The Light company
Houston Lighting & Power

P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

August 31, 1989
ST-HL-AE-3218
File No. G02
10CFR50.36a

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

South Texas Project Electric Generating Station
Units 1 & 2
Docket Nos. STN 50-498 and STN 50-499
Semiannual Radioactive Effluent
Release Report for the First Half of 1989

Pursuant to the South Texas Project Electric Generating Station (STPEGS) Operating Licenses NPF-76 and NPF-80 Appendix A Technical Specification 6.9.1.4 and 10CFR50.36a, attached is the Semiannual Radioactive Effluent Release Report for the first half of 1989. The report covers the period from January 1, 1989 to June 30, 1989 for Unit 1 and March 12, 1989 (date of initial criticality) to June 30, 1989 for Unit 2.

If you should have any questions on this matter, please contact Mr. C. A. Ayala at (512) 972-8628.

M A McBurnett

M. A. McBurnett
Manager
Support Licensing

MAM/BEM/cr

Attachment: Semiannual Radioactive Effluent Release Report for the First Half of 1989.

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A1/009.NL6

cc:

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HOUSTON LIGHTING AND POWER COMPANY

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION UNIT ONE

LICENSE NO. NPF-76

AND

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION UNIT TWO

LICENSE NO. NPF-80

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

JANUARY 1, THROUGH JUNE 30, 1989

Prepared by: R A Langhoff — Chemical Operations and Analysis Manager — 8/28/89 — Date

Reviewed by: J. Russell Lowman — Technical Services Manager — 8/29/89 — Date

Reviewed by: Warren H. Kinsey Jr. — Plant Manager — 8/29/89 — Date

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1.0 Introduction

This Semiannual Radioactive Effluent Release Report is submitted in accordance with Appendix A of License NPF-76 and NPF-80 for the period January 1, 1989, through June 30, 1989, for Unit 1 and March 12, 1989, through June 30, 1989, for Unit 2.

In accordance with Technical Specifications 6.9.1.4 the hourly meteorological data and assessment of radiation doses due to radioactive effluents shall be included in the Semiannual Radioactive Effluent Release Report submitted within 60 days after January 1 of each year, and therefore is not included in this report.

South Texas Project Electric Generating Station (STPEGS) is currently evaluating the results of a plate out study conducted on its effluent monitors. When the results of this study are completed, the appropriate transmission factors will be used to evaluate any release which shows particulate and iodine activity for previous reporting periods, as necessary.

Liquid quarterly composites for Strontium-89, Strontium-90 and Iron-55 for the 2nd quarter, 1989, will be updated in the next Semiannual Radioactive Effluent Release Report if appropriate.

All assessments of radiation doses are performed in accordance with the STPEGS Offsite Dose Calculation Manual (ODCM).

2.0 Supplemental Information for Effluent and Waste Disposal

Unit Number 1	
Type: PWR	Houston Lighting & Power Co.
Docket No. 50-498	Power (MWT)- 3800
Cooling Water Source: Main Cooling Reservoir	Initial Criticality-(March 8, 1988)

Unit Number 2	
Type: PWR	Houston Lighting & Power Co.
Docket No. 50-499	Power (MWT)- 3800
Cooling Water Source: Main Cooling Reservoir	Initial Criticality-(March 12, 1989)

2.1 Regulatory Limits

2.1.1 Fission and activation gases

The air dose due to noble gases released in gaseous effluents, from each unit, to areas at and beyond the Site Boundary shall be limited to the following:

a. During any calendar quarter: Less than or equal to 5 mrads for gamma radiation and less than or equal to 10 mrads for beta radiation, and

b. During any calendar year: Less than or equal to 10 mrads for gamma radiation and less than or equal to 20 mrads for beta radiation.

2.1.2 Iodines and Particulates, half-lives > 8 days

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 8 days in gaseous effluents released, from each unit, to areas at and beyond the Site Boundary shall be limited to the following:

a. During any calendar quarter: Less than or equal to 7.5 mrems to any organ and,

b. During any calendar year: Less than or equal to 15 mrems to any organ.

2.1.3 Liquid Effluents

The dose or dose commitment to a Member of the Public from radioactive materials in liquid effluents released, from each unit, to Unrestricted Areas shall be limited to:

a. During any calendar quarter to less than or equal to 1.5 mrems to the whole body and to less than or equal to 5 mrems to any organ, and

b. During any calendar year to less than or equal to 3 mrems to the whole body and to less than or equal to 10 mrems to any organ.

2.2 Maximum Permissible Concentrations

2.2.1 Gaseous Effluents

The dose rate due to radioactive materials released in gaseous effluents from the site to areas at and beyond the Site Boundary shall be limited to the following:

a. For noble gases: Less than or equal to 500 mrems/yr to the whole body and less than or equal to 3000 mrems/yr to the skin and

b. For Iodine-131, for Iodine-133, for tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to 1500 mrems/yr to any organ.

2.2.2 Liquid Effluents

The concentration of radioactive material released in liquid effluents to Unrestricted Areas shall be limited to the concentrations specified in 10CFR 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 2.0E-04 micro curie/ml total activity.

2.3 Average Energy (MeV/Disintegration)

The Average Energy (or E-bar) is not used at STPEGS to calculate release limits.

2.4 Measurement and Approximations of Total Activity

The following discussions detail 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 A3-1 and A4-1 of the STPECS Offsite Dose Calculation Manual (ODCM) give sampling frequencies and minimum detectable concentration requirements for the analysis of liquid and gaseous effluent streams.

2.4.1 Gaseous Effluents

2.4.1.1 Fission and Activation Gases

The following noble gases are considered in evaluating gaseous airborne discharges:

Ar-41	Xe-131m
Kr-83m	Xe-133m
Kr-85m	Xe-133
Kr-85	Xe-135m
Kr-87	Xe-135
Kr-88	Xe-137
Kr-89	Xe-138
Kr-90	

2.4.1.2 Iodines and Particulates

The radioiodines and radioactive materials in particulate forms to be considered are:

Cr-51	Sb-124	H-3
Mn-54	I-131	Mo-99
Fe-59	I-133	
Co-58	Cs-134	
Co-60	Cs-136	
Zn-65	Cs-137	
Sr-89	Ba-140	
Sr-90	Ce-141	
Zr-95	Ce-144	
Other nuclides with half-lives greater than 8 days		

2.4.1.3 Analytic Methods

a. Batch Gaseous Releases

Pre-release grab samples from the plant containment atmosphere, prior to issuance of weekly permits, and pre-release grab samples from the RCS Vacuum Degassing System are analyzed on a Gamma Spectroscopy System utilizing high purity germanium detectors (HPGe) for noble gas, iodine and particulate activity.

The radionuclide values obtained are used in conjunction with the gross noble gas release rate monitoring data collected by the radiation monitoring system to estimate the release rate of each radionuclide in the effluent streams.

b. Continucus Gaseous Releases

Periodic noble gas grab samples are taken from the continuous release points (i.e. the Unit vent and the condenser vacuum pump exhaust). Continuous sampling for particulates and iodine is also performed on the effluent streams. They are analyzed for gross alpha, tritium, gamma radionuclides, strontium-89 and strontium-90 as described above for batch releases.

2.4.2 Liquid Effluents

The radionuclides listed below are considered when evaluating liquid effluents:

H3	Y-90	I-133
Na-24	Y-91m	I-134
Cr-51	Y-91	I-135
Mn-54	Y-93	Cs-136
Mn-56	Zr-95	Cs-137
Fe-55	Zr-97	Cs-138
Fe-59	Nb-95	Ba-139
Co-58	Mo-99	Ba-140
Co-60	Tc-99m	Ba-141
Ni-65	Tc-101	Ba-142
Cu-64	Ru-105	La-142
Zn-65	Ru-106	Ce-141
Zn-69	Ag-110m	Ce-143
Br-83	Te-125m	Ce-144
Br-84	Te-127m	Pr-143
Br-85	Te-127	Pr-144
Rb-86	Te-129m	Nd-147
Rb-88	Te-129	W-187
Rb-89	Te-131m	Np-239
Sr-89	Te-131	.LIQ*
Sr-90	Te-132	.ALPHA (Gross Alpha)
Sr-91	I-130	.Xe-133
Sr-92	I-131	.Xe-135
	I-132	*includes other gamma peaks that are identified

2.4.2.1 Analytic Methods

a. Batch Liquid Releases

All liquid effluents are released as batches. Representative pre-release grab samples are taken and analyzed in accordance with Table A3-1 of the ODCM. Radionuclide analyses are performed using the Gamma Spectroscopy System. Aliquots of each pre-release sample are composited in accordance with the requirements in Table A3-1 of the ODCM. Strontium determinations are made by performing a chemical separation and counting the separated radionuclides using the Gas-Flow Proportional Counting System. Gross alpha determinations are made using the Gas-Flow Proportional Counting System. Tritium concentrations are determined using Liquid Scintillation Counting techniques. Iron-55 determinations are made by performing a chemical separation and counting the separated radionuclide using the Liquid Scintillation Counting System. Dissolved and entrained gas concentrations are determined by counting grab samples on the Gamma Spectroscopy System.

The radionuclide concentrations obtained are used with the flow total for each batch release. The error associated with the flow total is small in relation to the counting uncertainty of the radionuclide concentration analysis. The counting uncertainty associated with these measurements is accurate to the 5% significance level for the principle radionuclides released.

2.5 Batch Releases

2.5.1 Liquid (Unit 1)	Quarter 1	Quarter 2
a. Number of releases:	67	97
b. Total time period for releases (min):	4125	6190
c. Maximum time period for a release (min):	70	70
d. Average time period for a release (min):	62	64
e. Minimum time period for a release (min):	56	49

		Quarter 1	Quarter 2
2.5.2	Gaseous (Unit 1)		
	a. Number of releases:	56	49
	b. Total time period for releases (min):	9949	1272
	c. Maximum time period for a release (min):	3439	413
	d. Average time period for a release (min):	178	26
	e. Minimum time period for a release (min):	2	3
2.5.3	Liquid (Unit 2)		
	a. Number of releases:	20	101
	b. Total time period for releases (min):	1187	5973
	c. Maximum time period for a release (min):	61	68
	d. Average time period for a release (min):	59	59
	e. Minimum time period for a release (min):	55	23
2.5.4	Gaseous (Unit 2)		
	a. Number of releases:	0	48
	b. Total time period for releases (min):	0	19034
	c. Maximum time period for a release (min):	0	5275
	d. Average time period for a release (min):	0	397
	e. Minimum time period for a release (min):	0	5

2.6 Abnormal (Unplanned) Releases

		Quarter 1	Quarter 2
2.6.1	Liquid (Unit 1)		
	a. Number of releases:	0	0
	b. Total activity released (curies):	0.000E+00	0.000E+0
2.6.2	Gaseous (Unit 1)		
	a. Number of releases:	0	0
	b. Total activity released (curies):	0.000E+00	0.000E+00
2.6.3	Liquid (Unit 2)		
	a. Number of releases:	0	0
	b. Total activity released (curies):	0.000E+00	0.000E+0
2.6.4	Gaseous (Unit 2)		
	a. Number of releases:	0	0
	b. Total activity released (curies):	0.000E+00	0.000E+00

2.7 Estimate of Total Error

2.7.1 Liquid

a. The maximum error associated with volume and flow measurements, based upon plant calibration practice is estimated to be +/- 0.08%.

b. The average error associated with counting uncertainty is accurate to the 5% significance level.

2.7.2 Gaseous

a. The maximum error associated with monitor readings, sample flow, vent flow, sample collection, monitor calibration and laboratory procedures are collectively estimated to be:

Fission and Activation Gases	±25%
Iodines	±25%
Particulates	±25%
Tritium	±25%

b. The average error associated with counting uncertainty is accurate to the 5% significance level for fission and activation gases, iodines, particulates and tritium.

2.7.3 Solid Radioactive Waste

The error associated in determining the contents and volume of solid radwaste shipments is estimated to be +/- 5% significance levels and ± 1%, respectively.

2.8 Solid Waste Shipments

No radioactive waste shipments were made during this reporting period.

2.9 Radiological Impact on Man (ref. Technical Specifications 6.9.1.4)

This data shall be included in the Semiannual Radioactive Effluent Release Report to be submitted within 60 days after January 1 of each year.

2.10 Meteorological Data

This data shall be included in the Semiannual Radioactive Effluent Release Report to be submitted within 60 days after January 1 of each year.

2.11 Lower Limit of Detection (LLD)

The LLD (an a priori limit) is defined as the smallest concentration of radioactive material in a sample that will yield a net count, above system background, that will be detected with 95% probability, and only a 5% probability of falsely concluding that a blank observation represents a "real" signal.

2.12 Dose to MEMBERS OF THE PUBLIC On Site

In accordance with Technical Specifications 6.9.1.4, this data shall be submitted within 60 days after January 1 of each year.

3.0 Technical Specifications Reporting Requirements

3.1 Radioactive Waste Treatment System Design Modification Description (ref. Technical Specifications 6.15)

No major design modifications were made to Unit 1 or Unit 2 liquid, solid, or gaseous radioactive waste treatment systems during this reporting period.

3.2 Inoperable Effluent Monitoring Instrumentation Explanation (ref. Technical Specifications 6.9.1.4)

The Condensor Vacuum Exhaust System process flowmeter N1RA-RT-8027A was removed from service on November 1, 1988 at 0100. The actual process flow rate is consistently below the minimum range of the installed instrumentation hence meaningful flow measurement is not possible utilizing the installed equipment. During this period, flow estimates in accordance with Technical Specifications have been made every four hours.

As stated in our supplement to the Semiannual Radioactive Effluent Release Report for the Second Half of 1989 (Letter No. ST-HL-AE-3066 dated May 1, 1989) an investigation into the problem has been completed. The condenser vacuum exhaust will be rerouted to the unit vent where quantification of activity and flow will be made by the normal unit vent monitor, N1RA-RT-8010A/B. Radiation monitor RT-8027A will remain in service as a non Technical Specification process monitor. Prior to actual implementation, applicable Technical Specification and FSAR changes shall be processed for NRC approval.

3.3 Gas Storage Tank Curie Limit Violation Description (ref. Technical Specifications 6.9.1.4)

The quantity of radioactive material in the RCS Vacuum Degassing System Storage Tank(s) did not exceed the limits set forth in Section 3.11.2.6 of Technical Specifications during this reporting period.

3.4 Unprotected Outdoor Tank Curie Limit Violation Description (ref. Technical Specifications 6.9.1.4)

The quantity of radioactive material in the Unprotected Outdoor Tank(s) did not exceed the limit set forth in Section 3.11.1.4 of Technical Specifications during this reporting period.

3.5 Abnormal (Unplanned) Release Description (ref. Technical Specifications 6.9.1.4)

No abnormal releases of liquid waste from STPEGS Unit 1 or Unit 2 to UNRESTRICTED AREAS occurred during this reporting period.

3.6 Radioactive Waste Process Control Program Changes (ref. Technical Specifications 6.13.2)

There were no changes to the Radioactive Waste Process Control Program (PCP) during this reporting period.

3.7 Offsite Dose Calculation Manual Change (ref. Technical Specifications 6.14.2.a)

Revision 3 of the ODCM was made effective early in this reporting period, but was submitted as required by the Technical Specification with the previous report.

No additional changes were made to the Offsite Dose Calculation Manual (ODCM) during this reporting period.

3.8 New Land Use Census Location(s) Identification (ref. Technical Specifications 3.12.2.c)

No location(s) have been identified by the Land Use Census that yields a calculated dose or dose commitment greater than the values currently being calculated in accordance with Section 4.11.2.3 of the Technical Specification.

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

GASEOUS EFFLUENTS -- SUMMATION OF ALL RELEASES

	UNITS	QUARTER 1	QUARTER 2	EST. TOTAL ERROR, %
A. FISSION AND ACTIVATION GASES				
1. TOTAL RELEASE	CI	0.119E+03	0.776E+02	0.250E+02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	0.153E+02	0.987E+01	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	0.567E-02	0.365E-02	
B. IODINES				
1. TOTAL IODINE-131	CI	0.439E-04	0.295E-03	0.250E+02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	0.564E-05	0.375E-04	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	0.620E-05	0.412E-04	
C. PARTICULATES				
1. PARTICULATES WITH HALF-LIVES >8 DAYS	CI	0.169E-04	0.306E-04	0.250E+02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	0.218E-05	0.390E-05	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	0.239E-05	0.428E-05	
4. GROSS ALPHA RADIOACTIVITY	CI	0.158E-03	0.103E-04	
D. TRITIUM				
1. TOTAL RELEASE	CI	0.129E+01	0.111E+01	0.250E+02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	0.166E+00	0.141E+00	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	0.924E-04	0.786E-04	

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

GASEOUS EFFLUENTS --GROUND LEVEL RELEASE

FOR RELEASE POINT: 1 (UNIT VENT)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
1. FISSION GASES					
AR41	CI	0.183E+02	0.231E+02	0.767E+01	0.178E+01
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.195E-01	0.000E+00	0.175E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.561E-01	0.000E+00	0.502E+00	0.000E+00
XE133M	CI	0.378E-01	0.000E+00	0.265E+00	0.000E+00
XE133	CI	0.263E+02	0.494E+02	0.650E+02	0.285E+01
XE135M	CI	0.207E+00	0.000E+00	0.387E-01	0.000E+00
XE135	CI	0.242E+00	0.404E+00	0.142E+00	0.132E-01
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.452E+02	0.729E+02	0.738E+02	0.464E+01

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

GASEOUS EFFLUENTS --GROUND LEVEL RELEASE

FOR RELEASE POINT: 1 (UNIT VENT)

NUCLIDES RELEASED	UNITS	CONTINUOUS MODE QUARTER 1	CONTINUOUS MODE QUARTER 2	BATCH MODE QUARTER 1	BATCH MODE QUARTER 2
2. IODINES					
I131	CI	0.192E-04	0.280E-03	0.246E-04	0.142E-04
I133	CI	0.303E-03	0.191E-04	0.000E+00	0.155E-05
TOTAL FOR PERIOD (ABOVE)	CI	0.223E-04	0.299E-03	0.246E-04	0.157E-04
3. PARTICULATES					
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.953E-08	0.000E+00	0.663E-09
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.599E-06	0.000E+00	0.485E-07
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.958E-06	0.000E+00	0.777E-07
BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.155E-04	0.267E-04	0.149E-05	0.221E-05
TOTAL FOR PERIOD (ABOVE)	CI	0.155E-04	0.283E-04	0.149E-05	0.234E-05

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

GASEOUS EFFLUENTS --GROUND LEVEL RELEASE

FOR RELEASE POINT: 2 (MAIN STEAM LINE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
1. FISSION GASES					
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

GASEOUS EFFLUENTS -- GROUND LEVEL RELEASE

FOR RELEASE POINT: 2 (MAIN STEAM LINE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
2. IODINES					
I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3. PARTICULATES					
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

GASEOUS EFFLUENTS -- GROUND LEVEL RELEASE

FOR RELEASE POINT: 3 (CONDENSER AIR REMOVAL)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
1. FISSION GASES					
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

GASEOUS EFFLUENTS -- GROUND LEVEL RELEASE

FOR RELEASE POINT: 3 (CONDENSER AIR REMOVAL)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
2. IODINES					
I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3. PARTICULATES					
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

LIQUID EFFLUENTS -- SUMMATION OF ALL RELEASES

	UNITS	QUARTER 1	QUARTER 2	EST. TOTAL ERROR, %
A. FISSION AND ACTIVATION PRODUCTS				
1. TOTAL RELEASE (EXCL. TRIT., GASES, ALPHA)	CI	0.607E-01	0.275E-01	0.500E+01
2. AVERAGE DILUTED CONC. DURING PERIOD	UCI/ML	0.337E-08	0.152E-08	
3. PERCENT OF APPLICABLE LIMIT	%	0.169E+00	0.761E-01	
B. TRITIUM				
1. TOTAL RELEASE	CI	0.733E+02	0.102E+03	0.500E+01
2. AVERAGE DILUTED CONC. DURING PERIOD	UCI/ML	0.407E-05	0.567E-05	
3. PERCENT OF APPLICABLE LIMIT	%	0.136E+00	0.172E+00	
C. DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CI	0.480E+00	0.309E-01	0.500E+01
2. AVERAGE DILUTED CONC. DURING PERIOD	UCI/ML	0.267E-07	0.172E-09	
3. PERCENT OF APPLICABLE LIMIT	%	0.136E-01	0.856E-03	
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CI	0.403E-03	0.799E-03	0.500E+01
E. VOLUME WASTE RELEASED (PRIOR TO DILUTION)	LITERS	0.307E+07	0.467E+07	0.800E-01
F. VOLUME DILUTION WATER USED DURING PERIOD	LITERS	0.180E+11	0.180E+11	0.200E+02

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

LIQUID EFFLUENTS FOR RELEASE POINT: 2 LIQUID WASTE

NUCLIDES RELEASED	UNITS	CONTINUOUS MODE QUARTER 1	CONTINUOUS MODE QUARTER 2	BATCH MODE QUARTER 1	BATCH MODE QUARTER 2
H3	CI	0.000E+00	0.000E+00	0.733E+02	0.102E+03
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NA24	CI	0.000E+00	0.000E+00	0.418E-04	0.000E+00
P32	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.213E-02	0.191E-04
MN54	CI	0.000E+00	0.000E+00	0.933E-03	0.709E-03
MN56	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE55	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.128E-02	0.249E-03
CO58	CI	0.000E+00	0.000E+00	0.375E-01	0.150E-01
CO60	CI	0.000E+00	0.000E+00	0.141E-02	0.112E-02
NI63	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NI65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CU64	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN69	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR83	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR84	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

LIQUID EFFLUENTS FOR RELEASE POINT: 2 (LIQUID WASTE)

NUCLIDES RELEASED	UNITS	CONTINUOUS MODE QUARTER 1	CONTINUOUS MODE QUARTER 2	BATCH MODE QUARTER 1	BATCH MODE QUARTER 2
RB86	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RB88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RB89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR91	CI	0.000E+00	0.000E+00	0.309E-04	0.000E+00
SR92	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y91M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y91	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y92	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y93	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.444E-04	0.328E-04
ZR97	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NB95	CI	0.000E+00	0.000E+00	0.122E-03	0.857E-04
MO99	CI	0.000E+00	0.000E+00	0.775E-05	0.363E-05
TC99M	CI	0.000E+00	0.000E+00	0.775E-05	0.363E-05
TC101	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

LIQUID EFFLUENTS FOR RELEASE POINT: 2 (LIQUID WASTE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
RU103	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RU105	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RU106	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
AG110M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE125M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE127M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE127	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE129	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE132	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I130	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I131	CI	0.000E+00	0.000E+00	0.235E-02	0.205E-02
I132	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.947E-04	0.220E-04
I134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

LIQUID EFFLUENTS FOR RELEASE POINT: 2 (LIQUID WASTE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
CS134	CI	0.000E+00	0.000E+00	0.392E-03	0.211E-02
CS136	CI	0.000E+00	0.000E+00	0.864E-05	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.119E-02	0.574E-02
CS138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA139	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA140	CI	0.000E+00	0.000E+00	0.962E-05	0.712E-05
BA141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
LA140	CI	0.000E+00	0.000E+00	0.150E-04	0.712E-05
LA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE143	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
PR143	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
PR144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ND147	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W187	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NP239	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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EFFLUENT AND WASTE DISPOSAL REPORT UNIT 1

LIQUID EFFLUENTS FOR RELEASE POINT: 2 (LIQUID WASTE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
LIQUID EFFLUENTS					
LIQ(UNIDENT)	CI	0.000E+00	0.000E+00	0.134E-01	0.298E-03
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.734E+02	0.102E+03
XE-133	CI	0.000E+00	0.000E+00	0.479E+00	0.305E-01
XE-135	CI	0.000E+00	0.000E+00	0.169E-02	0.313E-03

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

GASEOUS EFFLUENTS -- SUMMATION OF ALL RELEASES

	UNITS	QUARTER 1	QUARTER 2	EST. TOTAL ERROR, %
A. FISSION AND ACTIVATION GASES				
1. TOTAL RELEASE	CI	0.000E+00	0.323E+02	0.250E+02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	0.000E+00	0.411E+01	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	0.000E+00	0.152E-02	
B. IODINES				
1. TOTAL IODINE-131	CI	0.000E+00	0.000E+00	0.250E+02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	0.000E+00	0.000E+00	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	0.000E+00	0.000E+00	
C. PARTICULATES				
1. PARTICULATES WITH HALF-LIVES >8 DAYS	CI	0.000E+00	0.141E-02	0.250E+02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	0.000E+00	0.180E-03	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	0.000E+00	0.109E-03	
4. GROSS ALPHA RADIOACTIVITY	CI	0.774E-06	0.587E-06	
D. TRITIUM				
1. TOTAL RELEASE	CI	0.000E+00	0.718E+00	0.250E+02
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	0.000E+00	0.913E-01	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	0.000E+00	0.507E-04	

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

GASEOUS EFFLUENTS - GROUND LEVEL RELEASE

FOR RELEASE POINT: 1 (UNIT VENT)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
1. FISSION GASES					
AR41	CI	0.000E+00	0.274E+02	0.000E+00	0.471E+01
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.221E+00	0.000E+00	0.114E-01
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.276E+02	0.000E+00	0.472E+01

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

GASEOUS EFFLUENTS - GROUND LEVEL RELEASE

FOR RELEASE POINT: 1 (UNIT VENT)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
2. IODINES					
I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3. PARTICULATES					
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.121E-02	0.000E+00	0.202E-03
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.121E-02	0.000E+00	0.202E-03

EFFLUENT AND WASTE DISPOSAL REPORT (UNIT 2)

GASEOUS EFFLUENTS - GROUND LEVEL RELEASE

FOR RELEASE POINT: 2 (MAIN STEAM LINE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
1. FISSION GASES					
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

GASEOUS EFFLUENTS - GROUND LEVEL RELEASE

FOR RELEASE POINT: 2 (MAIN STEAM LINE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
2. IODINES					
I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3. PARTICULATES					
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

GASEOUS EFFLUENTS -GROUND RELEASE

FOR RELEASE POINT: 3 (CONDENSER AIR REMOVAL)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
1. FISSION GASES					
AR41	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR83M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR87	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
KR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
XE138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

GASEOUS EFFLUENTS -GROUND RELEASE

FOR RELEASE POINT: 3 (CONDENSER AIR REMOVAL)

NUCLIDES RELEASED	UNITS	CONTINUOUS MODE QUARTER 1	CONTINUOUS MODE QUARTER 2	BATCH MODE QUARTER 1	BATCH MODE QUARTER 2
2. IODINES					
I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3. PARTICULATES					
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SB124	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
UNIDENT.	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

LIQUID EFFLUENTS -- SUMMATION OF ALL RELEASES

	UNITS	QUARTER 1	QUARTER 2	EST. TOTAL ERROR, %
A. FISSION AND ACTIVATION PRODUCTS				
1. TOTAL RELEASE (EXCL. TRIT., GASES, ALPHA)	CI	0.000E+00	0.895E-04	0.500E+01
2. AVERAGE DILUTED CONC. DURING PERIOD	UCI/ML	0.000E+00	0.495E-11	
3. PERCENT OF APPLICABLE LIMIT	%	0.000E+00	0.249E-03	
B. TRITIUM				
1. TOTAL RELEASE	CI	0.865E-01	0.215E+02	0.500E+01
2. AVERAGE DILUTED CONC. DURING PERIOD	UCI/ML	0.480E-08	0.119E-05	
3. PERCENT OF APPLICABLE LIMIT	%	0.160E-03	0.399E-01	
C. DISSOLVED AND ENTRAINED GASES				
1. TOTAL RELEASE	CI	0.000E+00	0.386E-02	0.500E+01
2. AVERAGE DILUTED CONC. DURING PERIOD	UCI/ML	0.000E+00	0.215E-09	
3. PERCENT OF APPLICABLE LIMIT	%	0.000E+00	0.107E-03	
D. GROSS ALPHA RADIOACTIVITY				
1. TOTAL RELEASE	CI	0.000E+00	0.000E+00	0.500E+01
E. VOLUME WASTE RELEASED (PRIOR TO DILUTION)	LITERS	0.979E+05	0.492E+07	0.800E-01
F. VOLUME DILUTION WATER USED DURING PERIOD	LITERS	0.180E+11	0.180E+11	0.200E+02

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

LIQUID EFFLUENTS FOR RELEASE POINT: 2 (LIQUID WASTE)

NUCLIDES RELEASED	UNITS	CONTINUOUS MODE QUARTER 1	CONTINUOUS MODE QUARTER 2	BATCH MODE QUARTER 1	BATCH MODE QUARTER 2
H3	CI	0.000E+00	0.000E+00	0.865E-01	0.215E+02
C14	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NA24	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
P32	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CR51	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN54	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MN56	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE55	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
FE59	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CO58	CI	0.000E+00	0.000E+00	0.000E+00	0.352E-04
CO60	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NI63	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NI65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CU64	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN65	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZN69	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR83	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR84	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BR85	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

LIQUID EFFLUENTS FOR RELEASE POINT: 2 (LIQUID WASTE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
RB86	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RB88	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RB89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR89	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR91	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SR92	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y90	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y91M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y91	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y92	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y93	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ZR97	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NB95	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MO99	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TC99M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TC101	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

LIQUID EFFLUENTS FOR RELEASE POINT: 2 (LIQUID WASTE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
RU103	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RU105	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RU106	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
AG110M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE125M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE127M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE127	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE129M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE129	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE131M	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TE132	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I130	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I131	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I132	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I133	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
I135	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

LIQUID EFFLUENTS FOR RELEASE POINT: 2 (LIQUID WASTE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
LIQUID EFFLUENTS					
CS134	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS136	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS137	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CS138	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA139	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
LA140	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
LA142	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE141	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE143	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CE144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
PR143	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
PR144	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ND147	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W187	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NP239	CI	0.000E+00	0.000E+00	0.000E+00	0.000E+00

EFFLUENT AND WASTE DISPOSAL REPORT UNIT 2

LIQUID EFFLUENTS FOR RELEASE POINT: 2 (LIQUID WASTE)

		CONTINUOUS MODE		BATCH MODE	
NUCLIDES RELEASED	UNITS	QUARTER 1	QUARTER 2	QUARTER 1	QUARTER 2
LIQUID EFFLUENTS					
LIQ(UNIDENT)	CI	0.000E+00	0.000E+00	0.000E+00	0.543E-04
TOTAL FOR PERIOD (ABOVE)	CI	0.000E+00	0.000E+00	0.865E-01	0.215E+02
XE-133	CI	0.000E+00	0.000E+00	0.000E+00	0.378E-02
XE-135	CI	0.000E+00	0.000E+00	0.000E+00	0.867E-04

EFFLUENT AND WASTE DISPOSAL REPORT
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
From 1/1/89 0:00 to 6/30/89 23:00

A. SOLID WASTE SHIPPED OFF SITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL)

1. TYPE OF WASTE	UNIT	6 MONTH PERIOD	EST. TOTAL ERROR %
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR BOTTOMS, ETC.	M^3 CI	0 0	N/A
B. DRY COMPRESSIBLE WASTE, CONTAMINATED EQUIP., ETC.	M^3 CI	0 0	N/A
C. IRRADIATED COMPONENTS, CONTROL RODS, ETC.	M^3 CI	0 0	N/A
D. OTHER	M^3 CI	0 0	N/A

2. ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY TYPE OF WASTE)

A. 1	%
2	%
3	%
4	%
5	%
6	%
B. 1	%
2	%
3	%
4	%
5	%
6	%
C. 1	%
2	%
3	%
4	%
5	%
6	%
D. 1	%
2	%
3	%
4	%
5	%
6	%

EFFLUENT AND WASTE DISPOSAL REPORT
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
From 1/1/89 0:00 to 6/30/89 23:00

3. SOLID WASTE DISPOSITION (NOT IRRADIATED FUEL)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION

4. CLASS OF SOLID WASTE

5. TYPE OF CONTAINERS USED FOR SHIPMENT

6. SOLIDIFICATION AGENT

B. IRRADIATED FUEL SHIPMENTS (DISPOSITION)

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	DESTINATION