

NINE MILE POINT NUCLEAR STATION - UNIT 1
SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY - JUNE 1996

NIAGARA MOHAWK POWER CORPORATION

9609090345 960828
PDR ADOCK 05000220
R PDR



NINE MILE POINT NUCLEAR STATION - UNIT 1
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SUPPLEMENTAL INFORMATION

Facility: Nine Mile Point Unit #1

Licensee: Niagara Mohawk Power Corporation

1. TECHNICAL SPECIFICATION LIMITS

A) FISSION AND ACTIVATION GASES

1. The dose rate limit of noble gases from the site to areas at and beyond the site boundary shall be less than or equal to 500 mrem/year to the total body and less than or equal to 3000 mrem/year to the skin.
2. The air dose due to noble gases released in gaseous effluents from the Nine Mile Point 1 Station to areas at and beyond the site boundary shall be limited during any calendar quarter to less than or equal to 5 milliroentgen for gamma radiation and less than or equal to 10 mrad for beta radiation and during any calendar year to less than or equal to 10 milliroentgen for gamma radiation and less than or equal to 20 mrad for beta radiation.

B&C) TRITIUM, IODINES AND PARTICULATES, HALF LIVES > 8 DAYS

1. The dose rate limit of Iodine-131, Iodine-133, Tritium and all radionuclides in particulate form with half-lives greater than eight days, released to the environs as part of the gaseous effluents from the site, shall be less than or equal to 1500 mrem/year to any organ.
2. The dose to a member of the public from Iodine-131, Iodine-133, Tritium and all radionuclides in particulate form with half lives greater than eight days as part of gaseous effluents released from the Nine Mile Point 1 Station to areas at and beyond the site boundary shall be limited during any calendar quarter to less than or equal to 7.5 mrem to any organ and, during any calendar year to less than or equal to 15 mrem to any organ.

D) LIQUID EFFLUENTS

1. The concentration of radioactive material released in liquid effluents to unrestricted areas shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2E-04 microcuries/ml total activity.
2. The dose or dose commitment to a member of the public from radioactive materials in liquid effluents released from Nine Mile Point Unit 1 to unrestricted areas shall be limited during any calendar quarter to less than or equal to 1.5 mrem to the total body and to less than or equal to 5 mrem to any organ, and during any calendar year to less than or equal to 3 mrem to the total body and to less than or equal to 10 mrem to any organ.



2. MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY

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

A) FISSION AND ACTIVATION GASES

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

B) IODINES

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

C) PARTICULATES

Activity released from the main stack is determined by gamma spectroscopic analysis (at least weekly) of particulate filters sampled from an isokinetic sample stream.

For emergency condenser vent releases, effluent curie quantities are estimated based on the isotopic distribution in the Condensate Storage Tank water and the Emergency Condenser shell water. Actual isotopic concentrations are found via gamma spectroscopy. Initial release rates of Sr-89, Sr-90 and Fe-55 are estimated by applying scaling factors to release rates of gamma emitters. For emergency condenser vent releases, the activity of Tritium released during normal operation or during batch releases is conservatively estimated by multiplying recent condensate storage tank H-3 activity by assumed steaming rates out the vents.

D) TRITIUM

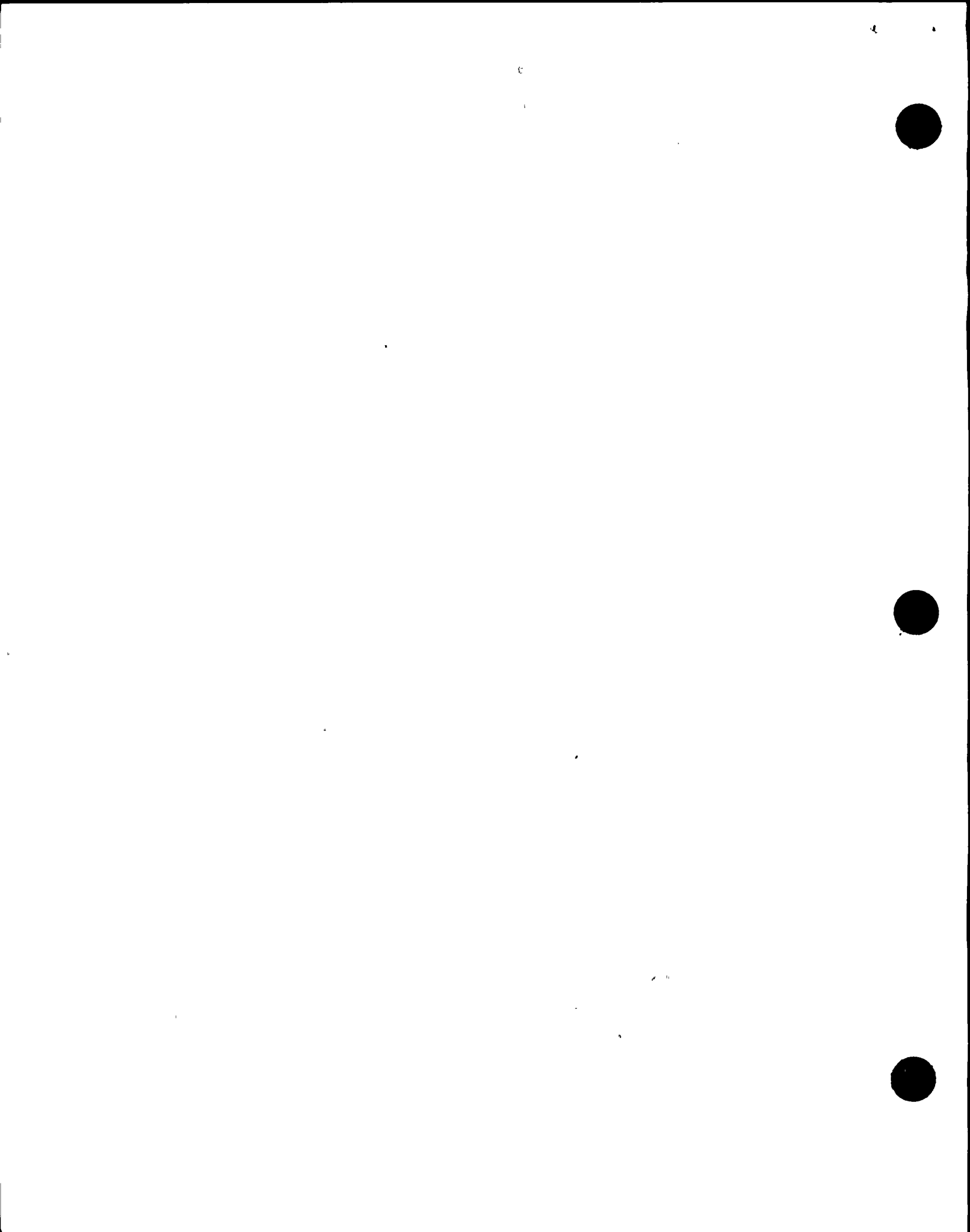
Tritium effluent activity is measured by liquid scintillation or gas proportional counting of monthly samples taken with an air sparging/water trap apparatus.

E) LIQUID EFFLUENTS

Isotopic contents of liquid effluents are determined by isotopic analysis of a representative sample of each batch and composite analysis of non-gamma emitters.

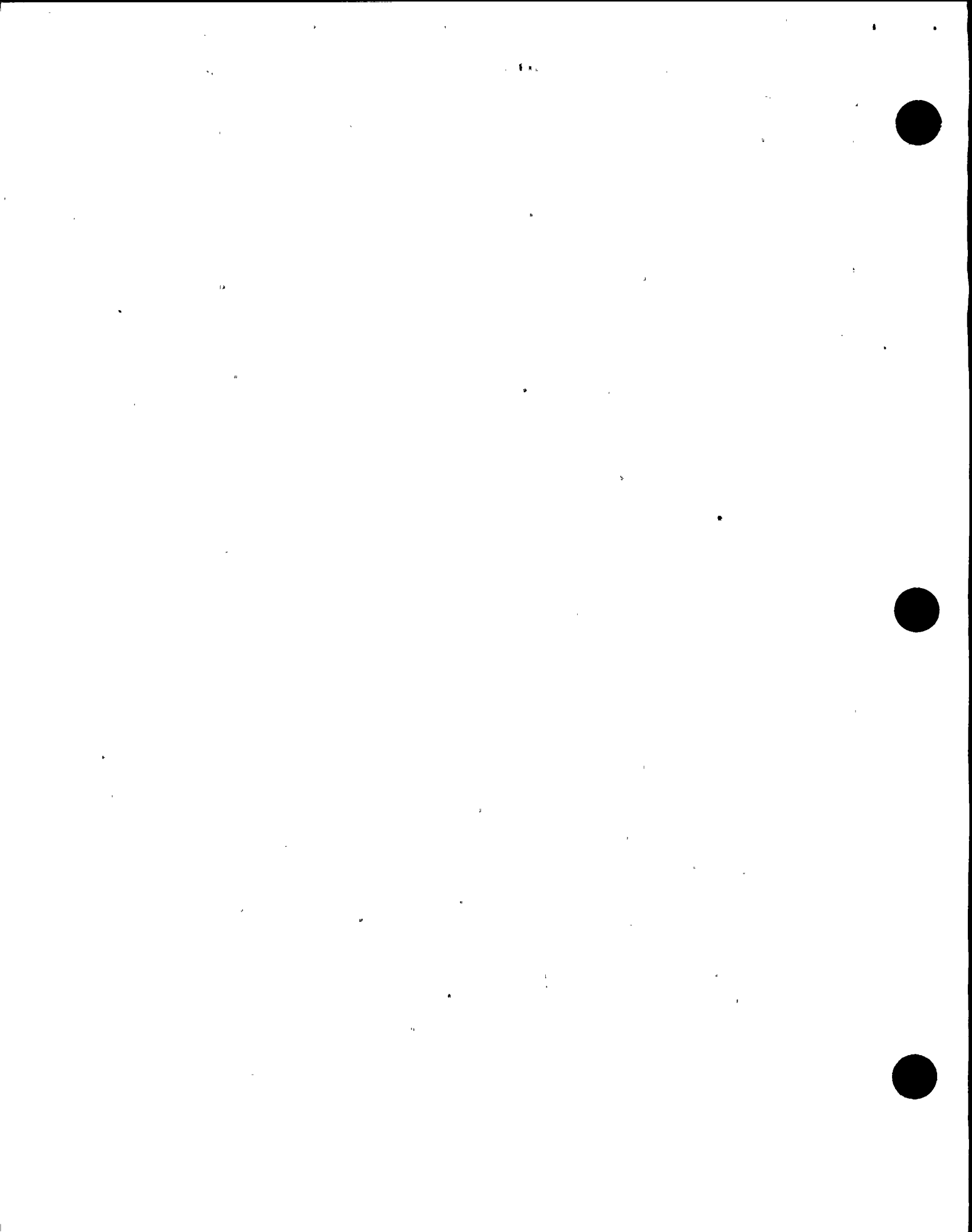
F) SOLID EFFLUENTS

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



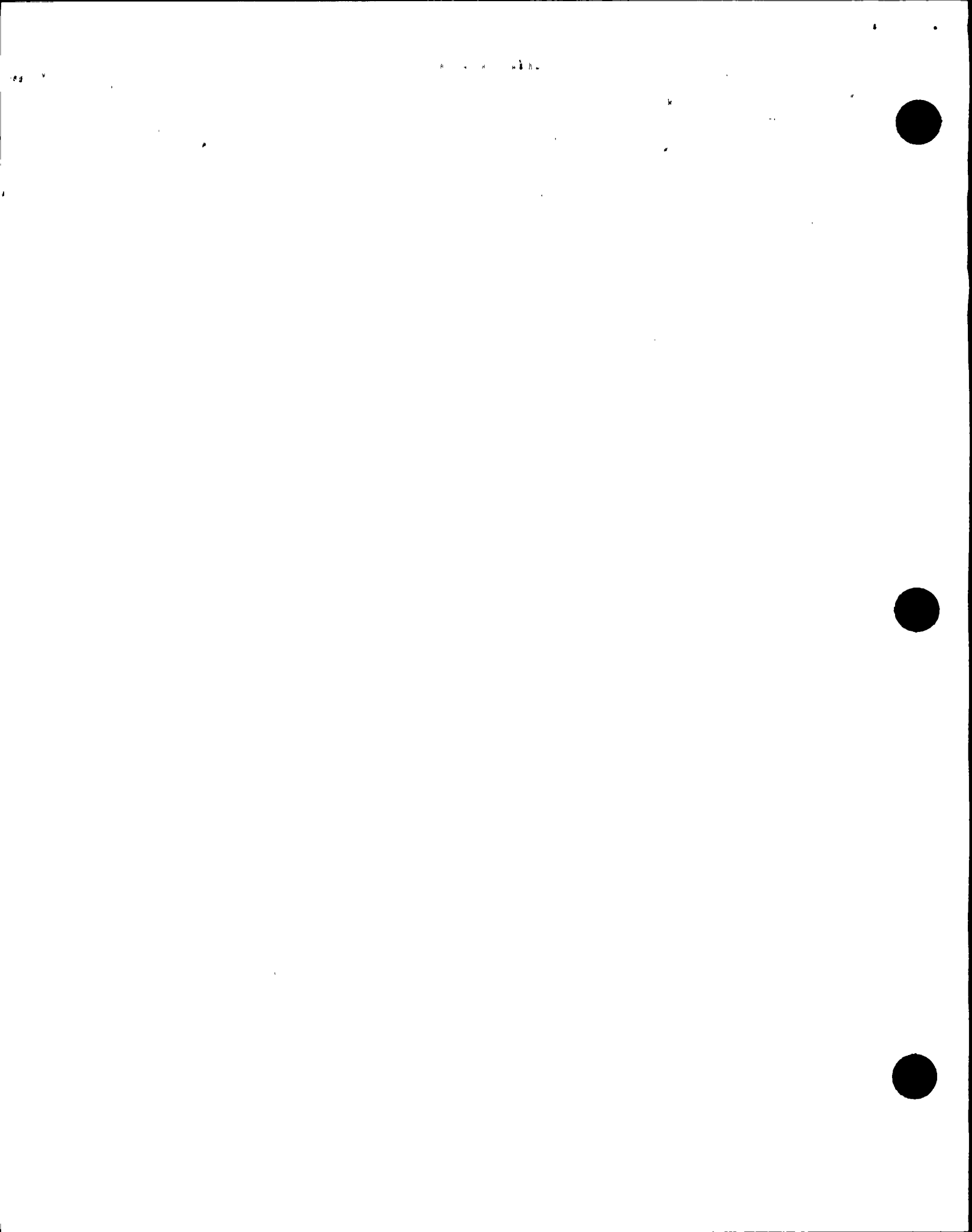
**ATTACHMENT 1
Summary Data**

Unit 1 <u>X</u> Unit 2 <u> </u>	Reporting Period <u>January - June 1996</u>
Liquid Effluents:	
10CFR20, Appendix B, Table II, Column 2	
Average MPC - uCi/ml (Qtr. 1) = <u>N/A</u>	
Average MPC - uCi/ml (Qtr. 2) = <u>2.70E-03</u>	
Average Energy (Fission and Activation gases - Mev):	
Qtr. <u>1</u> :	E _γ = <u>2.47E-01</u> E _p = <u>3.17E-01</u>
Qtr. <u>2</u> :	E _γ = <u>1.61E-01</u> E _p = <u>2.39E-01</u>
Liquid:	
Number of batch releases	: <u>2</u> (Reflects May 1996 Emergency Condenser Vent testing.)
Total time period for batch releases (hrs)	: <u>4.00E-01</u>
Maximum time period for a batch release (hrs)	: <u>2.17E-01</u>
Average time period for a batch release (hrs)	: <u>2.00E-01</u>
Minimum time period for a batch release (hrs)	: <u>1.83E-01</u>
Total volume of water used to dilute the liquid effluent during release period (L)	: <u>1.36E+04</u>
Total volume of water used to dilute the liquid effluent during reporting period (L)	: <u>7.44E+07</u>
NOTE: Since there were no releases during the first quarter, only second quarter dilution flow is reported.	
Gaseous (Emergency Condenser Vent):	
Number of batch releases	: <u>2</u>
Total time period for batch releases (hrs)	: <u>4.00E-01</u>
Maximum time period for a batch release (hrs)	: <u>2.17E-01</u>
Average time period for a batch release (hrs)	: <u>2.00E-01</u>
Minimum time period for a batch release (hrs)	: <u>1.83E-01</u>
Gaseous (Primary Containment Purge):	
Number of batch releases	: <u>1</u>
Total time period for batch releases (hrs)	: <u>7.25E+00</u>
Maximum time period for a batch release (hrs)	: <u>7.25E+00</u>
Average time period for a batch release (hrs)	: <u>7.25E+00</u>
Minimum time period for a batch release (hrs)	: <u>7.25E+00</u>



ATTACHMENT 1
Summary Data

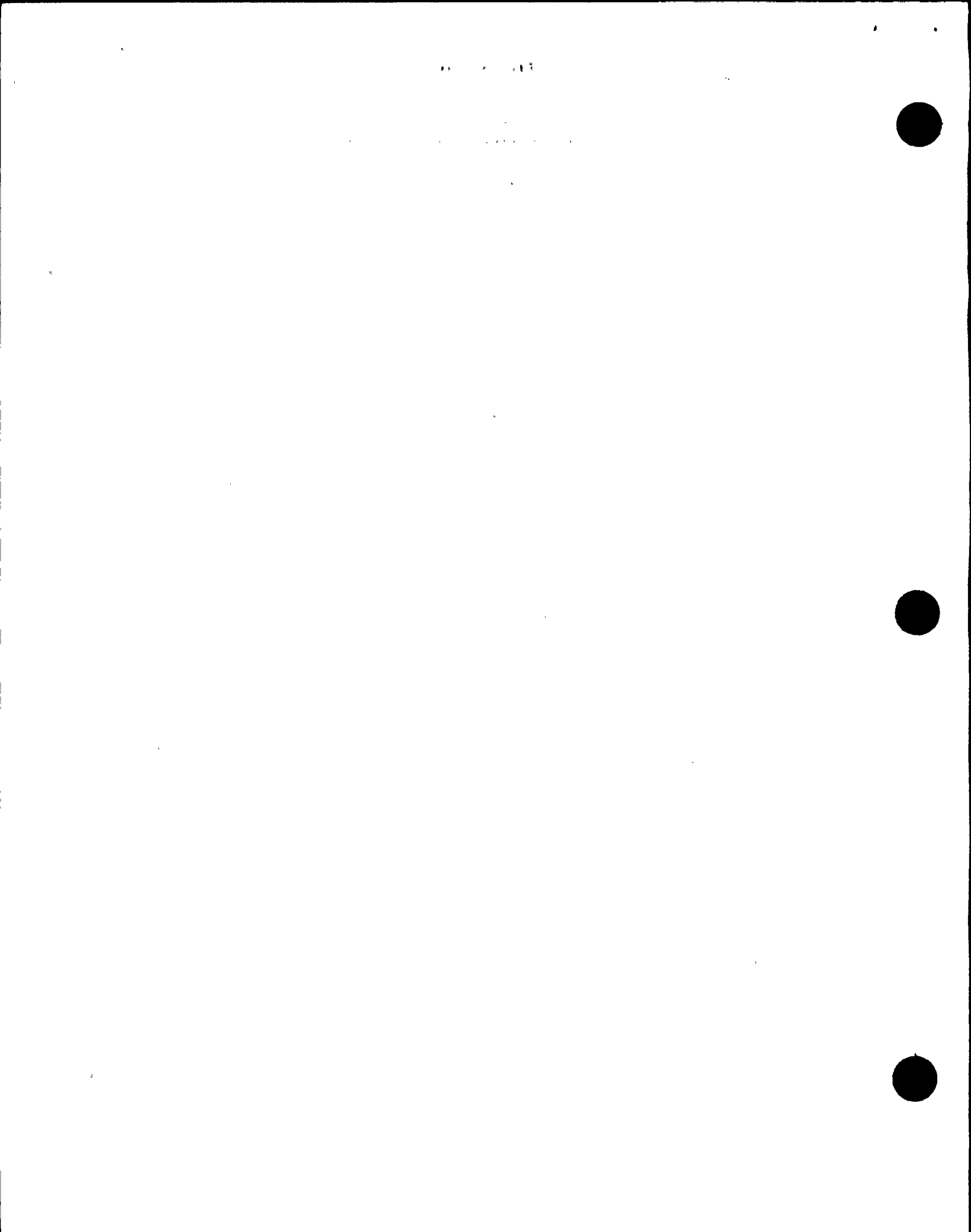
Unit 1 <u>X</u> Unit 2 <u> </u>	Reporting Period <u>January - June 1996</u>
Abnormal Releases: There were no abnormal releases during the reporting period.	
A. Liquids:	
Number of releases	<u>0</u>
Total activity released	<u>N/A</u> Ci
B. Gaseous:	
Number of releases	<u>0</u>
Total activity released	<u>N/A</u> Ci



ATTACHMENT 2

Unit 1 <u>X</u> Unit 2 <u> </u>		Reporting Period <u>January - June 1996</u>		
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES, ELEVATED AND GROUND LEVEL				
		<u>1st</u> <u>QUARTER</u>	<u>2nd</u> <u>QUARTER</u>	<u>EST. TOTAL</u> <u>ERROR, %</u>
A.	<u>Fission & Activation gases</u>			
	1. Total release	<u>1.98E-01</u>	<u>1.03E-05</u>	5.00E+01
	2. Average release rate	<u>2.52E-02</u>	<u>1.31E-06</u>	
B.	<u>Iodines</u>			
	1. Total Iodine-131	<u>2.01E-04</u>	<u>1.68E-04</u>	3.00E+01
	2. Average release rate for period	<u>2.59E-05</u>	<u>2.14E-05</u>	
C.	<u>Particulates¹</u>			
	1. Particulates with half-lives >8 days	<u>3.95E-05</u>	<u>9.71E-04</u>	3.00E+01
	2. Average release rate for period	<u>5.09E-06</u>	<u>1.24E-04</u>	
	3. Gross alpha radioactivity	<u>3.21E-05</u>	<u>5.59E-05</u>	2.50E+01
D.	<u>Tritium¹</u>			
	1. Total release	<u>8.31E+00</u>	<u>2.92E+01</u>	5.00E+01
	2. Average release rate for period	<u>1.07E+00</u>	<u>3.72E+00</u>	
E.	<u>Percent of Tech. Spec. Limits</u>			
	<u>Fission and Activation Gases</u>			
	Percent of Quarterly Gamma Air Dose Limit (5 mR)	<u>9.08E-04</u>	<u>3.02E-08</u>	
	Percent of Quarterly Beta Air Dose Limit (10 mrad)	<u>3.71E-04</u>	<u>1.45E-08</u>	
	Percent of Annual Gamma Air Dose Limit to Date (10 mR)	<u>4.54E-04</u>	<u>4.54E-04</u>	
	Percent of Annual Beta Air Dose Limit to Date (20 mrad)	<u>1.86E-04</u>	<u>1.86E-04</u>	
	Percent of Whole Body Dose Rate Limit (500 mrem/yr)	<u>2.41E-05</u>	<u>7.94E-10</u>	
	Percent of Skin Dose Rate Limit (3000 mrem/yr)	<u>8.47E-06</u>	<u>2.83E-10</u>	
	<u>Tritium, Iodines, and Particulates¹</u>			
	<u>(with half-lives greater than 8 days)</u>			
	Percent of Quarterly Dose Limit (7.5 mrem)	<u>1.14E-01</u>	<u>3.03E-01</u>	
	Percent of Annual Dose Limit (15 mrem)	<u>5.76E-02</u>	<u>2.55E-01</u>	
	Percent of Organ Dose Rate Limit (1500 mrem/yr)	<u>2.32E-03</u>	<u>6.09E-03</u>	

¹ Tritium, Iron-55, and Strontium results for the second quarter were not received from the off-site vendor at the time of this report. These categories include estimates, and actual numbers will be provided in the next Semi-Annual Report.



ATTACHMENT 3

Unit 1 <u>X</u> Unit 2 <u> </u>		Reporting Period <u>January - June 1996</u>	
GASEOUS EFFLUENTS - ELEVATED RELEASE			
CONTINUOUS MODE ³			
Nuclides Released		1 st	2 nd
		QUARTER	QUARTER
1. Fission Gases^{1,4}			
Argon-41	Ci	**	**
Krypton-85	Ci	**	**
Krypton-85m	Ci	**	**
Krypton-87	Ci	**	**
Krypton-88	Ci	**	**
Xenon-127	Ci	**	**
Xenon-133	Ci	**	4.42E-06
Xenon-133m	Ci	**	**
Xenon-135	Ci	1.98E-01	5.90E-06
Xenon-135m	Ci	**	**
Xenon-137	Ci	**	**
Xenon-138	Ci	**	**
2. Iodines¹			
Iodine-131	Ci	2.01E-04	1.68E-04
Iodine-133	Ci	1.51E-03	5.19E-04
Iodine-135	Ci	**	**
3. Particulates^{1,2}			
Strontium-89	Ci	2.68E-05	5.69E-04
Strontium-90	Ci	**	7.05E-05
Cesium-134	Ci	**	**
Cesium-137	Ci	**	2.93E-06
Cobalt-60	Ci	1.13E-05	4.68E-05
Cobalt-58	Ci	**	**
Manganese-54	Ci	**	6.97E-06
Barium-Lanthanum-140	Ci	**	**
Antimony-125	Ci	**	**
Niobium-95	Ci	**	**
Cerium-141	Ci	**	**
Cerium-144	Ci	**	**
Iron-59	Ci	**	**
Cesium-136	Ci	**	**
Chromium-51	Ci	**	**
Zinc-65	Ci	**	**
Iron-55	Ci	**	2.69E-04
Molybdenum-99	Ci	**	**
4. Tritium²			
Tritium	Ci	2.53E+00	2.37E+01

¹ Concentrations less than the lower limit of detection of the counting system used are indicated with a double asterisk. A lower limit of detection of 1.00E-04 µCi/ml for required noble gases, 1.00E-11 µCi/ml for required particulates, 1.00E-12 µCi/ml for required Iodines, and 1.00E-06 µCi/ml for Tritium, as required by Technical Specifications, has been verified.

² Tritium, Iron-55, and Strontium results for the second quarter were not received from the off-site vendor at the time of this report. These numbers include estimates and actual numbers will be included in the next Semi-Annual Report.

³ No batch mode release occurred during the reporting period.

⁴ Second quarter fission gas activities are for the May 5, 1996 inadvertent release to the stack during a surveillance test. The activities have been determined from post event primary containment sample concentrations.



ATTACHMENT 4

Unit 1 X Unit 2

Reporting Period January - June 1996

GASEOUS EFFLUENTS - GROUND LEVEL RELEASES

For continuous mode releases; only leakage from the vents results in an assumed release based on the concentrations in the condensate storage tanks and condenser shells.

		CONTINUOUS MODE		BATCH MODE	
				There were no batch releases during the 1st quarter. Emergency Condenser vent testing was performed in May.	
		<u>1st</u>	<u>2nd</u>	<u>1st</u>	<u>2nd</u>
		<u>QUARTER</u>	<u>QUARTER</u>	<u>QUARTER</u>	<u>QUARTER</u>
1.	<u>Fission Gases</u> ¹				
	Argon-41	Ci	**	**	**
	Krypton-85	Ci	**	**	**
	Krypton-85m	Ci	**	**	**
	Krypton-87	Ci	**	**	**
	Krypton-88	Ci	**	**	**
	Xenon-133	Ci	**	**	**
	Xenon-133m	Ci	**	**	**
	Xenon-135	Ci	**	**	**
	Xenon-135m	Ci	**	**	**
	Xenon-137	Ci	**	**	**
	Xenon-138	Ci	**	**	**
	Xenon-127	Ci	**	**	**
2.	<u>Iodines</u> ¹				
	Iodine-131	Ci	**	**	**
	Iodine-133	Ci	**	**	**
	Iodine-135	Ci	**	**	**
3.	<u>Particulates</u> ^{1,2}				
	Strontium-89	Ci	**	<u>4.88E-07</u>	<u>3.05E-08</u>
	Strontium-90	Ci	**	<u>6.10E-08</u>	<u>3.82E-09</u>
	Cesium-134	Ci	**	**	**
	Cesium-137	Ci	**	<u>1.22E-07</u>	<u>7.64E-09</u>
	Cobalt-60	Ci	<u>1.35E-06</u>	<u>2.62E-06</u>	<u>2.43E-07</u>
	Cobalt-58	Ci	**	**	**
	Manganese-54	Ci	<u>7.80E-09</u>	<u>2.04E-09</u>	<u>6.29E-10</u>
	Barium-Lanthanum-140	Ci	**	**	**
	Antimony-125	Ci	**	**	**
	Niobium-95	Ci	**	**	**
	Cerium-141	Ci	**	**	**
	Cerium-144	Ci	**	**	**
	Iron-59	Ci	**	**	**
	Cesium-136	Ci	**	**	**
	Chromium-51	Ci	**	**	**
	Zinc-65	Ci	**	**	**
	Iron-55	Ci	**	<u>2.13E-06</u>	<u>2.43E-07</u>
	Molybdenum-99	Ci	**	**	**
4.	<u>Tritium</u> ¹	Ci	<u>5.78E+00</u>	<u>5.26E+00</u>	<u>2.04E-01</u>

¹ Emergency Condenser Vent (ground level) releases are determined in accordance with the Off-Site Dose Calculation Manual.

² Iron-55 and Strontium results for the second quarter were not received from the off-site vendor at the time of this report. The particulate category includes estimates, and actual numbers will be included in the next Semi-Annual Report.



Unit 1 X Unit 2 Reporting Period January - June 1996

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

		<u>1st</u> <u>QUARTER</u>	<u>2nd</u> <u>QUARTER</u>	<u>EST. TOTAL</u> <u>ERROR, %</u>	
A. Fission & Activation Products					
1.	Total release (not including Tritium, gases, alpha)	Ci	No Releases	<u>7.25E-06</u>	5.00E+01
2.	Average diluted concentration during reporting period	μ Ci/ml	No Releases	<u>9.74E-11</u>	
B. Tritium					
1.	Total release	Ci	No Releases	<u>6.43E-03</u>	5.00E+01
2.	Average diluted concentration during reporting period	μ Ci/ml	No Releases	<u>8.64E-08</u>	
C. <u>Dissolved and Entrained Gases</u>¹					
1.	Total release	Ci	No Releases	<u>**</u>	5.00E+01
2.	Average diluted concentration during reporting period	μ Ci/ml	No Releases	<u>**</u>	
D. <u>Gross Alpha Radioactivity</u>					
1.	Total release	Ci	No Releases	<u>6.78E-09</u>	5.00E+01
E. <u>Volumes</u>					
1.	Prior to dilution	Liters	No Releases	<u>3.79E+03</u>	5.00E+01
2.	Volume of dilution water used during release period	Liters	No Releases	<u>1.36E+04</u>	5.00E+01
3.	Volume of dilution water available during reporting period:				5.00E+01
	Normal Cooling Water	Liters	<u>1.26E+11</u>	<u>1.31E+11</u>	
	Perimeter Drain System	Liters	<u>N/A</u>	<u>7.44E+07</u>	
F. <u>Percent of Technical Specification Limits</u>¹					
	Percent of Quarterly Whole Body Dose Limit (1.5 mrem)	%	No Releases	<u>4.06E-02</u>	
	Percent of Quarterly Organ Dose Limit (5 mrem)	%	No Releases	<u>2.14E-02</u>	
	Percent of Annual Whole Body Dose Limit to Date (3 mrem)	%	No Releases	<u>2.03E-02</u>	
	Percent of Annual Organ Dose Limit to Date (10 mrem)	%	No Releases	<u>1.07E-02</u>	
	Percent of 10CFR20 Concentration Limit ²	%	No Releases	<u>3.21E-03</u>	
	Percent of Dissolved or Entrained Noble Gas Limit (2.00E-04 μ Ci/ml)	%	No Releases	<u>**</u>	

¹ Concentrations less than the lower limit of detection, as required by Technical Specifications or station procedures are indicated with a double asterisk.

² The percent of the 10CFR20 concentration limit is based on the average concentration during the quarter.

Unit 1 X Unit 2

Reporting Period January - June 1996

LIQUID EFFLUENTS RELEASED

BATCH MODE¹

Nuclides Released ³		BATCH MODE ¹	
		1 st QUARTER	2 nd QUARTER ²
Strontium-89	Ci	No Releases	**
Strontium-90	Ci	No Releases	**
Cesium-134	Ci	No Releases	**
Cesium-137	Ci	No Releases	<u>4.35E-08</u>
Iodine-131	Ci	No Releases	**
Cobalt-58	Ci	No Releases	**
Cobalt-60	Ci	No Releases	<u>7.19E-06</u>
Iron-59	Ci	No Releases	**
Zinc-65	Ci	No Releases	**
Manganese-54	Ci	No Releases	<u>1.86E-08</u>
Chromium-51	Ci	No Releases	**
Zirconium-Niobium-95	Ci	No Releases	**
Molybdenum-99	Ci	No Releases	**
Technetium-99m	Ci	No Releases	**
Barium-Lanthanum-140	Ci	No Releases	**
Cerium-141	Ci	No Releases	**
Tungsten-187	Ci	No Releases	**
Arsenic-76	Ci	No Releases	**
Iodine-133	Ci	No Releases	**
Iron-55	Ci	No Releases	**
Neptunium-239	Ci	No Releases	**
Praseodymium-144	Ci	No Releases	**
Iodine-135	Ci	No Releases	**
Dissolved or Entrained Gases	Ci	No Releases	**
Tritium	Ci	No Releases	<u>6.43E-03</u>

¹ No continuous mode release occurred during the report period.

² Activities reflect the May 1996 Emergency Condenser Vent liquid discharge due to Emergency Condenser Vent testing. There were no other batch mode releases during the second quarter 1996.

³ Concentrations less than the lower limit of detection, as required by Technical Specifications or station procedures are indicated with a double asterisk.



Unit 1 <u>X</u> Unit 2 <u> </u>		Reporting Period <u>January - June 1996</u>					
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS: There were no shipments sent for burial.							
A.1 TYPE	Volume (m ³)			Activity ¹ (Ci)			
	Class			Class			
	A	B	C	A	B	C	
1. Spent Resin ²	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
Filter Sludge	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
Concentrated Waste Evaporator Bottoms	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
Total	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
2. Dry Compressible Waste, Dry Non-Compressible Waste (Contaminated Equipment)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
3. Irradiated Components	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
4. Other	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	

¹ The estimated total error is 5.00E+01%.

² Three Unit 1 steel encased high integrity containers of waste bead resin were added to interim storage at Nine Mile Point during the reporting period. The total activity for two containers of waste Class A bead resin, decay corrected to July 1, 1996, was 1.86E+00 curies and the volume was 1.12E+01m³. The total activity for one container of waste Class B bead resin, decay corrected to July 1, 1996, was 5.65 E+01 curies and the volume was 5.61E+00m³.



Unit 1 <u>X</u> Unit 2 <u> </u>		Reporting Period <u>January - June 1996</u>	
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS			
A.1 TYPE	<u>Container</u>	<u>Package</u>	<u>Solidification Agent</u>
1. Spent Resin	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Filter Sludge	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Concentrated Waste	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
2. Dry Compressible Waste, Dry Non-Compressible Waste (Contaminated Equipment)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
3. Irradiated Components	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
4. Other	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>



Unit 1 <u>X</u> Unit 2 <u> </u>		Reporting Period <u>January - June 1996</u>
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS		
A.2 ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)		
a. Spent Resins, Filter Sludges, Concentrated Waste: There were no shipments		
<u>Nuclide</u>	<u>Percent</u>	
b. Dry Compressible Waste, Dry Non-Compressible Waste (Contaminated Equipment): There were no shipments.		
<u>Nuclide</u>	<u>Percent</u>	
c. Irradiated Components: There were no shipments.		
<u>Nuclide</u>	<u>Percent</u>	
d. Other: There were no shipments.		
<u>Nuclide</u>	<u>Percent</u>	

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10



Unit 1 X Unit 2 Reporting Period January - June 1996**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS****A.3. SOLID WASTE DISPOSITION**

There were no shipments

Number of Shipments0Mode of TransportationN/ADestinationN/A**B. IRRADIATED FUEL SHIPMENTS (DISPOSITION): There were no shipments.**Number of Shipments0Mode of TransportationN/ADestinationN/A



Unit 1 X Unit 2

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SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

C. SOLID WASTE SHIPPED OFF-SITE TO VENDORS FOR PROCESSING AND SUBSEQUENT BURIAL

Below is a summary of NMP-1 radwaste buried by vendor facilities during January - June 1996. These totals were reported separately from "10CFR61 Solid Waste Shipped for Burial" since (a) waste classification and burial was performed by the vendors, and (b) Technical Specification 6.9.1 requires reporting of "information for each class of solid waste (as defined by 10CFR61) shipped off-site during the reporting period." The following data represents the actual shipments made from the off-site vendors of our radwaste (e.g., non-compacted trash, dry non-compressible waste, high conductivity waste water) that was processed and commingled prior to burial.

C.1. TYPE OF WASTE - Noncompacted trash, high conductivity waste water, and/or dry non-compressible waste processed by vendor facilities prior to burial at Barnwell, SC.

<u>Burial Volume</u> <u>(m³)</u>	<u>Activity</u> <u>(Ci)</u>	<u>Est. Total</u> <u>Error, %</u>
<u>5.68E+00</u>	<u>1.74E+00</u>	<u>5.00+01</u>

C.2. ESTIMATE OF MAJOR NUCLIDE COMPOSITION

<u>Nuclide</u>	<u>Percent</u>
(1) <u>Fo-55</u>	<u>4.14E+01</u>
(2) <u>Co-60</u>	<u>2.46E+01</u>
(3) <u>Cs-137</u>	<u>2.17E+01</u>
(4) <u>Mn-54</u>	<u>7.23E+00</u>
(5) <u>Cs-134</u>	<u>1.90E+00</u>
(6) <u>Other</u>	<u>3.17E+00</u>

C.3. SOLID WASTE DISPOSITION¹

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
<u>20</u>	<u>Truck</u>	<u>Barnwell, SC</u>

¹ Note: During the report period nine shipments of NMP-1 radwaste were sent to offsite processors. This material will be processed by the vendor and can be commingled with other licensees' waste for burial. However, the vendor performs an analysis of each shipment to determine the volume and activity buried under each utilities' license, and prepares a separate report for each licensee. This information is provided in the Semi-Annual Radioactive Effluent Release Report for the period in which the material is buried.



Unit 1 Unit 2 Reporting Period January - June 1996

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

D. SEWAGE WASTES SHIPPED TO A TREATMENT FACILITY FOR PROCESSING AND BURIAL

There were no shipments of sewage sludge with detectable quantities of plant-related nuclides from NMP to the treatment facility during the reporting period.



ATTACHMENT 7

Unit 1 X Unit 2

Reporting Period January - June 1996

SUMMARY OF CHANGES TO THE OFF-SITE DOSE CALCULATION MANUAL

The Unit 1 Off-site Dose Calculation Manual (ODCM) was changed during the reporting period to reflect the integration of a modular (skid mounted) system to process high and low conductivity liquid radioactive waste as part of the Liquid Radwaste System and to indicate de-energized obsolete liquid radioactive waste process equipment. The ODCM changes will not reduce the accuracy or reliability of the dose calculations or setpoint determinations in accordance with Technical Specifications. A copy of ODCM, revision 17 is attached and below is a summary of the changes presented to and approved by the Station Operation Review Committee in June 1996. The summary also includes the justification for the changes.

Old Page #	New Page #	Section #	Change	Reason for Change
5	5	2.1.4.4	<ul style="list-style-type: none"> ●Identifies modular waste water technology ("THERMEX") as: a processing option for low conductivity collection tank water, and a processing option for high conductivity collection tank water directly to the Waste Sample Tanks. ●Changes the referenced figures from B-1 to D-1. 	<ul style="list-style-type: none"> ●Updated to reflect the approved use of modular waste water technology as part of the Liquid Radwaste System operation. ●Editorial. Reflects actual figure designation.
D-1	D-1	Appendix D, Figure D-1	<ul style="list-style-type: none"> ●Identifies the integrated modular technology on the figure. ●Identifies de-energized equipment associated with the Waste Concentrator #11, the Polymer Solidification System and the Concentrated Waste Tank #12. 	<ul style="list-style-type: none"> ●Updated to reflect the approved use of modular waste water technology as part of the Liquid Radwaste System operation. ●Reflects the approved de-energized condition for obsolete liquid radioactive waste process equipment.

SECRET

SECRET



ATTACHMENT 8

Unit 1 X Unit 2

Reporting Period January - June 1996

SUMMARY OF CHANGES TO THE PROCESS CONTROL PROGRAM

There were no changes to the Unit 1 Process Control Program during the reporting period.

It should be noted that as discussed on Attachment 7 of this report, "Summary of Changes To The Off-Site Dose Calculation Manual", a modular system to process high and low conductivity liquid radioactive waste, is being integrated as part of the Liquid Radwaste System. Any resultant changes to the Process Control Program will be reported in a future Semi-Annual Radioactive Effluent Release Report once the modification is complete and the Process Control Program changes are made.



ATTACHMENT 9

Unit 1 X Unit 2

Reporting Period January - June 1996

SUMMARY OF INOPERABLE MONITORS

There were no inoperable monitors for a period greater than 30 days during the reporting period.

