CCN-90-14042

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM ATOMIC POWER STATION
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PEACH BOTTOM—THE POWER OF EXCELLENCE

D. M. Smith
Vice President

February 28, 1990
Docket Nos. 50-277
50-278

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

SUBJECT: Semi-Annual Effluent Releases Report No. 28
July 1 through January 31, 1989
Peach Bottom Atomic Power Station Unit Nos. 2 and 3

Gentlemen:

Enclosed are two copies of the Semi-Annual Effluent Releases Report No. 28, July 1 through December 31, 1989 for Peach Bottom Atomic Power Station Unit Nos. 2 and 3.

This report is being submitted in compliance with 10 CFR 50.36a(a)(2) and the Technical Specifications of Operating Licenses DPR-44 and DPR-56, and to fulfill the requirements of Regulatory Guide 10.1.

During the report period, no revisions were made to the Offsite Dose Calculation Manual (ODCM).

Sincerely,

for D.M. Smith

MJB
DMS/MJB:gh
Enclosures

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1GH004.NRC

PEACH BOTTOM ATOMIC POWER STATION
Unit Numbers 2 and 3
Docket Numbers 50-277 & 50-278

SEMI-ANNUAL EFFLUENT RELEASE REPORT

NO. 28

JULY 1 TO DECEMBER 31, 1989

Submitted to
The United States Nuclear Regulatory Commission
Pursuant to
Facility Operating Licenses DPR-44 & DPR-56

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Technical Concurrences: (for accuracy of information)

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1GH004.NRC

SEMI-ANNUAL EFFLUENT RELEASE REPORT
JULY 1 TO DECEMBER 31, 1989

I. INTRODUCTION

In accordance with the Unique Reporting Requirements of Technical Specification 6.9.2h (2) applicable during the reporting period, this report summarizes the Effluent Release Data for Peach Bottom Atomic Power Station, Units 2 and 3 for the period July 1 through December 31, 1989. The notations E and E- are used to denote positive and negative exponents to the base 10.

The release of radioactive materials during the reporting period was within the Technical Specification limits. There were no changes made to the Off-Site Dose Calculation Manual (ODCM) during the reporting period.

There were no known unplanned releases of liquid radioactive material.

Table 1 Page 1 of 1

Gaseous Effluents - Summation of All Releases

	Units	Quarter 3	Quarter 4	Estimated Error Total %
A. Fission & Activation Gases				
1. Total Release	Ci	5.88 E2	1.14 E3	54.0 E0
2. Average Release Rate for Period	uCi/sec	7.48 E1	1.45 E2	
3. Gamma Air Dose	Millirad	1.35 E-2	2.42 E-2	
Percent of Tech Spec	%	1.35 E-1	2.42 E-1	
4. Beta Air Dose	Millirad	1.12 E-2	2.08 E-2	
Percent of Tech Spec	%	5.60 E-2	1.04 E-1	
B. Iodines				
1. Total Iodine-131	Ci	4.55 E-4	4.07 E-4	61.0 E0
2. Average Release Rate for Period	uCi/sec	5.79 E-5	5.18 E-5	
3. Critical Organ Dose	Millirem	2.02 E-3	1.42 E-3	
Percent of Tech Spec	%	1.35 E-2	9.47 E-3	
C. Particulates				
1. Particulates with Half-Lives Greater Than 8 Days (includes Alpha & Strontium 89-90)	Ci	5.21 E-4	6.60 E-4	61.0 E0
2. Average Release Rate for Period	uCi/sec	6.63 E-5	8.39 E-5	
3. Gross Alpha Radioactivity	Ci	4.50 E-5	3.32 E-5	
D. Tritium				
1. Total Release	Ci	7.57 E-1	4.45 E0	94.0 E0
2. Average Release Rate for Period	uCi/sec	9.63 E-2	5.66 E-1	

Table 2 Page 1 of 2

Gaseous Effluents For Release Point - Main Stack

		Continuous	Mode	Batch	Mode
		Quarter	Quarter	Quarter	Quarter
	Units	3	4	3	4
Nuclides Released					
1. Fission Gases					
Krypton - 85M	Ci	2.24 E1	4.39 E1	0.00 E0	0.00 E0
Krypton - 87	Ci	1.88 E0	2.25 E1	0.00 E0	0.00 E0
Krypton - 88	Ci	3.04 E0	4.51 E1	0.00 E0	0.00 E0
Xenon - 133	Ci	4.08 E2	7.09 E2	0.00 E0	0.00 E0
Xenon - 135	Ci	9.21 E1	2.17 E2	0.00 E0	0.00 E0
Xenon - 135M	Ci	9.72 E0	2.14 E0	0.00 E0	0.00 E0
Xenon - 138	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Xenon 133M	Ci	0.00 E0	1.39 E1	0.00 E0	0.00 E0
Unidentified	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Total for Period	Ci	5.37 E2	1.05 E3	0.00 E0	0.00 E0
2. Iodines					
Iodine - 131	Ci	4.55 E-4	3.15 E-4	0.00 E0	0.00 E0
Iodine - 133	Ci	1.76 E-4	3.73 E-4	0.00 E0	0.00 E0
Iodine - 135	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Total for Period	Ci	6.31 E-4	6.88 E-4	0.00 E0	0.00 E0
3. Particulates					
Strontium - 89	Ci	1.32 E-4	2.28 E-4	0.00 E0	0.00 E0
Strontium - 90	Ci	4.05 E-7	2.28 E-6	0.00 E0	0.00 E0
Strontium - 91	Ci	1.04 E-4	1.84 E-4	0.00 E0	0.00 E0
Cesium - 134	Ci	0.00 E0	1.79 E-6	0.00 E0	0.00 E0

Table 2 Page 2 of 2

Gaseous Effluents For Release Point - Main Stack (Continued)

		Continuous Mode		Batch Mode	
	Units	Quarter 3	Quarter 4	Quarter 3	Quarter 4
3. Particulates (Continued)					
Cesium - 137	Ci	8.96 E-7	1.42 E-5	0.00 E0	0.00 E0
Cesium - 138	Ci	1.54 E-3	1.25 E-2	0.00 E0	0.00 E0
Barium - 139	Ci	4.27 E-4	2.51 E-3	0.00 E0	0.00 E0
Barium - 140	Ci	1.14 E-4	1.59 E-4	0.00 E0	0.00 E0
Lanthanum - 140	Ci	6.98 E-5	9.94 E-5	0.00 E0	0.00 E0
Cobalt - 57	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Cobalt - 58	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Cobalt - 60	Ci	0.00 E0	2.60 E-5	0.00 E0	0.00 E0
Zinc - 65	Ci	0.00 E0	5.51 E-6	0.00 E0	0.00 E0
Yttrium - 91M	Ci	9.24 E-4	1.34 E-3	0.00 E0	0.00 E0
Iodine - 133	Ci	3.64 E-6	2.83 E-4	0.00 E0	0.00 E0
Copper - 64	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Rubidium - 88	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Manganese - 54	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Strontium - 92	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Cadmium - 109	Ci	6.03 E-6	0.00 E0	0.00 E0	0.00 E0
Tellurium - 132	Ci	0.00 E0	2.35 E-6	0.00 E0	0.00 E0
Iodine - 135	Ci	0.00 E0	3.75 E-5	0.00 E0	0.00 E0
Totals	Ci	3.322 E-3	1.739 E-2	0.00 E0	0.00 E0

Table 3 Page 1 of 2

Gaseous Effluents For Release Point - U/2 and U/3 Roof Vents

		Continuous Mode		Batch Mode	
	Units	Quarter 3	Quarter 4	Quarter 3	Quarter 4
Nuclides Released					
1. Fission Gases					
Krypton - 85M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Krypton - 87	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Krypton - 88	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Xenon - 133	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Xenon - 135	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Xenon - 135M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Xenon - 138	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Xenon 133M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Unidentified	Ci	5.09 E1	8.79 E1	0.00 E0	0.00 E0
Total for Period	Ci	5.09 E1	8.79 E1	0.00 E0	0.00 E0
2. Iodines					
Iodine - 131	Ci	0.00 E0	9.26 E-5	0.00 E0	0.00 E0
Iodine - 133	Ci	8.22 E-4	1.00 E-3	0.00 E0	0.00 E0
Iodine - 135	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Total for Period	Ci	8.22 E-4	1.09 E-3	0.00 E0	0.00 E0
3. Particulates					
Strontium - 89	Ci	1.08 E-4	8.88 E-5	0.00 E0	0.00 E0
Strontium - 90	Ci	3.67 E-5	2.99 E-5	0.00 E0	0.00 E0
Strontium - 91	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Cesium - 134	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0

Table 3 Page 2 of 2

Gaseous Effluents For Release Point - U/2 and U/3 Roof Vents (Continued)

		Continuous Mode		Batch Mode	
	Units	Quarter 3	Quarter 4	Quarter 3	Quarter 4
3. Particulates (Continued)					
Cesium - 137	Ci	5.00 E-5	0.00 E0	0.00 E0	0.00 E0
Cesium - 138	Ci	6.85 E-4	3.11 E-4	0.00 E0	0.00 E0
Barium - 139	Ci	2.85 E-4	4.14 E-4	0.00 E0	0.00 E0
Barium - 140	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Lanthanum - 140	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Cobalt - 57	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Cobalt - 58	Ci	0.00 E0	3.88 E-5	0.00 E0	0.00 E0
Cobalt - 60	Ci	5.07 E-5	3.36 E-5	0.00 E0	0.00 E0
Zinc - 65	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Yttrium - 91M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Iodine - 133	Ci	0.00 E0	1.21 E-4	0.00 E0	0.00 E0
Copper - 64	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Rubidium - 88	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Manganese - 54	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Strontium - 92	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Sodium - 24	Ci	0.00 E0	9.38 E-4	0.00 E0	0.00 E0
Technetium - 99M	Ci	0.00 E0	6.37 E-5	0.00 E0	0.00 E0
Molybdenum - 99	Ci	0.00 E0	5.48 E-5	0.00 E0	0.00 E0
Chromium - 51	Ci	0.00 E0	7.17 E-4	0.00 E0	0.00 E0
Totals	Ci	1.215 E-3	2.811 E-3	0.00 E0	0.00 E0

Table 4 Page 1 of 1

Liquid Effluents - Summation of All Releases

	Units	Quarter 3	Quarter 4	Estimated Error Total %
A. Fission & Activation Gases				
1. Total Release (not including tritium, gases, Alpha)	Ci	8.80 E-3	2.15 E-2	32.0 E0
2. Average Diluted Concentration During Period	uCi/ml	2.49 E-10	2.18 E-10	
3. Body Dose	Millirem	8.11 E-3	2.93 E-2	
Percent of Tech Spec	%	2.70 E-1	9.77 E-1	
4. Maximally Exposed Organ Dose	Millirem	1.23 E-2	4.09 E-2	
Percent of Tech Spec	%	1.23 E-1	4.09 E-1	
B. Tritium				
1. Total Release	Ci	5.59 E0	9.01 E0	39.0 E0
2. Average Diluted Concentration During Period	uCi/ml	1.58 E-7	9.15 E-8	
C. Dissolved & Entrained Gases				
1. Total Release	Ci	4.85 E-3	1.05 E-2	42.0 E0
2. Average Diluted Concentration During Period	uCi/ml	1.37 E-10	1.07 E-10	
D. Gross Alpha Radioactivity				
1. Total Release	Ci	4.93 E-5	1.96 E-4	39.0 E0
2. Average Diluted Concentration During Period	uCi/ml	1.39 E-12	1.99 E-12	
E. Volume of Waste Released (prior to dilution)	Liters	3.79 E6	9.45 E6	32.0 E0
F. Volume of Dilution Water Used During Period	Liters	3.54 E10	9.84 E10	30.0 E0

Table 5 Page 1 of 2

Liquid Effluents

		Continuous Mode		Batch Mode	
	Units	Quarter 3	Quarter 4	Quarter 3	Quarter 4
Nuclides Released					
Strontium - 89	Ci	0.00 E0	0.00 E0	1.26 E-4	4.93 E-4
Strontium - 90	Ci	0.00 E0	0.00 E0	3.31 E-5	1.07 E-4
Alpha	Ci	0.00 E0	0.00 E0	4.93 E-5	1.96 E-4
Tritium	Ci	0.00 E0	0.00 E0	5.59 E0	9.01 E0
Phosophorus - 32	Ci	0.00 E0	0.00 E0	1.02 E-3	2.57 E-3
Iron - 55	Ci	0.00 E0	0.00 E0	2.98 E-4	6.62 E-4
Xenon - 131M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Xenon - 133	Ci	0.00 E0	0.00 E0	1.65 E-3	5.03 E-3
Xenon - 133M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Xenon - 135	Ci	0.00 E0	0.00 E0	3.17 E-3	5.45 E-3
Krypton - 85M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Krypton - 87	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Krypton - 88	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Xenon - 135M	Ci	0.00 E0	0.00 E0	3.32 E-5	0.00 E0
Manganese - 54	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Cesium - 134	Ci	0.00 E0	0.00 E0	3.34 E-4	2.20 E-3
Cesium - 137	Ci	0.00 E0	0.00 E0	1.74 E-3	6.76 E-3
Cesium - 138	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Zinc - 65	Ci	0.00 E0	0.00 E0	7.31 E-4	2.67 E-4
Sodium - 24	Ci	0.00 E0	0.00 E0	2.33 E-5	2.92 E-5
Cobalt - 58	Ci	0.00 E0	0.00 E0	0.00 E0	9.05 E-5

Table 5 Page 2 of 2
Liquid Effluents (Continued)

		Continuous Mode		Batch Mode	
	Units	Quarter 3	Quarter 4	Quarter 3	Quarter 4
Nuclides Released (Continued)					
Cobalt - 60	Ci	0.00 E0	0.00 E0	3.65 E-3	3.84 E-3
Iodine - 131	Ci	0.00 E0	0.00 E0	0.00 E0	6.68 E-5
Iodine - 133	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Molybdenum - 99	Ci	0.00 E0	0.00 E0	0.00 E0	4.00 E-6
Iodine - 135	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Barium - 140	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Neptunium - 239	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Chromium - 51	Ci	0.00 E0	0.00 E0	6.33 E-4	3.54 E-3
Yttrium - 91M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Strontium - 91	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Antimony - 122	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Tellurium - 132	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Niobium - 95	Ci	0.00 E0	0.00 E0	3.67 E-5	8.97 E-5
Lanthanum - 140	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Cadmium - 109	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Cesium - 136	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Antimony -124	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Iron - 59	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Tellurium - 129M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Tellurium - 131M	Ci	0.00 E0	0.00 E0	0.00 E0	0.00 E0
Silver - 110M	Ci	0.00 E0	0.00 E0	2.40 E-4	8.00 E-4
Strontium - 92	Ci	0.00 E0	0.00 E0	0.00 E0	5.53 E-5
Total for Period (above)	Ci	0.00 E0	0.00 E0	5.6037 E0	9.0422 E0

Table 6 Page 1 of 1
Classes of Solid Radioactive Waste Shipments

TOTAL # OF SHIPMENTS	WASTE DESCRIPTION (SOURCE OF WASTE)	CONTAINER/TYPE	INDIVIDUAL VOLUME (CUBIC FEET)	TOTAL VOLUME (CUBIC FEET)	TOTAL CURIE	PRINCIPAL RADIONUCLIDES
CLASS A						
38	Dewatered Resin Bead & Powdex	HIC/Type A Cask	174.3 202.1	697.2 6871.4	155.7	Co-6-, Zn-65, Cs-137, Cs-134, Ni-63, Fe-55
2	Solidified Resin Bead	Steel Liner/ Type A Cask	177.5 178.8	177.5 178.8	54.7	Co-6-, Zn-65, Fe-55, Ni-63, Mn-54
1	Solidified Liquid/ DAW	Metal Drum/STC	11.3 7.5	192.1 255.0	0.9 0.9	Co-60, Zn-65, Cs-137, Fe-55, Cs-134
1	Solidified Liquid	HIC/Type A Cask	38.3 28.0	76.6 28.0	14.1	Co-60, Zn-65, Cs-137, Fe-55, Cs-134
1	Dewatered Filters	HIC/Type A Cask	205.8	205.8	0.6	Co-60, Zn-65, Cs-137, Fe-55, Cs-134
(*) 1	Solidified Oil	Metal Box/STC	variable	1.0	0.0	Co-60, Cs-137, Cs-134, Sb-125
(**) 95	DAW	Metal Drum/STC Metal Box/STC	variable variable	9137.1	15.9	Co-6-, Zn-65, Fe-55, Cs-137, Cs-134, Nb-95
1	DAW	Metal Drum/STC	7.5	540.0	0.5	Co-60, Zn-65, Cs-137, Fe-55, Cs-134
1	DAW	Metal Drum/ Type A Cask	11.3	90.4	1.3	Co-60, Zn-65, Cs-137, Fe-55, Cs-134
1	DAW	HIC/Type A Cask	38.3	76.6	0.5	Co-60, Zn-65, Cs-137, Fe-55, Cs-134
2	Encapsulated Filters/ DAW	Metal Drum/ Type A Cask	7.5 11.3	105.0 90.4	12.0	Co-60, Zn-65, Fe-55, Ni-63, Cs-137
9	Encapsulated Filters	Metal Drum/ Type A Cask	7.5 11.3	105.0 723.2	31.1	Co-60, Zn-65, Fe-55, Ni-63
CLASS B						
1	Dewatered Resin Bead & Powdex	HIC/Type A Cask	202.1	202.1	11.2	Co-60, Zn-65, Cs-137, Cs-134, Ni-63, Fe-55
1	Dewatered Resin Bead & Powdex	HIC/Type B Cask	132.4	132.4	234.0	Zn-65, Co-60, Cs-137, Cs-134, Fe-55, Cr-51
CLASS C						
1	Irradiated Core Components	Steel Liner/ Type B Cask	57.7	57.7	844.0	Co-60, Fe-55, Ni-63, Mn-54, Ni-59
TOTALS 156				19943.3	1377.5	

NOTES:
* - Indicates actual total PECo radwaste shipped from Babcock & Wilcox, after solidification, to the burial site.
** - Indicates actual total PECo radwaste shipped from Quadrex, after volume reduction, to the burial site.

ATTACHMENT A - SUPPLEMENTAL INFORMATION

Facility: Peach Bottom Units 2 & 3
Licenses: DPR-44
DPR-56

1. Regulatory Limits (Technical Specification Limits)

A. Noble Gases

1.	≤ 500 mRem/Yr - total body ≤ 3000 mRem/Yr - skin	"instantaneous" limits Tech Spec 3.8.C.1.a
2.	≤ 10 mRad - air gamma ≤ 20 mRad - air beta	quarterly air dose limits Tech Spec 3.8.C.2.a
3.	≤ 20 mRad - air gamma ≤ 40 mRad - air beta	yearly air dose limits Tech Spec 3.8.C.2.b

B. Iodines, Tritium, Particulates with Half-Life > 8 Days

1.	≤ 1500 mRem/Yr - any organ (inhalation path)	"instantenous" limits Tech Spec 3.8.C.1.b
2.	≤ 15 mRem - any organ	quarterly dose limits Tech Spec 3.8.C.3.a
3.	≤ 30 mRem - any organ	yearly dose limits Tech Spec 3.8.C.3.b

C. Liquid Effluents

1.	Concentration ≤ 10 CFR 20, Appendix B, Table II, Col. 2	"instantaneous" limits Tech Spec 3.8.B.1
2.	≤ 3.0 mRem - total body ≤ 10 mRem - any organ	quarterly dose limits Tech Spec 3.8.B.2.a
3.	≤ 6.0 mRem - total body ≤ 20 mRem - any organ	yearly dose limits Tech Spec 3.8.B.2.b

ATTACHMENT A - SUPPLEMENTAL INFORMATION

2. Maximum Permissible Concentrations

MPCs are not used to calculate permissible release rates and concentrations for gaseous releases.

The MPCs specified in 10 CFR 20, Appendix B, Table II, Column 2, for identified nuclides are used to calculate permissible release rates and concentrations for liquid release rates per Peach Bottom Technical Specification 3.8.B.1.

3. Average Energy

Not Applicable

4. Measurements and Approximations of Total Radioactivity

A. Fission and Activation Gases

The method used is the Nuclear Data 6600/6700 Counting System - Gas Marinelli -

B. Iodine

The method used is the Nuclear Data 6600/6700 Counting System - Charcoal Cartridge -

C. Particulates

The method used is the Nuclear Data 6600/6700 Counting System - Air Particulate Sample, (47 mm filter)

D. Liquid Effluents

The method used is the Nuclear Data 6600/6700 Counting System and the Radwaste Liquid Discharge Pre-Release Method with a liter Marinelli.

ATTACHMENT A - SUPPLEMENTAL INFORMATION

5. Batch Releases

	QTR 3	QTR 4
A. Liquid		
Number of Batch Releases	51	124
Total Time for Batch Releases (minutes)	13855	34375
Maximum Time Period for Batch Release (minutes)	340	340
Average Time Period for Batch Release (minutes)	272	277
Minimum Time Period for Batch Release (minutes)	32	30
Dilution Flow (liters)	2.83 E10	2.63 E10

B. Gaseous

Not Applicable

6. Abnormal Releases

A. Liquid

None

B. Gaseous

None