

ALABAMA POWER COMPANY
FARLEY NUCLEAR PLANT UNIT NO. ONE
LICENSE NO. NPF-2

SEMI-ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY 1, 1978 THROUGH JUNE 30, 1978

REVISION 1
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TABLE OF CONTENTS

<u>SUBJECT</u>	<u>PAGE</u>
A. Introduction	1
B. Effluent and Waste Disposal Semiannual Report Supplemental Information	
1. <u>Regulatory Limits</u>	2
a. Fission and Activation Gases	
b. Iodines and Particulates	
c. Liquid Effluents	
2. <u>Maximum Permissible Concentrations</u>	2
a. Airborne	
b. Liquid	
3. <u>Average Energy</u>	3
4. <u>Measurements and Approximations of Total Activity</u>	3
a. Fission and Activation Gases	
b. Iodines	
c. Particulates	
d. Liquid Effluents	
5. <u>Batch Releases</u>	5
a. Liquid	
b. Gaseous	
6. <u>Abnormal Releases</u>	6
a. Liquid	
b. Gaseous	

TABLE OF CONTENTS (con't)

<u>SUBJECT</u>	<u>PAGE</u>
7. <u>Estimate of Total Error</u>	6
8. <u>Solid Waste</u>	7
9. <u>Radiological Impact on Man</u>	7
10. <u>Meteorological Data</u>	7

TABLES

<u>Title</u>	<u>Table Number</u>
Gaseous Effluents - Summation of All Releases	1A
Gaseous Effluents - Elevated Releases	1B
Gaseous Effluents - Ground Level Releases	1C
Liquid Effluents - Summation of All Releases	2A
Liquid Effluents - Continuous and Batch Modes	2B
Solid Waste and Irradiated Fuel Shipments	3
Hours At Each Wind Speed and Direction	4A
Classification Of Atmospheric Stability	4B
Liquid Effluent Sampling Frequencies and Sensitivities	5
Gaseous Effluent Sampling Frequencies and Sensitivities	6

INTRODUCTION

This semi-annual radioactive release report for the period January 1 to June 30, 1978 is submitted in accordance with Appendix B to Farley Nuclear Plant License No. NPF-2. Appendix B will hereinafter be referred to as the Environmental Technical Specifications or ETS.

All liquid and airborne discharges to the environment during this reporting period were analyzed in accordance with requirements in the ETS. For all effluent releases, the concentrations of radioactive material were within ETS limits.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT SUPPLEMENTARY INFORMATION

1. Regulatory Limits

a. Fission and Activation Gases

The release rate limit at any time of noble gases to areas at or beyond the site boundary shall be such that

$$10^6 \frac{\text{pCi}}{\text{uCi}} \sum_i^{14} K_i \sum_v^2 (\bar{X}/Q)_v Q_{iv} < 500 \text{ mrem/yr}$$

and

$$10^6 \frac{\text{pCi}}{\text{uCi}} \sum_i^{14} (L_i + 1.1 M_i) \sum_v^2 (\bar{X}/Q)_v Q_{iv} < 3000 \text{ mrem/yr}$$

where the terms are defined in section 2.3 of the ETS

b. Iodines and Particulates

The release rate limit for sampling period of all radioiodines and radioactive materials in particulate form and radionuclides other than noble gases released to the environs as part of the gaseous wastes from the site shall be such that

$$10^6 \frac{\text{pCi}}{\text{uCi}} \sum_i^{18} P_i \sum_v^2 (\bar{X}/Q)_{mv} Q_{iv} < 6.3 \text{ mrem/yr}$$

where the terms are defined in Section 2.3 of ETS

c. Liquid Effluents

The concentration of radioactive materials released in liquid effluents to unrestricted areas from all reactors at the site shall not exceed at any time the values specified in 10 CFR Part 20, Appendix B, Table II, Column 2. The concentration of dissolved or entrained noble gases, released in liquid effluents to unrestricted areas from all reactors at the site, shall not exceed at any time 4 E-5 $\mu\text{Ci/ml}$ in water.

2. Maximum Permissible Concentrations

- a. Airborne - The maximum permissible concentrations of radioactive materials in gaseous effluents is limited by the dose rate restrictions of 10CFR20. In this case, the maximum permissible concentrations are actually determined by the dose factors in Table 2.5, 2.6 and 2.7 of the ETS.

b. Liquid - 10 CFR Part 20, Appendix B Table II, Column 2.*

*NOTE: The MPC chosen is the most conservative value of either the soluble or insoluble MPC for each isotope.

3. Average Energy

Not Applicable for Farley's ETS.

4. Measurements and Approximations Of Total Activity

The following discussion details the methods used to measure and approximate total activity for the following.

- a. Fission and Activation Gases
- b. Iodines
- c. Particulates
- d. Liquid Effluents

Tables 5 and 6 give sampling frequencies and minimum detectable sensitivity requirements for the analysis of liquid and gaseous effluent streams.

Values in the attached tables given as zero do not mean that the nuclides were not present. A zero indicates that the nuclide was not present at levels greater than the sensitivity requirements shown in Tables 5 and 6.

Fission and Activation Gases

Discussion - The following noble gases are considered in evaluating gaseous airborne discharge:

Ar-41	Kr-89	Xe-133m
Kr-85m	Kr-90	Xe-135m
Kr-85	Xe-131m	Xe-135
Kr-87	Xe-133	Xe-137
Kr-88		Xe-138

Periodic grab samples from plant effluent streams are analyzed by a computerized pulse height analyzer system utilizing high resolution germanium detectors. (See Table 6 for sampling and analytical requirements). Isotopic values thus obtained are used for dose release rate calculations as given in section 1a of this report. Only those nuclides that are detected are used in this computation. During the period between grab samples, the amount of radioactivity released is based on the effluent monitor readings. Monitors are assigned a calibration factor based upon the last isotopic analysis using the following relationship:

$$C_i = \mu_i \div m, \quad \text{where}$$

C_i = isotopic calibration factor for isotope i .

μ_i = concentration of isotope i in the grab sample, in $\mu\text{Ci/ml}$.

m = net monitor reading associated with the effluent stream.

These calibration factors along with the hourly effluent monitor readings are input to the laboratory computer where the release rates for individual nuclides are calculated and stored.

To ensure that isotopic distributions do not change significantly during major operational occurrences, the frequency of grab sampling is increased to satisfy the requirements of footnote "C" of Table 6, "Radioactive Gaseous Waste, Sampling and Analysis", (ETS Table 2-2).

Particulate and Iodine

Discussion - the following radioiodines, and radioactive materials in particulate forms to be considered are:

Zn-65	Sr-89	Cs-134
Cr-51	Sr-90	Cs-136
Mn-54	Zr-95	Cs-137
Fe-59	Sb-124	Ba-140
Co-58	I-131	Ce-141
Co-60	I-133	Other nuclides with half-life greater than 8 days

Continuous Releases

Continuous sampling is performed on the continuous release points (i.e. the Plant Vent Stack, Containment Purge and the Turbine Building Vent). Particulate material is collected by filtration. Iodines are collected by adsorption on a charcoal filter. Periodically these filters are removed and analyzed on the pulse height analyzer to identify and quantify radioactive materials collected on the filters. Particulate filters are then analyzed for gross alpha, and Strontium 89 and 90, as required. Gross alpha determinations are made using a 2 pi gas flow proportional counter. Sr-89 and 90 values are obtained by chemical separation and subsequent analysis using 2 pi gas flow proportional counters.

Batch Releases

The processing of batch type releases (from Containment Purge and Waste Gas Decay Tanks) is analogous to that for continuous releases, except that the release is not commenced until grab samples have been obtained and analyzed.

Liquid Effluents

The radionuclides listed below are considered when evaluating liquid effluents:

H-3	Sr-91	Cs-134
Co-58	Mo-90	Cs-136

Co-60	Te-99m	Cs-137
Fe-59	Ru-103	Ba-140
Zn-65	Ru-106	La-140
Mn-54	I-131	Ce-141
Cr-51	I-132	Ce-144
Sr-89	I-133	
Sr-90	I-135	

Batch Releases - Representative pre-release grab samples are obtained and analyzed per Table 5. Isotopic analyses are performed using the computerized pulse height analysis system previously described. Aliquots of each pre-release sample proportional to the waste volume released, are composited in accordance with requirements in Table 5. Strontium determinations are made by performing a chemical separation and counting the strontium thus separated using a 2 pi gas flow proportional counter. Gross beta-gamma and gross alpha determinations are made using 2 pi gas flow proportional counters. Tritium concentrations are determined by using liquid scintillation techniques. Dissolved gases are determined employing grab sampling techniques and then counting on the pulse height analyzer system.

Continuous Releases

Continuous Releases (from the Steam Generator Blowdown) are analogous to that of the batch releases except that they are to be analyzed on a weekly composite basis per Table 5.

5. Batch Releases

a. Liquid

1. Number of batch releases: 222
2. Total time period for batch releases: 32,484 minutes
3. Maximum time period for a batch release: 15,711 minutes
4. Average time period for a batch release: 146 minutes
5. Minimum time period for a batch release: 12 minutes
6. Average stream flow during periods of release of effluent into a flowing stream: 17,010 cfs

b. Gaseous

1. Number of batch releases: 2
2. Total time period for batch releases: 17 hours
3. Maximum time period for a batch release: 10 hours

4. Average time period for a batch release: 9 hours
5. Minimum time period for a batch release: 8 hours

6. Abnormal Release

a. Liquid

1. Number of releases: None
2. Total activity released: None

b. Gaseous

1. Number of releases: None
2. Total activity released: None

7. Estimate of Total Error

a. Liquid

1. The maximum error associated with volume and flow measurements, based upon plant calibration practice is estimated to be $\pm 10\%$.
2. The average error associated with counting is estimated to be less than $\pm 15\%$.

b. Gaseous

1. The maximum errors associated with monitor readings, sample flow, vent flow, sample collection, monitor calibration and laboratory procedure are collectively estimated to be:

<u>Fission and Activation Gases</u>	<u>Iodine</u>	<u>Particulates</u>	<u>Tritium</u>
75%	60%	50%	45%

2. The average error associated with counting is estimated to be:

<u>Fission and Activation Gases</u>	<u>Iodine</u>	<u>Particulates</u>	<u>Tritium</u>
6%	18%	19%	12%

c. Solid Radwaste

The error involved in determining the contents of solid radwaste shipments is estimated to less than $\pm 15\%$.

8. Solid Waste

See Table 3

9. Radiological Impact On Man

a. Water Related Exposure Pathways

<u>1st Quarter</u>	<u>2nd Quarter</u>
Total Body = 1.3E-02 mrem	1.5E-02 mrem
Bone = 7.8E-02 mrem	1.3E-01 mrem
Liver = 1.8E-02 mrem	2.1E-02 mrem
Thyroid = 2.6E-03 mrem	6.2E-04 m em
Kidney = 6.9E-03 mrem	7.5E-03 mrem
Lungs = 3.0E-03 mrem	2.7E-03 mrem
GI Tract = 2.2E-02 mrem	5.2E-03 mrem

b. Gaseous Effluents

<u>1st Quarter</u>	<u>2nd Quarter</u>
Total Body = 3.8E-02 mrem	4.8E-02 mrem
Skin = 2.9E-02 mrem	4.4E-02 mrem

c. Particulate and Iodine

<u>1st Quarter</u>	<u>2nd Quarter</u>
Organ Dose = 3.1E-04 mrem	3.7E-04 mrem

10. Meteorological Data

See Table 4A.

1st Quarter Continuous

2nd Quarter Batch

2nd Quarter Continuous

TABLE 1A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	UNIT	QUARTER #1	QUARTER #2
A. Fission & Activation Gases			
1. Total release	Ci	6.8 E 02	9.6 E 02
2. Average release rate for period	$\mu\text{Ci}/\text{sec}$	8.7 E 01	1.2 E 02
3. Percent of Technical Specification limit	%	4.6 E-03	4.9 E-03 Note (1)
4. Percent of Technical Specification limit	%	7.6 E-03	8.6 E-03 Note (2)
B. Iodines			
1. Total iodine-131	Ci	6.2 E-06	1.9 E-06
2. Average release rate for period	$\mu\text{Ci}/\text{sec}$	8.0 E-07	2.4 E-07
3. Percent of Technical Specification limit	%	2.4 E-09	7.2 E-10 Note (3) 1
C. Particulates			
1. Particulates with half-lives >8 days	Ci	8.2 E-06	9.2 E-08
2. Average release rate for period	$\mu\text{Ci}/\text{sec}$	1.1 E-06	1.2 E-08
3. Percent of Technical Specification limit	%	2.3 E-09	4.3 E-14 Note (3) 1
D. Tritium			
1. Total release	Ci	8.3 E 00	1.0 E 01
2. Average release rate for period	$\mu\text{Ci}/\text{sec}$	1.1 E 00	1.3 E 00
3. Percent of Technical Specification limit	%	1.0 E-07	1.2 E-07

Notes:

- (1) Whole Body Release Rate Limit (<500 mrem/yr)
- (2) Extremity Release Rate Limit (<3,000 mrem/yr)
- (3) 6.3 mrem/yr Inhalation Dose

TABLE 1b

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS-ELEVATED RELEASE

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE		
		QUARTER #1	QUARTER #2	QUARTER #1	QUARTER #2	
1. Fission gases						
Krypton-85	Ci	0.0	0.0	0.0	3.7	
Krypton-85m	Ci	0.0	0.0	0.0	0.0	
Krypton-87	Ci	0.0	1.2	0.0	0.0	
Krypton-88	Ci	1.7 E-03	0.0	0.0	0.0	
Xenon-133	Ci	9.5 E 01	7.9 E 02	0.0	3.6	1
Xenon-135	Ci	3.4 E 00	5.3 E 01	0.0	0.0	
Xenon-135m	Ci	0.0	0.0	0.0	0.0	
Xenon-138	Ci	0.0	0.0	0.0	0.0	
Argon-41	Ci	4.4 E 01	7.5 E 01	0.0	0.0	1
Xenon-137	Ci	0.0	0.0	0.0	0.0	
Krypton-90	Ci	0.0		0.0	0.0	
Xenon-133m	Ci	5.0 E-04	0.0	0.0	3.6	
Krypton-89	Ci	2.4 E-02	0.0	0.0	0.0	
Xenon-131m	Ci	0.0	4.7	0.0	5.7 E-03	
Total for period		1.4 E 02	9.2 E 02	0.0	1.1 E 01	1
2. Iodines						
Iodine-131	Ci	5.9 E-06	1.8 E-06	0.0	0.0	
Iodine-133	Ci	0.0	0.0	0.0	0.0	
Total for period	Ci	5.9 E-06	1.8 E-06	0.0	0.0	

TABLE 1B (con't)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS-ELEVATED RELEASE

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER #1	QUARTER #2	QUARTER #1	QUARTER #2
3. Particulates					
Strontium-89	Ci	1.1 E-06	0.0	0.0	0.0
Strontium-90	Ci	3.4 E-07	0.0	0.0	0.0
Cesium-134	Ci	0.0	0.0	0.0	0.0
Cesium-137	Ci	0.0	0.0	0.0	0.0
Barium-140	Ci	2.4 E-06	0.0	0.0	0.0
Cerium-141	Ci	0.0	0.0	0.0	0.0
Antimony-124	Ci	0.0	0.0	0.0	0.0
Cobalt-60	Ci	0.0	0.0	0.0	0.0
Zinc-65	Ci	0.0	0.0	0.0	0.0
Iron-59	Ci	0.0	0.0	0.0	0.0
Manganese-54	Ci	0.0	0.0	0.0	0.0
Cesium-136	Ci	3.4 E-07	0.0	0.0	0.0
Cobalt-58	Ci	0.0	0.0	0.0	0.0
Zirconium-95	Ci	0.0	0.0	0.0	0.0
Chromium-51	Ci	0.0	0.0	0.0	0.0
Iodine-131	Ci	3.5 E-06	0.0	0.0	0.0
Iodine-133	Ci	0.0	0.0	0.0	0.0
Total for period	Ci	7.8 E-06	0.0	0.0	0.0

TABLE 1C

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS-GROUND-LEVEL RELEASES

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER #1	QUARTER #2	QUARTER #1	QUARTER #2
1. Fission gases					
Krypton-85	Ci	0.0	0.0	0.0	3.6 E-02
Krypton-85m	Ci	0.0	0.0	0.0	0.0
Krypton-87	Ci	0.0	4.7 E-02	0.0	0.0
Krypton-88	Ci	4.5 E-01	0.0	0.0	0.0
Xenon-133	Ci	4.7 E 02	2.0 E 01	0.0	3.6 E -02
Xenon-135	Ci	2.2 E 01	1.3	0.0	0.0
Xenon-135m	Ci	0.0	0.0	0.0	0.0
Xenon-138	Ci	0.0	0.0	0.0	0.0
Argon-41	Ci	3.9 E 01	1.9	0.0	0.0
Xenon-137	Ci	0.0	0.0	0.0	0.0
Krypton-90	Ci	0.0	0.0	0.0	0.0
Xenon-133m	Ci	2.6 E-01	0.0	0.0	3.5 E-02
Krypton-89	Ci	1.2 E-03	0.0	0.0	0.0
Xenon-131m	Ci	0.0	1.1 E-04	0.0	3.4 E-05
Total for period	Ci	5.3 E 02	2.3 E 01	0.0	1.1 E-01
2. Iodines					
Iodine-131	Ci	3.7 E-07	6.5 E-08	0.0	0.0
Iodine-133	Ci	0.0	0.0	0.0	0.0
Total for period	Ci	3.7 E-07	6.5 E-08	0.0	0.0

TABLE 1C (con't)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GASEOUS EFFLUENTS-GROUND LEVEL RELEASES

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER #1	QUARTER #2	QUARTER #1	QUARTER #2
3. Particulates					
Strontium-89	Ci	4.2 E-08	0.0	0.0	0.0
Strontium-90	Ci	9.1 E-09	0.0	0.0	0.0
Cesium-134	Ci	0.0	0.0	0.0	0.0
Cesium-137	Ci	0.0	0.0	0.0	0.0
Barium-140	Ci	1.6 E-07	0.0	0.0	0.0
Cerium-141	Ci	6.5 E-09	0.0	0.0	0.0
Antimony-124	Ci	0.0	0.0	0.0	0.0
Cobalt-60	Ci	0.0	0.0	0.0	0.0
Zinc-65	Ci	0.0	0.0	0.0	0.0
Iron-59	Ci	0.0	0.0	0.0	0.0
Manganese-54	Ci	0.0	0.0	0.0	0.0
Cesium-136	Ci	2.2 E-08	0.0	0.0	0.0
Cobalt-58	Ci	0.0	0.0	0.0	0.0
Zirconium-95	Ci	0.0	0.0	0.0	0.0
Chromium-51	Ci	0.0	9.2 E-08	0.0	0.0
Iodine-131	Ci	2.3 E-07	0.0	0.0	0.0
Iodine-133	Ci	0.0	0.0	0.0	0.0
Total for period	Ci	4.7 E-07	9.2 E-08	0.0	0.0

TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	UNIT	QUARTER #1	QUARTER #2
A. Fission & Activation Products			
1. Total release (not including tr gases, alpha)	Ci	2.5 E-02	1.0 E-02
2. Average diluted concentration during period Note (1)	μCi/ml	1.2 E-08	1.3 E-08
3. Percent of applicable limit	%	6.4 E-02	6.8 E-02
B. Tritium			
1. Total release	Ci	3.3 E 01	2.6 E 01
2. Average diluted concentration during period Note (1)	μCi/ml	1.6 E-05	3.3 E-05
3. Percent of applicable limit	%	5.5 E-01	1.1 E 0
C. Dissolved and entrained gases			
1. Total release	Ci	1.3 E-01	6.5 E-02
2. Average diluted concentration during period Note(1)	μCi/ml	6.4 E-08	8.2 E-08
3. Percent of applicable limit	%	1.6 E-01	2.1 E-01
D. Gross alpha radioactivity			
1. Total release	Ci	0.0	0.0
E. Volume of waste released (prior to dilution)			
	liters	2.3 E 06	1.4 E 06
F. Volume of dilution water used during period Note (1)			
	liters	2.0 E 09	7.9 E 08

NOTE:

(1) During period of discharge

TABLE 2B

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

LIQUID EFFLUENTS

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER #1	QUARTER #2	QUARTER #1	QUARTER #2
Strontium-89	Ci	0.0	0.0	5.0 E-05	0.0
Strontium-90	Ci	0.0	0.0	0.0	0.0
Cesium-134	Ci	0.0	0.0	7.0 E-05	1.4 E-04
Cesium-137	Ci	0.0	0.0	7.8 E-04	9.5 E-04
Iodine-131	Ci	0.0	0.0	2.1 E-04	9.3 E-05
Cobalt-58	Ci	0.0	0.0	1.2 E-02	5.5 E-03
Cobalt-60	Ci	0.0	0.0	9.9 E-04	5.1 E-04
Iron-59	Ci	0.0	0.0	1.6 E-04	1.2 E-04
Zinc-65	Ci	0.0	0.0	2.5 E-05	6.8 E-07
Manganese-54	Ci	0.0	0.0	1.6 E-03	6.2 E-04
Chromium-51	Ci	0.0	0.0	1.5 E-03	1.1 E-03
Zirconium-95	Ci	0.0	0.0	5.2 E-05	4.4 E-05
Molybdenum-99	Ci	0.0	0.0	5.6 E-05	2.9 E-06
Technetium-99m	Ci	0.0	0.0	4.0 E-07	1.8 E-06
Barium-140	Ci	0.0	0.0	2.9 E-05	0.0
Cerium-141	Ci	0.0	0.0	9.6 E-06	0.0
Cerium-144	Ci	0.0	0.0	1.3 E-04	0.0
Neptunium-239	Ci	0.0	0.0	5.1 E-05	0.0
Ruthenium-103	Ci	0.0	0.0	6.9 E-06	1.3 E-06
Iodine-133	Ci	0.0	0.0	8.5 E-05	3.1 E-05
Arsenic-76	Ci	0.0	0.0	1.5 E-05	0.0
Niobium-95	Ci	0.0	0.0	6.7 E-05	6.8 E-05
Iodine-132	Ci	0.0	0.0	1.8 E-05	0.0
Cesium-136	Ci	0.0	0.0	1.2 E-05	0.0
Silver-110m	Ci	0.0	0.0	1.2 E-05	0.0
Strontium-91	Ci	0.0	0.0	3.6 E-05	1.3 E-06

TABLE 2B (con't)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978
LIQUID EFFLUENTS

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER #1	QUARTER #2	QUARTER #1	QUARTER #2
Ruthenium-106	Ci	0.0	0.0	6.3 E-05	0.0
Iodine-135	Ci	0.0	0.0	3.1 E-05	6.6 E-06
Copper-64	Ci	0.0	0.0	0.0	1.4 E-04
Sodium-24	Ci	0.0	0.0	6.9 E-03	1.2 E-03
Lanthanum-140	Ci	0.0	0.0	6.2 E-05	2.9 E-05
Total for period (above)	Ci	0.0	0.0	2.5 E-02	1.0 E-02
Xenon-133	Ci	0.0	0.0	1.2 E-01	6.4 E-02
Xenon-135	Ci	0.0	0.0	1.6 E-03	7.9 E-04
Xenon-133m		0.0	0.0	0.0	1.4 E-05
Krypton-87		0.0	0.0	0.0	2.5 E-06
Argon-41		0.0	0.0	0.0	3.7 E-05
Total for period (above)		0.0	0.0	1.2 E-01	6.5 E-02

TABLE 3

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)

1. Type of Waste	UNIT	6-MONTH
a. Spent resins, filter sludges, evaporator bottoms, etc.	m ³ Ci	6.80 E 01 1.17 E-01
b. Dry compressible waste, contaminated equip, etc.	m ³ Ci	None
c. Irradiated components, control rods, etc.	m ³ Ci	None
d. Other (describe)	m ³	None
2. Estimate of major nuclide composition		
a. Cobalt-58	%	3.43 E 01
Sodium-24	%	2.79 E 01
Iodine-131	%	1.31 E 01
Manganese-54	%	7.40 E 00
Cesium-137	%	7.00 E 00
Cobalt-60	%	2.90 E 00
Iodine-133	%	1.70 E 00
Cesium-134	%	1.10 E 00

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 + 3-31-78
 STABILITY CLASS: A
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	1	1	2
TOTAL	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1
HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 → 3-31-78
STABILITY CLASS: B
ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						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
N E	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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

Total
Periods of calm(hours): 0
Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1
 HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 → 3-31-78
 STABILITY CLASS: B
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1
 HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 → 3-31-78
 STABILITY CLASS: C
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	1	0	0	0	0	1
	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1
 HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 + 3-31-78
 STABILITY CLASS: C
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	1	0	0	0	0	0	1
TOTAL	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 + 3-31-78
 STABILITY CLASS: D
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	3	10	7	4	0	24
NNE	0	0	4	0	0	0	4
NE	0	2	5	1	0	0	8
ENE	0	1	3	0	0	0	4
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	1	0	0	0	0	1
SSE	0	2	2	6	0	0	10
S	1	0	2	0	0	0	3
SSW	0	0	0	0	0	0	0
SW	0	0	2	0	0	0	2
WSW	0	2	1	2	0	0	5
W	0	1	1	6	6	0	14
WNW	0	0	2	4	3	0	9
NW	0	0	5	8	1	0	14
NNW	0	1	2	2	0	0	5
VARIABLE	4	23	23	16	0	0	66
	1	13	39	36	14	0	103

Total

Periods of calm(hours): 0

Hours of missing data: 0

Table 4A.

CONTINUOUS RELEASE MODE QUARTER #1

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 + 3-31-78
 STABILITY CLASS: D
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	5	7	0	0	0	13
NNE	0	1	0	0	0	0	1
NE	0	2	1	0	0	0	3
ENE	0	0	3	0	0	0	3
E	0	1	3	0	0	0	4
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	1	1	3	0	0	0	5
S	0	0	2	1	0	0	3
SSW	0	0	0	0	0	0	0
SW	0	2	2	0	0	1	5
WSW	0	0	1	0	1	2	4
W	0	0	5	4	0	0	9
WNW	0	1	3	4	0	0	8
NW	0	1	25	5	0	1	32
NNW	0	1	7	1	1	0	10
VARIABLE	2	19	26	12	8	2	69
	2	15	62	15	2	4	100

Total

Periods of calm(hours): 0

Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1
 HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 → 3-31-78
 STABILITY CLASS: E
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	6	60	95	29	11	8	210
NNE	2	9	41	4	0	1	57
NE	2	48	60	4	0	0	114
ENE	2	13	18	2	1	0	36
E	5	26	24	7	1	0	63
ESE	0	10	16	7	0	0	33
SE	2	31	26	2	1	0	62
SSE	3	24	66	27	2	0	122
S	3	14	38	24	2	0	81
SSW	5	6	19	18	5	4	57
SW	2	19	24	9	7	8	69
WSW	1	10	8	2	1	0	22
W	5	21	48	20	7	2	103
WNW	3	19	26	17	3	0	68
NW	1	15	97	18	15	0	146
NNW	1	18	60	21	1	0	101
VARIABLE	14	65	69	37	6	0	191
	43	343	667	211	57	23	1344

Total
 Periods of calm(hours): 2
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1
 HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 + 3-31-78
 STABILITY CLASS: E
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	32	62	14	4	1	0	113
NNE	13	39	2	0	0	1	55
NE	9	61	9	0	0	0	79
ENE	5	34	12	0	0	0	51
E	11	59	8	0	0	0	78
ESE	10	33	6	1	0	0	50
SE	5	20	12	1	0	1	39
SSE	0	3	25	5	1	0	34
S	10	23	17	13	0	0	63
SSW	1	11	13	6	3	6	40
SW	7	35	39	10	3	3	97
WSW	3	10	7	3	2	1	26
W	11	21	48	12	3	4	99
WNW	8	26	35	3	7	2	81
NW	12	75	88	24	8	1	208
NNW	5	56	69	9	12	0	151
VARIABLE	34	59	75	56	31	10	265
	142	568	404	91	40	19	1264

Total
 Periods of calm(hours): 1
 Hours of missing data: 7

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1
HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 → 3-31-78
STABILITY CLASS: F
ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	11	12	0	0	0	24
NNE	0	0	9	0	0	0	9
NE	0	2	12	0	1	0	15
ENE	0	0	0	1	0	0	1
E	0	7	7	0	0	0	14
ESE	0	2	1	1	1	0	5
SE	2	4	7	0	0	0	13
SSE	0	9	8	4	0	0	21
S	1	0	6	2	0	0	17
SSW	0	4	2	2	0	0	8
SW	1	2	14	4	0	0	21
WSW	0	4	6	1	0	0	11
W	0	9	11	0	0	0	20
WNW	0	4	9	0	0	0	13
NW	2	5	16	0	0	0	23
NNW	0	5	12	1	0	0	18
VARIABLE	7	32	15	0	0	0	54
	7	76	132	16	2	0	233

Total
Periods of calm(hours): 0
Hours of missing data: 0

Table 4A.

CONTINUOUS RELEASE MODE QUARTER #1
HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 + 3-31-78
STABILITY CLASS: F
ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	15	17	1	0	0	0	33
NNE	5	12	1	0	0	0	18
NE	7	5	1	0	0	0	13
ENE	2	3	0	0	0	0	2
E	6	2	1	1	0	0	10
ESE	1	3	0	0	0	0	4
SE	7	3	0	0	0	0	10
SSE	0	2	4	0	0	0	6
S	5	5	2	0	0	0	12
SSW	3	0	0	0	0	0	3
SW	3	17	3	0	0	0	23
WSW	2	3	1	0	0	0	6
W	12	9	1	0	0	0	22
WNW	1	0	0	0	0	0	1
NW	10	9	1	0	0	0	20
NNW	18	12	0	0	0	0	30
VARIABLE	32	26	9	3	1	0	71
	97	99	16	1	0	0	213

Total
Periods of calm(hours): 3
Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #1
 HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 + 3-31-78
 STABILITY CLASS: G
 ELEVATION: 45.7m

 Wind Speed (mph) at 45.7m level

Wind Direction	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	1	4	1	0	0	0	6
NNE	0	2	1	0	0	0	3
NE	0	3	7	0	0	1	11
ENE	1	2	2	0	0	0	5
E	2	5	11	0	0	0	18
ESE	2	7	5	0	0	0	14
SE	2	3	5	0	0	0	10
SSE	2	1	5	0	0	0	8
S	1	4	3	1	0	0	9
SSW	0	0	2	0	0	0	2
SW	1	4	0	0	0	0	5
WSW	3	2	4	1	0	0	10
W	2	5	6	0	0	0	13
WNW	0	2	1	0	0	0	3
NW	0	1	3	0	0	0	4
NNW	1	3	2	1	0	0	7
VARIABLE	5	19	12	0	0	0	36
	18	48	58	3	0	1	128

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A.

CONTINUOUS RELEASE MODE QUARTER #1
HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 1 -1-78 + 3-31-78
STABILITY CLASS: G
ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	36	14	1	0	1	0	52
NNE	8	0	0	0	0	0	8
NE	6	0	0	0	0	0	6
ENE	3	0	0	0	0	0	3
E	2	0	0	0	0	0	2
ESE	0	4	0	0	0	0	4
SE	4	0	0	0	0	0	4
SSE	2	0	0	0	0	0	2
S	5	2	0	0	0	0	7
SSW	2	0	0	0	0	0	2
SW	2	0	1	0	0	0	3
WSW	3	0	0	0	0	0	3
W	2	3	0	0	0	0	5
WNW	1	0	1	0	0	0	2
NW	2	1	0	0	0	0	3
NNW	6	0	0	0	0	0	6
VARIABLE	31	17	3	0	0	0	51
	84	24	3	0	1	0	112

Total
Periods of calm(hours): 1
Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 → 6-30-78
 STABILITY CLASS: A
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: A
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 → 6-30-78
 STABILITY CLASS: B
 ELEVATION: 45.7m

Wind Speed (mph) at 45.7m level

Wind Direction	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
<hr/>							
	0	0	0	0	0	0	0

Total

Periods of calm(hours): 0

Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 → 6-30-78
 STABILITY CLASS: B
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 → 6-30-78
 STABILITY CLASS: C
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						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
N E	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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: C
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: D
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	0	0	0	0	1
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	1	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
	0	1	0	1	0	0	2

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 → 6-30-78
 STABILITY CLASS: D
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	1	1	0	0	0	2
	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 → 6-30-78
 STABILITY CLASS: E
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	0	0	0	0	0	1
NNE	0	1	0	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	1	0	0	0	0	1
E	0	5	4	0	0	0	9
ESE	2	0	2	0	0	0	4
SE	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	1	0	0	0	0	1
NNW	0	0	0	0	0	0	0
VARIABLE	2	0	3	0	0	0	13
	3	8	7	0	0	0	18

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: E
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	1	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	8	0	0	0	8
E	0	2	4	0	0	0	6
ESE	0	0	3	0	0	0	3
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	1	0	0	0	1
NNW	0	0	0	0	0	0	0
VARIABLE	0	1	9	2	0	0	12
	0	3	16	0	0	0	19

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: F
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
H	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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	1	0	0	0	1
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
	0	0	1	0	0	0	1

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

BATCH RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: F
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level							TOTAL
	1-3	4-7	8-12	13-18	19-24	>24		
N	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0	0
W	1	0	0	0	0	0	0	1
WNW	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0	0
TOTAL	1	0	0	0	0	0	0	1

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 → 6-30-78
 STABILITY CLASS: A
 ELEVATION: 45.7m

Wind Speed (mph) at 45.7m level

Wind Direction	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
<hr/>							0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78

STABILITY CLASS: A

ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						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
N E	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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
-----							0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: B
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
WW	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4-1-78 + 6-30-78
 STABILITY CLASS: C
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level							TOTAL
	1-3	4-7	8-12	13-18	19-24	>24		
N	0	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: C
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: D
 ELEVATION: 45.7m

Wind Speed (mph) at 45.7m level

Wind Direction	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
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	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	1	1	0	0	2
SE	0	0	2	0	0	0	2
SSE	0	0	2	0	0	0	2
S	0	3	3	6	0	0	12
SSW	0	1	0	1	0	0	2
SW	0	0	0	0	0	0	0
WSW	0	0	2	6	0	0	8
W	0	2	1	0	0	0	3
WNW	0	0	1	0	0	0	1
NW	0	3	2	0	0	0	5
NNW	0	1	3	0	0	0	4
VARIABLE	12	115	58	14	4	0	203
	0	11	18	14	0	0	43

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: D
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	1	2	0	0	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	1	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	1	1	0	0	0	2
SE	0	2	0	0	0	0	2
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	1	0	1	0	0	0	2
SW	0	1	0	0	0	0	1
WSW	0	0	1	0	0	0	1
W	0	0	0	2	0	0	2
WNW	0	0	0	0	0	0	0
NW	0	3	0	0	0	0	3
NNW	1	2	0	0	0	0	3
VARIABLE	54	100	33	3	0	0	190
	3	11	10	2	0	0	26

Total
 Periods of calm(hours): 30
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: E
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	6	5	0	0	2	13
NNE	0	9	6	0	0	0	15
NE	0	8	13	3	0	0	24
ENE	0	2	18	0	0	0	20
E	0	8	12	2	0	0	22
ESE	0	2	7	2	0	0	11
SE	0	3	7	3	0	1	14
SSE	0	5	25	22	2	1	56
S	0	12	32	22	4	2	72
SSW	0	10	33	9	0	0	52
SW	1	21	1	8	0	0	31
WSW	0	7	9	7	3	0	26
W	0	5	9	6	0	0	20
WNW	1	9	18	14	5	0	47
NW	0	13	13	0	0	0	26
NNW	0	12	9	1	0	1	23
VARIABLE	122	503	320	110	11	0	1071
	2	132	217	100	14	7	472

Total
 Periods of calm(hour) : 2
 Hours of missing data : 0

Table 4A

S RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: E
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	5	6	0	0	0	2	13
NNE	2	11	1	0	0	0	14
NNE	2	5	0	0	0	0	7
NNE	0	13	3	0	0	0	19
E	3	9	5	0	0	0	14
ESE	3	5	6	0	0	0	14
SE	0	6	10	0	0	0	16
SSE	3	4	8	1	0	0	16
S	0	19	20	7	2	0	56
SSW	10	15	6	2	0	0	33
SW	10	4	9	4	0	0	27
WSW	1	3	3	0	0	0	7
W	0	9	9	0	0	0	18
WNW	4	15	8	5	0	0	32
NW	4	5	0	0	0	1	10
NNW	9	7	0	0	0	0	16
VARIABLE	424	482	150	12	0	0	1068
	64	136	88	19	2	3	312

Total
 Periods of calm(hours): 165
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: F
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	0	2	0	0	0	2
NNE	0	3	1	0	0	0	4
NE	0	1	10	0	0	0	11
ENE	0	0	2	0	0	0	2
E	1	1	2	0	0	0	4
ESE	0	3	1	0	0	0	4
SE	0	2	1	0	0	0	3
SSE	0	0	1	5	0	0	6
S	0	5	5	0	0	0	10
SSW	0	1	2	0	0	0	3
SW	0	2	2	0	0	0	4
WSW	0	3	9	1	0	0	13
W	0	4	9	2	0	0	15
WNW	0	1	8	0	0	0	9
NW	0	5	12	0	0	0	17
NNW	0	1	2	0	0	0	3
VARIABLE	29	89	67	3	0	0	188
	1	32	69	8	0	0	110

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: F
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	2	1	0	0	0	0	3
NNE	1	0	0	0	0	0	1
NE	1	0	0	0	0	0	1
ENE	1	1	0	0	0	0	2
E	1	0	0	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	1	1	0	0	0	0	2
S	0	1	5	0	0	0	6
SSW	0	2	0	0	0	0	2
SW	2	2	0	0	0	0	4
WSW	4	2	0	0	0	0	6
W	2	2	0	0	0	0	4
WNW	5	0	1	0	0	0	6
W	0	1	0	0	0	0	1
WNW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
VARIABLE	176	29	5	0	0	0	210
	28	13	6	0	0	0	47

Total
 Periods of calm(hours): 41
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: G
 ELEVATION: 45.7m

Wind Direction	Wind Speed (mph) at 45.7m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	0	3	0	0	0	0	3
NNE	0	1	0	0	0	0	1
NE	0	1	1	0	0	0	2
ENE	0	1	0	0	0	0	1
E	0	0	3	0	0	0	3
ESE	0	2	1	0	0	0	3
SE	0	0	0	0	0	0	0
SSE	0	0	1	0	0	0	1
S	0	1	0	0	0	0	1
SSW	0	0	0	0	0	0	0
SW	2	1	0	0	0	0	3
WSW	0	2	2	0	0	0	4
W	0	0	3	0	0	0	3
WNW	0	2	8	1	0	0	11
NW	0	0	4	0	0	0	4
NNW	0	0	1	0	0	0	1
VARIABLE	11	29	11	3	0	0	54
	2	14	24	1	0	0	41

Total
 Periods of calm(hours): 0
 Hours of missing data: 0

Table 4A

CONTINUOUS RELEASE MODE QUARTER #2

HOURS AT EACH WIND SPEED AND DIRECTION

PERIOD OF RECORD: 4 -1-78 + 6-30-78
 STABILITY CLASS: G
 ELEVATION: 10.0m

Wind Direction	Wind Speed (mph) at 10.0m level						TOTAL
	1-3	4-7	8-12	13-18	19-24	>24	
N	11	0	0	0	0	0	11
NNE	2	0	0	0	0	0	2
NE	1	0	0	0	0	0	1
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	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	3	1	0	0	0	0	4
NNW	2	0	0	0	0	0	2
VARIABLE	29	0	0	0	0	0	37
	19	1	0	0	0	0	20

Total
 Periods of calm(hours): 38
 Hours of missing data: 0

TABLE 5

RADIOACTIVE LIQUID SAMPLING AND ANALYSIS

Liquid Source ^f	Sampling Frequency	Type of Activity Analysis	Detectable Concentrations (μ Ci/ml) ^a
A. Waste Monitor Tank Releases	Each Batch	Principal Gamma Emitters	5×10^{-7b}
	One Batch/Month	Dissolved Gases	10^{-5}
	Weekly Composite ^e	Ba-La-140, I-131	10^{-6}
	Monthly Composite ^c	H-3	10^{-5}
		Gross Alpha	10^{-7}
		Gross Beta	5×10^{-7}
Quarterly Composite ^c	Sr-89, Sr-90	5×10^{-8}	
B. Steam Generator Blowdown ^d	Weekly Composite	Principal Gamma Emitters	5×10^{-7b}
		Ba-La-140, I-131	10^{-6}
	One sample/month	Dissolved Gases	10^{-5}
	Monthly Composite	H-3	10^{-5}
		Gross alpha	10^{-7}
		Gross Beta	5×10^{-7}
Quarterly Composite	Sr-89, Sr-90	5×10^{-8}	
C. Turbine Building Sump ^d	Each Batch	Principal Gamma Emitters	5×10^{-7b}

^aThe detectability limits for activity analysis are based on the technical feasibility and on the potential significance in the environment of the quantities released. For some nuclides, lower detection limits may be readily achievable, and when nuclides are measured below the stated limits, they should also be reported.

^bFor certain mixtures of gamma emitters, it may not be possible to measure radionuclides in concentrations near their sensitivity limits when other nuclides are present in the sample in much greater concentrations. Under these circumstances, it will be more appropriate to calculate the concentrations of such radionuclides using measured ratios with those radionuclides which are routinely identified and measured.

^cA composite sample is one in which the quantity of liquid sampled is proportional to the quantity of liquid waste discharged.

^dSampled and analyzed only in the event of primary to secondary leakage and then only if to be discharged to the environs.

^eIf the required sensitivity (10^{-5}) can be obtained with the gamma scan on each batch, the weekly composite will not be required.

^fA batch release is the discharge of liquid waste of a discrete volume. A continuous release is the discharge of liquid waste of a nondiscrete volume: a nondiscrete volume has an uninterrupted discharge flow during the continuous release.

TABLE 6

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS

Gaseous Source ^e	Sampling Frequency	Types of Activity Analysis	Detectable Concentrations (μ Ci/ml) ^a
A. Waste Gas Decay Tank Releases	Tank to be released	Principal Gamma Emitters	10^{-4}
		H-3	10^{-6}
B. Containment Purge Releases	Each Purge ^c or Weekly for Continuous Purge	Principal Gamma Emitters	10^{-4}
		H-3	10^{-6}
C. Condenser Steam Jet Air Ejector	Monthly (Gas Samples) ^c	Principal Gamma Emitters ^b	10^{-4}
		H-3	10^{-6}
D. Environmental Release Points (Plant Vent Stack)	Monthly (Gas Samples) ^c	Principal Gamma Emitters ^b	10^{-4}
		H-3	10^{-6}
	Weekly (Charcoal Sample) ^d	I-131	10^{-12}
		I-133	10^{-10}
	Weekly (Particulates) ^d	Principal Gamma Emitters (Ba-La-140, I-131 and others)	10^{-11}
	Monthly Composite (Particulates)	Gross alpha	10^{-11}
Quarterly Composite (Particulates)	Sr-89, Sr-90	10^{-11}	

^aThe above detectability limits for activity analysis are based on technical feasibility and on the potential significance in the environment of the quantities released. For some nuclides, lower detection limits may be readily achievable, and when nuclides are measured below the stated limits, they should also be reported.

^bFor certain mixtures of gamma emitters, it may not be possible to measure radionuclides at levels near their sensitivity limits when other nuclides are present in the sample at much higher levels. Under these circumstances, it will be more appropriate to calculate the levels of such radionuclides using measured ratios with those radionuclides which are measurable.

^cAnalyses shall also be performed following each refueling, startup, or similar operational occurrence which could alter the mixture of radionuclides.

^dAnalyses shall also be performed daily for a week following each refueling, startup or similar operational occurrence which could lead to significant increase or decrease in radioiodine releases.

^eA batch release is the discharge of gaseous waste of a discrete volume. A continuous release is the discharge of gaseous waste of a nondiscrete volume; a nondiscrete volume has an un-interrupted discharge flow during the continuous release.