-06	9.1E-07	4.8E-06	6.1E-06	2.3E-06	9.0E-07	1.5E-06	1.1E-06



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 8810 1 1 THRU 88123124

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1144. METERS, WINDS TOWARD SE							
ADULT	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	2.0E-08	4.5E-08
TEEN	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	2.0E-08	4.5E-08
CHILD	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	2.0E-08	4.5E-08
INFNT	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	1.9E-08	2.0E-08	4.5E-08
GROUND	PATHWAY, DIST GP= 1, 1144. METERS, WINDS TOWARD SE							
ADULT	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.5E-06
TEEN	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.5E-06
CHILD	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.5E-06
INFNT	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.2E-06	1.5E-06
VEGET	PATHWAY, DIST GP= 1, 914. METERS, WINDS TOWARD SE							
ADULT	1.3E-06	4.3E-08	1.2E-06	1.9E-06	6.2E-07	8.7E-10	2.1E-07	0.0E+00
TEEN	1.1E-06	4.7E-08	1.8E-06	2.8E-06	9.5E-07	1.0E-09	3.7E-07	0.0E+00
CHILD	7.9E-07	3.5E-08	4.3E-06	4.7E-06	1.5E-06	1.5E-09	5.5E-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
MEAT	PATHWAY, DIST GP= 1, 4354. METERS, WINDS TOWARD SE							
ADULT	1.0E-08	6.0E-10	9.1E-09	1.5E-08	4.9E-09	1.1E-11	1.6E-09	0.0E+00
TEEN	4.5E-09	3.4E-10	7.5E-09	1.2E-08	3.9E-09	6.3E-12	1.5E-09	0.0E+00
CHILD	2.6E-09	1.9E-10	1.4E-08	1.5E-08	4.8E-09	7.6E-12	1.7E-09	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	1.2E-07	3.4E-09	1.1E-07	1.7E-07	5.8E-08	3.4E-11	1.9E-08	0.0E+00
TEEN	1.2E-07	4.3E-09	2.0E-07	3.0E-07	1.0E-07	4.5E-11	3.9E-08	0.0E+00
CHILD	8.6E-08	3.2E-09	4.7E-07	5.1E-07	1.7E-07	7.1E-11	5.9E-08	0.0E+00
INFNT	7.9E-08	3.1E-09	7.4E-07	9.8E-07	2.6E-07	1.1E-10	1.1E-07	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SE							
ADULT	3.7E-07	9.8E-09	3.3E-07	5.2E-07	1.7E-07	7.0E-11	5.8E-08	0.0E+00
TEEN	3.5E-07	1.3E-08	5.9E-07	9.1E-07	3.0E-07	9.1E-11	1.2E-07	0.0E+00
CHILD	2.6E-07	9.4E-09	1.4E-06	1.5E-06	5.0E-07	1.4E-10	1.8E-07	0.0E+00
INFNT	2.4E-07	9.1E-09	2.2E-06	3.0E-06	7.8E-07	2.2E-10	3.2E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1144. METERS, WINDS TOWARD SE							
ADULT	6.7E-09	5.2E-10	5.5E-09	8.8E-09	3.3E-09	3.4E-10	2.0E-09	0.0E+00
TEEN	5.0E-09	5.1E-10	7.7E-09	1.2E-08	4.3E-09	3.4E-10	2.9E-09	0.0E+00
CHILD	2.2E-09	3.7E-10	1.0E-08	1.1E-08	3.9E-09	3.0E-10	2.5E-09	0.0E+00
INFNT	8.4E-10	2.0E-10	6.2E-09	8.0E-09	2.4E-09	1.7E-10	1.7E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	3.1E-06	1.3E-06	2.9E-06	3.8E-06	2.1E-06	1.2E-06	1.5E-06	1.5E-06
TEEN	2.8E-06	1.3E-06	3.9E-06	5.3E-06	2.6E-06	1.2E-06	1.8E-06	1.5E-06
CHILD	2.4E-06	1.3E-06	7.5E-06	8.1E-06	3.4E-06	1.2E-06	2.0E-06	1.5E-06
INFNT	1.6E-06	1.3E-06	4.2E-06	5.2E-06	2.3E-06	1.2E-06	1.7E-06	1.5E-06
TOTALS								
ADULT	3.1E-06	1.3E-06	2.9E-06	3.8E-06	2.1E-06	1.3E-06	1.6E-06	1.5E-06
TEEN	2.8E-06	1.3E-06	3.9E-06	5.4E-06	2.6E-06	1.3E-06	1.8E-06	1.5E-06
CHILD	2.4E-06	1.3E-06	7.5E-06	8.1E-06	3.5E-06	1.3E-06	2.1E-06	1.5E-06
INFNT	1.6E-06	1.3E-06	4.3E-06	5.2E-06	2.3E-06	1.3E-06	1.7E-06	1.5E-06



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 8810 1 1 THRU 88123124

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1511. METERS, WINDS TOWARD SSE							
ADULT	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.4E-08	3.0E-08
TEEN	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.4E-08	3.0E-08
CHILD	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.4E-08	3.0E-08
INFNT	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.3E-08	1.4E-08	3.0E-08
GROUND	PATHWAY, DIST GP= 1, 1511. METERS, WINDS TOWARD SSE							
ADULT	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	8.8E-07
TEEN	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	8.8E-07
CHILD	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	8.8E-07
INFNT	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	7.6E-07	8.8E-07
VEGET	PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE							
ADULT	9.4E-07	2.9E-08	8.4E-07	1.3E-06	4.5E-07	8.0E-10	1.5E-07	0.0E+00
TEEN	7.9E-07	3.2E-08	1.3E-06	2.0E-06	6.8E-07	9.2E-10	2.6E-07	0.0E+00
CHILD	5.7E-07	2.4E-08	3.1E-06	3.4E-06	1.1E-06	1.4E-09	3.9E-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
MEAT	PATHWAY, DIST GP= 1, 1093. METERS, WINDS TOWARD SSE							
ADULT	9.6E-08	4.5E-09	8.5E-08	1.4E-07	4.5E-08	1.2E-10	1.5E-08	0.0E+00
TEEN	4.2E-08	2.5E-09	6.9E-08	1.1E-07	3.6E-08	6.9E-11	1.4E-08	0.0E+00
CHILD	2.4E-08	1.4E-09	1.3E-07	1.4E-07	4.5E-08	8.3E-11	1.6E-08	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	1.2E-07	3.2E-09	1.1E-07	1.7E-07	5.6E-08	4.3E-11	1.9E-08	0.0E+00
TEEN	1.1E-07	4.1E-09	1.9E-07	2.9E-07	9.8E-08	5.6E-11	3.8E-08	0.0E+00
CHILD	8.4E-08	3.1E-09	4.5E-07	5.0E-07	1.6E-07	8.9E-11	5.7E-08	0.0E+00
INFNT	7.6E-08	3.0E-09	7.2E-07	9.5E-07	2.5E-07	1.3E-10	1.0E-07	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSE							
ADULT	3.6E-07	9.5E-09	3.2E-07	5.1E-07	1.7E-07	8.8E-11	5.6E-08	0.0E+00
TEEN	3.4E-07	1.2E-08	5.7E-07	8.8E-07	2.9E-07	1.1E-10	1.1E-07	0.0E+00
CHILD	2.5E-07	9.1E-09	1.4E-06	1.5E-06	4.8E-07	1.8E-10	1.7E-07	0.0E+00
INFNT	2.3E-07	8.8E-09	2.2E-06	2.9E-06	7.6E-07	2.8E-10	3.1E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1511. METERS, WINDS TOWARD SSE							
ADULT	5.0E-09	3.9E-10	4.1E-09	6.6E-09	2.5E-09	2.7E-10	1.4E-09	0.0E+00
TEEN	3.8E-09	3.8E-10	5.7E-09	8.8E-09	3.3E-09	2.7E-10	1.9E-09	0.0E+00
CHILD	1.7E-09	2.9E-10	7.6E-09	8.3E-09	3.0E-09	2.4E-10	1.6E-09	0.0E+00
INFNT	6.3E-10	1.5E-10	4.6E-09	6.0E-09	1.8E-09	1.4E-10	1.1E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	2.3E-06	8.0E-07	2.1E-06	2.9E-06	1.5E-06	7.6E-07	1.0E-06	8.8E-07
TEEN	2.0E-06	8.1E-07	2.9E-06	4.1E-06	1.9E-06	7.6E-07	1.2E-06	8.8E-07
CHILD	1.7E-06	7.9E-07	5.8E-06	6.3E-06	2.5E-06	7.6E-07	1.4E-06	8.8E-07
INFNT	1.1E-06	7.7E-07	3.6E-06	4.6E-06	1.8E-06	7.6E-07	1.2E-06	8.8E-07
TOTALS								
ADULT	2.3E-06	8.2E-07	2.1E-06	2.9E-06	1.5E-06	7.7E-07	1.0E-06	9.1E-07
TEEN	2.1E-06	8.2E-07	2.9E-06	4.1E-06	1.9E-06	7.7E-07	1.2E-06	9.1E-07
CHILD	1.7E-06	8.1E-07	5.8E-06	6.3E-06	2.5E-06	7.7E-07	1.4E-06	9.1E-07
INFNT	1.1E-06	7.8E-07	3.7E-06	4.6E-06	1.8E-06	7.7E-07	1.2E-06	9.1E-07



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 8810 1 1 THRU 88123124

	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 1049. METERS, WINDS TOWARD S							
ADULT	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.9E-08	4.3E-08
TEEN	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.9E-08	4.3E-08
CHILD	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.9E-08	4.3E-08
INFNT	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.8E-08	1.9E-08	4.3E-08
GROUND	PATHWAY, DIST GP= 1, 1049. METERS, WINDS TOWARD S							
ADULT	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	1.1E-06
TEEN	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	1.1E-06
CHILD	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	1.1E-06
INFNT	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	9.4E-07	1.1E-06
VEGET	PATHWAY, DIST GP= 1, 863. METERS, WINDS TOWARD S							
ADULT	9.6E-07	2.8E-08	8.5E-07	1.3E-06	4.5E-07	1.0E-09	1.5E-07	0.0E+00
TEEN	8.0E-07	3.1E-08	1.3E-06	2.1E-06	6.9E-07	1.2E-09	2.7E-07	0.0E+00
CHILD	5.7E-07	2.4E-08	3.1E-06	3.4E-06	1.1E-06	1.9E-09	4.0E-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
MEAT	PATHWAY, DIST GP= 1, 6115. METERS, WINDS TOWARD S							
ADULT	3.6E-09	1.4E-10	3.2E-09	5.1E-09	1.7E-09	7.2E-12	5.7E-10	0.0E+00
TEEN	1.6E-09	8.1E-11	2.6E-09	4.1E-09	1.3E-09	4.3E-12	5.2E-10	0.0E+00
CHILD	8.9E-10	4.8E-11	4.7E-09	5.2E-09	1.7E-09	5.2E-12	6.1E-10	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	8.2E-08	2.2E-09	7.2E-08	1.2E-07	3.8E-08	4.1E-11	1.3E-08	0.0E+00
TEEN	7.8E-08	2.8E-09	1.3E-07	2.0E-07	6.7E-08	5.3E-11	2.6E-08	0.0E+00
CHILD	5.7E-08	2.1E-09	3.1E-07	3.4E-07	1.1E-07	8.4E-11	3.9E-08	0.0E+00
INFNT	5.2E-08	2.1E-09	4.9E-07	6.5E-07	1.7E-07	1.3E-10	7.0E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD S							
ADULT	2.5E-07	6.5E-09	2.1E-07	3.4E-07	1.2E-07	8.3E-11	3.8E-08	0.0E+00
TEEN	2.3E-07	8.3E-09	3.9E-07	6.0E-07	2.0E-07	1.1E-10	7.7E-08	0.0E+00
CHILD	1.7E-07	6.3E-09	9.2E-07	1.0E-06	3.3E-07	1.7E-10	1.2E-07	0.0E+00
INFNT	1.6E-07	6.1E-09	1.5E-06	1.9E-06	5.2E-07	2.6E-10	2.1E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 1049. METERS, WINDS TOWARD S							
ADULT	8.7E-09	6.3E-10	7.2E-09	1.1E-08	4.3E-09	4.3E-10	2.3E-09	0.0E+00
TEEN	6.6E-09	6.3E-10	1.0E-08	1.5E-08	5.7E-09	4.4E-10	3.3E-09	0.0E+00
CHILD	2.9E-09	4.6E-10	1.3E-08	1.5E-08	5.2E-09	3.9E-10	2.8E-09	0.0E+00
INFNT	1.1E-09	2.5E-10	8.1E-09	1.1E-08	3.1E-09	2.2E-10	1.9E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	2.2E-06	9.8E-07	2.1E-06	2.8E-06	1.6E-06	9.5E-07	1.1E-06	1.1E-06
TEEN	2.1E-06	9.9E-07	2.8E-06	3.8E-06	1.9E-06	9.5E-07	1.3E-06	1.1E-06
CHILD	1.8E-06	9.8E-07	5.3E-06	5.8E-06	2.5E-06	9.5E-07	1.5E-06	1.1E-06
INFNT	1.2E-06	9.5E-07	2.9E-06	3.6E-06	1.6E-06	9.5E-07	1.2E-06	1.1E-06
TOTALS								
ADULT	2.3E-06	1.0E-06	2.1E-06	2.8E-06	1.6E-06	9.6E-07	1.2E-06	1.1E-06
TEEN	2.1E-06	1.0E-06	2.8E-06	3.9E-06	1.9E-06	9.6E-07	1.3E-06	1.1E-06
CHILD	1.8E-06	1.0E-06	5.3E-06	5.8E-06	2.5E-06	9.7E-07	1.5E-06	1.1E-06
INFNT	1.2E-06	9.7E-07	2.9E-06	3.6E-06	1.7E-06	9.6E-07	1.2E-06	1.1E-06



THIS IS LAST ACCUMULATION
INDIVIDUAL DOSES(REM) DUE TO GASEOUS EFFLUENT
FOR DATES 8810 1 1 THRU 88123124

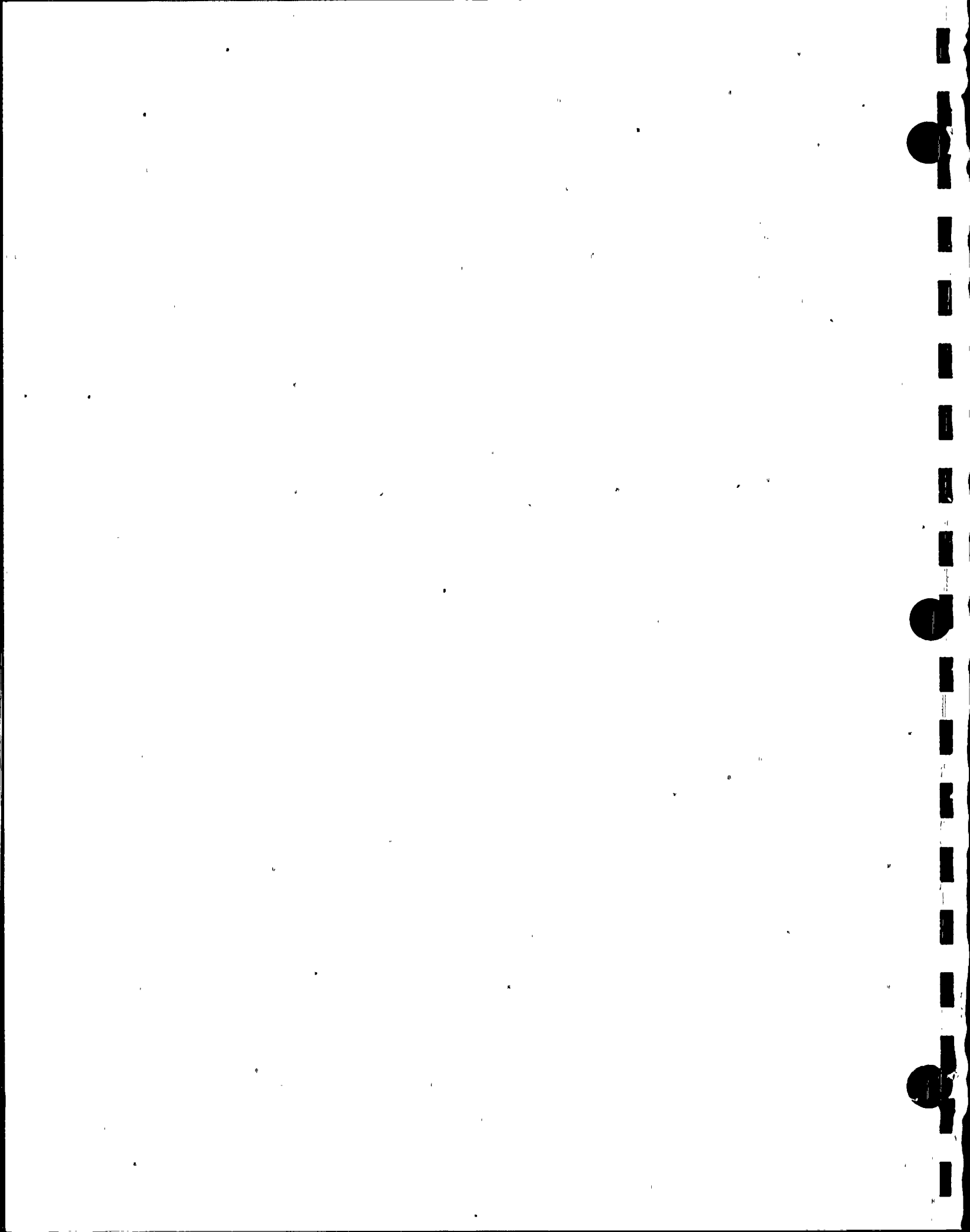
	T.BODY	GI-TRCT	BONE	LIVER	KIDNEY	THYRD	LUNG	SKIN
PLUME	PATHWAY, DIST GP= 1, 948. METERS, WINDS TOWARD SSW							
ADULT	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.1E-08	2.5E-08
TEEN	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.1E-08	2.5E-08
CHILD	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.1E-08	2.5E-08
INFNT	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.0E-08	1.1E-08	2.5E-08
GROUND	PATHWAY, DIST GP= 1, 948. METERS, WINDS TOWARD SSW							
ADULT	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	6.3E-07
TEEN	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	6.3E-07
CHILD	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	6.3E-07
INFNT	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	5.4E-07	6.3E-07
VEGET	PATHWAY, DIST GP= 1, 770. METERS, WINDS TOWARD SSW							
ADULT	5.6E-07	1.8E-08	5.0E-07	7.9E-07	2.6E-07	5.7E-10	8.8E-08	0.0E+00
TEEN	4.7E-07	2.0E-08	7.8E-07	1.2E-06	4.0E-07	6.5E-10	1.6E-07	0.0E+00
CHILD	3.4E-07	1.5E-08	1.8E-06	2.0E-06	6.5E-07	1.0E-09	2.3E-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
MEAT	PATHWAY, DIST GP= 1, 8045. METERS, WINDS TOWARD SSW							
ADULT	1.1E-09	5.7E-11	9.5E-10	1.5E-09	5.1E-10	2.3E-12	1.7E-10	0.0E+00
TEEN	4.7E-10	3.2E-11	7.8E-10	1.2E-09	4.0E-10	1.3E-12	1.6E-10	0.0E+00
CHILD	2.7E-10	1.9E-11	1.4E-09	1.6E-09	5.0E-10	1.6E-12	1.8E-10	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	3.9E-08	1.1E-09	3.5E-08	5.6E-08	1.9E-08	1.9E-11	6.2E-09	0.0E+00
TEEN	3.8E-08	1.4E-09	6.2E-08	9.7E-08	3.2E-08	2.5E-11	1.3E-08	0.0E+00
CHILD	2.8E-08	1.0E-09	1.5E-07	1.6E-07	5.3E-08	3.9E-11	1.9E-08	0.0E+00
INFNT	2.5E-08	1.0E-09	2.4E-07	3.1E-07	8.3E-08	6.0E-11	3.4E-08	0.0E+00
GOAT	PATHWAY, DIST GP= 1, 3556. METERS, WINDS TOWARD SSW							
ADULT	1.2E-07	3.2E-09	1.0E-07	1.7E-07	5.6E-08	3.9E-11	1.9E-08	0.0E+00
TEEN	1.1E-07	4.0E-09	1.9E-07	2.9E-07	9.7E-08	5.1E-11	3.8E-08	0.0E+00
CHILD	8.3E-08	3.0E-09	4.5E-07	4.9E-07	1.6E-07	8.0E-11	5.7E-08	0.0E+00
INFNT	7.6E-08	2.9E-09	7.1E-07	9.4E-07	2.5E-07	1.2E-10	1.0E-07	0.0E+00
INHAL	PATHWAY, DIST GP= 1, 948. METERS, WINDS TOWARD SSW							
ADULT	4.9E-09	3.5E-10	4.1E-09	6.5E-09	2.4E-09	2.3E-10	1.4E-09	0.0E+00
TEEN	3.7E-09	3.5E-10	5.7E-09	8.7E-09	3.2E-09	2.3E-10	2.0E-09	0.0E+00
CHILD	1.6E-09	2.5E-10	7.6E-09	8.3E-09	2.9E-09	2.1E-10	1.7E-09	0.0E+00
INFNT	6.1E-10	1.4E-10	4.6E-09	6.0E-09	1.7E-09	1.2E-10	1.1E-09	0.0E+00
SUBTOTALS (NO PLUME)								
ADULT	1.3E-06	5.7E-07	1.2E-06	1.6E-06	8.8E-07	5.4E-07	6.6E-07	6.3E-07
TEEN	1.2E-06	5.7E-07	1.6E-06	2.2E-06	1.1E-06	5.4E-07	7.5E-07	6.3E-07
CHILD	9.9E-07	5.6E-07	3.0E-06	3.2E-06	1.4E-06	5.4E-07	8.5E-07	6.3E-07
INFNT	6.4E-07	5.5E-07	1.5E-06	1.8E-06	8.8E-07	5.4E-07	6.8E-07	6.3E-07
TOTALS								
ADULT	1.3E-06	5.8E-07	1.2E-06	1.6E-06	9.0E-07	5.5E-07	6.7E-07	6.6E-07
TEEN	1.2E-06	5.8E-07	1.6E-06	2.2E-06	1.1E-06	5.5E-07	7.6E-07	6.6E-07
CHILD	1.0E-06	5.7E-07	3.0E-06	3.2E-06	1.4E-06	5.6E-07	8.7E-07	6.6E-07
INFNT	6.6E-07	5.6E-07	1.5E-06	1.8E-06	8.9E-07	5.5E-07	6.9E-07	6.6E-07



APPENDIX 2.1

SUMMARY OF HOURLY METEOROLOGICAL DATA

THIRD QUARTER, 1988



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88070101-88093024

STABILITY CLASS: A DT/DZ

ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						>24 TOTAL
	1-3	4-7	8-12	13-18	19-24		
N	2	67	12	0	0	0	81
NNE	0	5	7	0	0	0	12
NE	0	1	0	0	0	0	1
ENE	1	6	3	0	0	0	10
E	0	10	5	0	0	0	15
ESE	1	8	2	0	0	0	11
SE	0	16	0	0	0	0	16
SSE	0	8	1	0	0	0	9
S	0	10	17	5	0	0	32
SSW	0	2	15	1	0	0	18
SW	1	10	22	0	0	0	33
WSW	0	27	26	0	0	0	53
W	3	57	13	0	0	0	73
WNW	2	22	4	0	0	0	28
NW	1	39	0	0	0	0	40
NNW	1	43	0	0	0	0	44
TOTAL	12	331	127	6	0	0	476

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 124

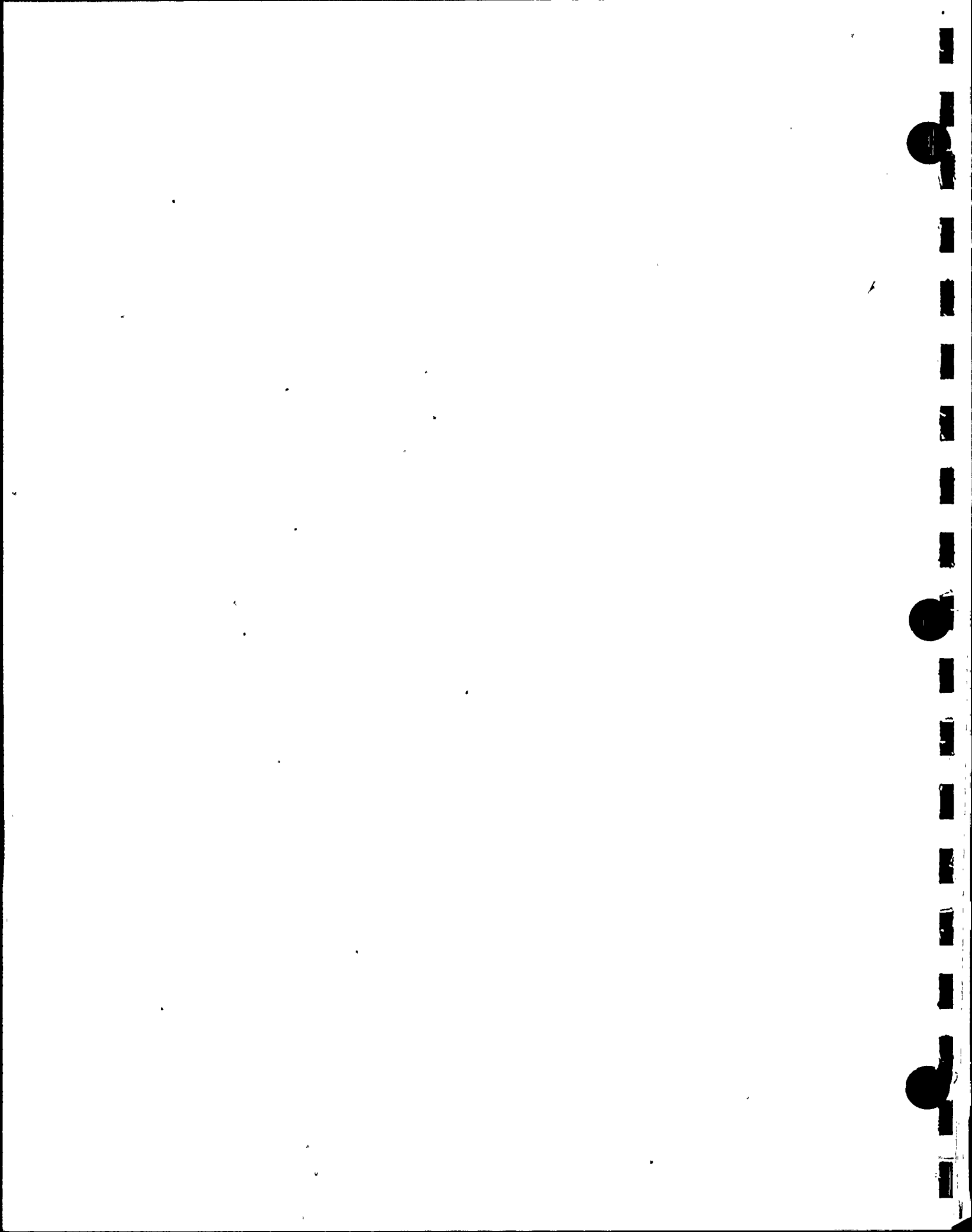


SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88070101-88093024
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	15	0	0	0	0	15
NNE	0	5	4	0	0	0	9
NE	1	1	1	0	0	0	3
ENE	0	3	0	0	0	0	3
E	1	5	2	0	0	0	8
ESE	0	5	1	0	0	0	6
SE	0	2	0	0	0	0	2
SSE	2	2	1	0	0	0	5
S	0	8	3	0	0	0	11
SSW	1	3	5	0	0	0	9
SW	1	9	9	0	0	0	19
WSW	0	8	2	0	0	0	10
W	2	8	1	0	0	0	11
WNW	3	1	0	0	0	0	4
NW	3	2	0	0	0	0	5
NNW	3	3	0	0	0	0	6
TOTAL	17	80	29	0	0	0	126

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 124



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88070101-88093024
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	3	10	1	0	0	0	14
NNE	1	3	0	0	0	0	4
NE	0	0	1	0	0	0	1
ENE	1	1	0	1	0	0	3
E	0	4	0	0	0	0	4
ESE	0	1	1	0	0	0	2
SE	0	5	0	0	0	0	5
SSE	0	2	1	0	0	0	3
S	0	4	3	0	0	0	7
SSW	1	5	4	0	0	0	10
SW	0	5	0	0	0	0	5
WSW	1	8	0	0	0	0	9
W	3	5	0	0	0	0	8
WNW	3	2	0	0	0	0	5
NW	3	1	0	0	0	0	4
NNW	2	0	0	0	0	0	2
TOTAL	18	56	11	1	0	0	86

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 124

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88070101-88093024
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	13	26	11	5	0	0	55
NNE	3	14	7	1	0	0	25
NE	0	4	2	0	0	0	6
ENE	3	16	6	0	0	0	25
E	4	17	7	0	0	0	28
ESE	3	14	5	0	0	0	22
SE	6	12	2	0	0	0	20
SSE	11	7	4	0	0	0	22
S	9	33	17	0	0	0	59
SSW	4	23	12	1	0	0	40
SW	4	15	16	3	0	0	38
WSW	4	5	6	11	0	0	26
W	5	6	3	0	0	0	14
WNW	4	7	2	0	0	0	13
NW	10	10	0	0	0	0	20
NNW	6	12	1	0	0	0	19
TOTAL	89	221	101	21	0	0	432

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 124

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88070101-88093024
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	13	6	1	0	0	0	20
NNE	9	16	0	1	0	0	26
NE	20	10	0	0	0	0	30
ENE	15	6	0	0	0	0	21
E	8	4	2	0	0	0	14
ESE	14	17	1	0	0	0	32
SE	9	12	0	0	0	0	21
SSE	12	14	1	0	0	0	27
S	14	58	5	0	0	0	77
SSW	9	48	20	0	0	0	77
SW	7	14	13	1	0	0	35
WSW	5	6	2	0	0	0	13
W	4	1	1	1	0	0	7
WNW	5	10	0	0	0	0	15
NW	8	3	0	0	0	0	11
NNW	9	8	1	0	0	0	18
TOTAL	161	233	47	3	0	0	444

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 124

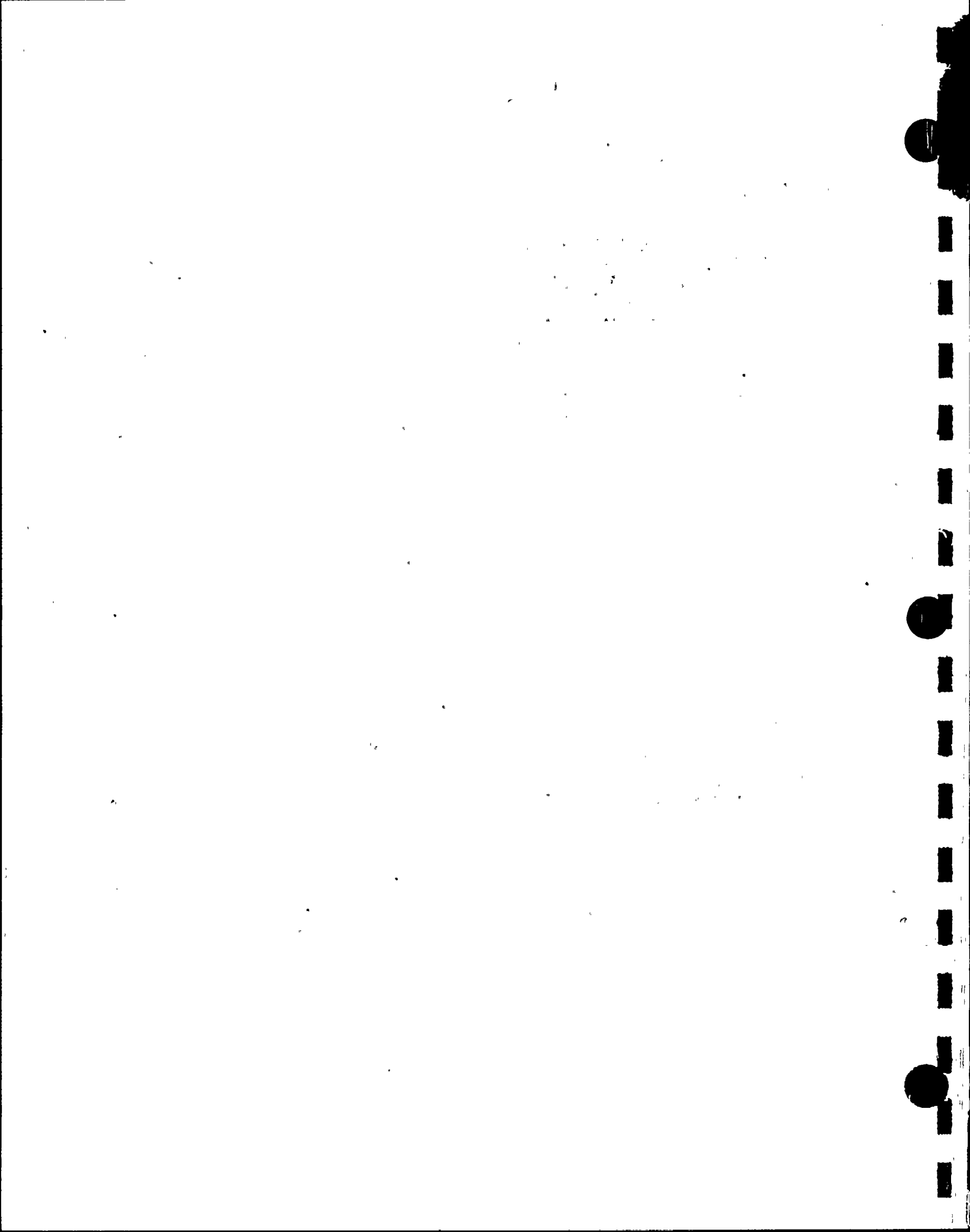


SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88070101-88093024
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	4	1	0	0	0	0	5
NNE	7	0	0	0	0	0	7
NE	7	2	0	0	0	0	9
ENE	7	3	0	0	0	0	10
E	17	3	0	0	0	0	20
ESE	9	4	0	0	0	0	13
SE	17	1	0	0	0	0	18
SSE	18	5	0	0	0	0	23
S	38	25	0	0	0	0	63
SSW	9	10	1	0	0	0	20
SW	7	1	0	0	0	0	8
WSW	6	1	0	0	0	0	7
W	3	0	0	0	0	0	3
WNW	2	0	0	0	0	0	2
NW	2	0	0	0	0	0	2
NNW	1	0	0	0	0	0	1
TOTAL	154	56	1	0	0	0	211

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 124



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88070101-88093024

STABILITY CLASS: G DT/DZ

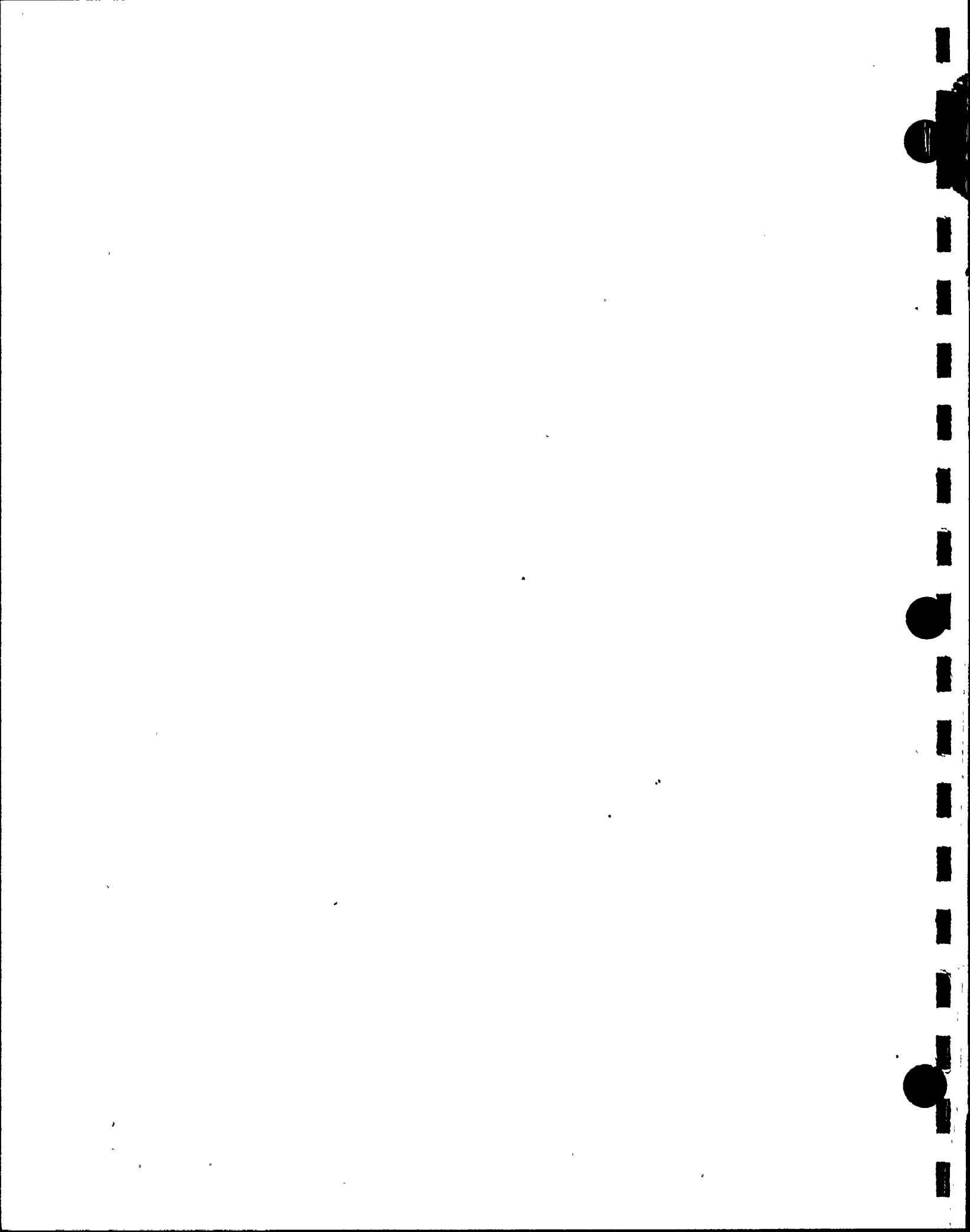
ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	3	0	0	0	0	0	3
NNE	1	0	0	0	0	0	1
NE	10	1	0	0	0	0	11
ENE	18	2	0	0	0	0	20
E	27	1	0	0	0	0	28
ESE	29	0	0	0	0	0	29
SE	49	0	0	0	0	0	49
SSE	47	0	0	0	0	0	47
S	58	7	0	0	0	0	65
SSW	26	11	0	0	0	0	37
SW	9	0	0	0	0	0	9
WSW	3	0	0	0	0	0	3
W	3	0	0	0	0	0	3
WNW	3	0	0	0	0	0	3
NW	0	0	0	0	0	0	0
NNW	1	0	0	0	0	0	1
TOTAL	287	22	0	0	0	0	309

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 124

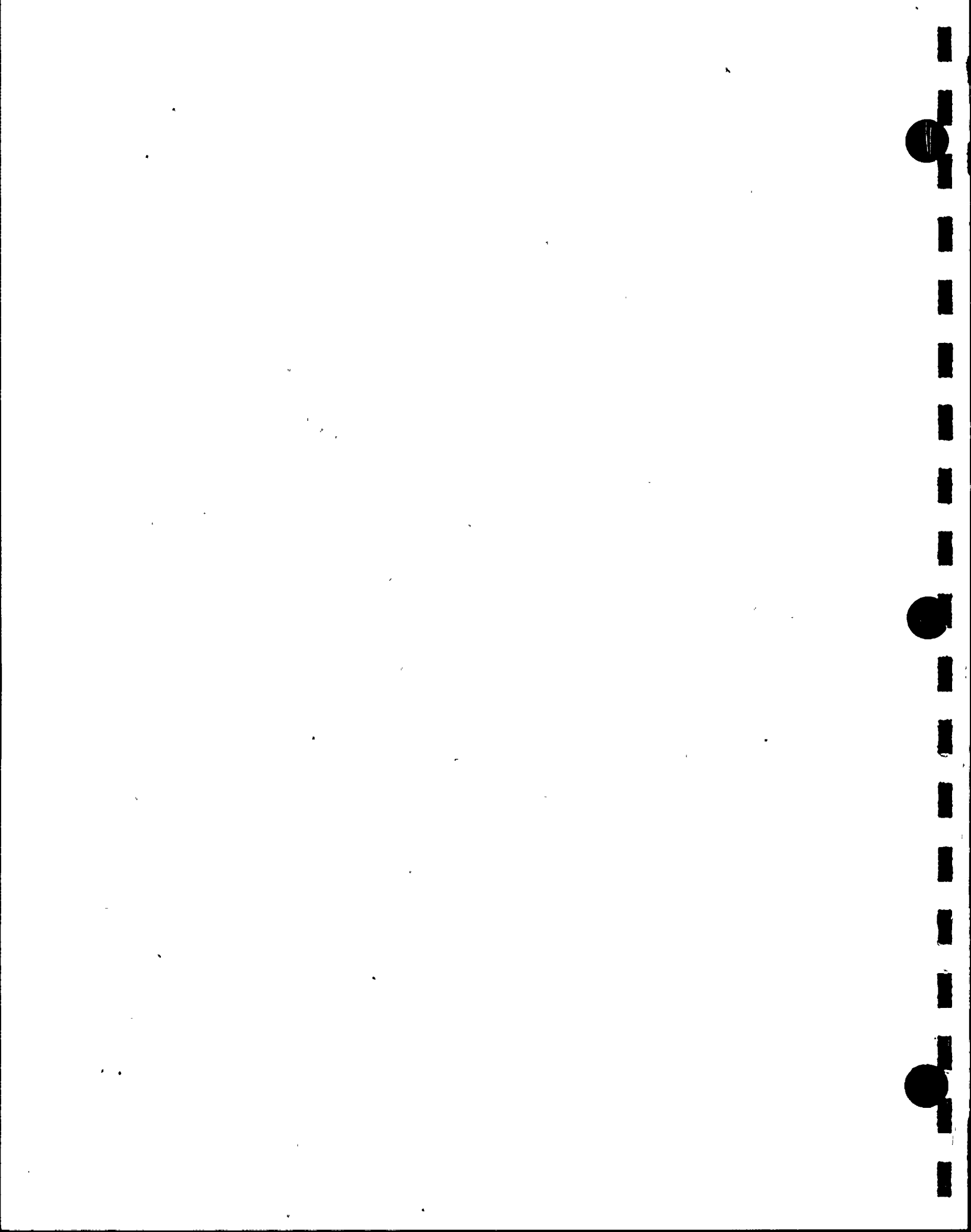


SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88070101-88093024
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	38	125	25	5	0	0	193
NNE	21	43	18	2	0	0	84
NE	38	19	4	0	0	0	61
ENE	45	37	9	1	0	0	92
E	57	44	16	0	0	0	117
ESE	56	49	10	0	0	0	115
SE	81	48	2	0	0	0	131
SSE	90	38	8	0	0	0	136
S	119	145	45	5	0	0	314
SSW	50	102	57	2	0	0	211
SW	29	54	60	4	0	0	147
WSW	19	55	36	11	0	0	121
W	23	77	18	1	0	0	119
WNW	22	42	6	0	0	0	70
NW	27	55	0	0	0	0	82
NNW	23	66	2	0	0	0	91
TOTAL	738	999	316	31	0	0	2084

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 124



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88070101-88093024

STABILITY CLASS: A DT/DZ

ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	16	6	0	0	22
NNE	0	1	0	0	0	0	1
NE	0	1	2	0	0	0	3
ENE	0	3	4	1	1	0	9
E	0	1	10	3	3	0	17
ESE	0	2	6	0	1	0	9
SE	0	1	13	6	0	0	20
SSE	0	0	6	5	0	0	11
S	0	1	12	16	9	0	38
SSW	0	1	5	3	0	0	9
SW	0	0	22	22	0	0	44
WSW	0	13	26	5	0	0	44
W	0	26	32	5	0	0	63
WNW	1	20	23	6	1	0	51
NW	1	12	35	6	0	0	54
NNW	1	17	53	10	0	0	81
TOTAL	3	99	265	94	15	0	476

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 124



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88070101-88093024
STABILITY CLASS: B DT/DZ
ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	4	6	3	0	0	14
NNE	0	1	1	0	0	0	2
NE	1	0	0	0	0	0	1
ENE	0	3	2	0	0	0	5
E	0	2	3	1	1	0	7
ESE	0	2	1	1	1	0	5
SE	0	1	2	1	0	0	4
SSE	0	2	2	4	0	0	8
S	0	2	7	3	0	0	12
SSW	0	2	3	2	0	0	7
SW	0	5	7	5	0	0	17
WSW	0	5	4	1	0	0	10
W	1	5	2	0	0	0	8
WNW	0	3	0	0	0	0	3
NW	1	11	1	0	0	0	13
NNW	0	2	5	3	0	0	10
TOTAL	4	50	46	24	2	0	126

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 124



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88070101-88093024
STABILITY CLASS: C DT/DZ
ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	7	0	0	0	8
NNE	0	1	1	1	0	0	3
NE	0	1	0	0	0	0	1
ENE	0	1	1	0	1	0	3
E	0	2	2	0	0	0	4
ESE	0	0	0	1	0	0	1
SE	0	0	3	3	1	0	7
SSE	0	0	3	1	0	0	4
S	0	2	3	3	1	0	9
SSW	0	3	2	1	0	0	6
SW	0	5	4	0	0	0	9
WSW	0	4	1	0	0	0	5
W	1	5	0	0	0	0	6
WNW	1	2	1	1	0	0	5
NW	2	5	0	1	0	0	8
NNW	0	4	2	1	0	0	7
TOTAL	4	36	30	13	3	0	86

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 124



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88070101-88093024

STABILITY CLASS: D DT/DZ

ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND SPEED(MPH)

WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	10	19	7	7	1	44
NNE	0	1	1	2	0	0	4
NE	1	1	9	4	0	0	15
ENE	0	7	9	5	1	0	22
E	2	0	14	9	2	0	27
ESE	2	1	8	12	1	0	24
SE	1	6	3	7	4	0	21
SSE	1	8	15	11	1	0	36
S	2	7	21	20	0	0	50
SSW	1	13	15	8	2	1	40
SW	2	4	7	16	2	3	34
WSW	3	0	3	3	4	8	21
W	4	7	4	2	1	0	18
WNW	1	2	3	5	2	0	13
NW	5	4	10	10	1	0	30
NNW	2	8	11	4	5	3	33
TOTAL	27	79	152	125	33	16	432

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 124

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88070101-88093024

STABILITY CLASS: E DT/DZ

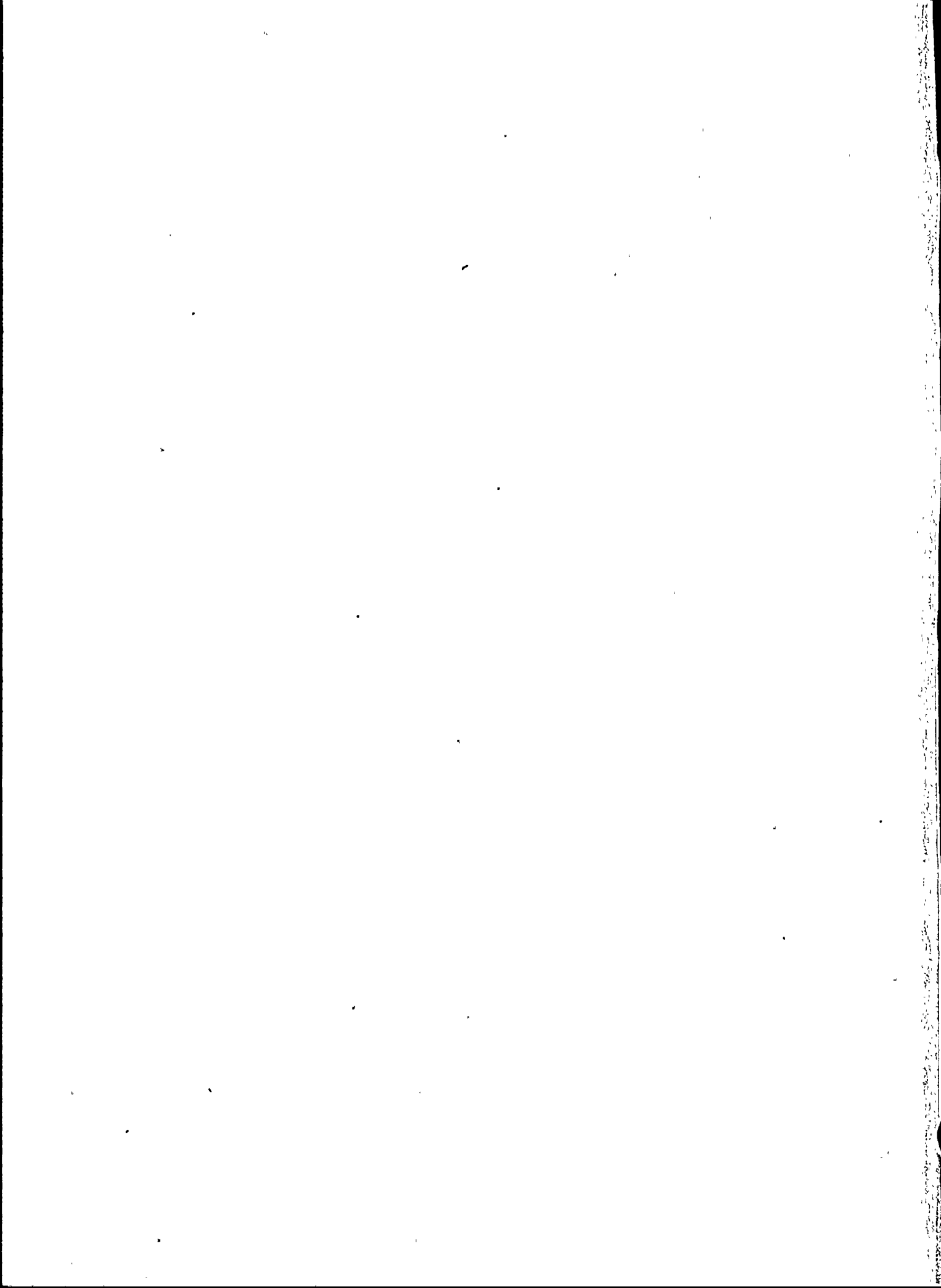
ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	6	16	1	1	0	27
NNE	3	5	15	0	0	0	23
NE	0	19	14	2	0	0	35
ENE	1	5	8	0	0	0	14
E	0	5	6	4	0	0	15
ESE	2	5	9	11	0	0	27
SE	0	4	13	7	0	0	24
SSE	0	2	11	16	3	0	32
S	1	5	26	39	4	0	75
SSW	2	5	34	29	0	0	70
SW	1	4	7	18	2	2	34
WSW	0	2	5	2	0	0	9
W	1	2	3	1	1	1	9
WNW	0	0	6	5	0	0	11
NW	1	1	12	10	3	0	27
NNW	0	5	6	1	0	0	12
TOTAL	12	75	191	146	14	3	444

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 124



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88070101-88093024

STABILITY CLASS: F DT/DZ

ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND SPEED(MPH)							
WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
<hr/>							
N	1	1	2	0	0	0	4
NNE	0	1	3	0	0	0	4
NE	1	7	10	1	0	0	19
ENE	2	9	6	2	0	0	19
E	1	1	11	4	0	0	17
ESE	1	3	6	3	0	0	13
SE	1	2	7	3	0	0	13
SSE	1	1	8	13	1	0	24
S	0	2	22	24	1	0	49
SSW	1	3	12	10	0	0	26
SW	0	1	5	2	0	0	8
WSW	0	0	3	1	0	0	4
W	1	1	3	0	0	0	5
WNW	0	0	4	0	0	0	4
NW	0	1	1	0	0	0	2
NNW	0	0	0	0	0	0	0
<hr/>							
TOTAL	10	33	103	63	2	0	211

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 124

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88070101-88093024

STABILITY CLASS: G DT/DZ

ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	3	0	0	0	0	3
NNE	3	4	1	0	0	0	8
NE	0	6	5	0	0	0	11
ENE	3	7	11	3	0	0	24
E	4	4	15	5	0	0	28
ESE	4	9	10	4	0	0	27
SE	2	4	26	5	0	0	37
SSE	4	7	12	17	0	0	40
S	3	9	13	13	0	0	38
SSW	1	4	12	4	0	0	21
SW	0	4	23	1	0	0	28
WSW	0	5	12	0	0	0	17
W	4	5	3	0	0	0	12
WNW	1	4	0	0	0	0	5
NW	2	3	0	0	0	0	5
NNW	2	1	2	0	0	0	5
TOTAL	33	79	145	52	0	0	309

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 124

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88070101-88093024

STABILITY CLASS: ALL DT/DZ

ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	2	25	66	17	8	1	122
NNE	6	14	22	3	0	0	45
NE	3	35	40	7	0	0	85
ENE	6	35	41	11	3	0	96
E	7	15	61	26	6	0	115
ESE	9	22	40	32	3	0	106
SE	4	18	67	32	5	0	126
SSE	6	20	57	67	5	0	155
S	6	28	104	118	15	0	271
SSW	5	31	83	57	2	1	179
SW	3	23	75	64	4	5	174
WSW	3	29	54	12	4	8	110
W	12	51	47	8	2	1	121
WNW	4	31	37	17	3	0	92
NW	12	37	59	27	4	0	139
NNW	5	37	79	19	5	3	148
TOTAL	93	451	932	517	69	19	2084

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 124

APPENDIX 2.2

SUMMARY OF HOURLY METEOROLOGICAL DATA

FOURTH QUARTER, 1988

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88100101-88123124

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	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	1	0	1	0	0	2
SSE	0	2	6	1	0	0	9
S	0	3	6	1	0	0	10
SSW	0	1	6	1	0	0	8
SW	0	1	8	1	0	0	10
WSW	0	2	6	5	0	0	13
W	0	11	7	3	0	0	21
WNW	0	10	4	0	0	0	14
NW	0	17	3	0	0	0	20
NNW	0	6	2	0	0	0	8
TOTAL	0	54	48	13	0	0	115

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

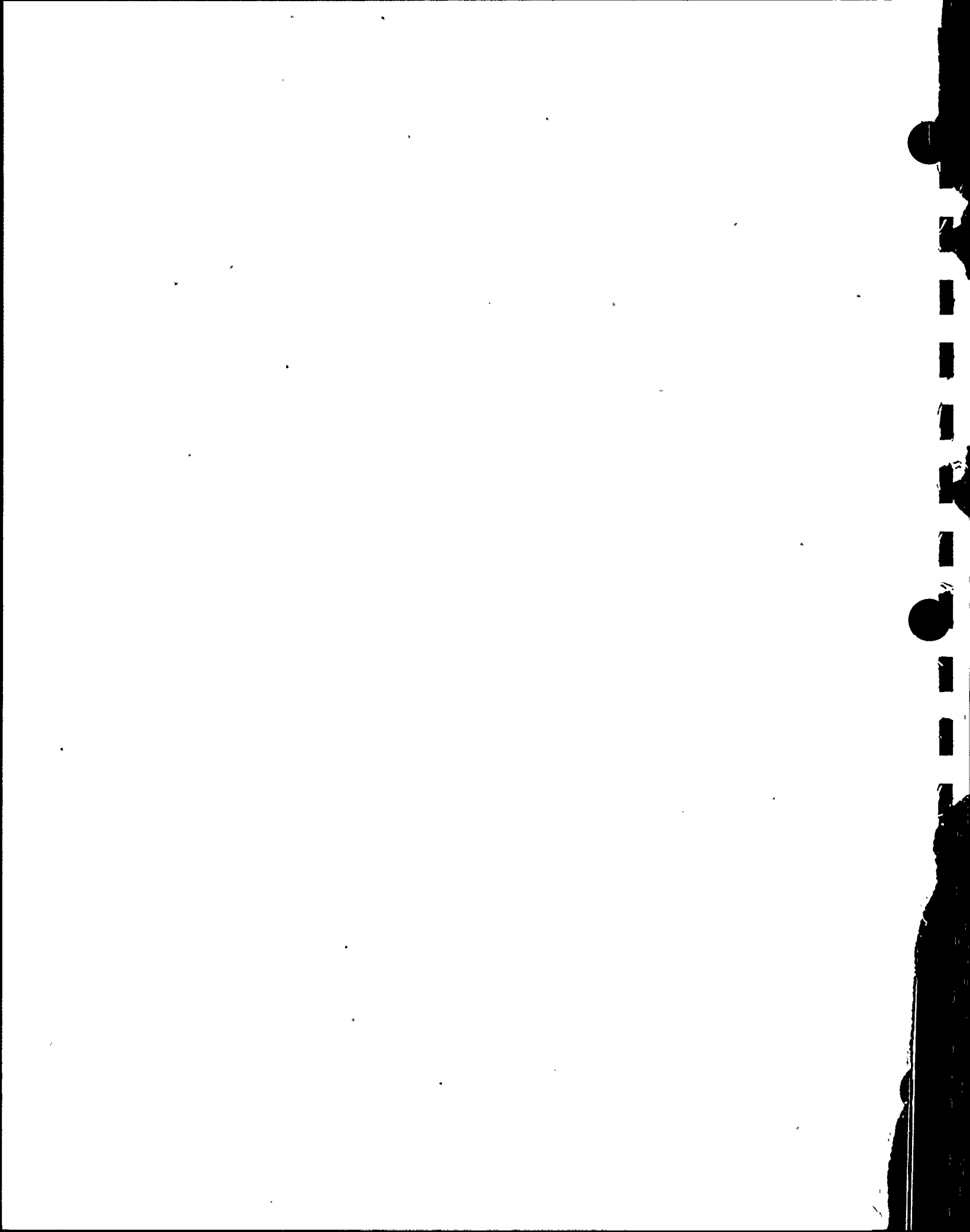
HOURS OF MISSING DATA: 33

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
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	0	0	0	0	0	0
NNE	0	1	0	0	0	0	1
NE	0	1	0	0	0	0	1
ENE	0	2	0	0	0	0	2
E	0	4	1	0	0	0	5
ESE	0	0	0	1	0	0	1
SE	0	2	2	4	0	0	8
SSE	0	4	5	4	0	0	13
S	0	4	5	3	0	0	12
SSW	0	3	9	0	0	0	12
SW	1	2	7	3	0	0	13
WSW	0	6	3	1	0	0	10
W	0	3	7	1	0	0	11
WNW	2	6	2	0	0	0	10
NW	3	8	0	1	0	0	12
NNW	0	2	5	0	0	0	7
TOTAL	6	48	46	18	0	0	118

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
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	3	0	0	0	0	4
NNE	0	1	2	0	0	0	3
NE	1	3	2	0	0	0	6
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
ESE	0	3	2	0	0	0	5
SE	1	2	6	3	0	0	12
SSE	1	4	2	1	0	0	8
S	1	5	6	4	0	0	16
SSW	0	2	6	1	0	0	9
SW	1	5	4	3	0	0	13
WSW	2	5	5	1	0	0	13
W	1	7	7	1	0	0	16
WNW	1	9	17	0	0	0	27
NW	0	4	8	1	0	0	13
NNW	1	5	8	0	0	0	14
TOTAL	11	59	75	15	0	0	160

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
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	9	17	28	7	0	0	61
NNE	2	5	15	0	0	0	22
NE	2	7	3	0	0	0	12
ENE	1	4	0	0	0	0	5
E	4	8	0	0	0	0	12
ESE	4	5	3	0	0	0	12
SE	4	14	27	8	0	0	53
SSE	0	16	30	7	0	0	53
S	3	39	50	22	0	0	114
SSW	2	27	52	9	8	0	98
SW	2	15	24	28	0	0	69
WSW	3	18	44	43	8	0	116
W	5	32	90	40	1	0	168
WNW	3	45	99	9	0	0	156
NW	2	41	58	3	0	0	104
NNW	4	29	87	4	0	0	124
TOTAL	50	322	610	180	17	0	1179

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
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	4	8	2	1	0	0	15
NNE	3	5	1	0	0	0	9
NE	6	7	0	0	0	0	13
ENE	8	5	0	0	0	0	13
E	8	7	0	0	0	0	15
ESE	9	11	1	0	0	0	21
SE	8	31	4	0	0	0	43
SSE	11	36	21	3	0	0	71
S	14	23	18	3	2	0	60
SSW	7	15	29	7	0	0	58
SW	0	14	14	5	0	0	33
WSW	0	3	4	1	0	0	8
W	4	5	2	0	0	0	11
WNW	2	5	1	0	0	0	8
NW	1	1	0	0	0	0	2
NNW	2	7	1	0	0	0	10
TOTAL	87	183	98	20	2	0	390

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88100101-88123124.

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	6	1	0	0	0	0	7
E	5	6	0	0	0	0	11
ESE	7	1	0	0	0	0	8
SE	10	4	1	0	0	0	15
SSE	12	20	1	0	0	0	33
S	12	19	0	0	0	0	31
SSW	4	9	0	0	0	0	13
SW	2	9	0	0	0	0	11
WSW	0	1	0	0	0	0	1
W	0	1	0	0	0	0	1
WNW	1	0	0	0	0	0	1
NW	1	0	0	0	0	0	1
NNW	0	0	0	0	0	0	0
TOTAL	60	71	2	0	0	0	133

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 33

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
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	0	0	0	0	0	0	0
ENE	0	1	0	0	0	0	1
E	0	1	0	0	0	0	1
ESE	5	0	0	0	0	0	5
SE	12	0	0	0	0	0	12
SSE	18	1	0	0	0	0	19
S	23	8	0	0	0	0	31
SSW	3	7	0	0	0	0	10
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	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
TOTAL	62	18	0	0	0	0	80

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33

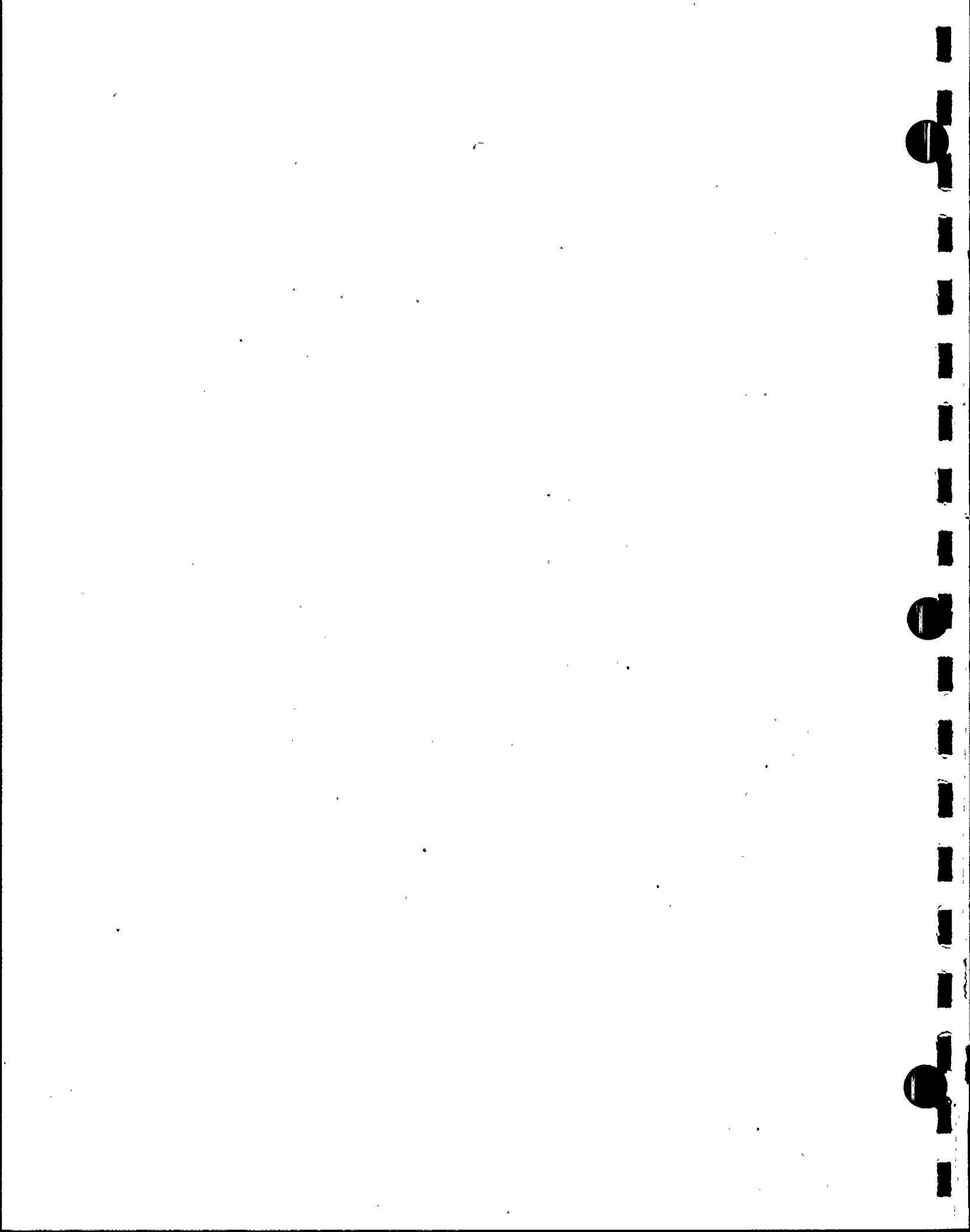


SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
STABILITY CLASS: ALL DT/DZ
ELEVATION: SPEED:SPD10M DIRECTION:DIR10M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						>24 TOTAL
	1-3	4-7	8-12	13-18	19-24		
N	14	28	30	8	0	0	80
NNE	5	12	18	0	0	0	35
NE	9	18	5	0	0	0	32
ENE	15	13	0	0	0	0	28
E	17	27	1	0	0	0	45
ESE	25	20	6	1	0	0	52
SE	35	54	40	16	0	0	145
SSE	42	83	65	16	0	0	206
S	53	101	85	33	2	0	274
SSW	16	64	102	18	8	0	208
SW	6	46	57	40	0	0	149
WSW	5	35	62	51	8	0	161
W	11	59	113	45	1	0	229
WNW	9	75	123	9	0	0	216
NW	7	71	69	5	0	0	152
NNW	7	49	103	4	0	0	163
TOTAL	276	755	879	246	19	0	2175

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33

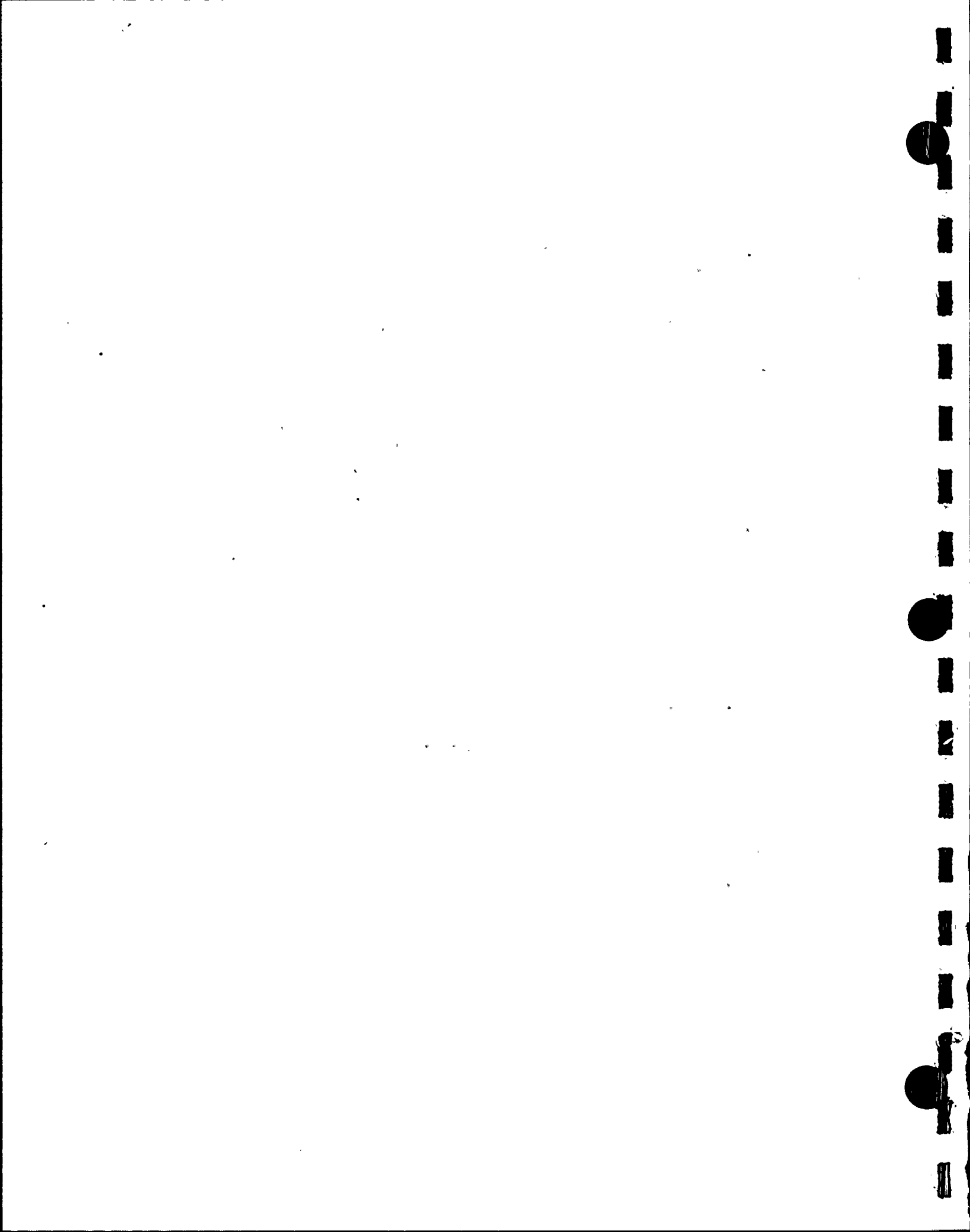


SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
STABILITY CLASS: A DT/DZ
ELEVATION: SPEED:SPD60M DIRECTION:DIR60M 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	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	1	0	0	0	0	1
SE	0	0	0	2	0	1	3
SSE	0	0	3	4	2	0	9
S	0	1	4	7	1	0	13
SSW	0	0	2	1	0	0	3
SW	0	0	2	9	1	0	12
WSW	0	0	4	4	5	2	15
W	0	2	7	4	3	1	17
WNW	0	5	7	7	1	0	20
NW	0	2	9	7	1	1	20
NNW	0	1	0	1	0	0	2
TOTAL	0	12	38	46	14	5	115

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
STABILITY CLASS: B DT/DZ
ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	0	0	0	0	1
NNE	0	0	1	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	2	0	0	0	0	2
E	0	2	3	0	0	0	5
ESE	0	1	0	1	0	1	3
SE	0	1	1	0	1	3	6
SSE	0	2	4	4	4	1	15
S	0	1	3	6	2	0	12
SSW	0	0	3	7	0	0	10
SW	0	1	1	6	3	0	11
WSW	0	3	6	4	1	1	15
W	0	0	4	1	4	0	9
WNW	0	6	3	3	0	1	13
NW	0	3	3	1	3	0	10
NNW	1	1	1	1	1	0	5
TOTAL	1	24	33	34	19	7	118

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33

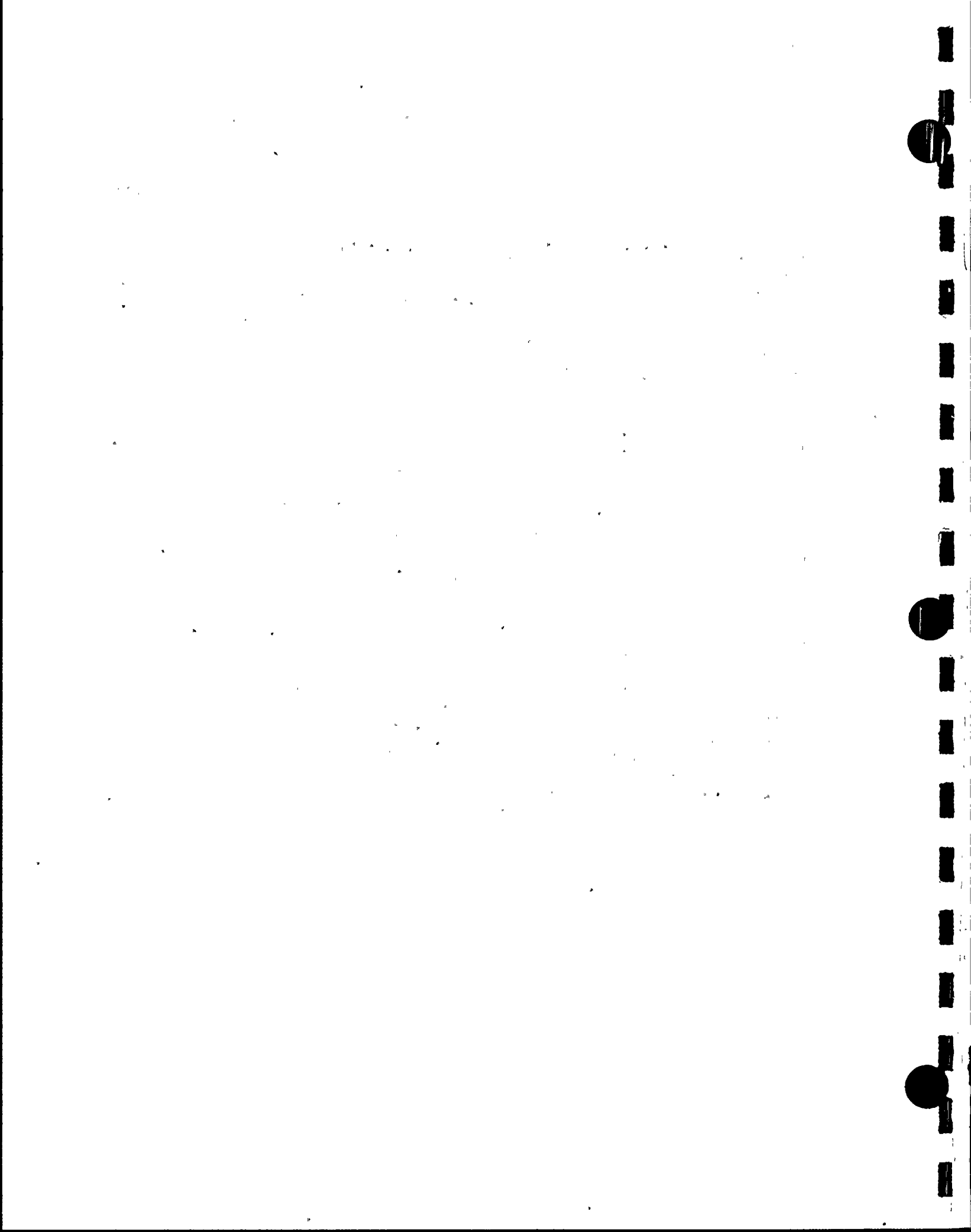


SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
STABILITY CLASS: C DT/DZ
ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	0	0	0	0	1
NNE	0	0	0	2	0	0	2
NE	1	1	2	2	0	0	6
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
ESE	0	1	2	2	0	0	5
SE	1	1	2	5	4	0	13
SSE	0	3	2	2	0	1	8
S	0	2	4	7	2	1	16
SSW	0	0	3	3	1	0	7
SW	0	3	3	4	2	1	13
WSW	0	6	1	4	3	0	14
W	0	3	8	5	0	0	16
WNW	0	1	5	11	8	2	27
NW	1	2	1	9	4	2	19
NNW	0	3	3	3	3	0	12
TOTAL	3	28	36	59	27	7	160

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
STABILITY CLASS: D DT/DZ
ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	6	9	12	6	1	35
NNE	1	2	6	9	0	0	18
NE	0	4	5	2	0	0	11
ENE	0	5	1	0	0	0	6
E	1	3	5	0	0	0	9
ESE	0	6	2	8	3	0	19
SE	1	1	11	25	10	2	50
SSE	0	3	7	32	17	5	64
S	0	6	28	44	27	0	105
SSW	0	5	24	44	5	10	88
SW	1	1	14	22	18	20	76
WSW	0	5	16	24	35	35	115
W	0	6	23	48	50	36	163
WNW	0	3	10	60	68	18	159
NW	0	5	23	57	54	15	154
NNW	1	9	12	43	37	5	107
TOTAL	6	70	196	430	330	147	1179

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION
PERIOD OF RECORD = 88100101-88123124
STABILITY CLASS: E DT/DZ
ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND SPEED(MPH)							
WIND DIRECTION	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	0	5	6	0	1	0	12
NNE	1	1	6	0	0	0	8
NE	0	3	10	0	0	0	13
ENE	0	3	10	0	0	0	13
E	0	4	4	3	0	0	11
ESE	0	3	9	4	0	0	16
SE	1	5	19	17	0	0	42
SSE	1	4	24	27	14	0	70
S	1	5	17	32	10	3	68
SSW	0	3	4	32	7	1	47
SW	0	1	6	17	10	4	38
WSW	0	1	3	4	1	0	9
W	0	1	4	4	0	1	10
WNW	0	1	0	3	1	0	5
NW	0	1	5	6	1	0	13
NNW	0	1	8	3	1	2	15
TOTAL	4	42	135	152	46	11	390

PERIODS OF CALM(HOURS): 0
VARIABLE DIRECTION 0
HOURS OF MISSING DATA: 33

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88100101-88123124

STABILITY CLASS: F DT/DZ

ELEVATION: SPEED:SPD60M DIRECTION:DIR60M 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	2	3	0	0	0	5
ENE	1	2	2	2	0	0	7
E	0	3	3	2	0	0	8
ESE	1	2	3	1	0	0	7
SE	0	3	7	1	0	0	11
SSE	0	4	5	9	1	0	19
S	1	0	12	20	0	0	33
SSW	1	2	8	6	0	0	17
SW	1	1	13	6	0	0	21
WSW	1	0	0	1	0	0	2
W	1	1	0	0	0	0	2
WNW	0	0	0	0	0	0	0
NW	0	1	0	0	0	0	1
NNW	0	0	0	0	0	0	0
TOTAL	7	21	56	48	1	0	133

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 33

SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88100101-88123124

STABILITY CLASS: G DT/DZ

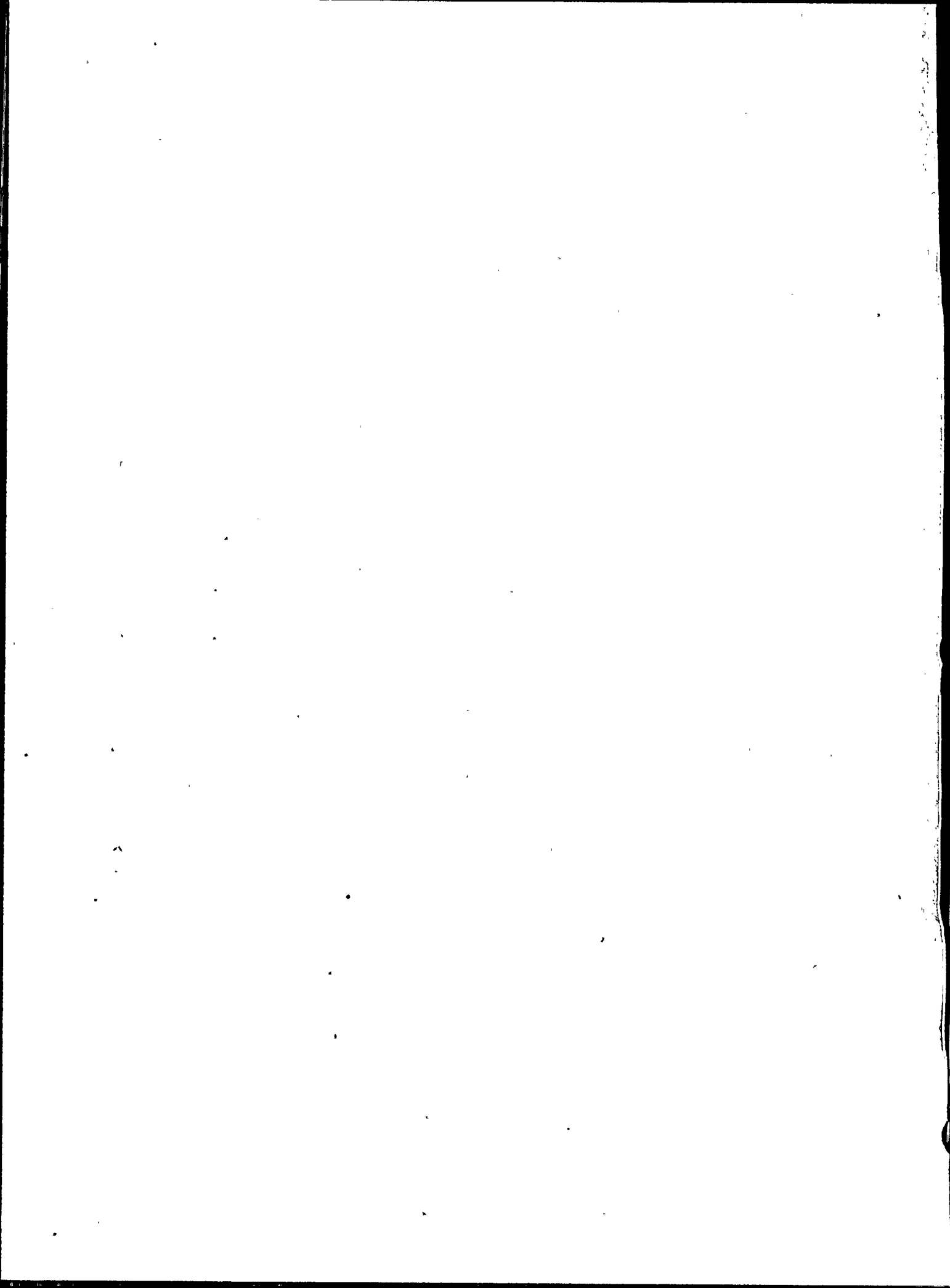
ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

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	0	0	1	0	0	0	1
E	0	0	2	0	0	0	2
ESE	0	1	2	0	0	0	3
SE	0	3	4	4	0	0	11
SSE	1	4	7	2	0	0	14
S	1	5	7	6	0	1	20
SSW	0	0	5	4	0	0	9
SW	0	0	8	1	0	0	9
WSW	1	3	2	0	0	0	6
W	1	0	0	0	0	0	1
WNW	1	0	1	0	0	0	2
NW	1	1	0	0	0	0	2
NNW	0	0	0	0	0	0	0
TOTAL	6	17	39	17	0	1	80

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 33



SITE: AEP COOK

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD = 88100101-88123124

STABILITY CLASS: ALL DT/DZ

ELEVATION: SPEED:SPD60M DIRECTION:DIR60M LAPSE:DT60M

WIND DIRECTION	WIND SPEED(MPH)						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	13	15	12	7	1	49
NNE	2	3	13	11	0	0	29
NE	1	10	20	4	0	0	35
ENE	1	12	14	2	0	0	29
E	1	13	17	5	0	0	36
ESE	1	15	18	16	3	1	54
SE	3	14	44	54	15	6	136
SSE	2	20	52	80	38	7	199
S	3	20	75	122	42	5	267
SSW	1	10	49	97	13	11	181
SW	2	7	47	65	34	25	180
WSW	2	18	32	41	45	38	176
W	2	13	46	62	57	38	218
WNW	1	16	26	84	78	21	226
NW	2	15	41	80	63	18	219
NNW	2	15	24	51	42	7	141
TOTAL	27	214	533	786	437	178	2175

PERIODS OF CALM(HOURS): 0

VARIABLE DIRECTION 0

HOURS OF MISSING DATA: 33

APPENDIX 3

PROCESS CONTROL PROGRAM (PCP) CHANGES



**INDIANA
MICHIGAN
POWER**

Form 5326

DONALD C. COOK NUCLEAR PLANT

PROCEDURE COVER SHEET

Procedure No.12 PMP 3150 PCP.001

Revision No. 10

TITLE RADIOACTIVE WASTE PROCESS CONTROL MANUAL

INFORMATION RECORDS CENTER
CONTROLLED
DOCUMENT
NOV 29 1988

SCOPE OF REVISION

Rev. 10 - Minor Revision with marginal markings.

Attachments I & IA changed to include documentation of blocking and bracing in response to IE IN #87-31 re AR #9591.

Attachments XX & XXVIII deleted IM rad level reading in accord with 12 THP 6010 ENV.017.

Attachment XXXV changed to provide documentation of survey, ie, person performing survey, time, date, meter type and remarks.

VOLUME # _____

SIGNATURES	REVISION NUMBER			
.....	REV. 10			
PREPARED BY	<i>M.L. Schmitz</i>			
DEPARTMENT HEAD APPROVAL	<i>James W. Wynn</i>			
INTERFACING DEPARTMENT HEAD CONCURRENCE	NA			
	NA			
	NA			
QUALITY ASSURANCE SUPERVISOR APPROVAL	<i>[Signature]</i>			
PLANT NUCLEAR SAFETY COMMITTEE	<i>Intg #2200</i>			
PLANT MANAGER APPROVAL	<i>[Signature]</i>			
APPROVAL DATE	<i>11-23-88</i>			
EFFECTIVE DATE	<i>12-5-88</i>			

LIST OF EFFECTIVE PAGES

<u>PAGE NUMBER</u>	<u>REVISION NUMBER/EFFECTIVE CHANGE SHEETS</u>
Page 1 of 34	Revision 9
Page 2 of 34	Revision 9
Page 3 of 34	Revision 9
Page 4 of 34	Revision 9
Page 5 of 34	Revision 9
Page 6 of 34	Revision 9
Page 7 of 34	Revision 9
Page 8 of 34	Revision 9
Page 9 of 34	Revision 9
Page 10 of 34	Revision 9
Page 11 of 34	Revision 9
Page 12 of 34	Revision 9
Page 13 of 34	Revision 9
Page 14 of 34	Revision 9
Page 15 of 34	Revision 9
Page 16 of 34	Revision 9
Page 17 of 34	Revision 9
Page 18 of 34	Revision 9
Page 19 of 34	Revision 9
Page 20 of 34	Revision 9
Page 21 of 34	Revision 9
Page 22 of 34	Revision 9
Page 23 of 34	Revision 9
Page 24 of 34	Revision 9

PAGE NUMBER

Page 25 of 34
Page 26 of 34
Page 27 of 34
Page 28 of 34
Page 29 of 34
Page 30 of 34
Page 31 of 34
Page 32 of 34
Page 33 of 34
Page 34 of 34

REVISION NUMBER/EFFECTIVE CHANGE SHEETS

Revision 9
Revision 9
Revision 9
Revision 9
Revision 9
Revision 9
Revision 9
Revision 9
Revision 9
Revision 9

ATTACHMENT I

Page 1 of 1

Revision 10

ATTACHMENT IA

Page 1 of 1

Revision 10

ATTACHMENT II

Page 1 of 1

Revision 9

ATTACHMENT III

Page 1 of 1

Revision 9

ATTACHMENT IV

Page 1 of 3

Revision 9

Page 2 of 3

Revision 9

Page 3 of 3

Revision 9

ATTACHMENT V

Page 1 of 1

Revision 9

<u>PAGE NUMBER</u>	<u>REVISION NUMBER/EFFECTIVE CHANGE SHEETS</u>
<u>ATTACHMENT VI</u>	
Page 1 of 5	Revision 9
Page 2 of 5	Revision 9
Page 3 of 5	Revision 9
Page 4 of 5	Revision 9
Page 5 of 5	Revision 9
<u>ATTACHMENT VII</u>	
Page 1 of 2	Revision 9
Page 2 of 2	Revision 9
<u>ATTACHMENT VIII</u>	
Page 1 of 2	Revision 9
Page 2 of 2	Revision 9
<u>ATTACHMENT IX</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT X</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XI</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XII</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XIII</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XIV</u>	
Page 1 of 6	Revision 9
Page 2 of 6	Revision 9
Page 3 of 6	Revision 9

<u>PAGE NUMBER</u>	<u>REVISION NUMBER/EFFECTIVE CHANGE SHEETS</u>
<u>ATTACHMENT XIV (Con't)</u>	
Page 4 of 6	Revision 9
Page 5 of 6	Revision 9
Page 6 of 6	Revision 9
<u>ATTACHMENT XV</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XVI</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XVII</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XVIII</u>	
Page 1 of 2	Revision 9
Page 2 of 2	Revision 9
<u>ATTACHMENT XIX</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XX</u>	
Page 1 of 1	Revision 10
<u>ATTACHMENT XXI</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXII</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXIII</u>	
Page 1 of 6	Revision 9
Page 2 of 6	Revision 9
Page 3 of 6	Revision 9
Page 4 of 6	Revision 9

<u>PAGE NUMBER</u>	<u>REVISION NUMBER/EFFECTIVE CHANGE SHEETS</u>
<u>ATTACHMENT XXIII</u> (Con't)	
Page 5 of 6	Revision 9
Page 6 of 6	Revision 9
<u>ATTACHMENT XXIV</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXV</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXVI</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXVII</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXVIII</u>	
Page 1 of 1	Revision 10
<u>ATTACHMENT XXIX</u>	
Page 1 of 2	Revision 9
Page 2 of 2	Revision 9
<u>ATTACHMENT XXX</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXXI</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXXII</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXXIII</u>	
Page 1 of 1	Revision 9
<u>ATTACHMENT XXXIV</u>	
Page 1 of 1	Revision 9

PAGE NUMBER

REVISION NUMBER/EFFECTIVE CHANGE SHEETS

ATTACHMENT XXXV

Page 1 of 1

Revision 10

APPENDIX A

Page 1 of 3

Revision 9

Page 2 of 3

Revision 9

Page 3 of 3

Revision 9

APPENDIX B

Page 1 of 2

Revision 9

Page 2 of 2

Revision 9

TRUCK/TRAILER INSPECTION CHECK-OFF SHEET

SHIPMENT NO. _____ DATE _____

Prior to loading, items 1-3 are to be examined and documented on this checklist for each (exclusive use) vehicle transporting radioactive material from the plant site. Items 4-7 will be examined and documented after the radioactive material has been loaded on the transporting vehicle and it is ready for shipment.

	<u>INITIALS</u>
(1) Truck/Trailer Tires	
Remarks _____	_____
(2) Truck/Trailer Wheels	
Remarks _____	_____
(3) Trailer Bed and Frame	
Remarks _____	_____
(4) Load Tie-Downs	
Remarks _____	_____
(5) Blocking & Bracing	
Remarks _____	_____
(6) Truck/Trailer Lights	
Remarks _____	_____
(7) Truck/Trailer Placarded	
Remarks _____	_____

Initials indicate inspection was made and results were acceptable.
If items affecting safe transportation of load are found, notify the carrier immediately.

Person Contacted _____ Date: _____

Vehicle inspection criteria as follows:

- (1) Truck/Trailer Tires - A minimum of 1/16" tread, no fabric exposed on sidewall, no cuts or injuries into fabric.
- (2) Truck/Trailer Wheels - Check for visible cracked wheels, loose lug nuts or missing studs.
- (3) Trailer Bed and Frame - Check visually for cracks and breaks. Check main rails for any visible cracks in rails and associated welds. On any drop frame trailers, the drop area is the most susceptible to cracking. If any cracks are observed in main rails, trailer should be deadlined and carrier immediately notified.
- (4) Load Tie-Downs - Check cable tie down points on trailer for any visible cracks. Cables should be in good condition, tight, crossed and without crimps. Cask should be positioned so that cables do not rub each other. Ratchets and shackles shall be free of cracks.
- (5) Blocking and Bracing - Packages of material must be blocked and braced to prevent shifting of lading under conditions normally incident to transportation.
- (6) Truck/Trailer Lights - Checks for operation of head-lights, tail-lights, brake-lights and directional signals.
- (7) Truck/Trailer Placarded - Placarding on front, sides and rear as required.

TRUCK/VAN INSPECTION CHECK-OFF SHEET

SHIPMENT NO. _____ DATE _____

Prior to loading, items 1-3 are to be examined and documented on this checklist for each (exclusive use) vehicle transporting radioactive material from the plant site. Items 4-6 will be examined and documented after the radioactive material has been loaded on the transporting vehicle and it is ready for shipment.

		<u>INITIALS</u>
(1)	Truck/Van Tires	
	Remarks _____	_____
(2)	Truck/Van Wheels	
	Remarks _____	_____
(3)	Overall Condition of the Van	
	Remarks _____	_____
(4)	Blocking & Bracing.	
	Remarks _____	_____
(5)	Truck/Van Lights	
	Remarks _____	_____
(6)	Truck/Van Placarded	
	Remarks _____	_____

Initials indicate inspection was made and results were acceptable. If items affecting safe transportation of load are found, notify the carrier immediately.

Person Contacted _____ Date _____

Vehicle inspection criteria as follows:

- (1) Truck/Van Tires - A minimum of 1/16" tread, no fabric exposed on sidewall, no cuts or injuries into fabric.
- (2) Truck/Van Wheels - Check for visible cracked wheels, loose lug nuts or missing studs.
- (3) Overall Condition of the Van - Visually check for cracks and holes in the van, especially in the ceiling. Should there be cracks or holes, try to repair them onsite. If the damage is too severe, immediately notify the carrier.
- (4) Blocking and Bracing - Packages of waste must be blocked and braced to prevent shifting of lading under conditions normally incident to transportation.
- (5) Truck/Van Lights - Checks for operation of head-lights, tail-lights, brake-lights and directional signals.
- (6) Truck/Van Placarded - Placarding on front, sides and rear as required.

FILTER CHANGE SIGN-OFF SHEET

NOTE: The time period between Step 1 and Step 2 must be greater than or equal to 15 minutes.

OPERATIONS

DATE / TIME / BY

STEP 1: Filter-Vented and Drained (Clearance hung). Place this form on RWP Paper at job site. / /

MAINTENANCE

STEP 2: Verify drum contains no absorbent material / /
Remove Filter, Transport to 587' Drumming Room and place in Drum (time filter removed from housing). / /

NOTE: Filter must not have a continuous flow of water coming from it. It should only be dripping.

CAUTION: Use extreme care, when placing the filter into the receiving barrel to avoid spreading contamination.

STEP 2 time minus STEP 1 time =

Total Drain Time Minutes / /

Maintenance personnel should give form to RP personnel covering the job.

RADIATION PROTECTION

Filter Drum Location

Filter type Drum Number

Contact Rad. Reading on Drum

 / /

After completion of this sheet, RP should forward it to the Radioactive Materials Control Section.

HIGH LEVEL DRUM STORAGE
SIGN-OFF SHEET

For any drum, with contents other than filters, placed in the 587' Drumming Room high level storage area the following must be completed:

Drum Number _____

Drum Location _____

Contact Rad. Level _____

Drum Contents _____

Indicate whether radwaste or to be saved:

RADWASTE _____ SAVE _____

_____/_____/_____
Date Time By

After completion of this sheet, forward it to the
Radioactive Materials Control Section.

1. 10. 1941

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14. 10. 1941

15. 10. 1941

DRUM LOADING SHEET

[illegible]

METER TYPE/NO. _____ SURVEYED BY _____ REMARKS _____

TIME DATE

APPENDIX 4

OFFSITE DOSE CALCULATION MANUAL (ODCM) CHANGES

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT
INSTRUCTION AND PROCEDURE CHANGE SHEET

FORM 5328
Revised 9/87

INFORMATION RECORDS CENTER
CONTROLLED
DOCUMENT
OCT 28 1988
VOLUME #

INSTRUCTION OR PROCEDURE NO.: PMP 6010.
OSD.001 REVISION NO.: 2 CHANGE SHEET NO.: 6

TITLE: Off-Site Dose Calculation Manual PAGE 1 of 1

ORIGINATED BY: <u>[Signature]</u>	DATE: <u>10-12-88</u>
MANAGEMENT STAFF: <u>[Signature]</u>	DATE: <u>10/17/88</u>
SENIOR REACTOR OPERATOR: <u>[Signature]</u>	DATE: <u>10/18/88</u>
Q.A. SUPERVISOR: <u>[Signature]</u>	DATE: <u>10/26/88</u>
PNSRC: <u>Intg. # 2192</u>	DATE: <u>10/27/88</u>
PLANT MANAGER: <u>[Signature]</u>	DATE: <u>10/27/88</u>

PROCEDURE SUBC. [Signature] DATE 10-18-88 EXPIRATION DATE: Operation of RRS-1000

DESCRIPTION OF CHANGE

Delete the paragraphs on Page 12 of 41 that address the use of weighted gamma energies, efficiency factors and use of the calibration curve to convert $\mu\text{Ci/ml}$ to cpm for the monitor alarm setpoint.

REASON(S) FOR CHANGE

Response to Problem Report 88-356. The methodology employed in this document to determine alarm setpoints is non conservative.

INSTRUCTIONS FOR INCORPORATING CHANGE

Replace the following:

List of Effective Pages, Page 1 of 6, Rev. 2, CS-2 with Page 1 of 6, Rev. 2, CS-2, CS-6; Page 4 of 6, Rev. 2, CS-1, CS-4 with Page 4 of 6, Rev. 2, CS-1, CS-4, CS-6

Page 12 of 41, Rev. 2, with Page 12 of 41, Rev. 2, CS-6

Attachment 3.27, Rev. 2 with Rev. 2, CS-6

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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
Page 16 of 41	Revision 2
Page 17 of 41	Revision 2
Page 18 of 41	Revision 2
Page 19 of 41	Revision 2
Page 20 of 41	Revision 2
Page 21 of 41	Revision 2
Page 22 of 41	Revision 2
Page 23 of 41	Revision 2
Page 24 of 41	Revision 2
Page 25 of 41	Revision 2

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<u>PAGE NUMBER</u>	<u>REVISION NUMBER/EFFECTIVE CHANGE</u>
Page 26 of 41	Revision 2
Page 27 of 41	Revision 2
Page 28 of 41	Revision 2
Page 29 of 41	Revision 2
Page 30 of 41	Revision 2
Page 31 of 41	Revision 2, CS-3
Page 32 of 41	Revision 2, CS-3
Page 33 of 41	Revision 2
Page 34 of 41	Revision 2
Page 35 of 41	Revision 2
Page 36 of 41	Revision 2
Page 37 of 41	Revision 2
Page 38 of 41	Revision 2
Page 39 of 41	Revision 2
Page 40 of 41	Revision 2
Page 41 of 41	Revision 2
 <u>ATTACHMENT 3.1</u>	
Page 1 of 1	Revision 2
 <u>ATTACHMENT 3.2</u>	
Page 1 of 1	Revision 2
 <u>ATTACHMENT 3.3</u>	
Page 1 of 1	Revision 2
 <u>ATTACHMENT 3.4</u>	
Page 1 of 1	Revision 2

MEMORANDUM FOR THE DIRECTOR

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<u>PAGE NUMBER</u>	<u>REVISION NUMBER/EFFECTIVE CHANGE</u>
<u>ATTACHMENT 3.5</u>	
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>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.16</u>	
Page 1 of 1	Revision 2

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<u>PAGE NUMBER</u>	<u>REVISION NUMBER/EFFECTIVE CHANGE</u>
<u>ATTACHMENT 3.17</u>	
Page 1 of 1	Revision 2, CS-1, CS-4
<u>ATTACHMENT 3.18</u>	
Page 1 of 1	Revision 2, CS-1, CS-4
<u>ATTACHMENT 3.19</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.20</u>	
Page 1 of 1	Revision 2, CS-1
<u>ATTACHMENT 3.21</u>	
Page 1 of 2	Revision 2
Page 2 of 2	Revision 2
<u>ATTACHMENT 3.22</u>	
Page 1 of 2	Revision 2
Page 2 of 2	Revision 2
<u>ATTACHMENT 3.23</u>	
Page 1 of 2	Revision 2
Page 2 of 2	Revision 2
<u>ATTACHMENT 3.24</u>	
Page 1 of 2	Revision 2
Page 2 of 2	Revision 2
<u>ATTACHMENT 3.25</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.26</u>	
Page 1 of 1	Revision 2
<u>ATTACHMENT 3.27</u>	
Page 1 of 1	Revision 2, CS-6

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5. *Chlorophyll a* and *Chlorophyll b* contents were determined by spectrophotometry using the method of Lichtenthaler and Whaley (1987).

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| <u>PAGE NUMBER</u> | <u>REVISION NUMBER/EFFECTIVE CHANGE</u> |
|------------------------|---|
| <u>ATTACHMENT 3.28</u> | |
| Page 1 of 1 | Revision 2 |
| <u>ATTACHMENT 3.29</u> | |
| Page 1 of 1 | Revision 2 |
| <u>ATTACHMENT 3.30</u> | |
| Page 1 of 1 | Revision 2 |
| <u>ATTACHMENT 3.31</u> | |
| Page 1 of 2 | Revision 2 |
| Page 2 of 2 | Revision 2 |
| <u>ATTACHMENT 3.32</u> | |
| Page 1 of 2 | Revision 2 |
| Page 2 of 2 | Revision 2 |
| <u>ATTACHMENT 3.33</u> | |
| Page 1 of 3 | Revision 2 |
| Page 2 of 3 | Revision 2 |
| Page 3 of 3 | Revision 2 |
| <u>ATTACHMENT 3.34</u> | |
| Page 1 of 1 | Revision 2 |
| <u>ATTACHMENT 3.35</u> | |
| Page 1 of 1 | Revision 2 |
| <u>ATTACHMENT 3.36</u> | |
| Page 1 of 1 | Revision 2 |
| <u>ATTACHMENT 3.37</u> | |
| Page 1 of 1 | Revision 2 |

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PAGE NUMBER

REVISION NUMBER/EFFECTIVE CHANGE

ATTACHMENT 3.38

| | |
|-------------|------------|
| Page 1 of 5 | Revision 2 |
| Page 2 of 5 | Revision 2 |
| Page 3 of 5 | Revision 2 |
| Page 4 of 5 | Revision 2 |
| Page 5 of 5 | Revision 2 |

- (2) Decrease the maximum effluent flow rate, f , while maintaining a constant dilution flow rate F .
- (3) Reprocess liquid effluents as is necessary.

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If no discharges are planned through this liquid effluent radiation monitor R-18 (Tag No. RRC-285) the monitor set-point will be set (Reference 2.6) as close to the ambient background radiation level as practicable to prevent

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