TURKEY POINT PLANT

UNITS 3 AND 4

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

JANUARY 1985 - JUNE 1985

SUBMITTED BY

NUCLEAR CHEMISTRY DEPARTMENT

TURKEY POINT PLANT

FLORIDA POWER AND LIGHT COMPANY

DISTRIBUTION

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FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT UNITS 3 AND 4
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT
SUPPLEMENTAL INFORMATION
JANUARY 1985 THROUGH JUNE 1985

1.0 Regulatory Limits

1.1 Liquid Effluents

a) The concentration of radioactive material released in liquid effluents to unrestricted areas shall not exceed the concentrations specified in 10CFR20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall not exceed 2×10^{-4} µCi/ml.

b) The dose or dose commitment per reactor to a member of the public from any radioactive materials in liquid effluent released to unrestricted areas shall be limited, during any calendar quarter, to ≤1.5 mrem to the total body and to ≤5 mrem to any organ, and, during any calendar year, to ≤3 mrem to the total body and ≤10 mrem to any organ.

1.2 Gaseous Effluents

a) 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:

Less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin due to noble gases and less than or equal to 1500 mrem/yr to any organ due to I-131, I-133, tritium and for all radioactive materials in particulate form with half lives greater than 8 days.

b) The air dose per reactor to areas at and beyond the site boundary due to noble gases released in gaseous effluents shall be limited, during any calendar quarter, to ≤5 mrad for gamma radiation and ≤10 mrad for beta radiation and, during any calendar year, to ≤10 mrad for gamma radiation and ≤20 mrad for beta radiation.

c) The dose per reactor to a member of the public, due to I-131, I-133, tritium and to particulates with half-lives greater than 8 days in airborne effluents released to areas at and beyond the site boundary shall not exceed 7.5 mrem to any organ during any calendar quarter and shall not exceed 15 mrem to any organ during any calendar year.

2.0 Maximum Permissible Concentrations

The maximum permissible concentrations for liquid and airborne releases are described in Sections 1.1-a and 1.2-a of this report.

3.0 Average Energy

The average energy of fission and activation gases in gaseous effluents is not applicable.

4.0 Measurements and Approximations of Total Radioactivity

All liquid and airborne discharges to the environment during this reporting period were analyzed in accordance with Technical Specification requirements. The minimum frequency of analysis as required by Regulatory Guide 1.21 was met or exceeded.

4.1 Liquid Effluents

Aliquots of representative pre-release samples were either isotopically analyzed for gamma emitting isotopes on a multichannel analyzer in conjunction with a high resolution Ge(Li) or HPGe detector, or evaporated and analyzed for gross beta-gamma activity in a 2π gas flow proportional counter. The efficiency of the gas flow proportional counter is adjusted so that the activity determined by gross beta-gamma analysis approximates the isotopic activities determined by gamma spectrum analysis and selected beta determinations, exclusive of tritium and dissolved gases.

The above procedure was followed for all releases from the waste disposal system and for secondary system batch releases. Frequent periodic sampling and analysis were used to conservatively determine if any radioactivity was being released via the steam generator blowdown system.

Monthly and quarterly composite samples for the waste disposal system were prepared to give proportional weight to each liquid release made during the designated period of accumulation. The monthly composite was analyzed for tritium and gross alpha activity. Tritium was determined by use of liquid scintillation techniques and gross alpha radioactivity was determined by use of a 2π gas flow proportional counter. The quarterly composite was analyzed for Sr-89/90 and Fe-55 by chemical separation.

All radioactivity concentrations determined from analysis of a pre-release sample or composite were multiplied by the total represented volume of the liquid waste released to determine the total quantity of each isotope and of gross alpha activity released during the period.

[illegible] Specific Vehicle Specifications

[illegible]

[illegible] Summary

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[illegible] Exceed [illegible] Total Emissions

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At least one representative batch of liquid effluent from the waste disposal system was analyzed monthly for dissolved fission and activation gases by use of gamma spectrum analysis. The resulting isotope concentrations were multiplied by the total volume released for the month in order to estimate the total dissolved gases released. If more than one batch of effluent was analyzed, the concentrations were weighted in an appropriate manner.

4.2 Gaseous Effluents

Airborne releases to the atmosphere occurred from: release of gas decay tanks, the instrument bleedline, containment purges, and sporadic releases incidental to operation of the plant. The techniques employed in determining the radioactivity in airborne releases are:

a) Gamma spectrum analysis for fission and activation gases,

b) Removal of particulate material by filtration and subsequent gamma-spectrum analysis, Sr-89-90 determination and gross alpha analysis,

c) Absorption of halogen radionuclides on a charcoal filter and subsequent gamma-spectrum analysis, and

d) Analysis of water vapor in a gas sample for tritium using liquid scintillation techniques.

All sporadic gas releases from the plant which were not accounted for by the above methods were conservatively estimated as curies of Xe-133 by use of the plant vent process monitor recorder chart and the current calibration curve for the monitor.

4.3 Estimate of Errors

a) Sampling Error

The error associated with volume measurement devices, flow measuring devices, etc., based on calibration data and design tolerances has been conservatively estimated to be collectively less than ±10%.

b) Analytical Error

Analytical error will be assessed in the January Semiannual Report.

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5.0 BATCH RELEASES

5.1 Liquid

		Unit 3	Unit 4	
a)	Number of batch releases	2.86 E+02	2.86 E+02	
b)	Total time period of batch releases	2.72 E+04	2.72 E+04	Minutes
c)	Maximum time period for a batch release	2.00 E+02	2.00 E+02	Minutes
d)	Average time period for a batch release	9.51 E+01	9.51 E+01	Minutes
e)	Minimum time period for a batch release	3.50 E+01	3.50 E+01	Minutes
f)	Average stream flow during periods of release of effluent into a flowing stream	1.38 E+06	1.38 E+06	GPM

5.2 Gaseous

a)	Number of batch releases	2.70 E+01	2.40 E+01	
b)	Total time period of batch releases	2.28 E+03	1.56 E+03	Minutes
c)	Maximum time period for a batch release	2.40 E+02	2.40 E+02	Minutes
d)	Average time period for a batch release	8.44 E+01	6.50 E+01	Minutes
e)	Minimum time period for a batch release	3.00 E+01	3.00 E+01	Minutes

6.0 UNPLANNED RELEASES

6.1 Liquid

a)	Number of releases	0	0	
b)	Total activity released	0	0	Curies

6.2 Gaseous

a)	Number of releases	5.00 E-01	5.00 E-01	
b)	Total activity released	8.55 E+00	8.55 E+00	Curies

6.3 See attachments (if applicable) for:

a) A description of the event and equipment involved.

b) Cause(s) for the unplanned release.

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7.0 Assessment of radiation dose from radioactive effluents to the general public due to their activities inside the site boundary is part of the January Semi Annual Report.

8.0 Offsite Dose Calculation Manual Revisions:

There were no changes to the ODCM during this reporting period.

9.0 Solid Waste and Irradiated Fuel Shipments

No irradiated fuel shipments were made from the site. Common solid waste from Turkey Point Units 3 and 4 were shipped jointly. A summation of these shipments is given in Attachment B of this report.

10.0 Process Control Program Revisions

No revisions were made during the reporting period.

FLORIDA POWER AND LIGHT COMPANY
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SEMIANNUAL REPORT
JANUARY 1985 THROUGH JUNE 1985

UNIT 3 TABLE 1
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	Units	Quarter 1	Quarter 2
A. Fission and Activation Products			
1. Total Release (not including tritium, gases, alpha)	Ci	9.62 E-02	7.95 E-02
2. Average diluted concentration during period	µCi/ml	1.21 E-10	1.34 E-10
B. Tritium			
1. Total Release	Ci	1.18 E+02	7.55 E+01
2. Average diluted concentration during period	µCi/ml	4.45 E-06#	7.75 E-06#
C. Dissolved and Entrained Gases			
1. Total Release	Ci	6.75 E-02	2.21 E-01
2. Average diluted concentration during period	µCi/ml	8.48 E-11	3.73 E-10
D. Gross Alpha Radioactivity			
1. Total Release	Ci	<1.21 E-08*	<9.97 E-09*
E. Volume of Waste Released (prior to dilution)	Liters	3.15 E+06	3.83 E+06
F. Volume of Dilution Water Used During Period	Liters	7.96 E+11	5.91 E+11

* MDA value in µCi/ml
\# Based on Cooling Canal Tritium Concentration

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UNIT 3 TABLE 2
LIQUID EFFLUENTS

Nuclides Released	Units	Continuous Mode		Batch Mode	
		Quarter 1	Quarter 2	Quarter 1	Quarter 2
Ag-110m	Ci			2.16 E-03	1.04 E-03
Co-57	Ci			--	5.00 E-06
Co-58	Ci			2.31 E-02	2.46 E-02
Co-60	Ci			2.86 E-02	9.35 E-03
Cr-51	Ci			5.85 E-03	1.05 E-02
Cs-134	Ci			6.75 E-04	1.46 E-03
Cs-137	Ci			1.55 E-03	4.42 E-03
Fe-55	Ci			2.77 E-02	4.98 E-03
Fe-59	Ci			1.34 E-03	5.55 E-04
I-131	Ci			2.53 E-04	3.59 E-04
La-140	Ci			4.85 E-05	1.00 E-04
Mn-54	Ci			1.41 E-03	2.49 E-04
Mo-99/Tc-99m	Ci			3.33 E-04	2.84 E-04
Na-24	Ci			--	1.35 E-05
Nb-95	Ci			1.67 E-03	1.10 E-03
Ru-103	Ci			5.00 E-04	3.17 E-04
Sb-124	Ci			2.60 E-05	4.74 E-03
Sb-125	Ci			5.70 E-04	1.47 E-02
Sn-117m	Ci			--	1.50 E-06
Sr-89	Ci			<6.00 E-08	<1.00 E-08
Sr-90	Ci			<4.00 E-09	<3.00 E-09
Zn-65	Ci			1.62 E-04	3.75 E-05
Zr-95	Ci			4.36 E-04	4.11 E-04
	Ci				
	Ci				
Unidentified	Ci				
Total for Period Above	Ci			9.62 E-02	7.95 E-02

Note: (--) indicates less than detectable activity.

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UNIT 3 TABLE 2 (Continued)
LIQUID EFFLUENTS

Liquid Dissolved Gas

Nuclides Released	Units	Continuous Mode		Batch Mode	
		Quarter 1	Quarter 2	Quarter 1	Quarter 2
Xe-131m	Ci			--	1.72 E-03
Xe-133	Ci			6.65 E-02	2.17 E-01
Xe-133m	Ci			6.70 E-04	1.25 E-03
Xe-135	Ci			2.23 E-04	6.05 E-04
	Ci				
	Ci				
	Ci				
	Ci				
Total for Period Above	Ci			6.75 E-02	2.21 E-01

Note: (--) indicates less than detectable activity.

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FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
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UNIT 3 TABLE 3
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	Units	Quarter 1	Quarter 2
A. Fission and Activation Gases			
1. Total Release	Ci	2.64 E+02	8.61 E+01
2. Average Release Rate for Period	µCi/sec	3.36 E+01	1.10 E+01
B. Iodines			
1. Total Iodine-131	Ci	2.14 E-03	5.96 E-04
2. Average Release Rate for Period	µCi/sec	2.72 E-04	7.58 E-05
C. Particulates			
1. Particulates T - 1/2 >8 Days	Ci	1.16 E-04	3.87 E-04
2. Average Release Rate for Period	µCi/sec	1.48 E-05	4.93 E-05
3. Gross Alpha Radioactivity	Ci	8.06 E-08	1.13 E-07
D. Tritium			
1. Total Release	Ci	8.01 E-02	1.21 E+02
2. Average Release Rate for Period	µCi/sec	1.02 E-02	1.54 E+01

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FLORIDA POWER AND LIGHT COMPANY
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UNIT 3 TABLE 4
GASEOUS EFFLUENTS

Nuclides Released	Units	Continuous Mode		Batch Mode	
		Quarter 1	Quarter 2	Quarter 1	Quarter 2
1. Fission Gases					
Ar-41	Ci	3.72 E-01	--	4.24 E-01	--
Kr-85	Ci	--	--	2.65 E-00	--
Kr-85m	Ci	1.12 E-02	--	3.05 E-02	--
Kr-88	Ci	6.25 E-03	--	2.16 E-02	--
Xe-131m	Ci	--	--	3.97 E-01	3.51 E-01
Xe-133	Ci	2.39 E+02	6.70 E+01	1.68 E+01	1.86 E+01
Xe-133m	Ci	4.38 E-02	--	3.58 E-01	1.15 E-01
Xe-135	Ci	3.35 E+00	--	6.95 E-01	9.33 E-02
Xe-138	Ci	--	--	7.05 E-03	--
	Ci				
	Ci				
Unidentified	Ci				
Total for Period Above	Ci	2.43 E+02	6.70 E+01	2.14 E+01	1.91 E+01
2. Iodines					
I-131	Ci	2.14 E-03	5.96 E-04		
I-133	Ci	1.48 E-03	1.95 E-04		
	Ci				
Total for Period Above	Ci	3.62 E-03	7.91 E-04		

Note: (--) indicates less than detectable activity.

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FLORIDA POWER AND LIGHT COMPANY
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UNIT 3 TABLE 4 (Continued)
GASEOUS EFFLUENTS

Nuclides Released	Units	Continuous Mode	
		Quarter 1	Quarter 2
3. Particulates			
Ba-140	Ci	5.20 E-05	3.59 E-05
Ce-141	Ci	--	2.04 E-06
Ce-144	Ci	2.72 E-06	--
Co-58	Ci	4.32 E-06	1.80 E-04
Co-60	Ci	6.40 E-06	7.70 E-05
Cr-51	Ci	--	3.28 E-06
Cs-134	Ci	9.10 E-07	1.12 E-06
Cs-137	Ci	5.25 E-06	9.40 E-06
I-131	Ci	2.98 E-06	6.50 E-07
La-140	Ci	3.84 E-05	2.55 E-05
Mn-54	Ci	2.95 E-06	3.99 E-05
Nb-95	Ci	--	2.68 E-07
Ru-103	Ci	--	2.52 E-07
Sr-89	Ci	5.05 E-07	1.18 E-05
Sr-90	Ci	4.35 E-08	3.12 E-07
	Ci		
	Ci		
	Ci		
	Ci		
	Ci		
Unidentified	Ci		
Total for Period Above	Ci	1.16 E-04	3.87 E-04

Note: (--) indicates less than detectable activity.

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FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
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UNIT 4 TABLE 1
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	Units	Quarter 1	Quarter 2
A. Fission and Activation Products			
1. Total Release (not including tritium, gases, alpha)	Ci	9.62 E-02	7.95 E-02
2. Average diluted concentration during period	µCi/ml	1.21 E-10	1.34 E-10
B. Tritium			
1. Total Release	Ci	1.18 E+02	7.55 E+01
2. Average diluted concentration during period	µCi/ml	4.45 E-06#	7.75 E-06#
C. Dissolved and Entrained Gases			
1. Total Release	Ci	6.75 E-02	2.21 E-01
2. Average diluted concentration during period	µCi/ml	8.48 E-11	3.73 E-10
D. Gross Alpha Radioactivity			
1. Total Release	Ci	<1.21 E-08*	<9.97 E-09*
E. Volume of Waste Released (prior to dilution)	Liters	3.15 E+06	3.83 E+06
F. Volume of Dilution Water Used During Period	Liters	7.96 E+11	5.91 E+11

* MDA value in µCi/ml
\# Based on Cooling Canal Tritium Concentration

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FLORIDA POWER AND LIGHT COMPANY
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UNIT 4 TABLE 2
LIQUID EFFLUENTS

Nuclides Released	Units	Continuous Mode		Batch Mode	
		Quarter 1	Quarter 2	Quarter 1	Quarter 2
Ag-110m	Ci			2.16 E-03	1.04 E-03
Co-57	Ci			--	5.00 E-06
Co-58	Ci			2.31 E-02	2.46 E-02
Co-60	Ci			2.86 E-02	9.35 E-03
Cr-51	Ci			5.85 E-03	1.05 E-02
Cs-134	Ci			6.75 E-04	1.46 E-03
Cs-137	Ci			1.55 E-03	4.42 E-03
Fe-55	Ci			2.77 E-02	4.98 E-03
Fe-59	Ci			1.34 E-03	5.55 E-04
I-131	Ci			2.53 E-04	3.59 E-04
La-140	Ci			4.85 E-05	1.00 E-04
Mn-54	Ci			1.41 E-03	2.49 E-04
Mo-99/Tc-99m	Ci			3.33 E-04	2.84 E-04
Na-24	Ci			--	1.35 E-05
Nb-95	Ci			1.67 E-03	1.10 E-03
Ru-103	Ci			5.00 E-04	3.17 E-04
Sb-124	Ci			2.60 E-05	4.74 E-03
Sb-125	Ci			5.70 E-04	1.47 E-02
Sn-117m	Ci			--	1.50 E-06
Sr-89	Ci			<6.00 E-08	<1.00 E-08
Sr-90	Ci			<4.00 E-09	<3.00 E-09
Zn-65	Ci			1.62 E-04	3.75 E-05
Zr-95	Ci			4.36 E-04	4.11 E-04
	Ci				
	Ci				
Unidentified	Ci				
Total for Period Above	Ci			9.62 E-02	7.95 E-02

Note: (--) indicates less than detectable activity.

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UNIT 4 TABLE 2 (Continued)
LIQUID EFFLUENTS

Liquid Dissolved Gas

Nuclides Released	Units	Continuous Mode		Batch Mode	
		Quarter 1	Quarter 2	Quarter 1	Quarter 2
Xe-131m	Ci			--	1.72 E-03
Xe-133	Ci			6.65 E-02	2.17 E-01
Xe-133m	Ci			6.70 E-04	1.25 E-03
Xe-135	Ci			2.23 E-04	6.05 E-04
	Ci				
	Ci				
	Ci				
	Ci				
Total for Period Above	Ci			6.75 E-02	2.21 E-01

Note: (--) indicates less than detectable activity.

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UNIT 4 TABLE 3
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	Units	Quarter 1	Quarter 2
A. Fission and Activation Gases			
1. Total Release	Ci	4.79 E+02	2.74 E+02
2. Average Release Rate for Period	µCi/sec	6.09 E+01	3.49 E+01
B. Iodines			
1. Total Iodine-131	Ci	2.14 E-03	5.04 E-04
2. Average Release Rate for Period	µCi/sec	2.72 E-04	6.41 E-05
C. Particulates			
1. Particulates T - 1/2 >8 Days	Ci	1.16 E-04	3.87 E-04
2. Average Release Rate for Period	µCi/sec	1.48 E-05	4.93 E-05
3. Gross Alpha Radioactivity	Ci	8.06 E-08	1.13 E-07
D. Tritium			
1. Total Release	Ci	1.45 E-01	7.89 E+01
2. Average Release Rate for Period	µCi/sec	1.84 E-02	1.00 E+01

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UNIT 4 TABLE 4
GASEOUS EFFLUENTS

Nuclides Released	Units	Continuous Mode		Batch Mode	
		Quarter 1	Quarter 2	Quarter 1	Quarter 2
1. Fission Gases					
Ar-41	Ci	4.17 E-01	3.85 E-01	4.55 E-01	5.81 E-02
Kr-85	Ci	--	--	2.65 E+00	1.25 E+00
Kr-85m	Ci	4.75 E-02	6.12 E-02	5.49 E-02	2.52 E-02
Kr-88	Ci	2.29 E-02	3.56 E-02	3.04 E-02	1.96 E-02
Xe-131m	Ci	1.01 E+00	1.12 E+00	1.55 E+00	1.04 E+00
Xe-133	Ci	3.07 E+02	1.79 E+02	1.61 E+02	8.68 E+01
Xe-133m	Ci	1.08 E+00	9.14 E-01	1.33 E+00	7.75 E-01
Xe-135	Ci	1.33 E+00	1.18 E+00	1.11 E+00	7.84 E-01
Xe-138	Ci	--	--	7.05 E-03	--
	Ci				
	Ci				
Unidentified	Ci				
Total for Period Above	Ci	3.11 E+02	1.83 E+02	1.68 E+02	9.08 E+01

2. Iodines

I-131	Ci	2.14 E-03	5.04 E-04
I-133	Ci	1.48 E-03	1.95 E-04
	Ci		
Total for Period Above	Ci	3.62 E-03	6.99 E-04

Note: (--) indicates less than detectable activity.

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UNIT 4 TABLE 4 (Continued)
GASEOUS EFFLUENTS

Nuclides Released	Units	Continuous Mode	
		Quarter 1	Quarter 2
3. Particulates			
Ba-140	Ci	5.20 E-05	3.59 E-05
Ce-141	Ci	--	2.04 E-06
Ce-144	Ci	2.72 E-06	--
Co-58	Ci	4.32 E-06	1.80 E-04
Co-60	Ci	6.40 E-06	7.70 E-05
Cr-51	Ci	--	3.28 E-06
Cs-134	Ci	9.10 E-07	1.12 E-06
Cs-137	Ci	5.25 E-06	9.40 E-06
I-131	Ci	2.98 E-06	6.50 E-07
La-140	Ci	3.84 E-05	2.55 E-05
Mn-54	Ci	2.95 E-06	3.99 E-05
Nb-95	Ci	--	2.68 E-07
Ru-103	Ci	--	2.52 E-07
Sr-89	Ci	<2.56 E-15	1.18 E-05
Sr-90	Ci	4.35 E-08	2.46 E-07
	Ci		
	Ci		
	Ci		
	Ci		
	Ci		
Unidentified	Ci		
Total for Period Above	Ci	1.16 E-04	3.87 E-04

Note: (--) indicates less than detectable activity.

C8:1

[illegible]

TURKEY POINT PLANT

UNITS 3 AND 4

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

JANUARY 1985 - JUNE 1985

ATTACHMENT A

UNPLANNED RELEASES

UNPLANNED RELEASES

On June 28, 1985, a slight over-pressurization of the vent header system led to the lifting of a relief valve on a hold-up tank, which is part of the Chemical Volume Control System.

This resulted in the release of approximately 17.1 Ci of gas as Xe-133.

This represented less than 1% of the maximum permissable concentration for Xe133 at the site boundary.

[illegible]

TURKEY POINT PLANT

Units 3 & 4

SEMI-ANNUAL EFFLUENT RELEASE REPORT

(January 1985 - June 1985)

ATTACHMENT B

SOLID RADIOACTIVE WASTE SHIPMENTS

Florida Power & Light Co.
Turkey Point Units No. 3&4
Semi- Annual Report
Jan. 1, 1985 through June 30, 1985

Solid Radioactive Waste Shipments

A. Solid Waste Shipped Offsite for Burial

1. Type of Waste	Unit	6 month period	Est. Total Error %
a. Spent Resins, filter sludges, evaporator bottoms, etc.	m^3	51.4	
	Ci	285	20
b. Dry Compressible Waste Contaminated Equip.	m^3	388.6	
	Ci	1.73	20
c. Irradiated components, control rods, etc.			
d. Other			

2. Estimate of major composition (by type of waste)

a. Co^{60}	%	69
Cs^{137}	%	6
Co^{58}	%	6
Cs^{134}	%	3
Fe^{55}	%	2
H^3	%	1
b. Co^{60}	%	52
Fe^{55}	%	27
Ni^{63}	%	9
Cs^{137}	%	6
Cs^{134}	%	2

3. Solid Waste Disposition

Number of shipments	Mode of transport	Destination
26	Sole Use Truck	Barnwell, S. C.

4. Irradiated Fuel Shipments

Number of shipments	Mode of transport	Destination
none		

Florida Power & Light Co.
Turkey Point Unit Nos. 3&4
Semi-Annual Report
Jan. 1, 1985 through June 30, 1985

Waste Classification	Total Volume Ft3	(Notel) Total Curie Quantity	(Notes 1,2) Principal Radionuclides	(Note 3) Type of Waste	R. G. 1.21 Category	(Note 4) Type of Container	Solidification or Absorbent Agent
Class A	13507	.985	None	PWR Trash	1.b.	Non-Spec. Strong, Tight Packages	NA
Class A	215	.744	None	PWR Trash	1.b.	NRC Certified LSA > Type A	NA
Class A	1420	13.820	Sr^{90} Ni^{63} Cs^{137} H^{3}	PWR Ion Exchange Resins	1.a.	NRC Certified LSA > Type A	NA
Class A	168	6.967	None	PWR Filters	1.a.	NRC Certified LSA > Type A	NA
Class A	143	.008	None	PWR Ion Exchange Resins	1.a.	Non-Spec. Strong, Tight Packages	NA
Class B	84	264	Pu^{241} TRU Sr^{90} Ni^{63} Co^{60} Cs^{137}	PWR Ion Exchange Resins	1.a.	NRC Certified LSA > TypeA	NA

Florida Power & Light Co.
Turkey Point Unit Nos. 3&4
Semi-Annual Report
Jan. 1, 1985 through June 30, 1985
Table 3.9 (Cont.)
Solid Waste Supplement

Note 1: The total curie quantity and radionuclide composition of solid waste shipped from the Turkey Point Units 3&4 are determined using a combination of qualitative and quantitive techniques. In general, the Turkey Point Plant follows the guidelines outlined in the Low Level Waste Licensing Branch Technical Position (BTP) on Radioactive Waste Classification (5/11/83) for these determinations.

The most frequently used techniques for determining the total curie quantity in a package are the dose to curie methods and the (Concentration) x (Volume or Mass) calculations. Where appropriate, engineering type activation analyses may be applied. Since each of the above methodologies involves to some extent qualitative parameters, the total curie quantity is considered to be an estimate.

The composition of radionuclides in the waste is determined by both on-site analyses for principal gamma emitters and periodic off-site analyses for other radionuclides. The on-site analyses are performed either on a batch basis or on a routine basis using reasonably representative samples as appropriate for the waste type. Offsite analyses are used to establish scaling factors or other estimates for radionuclides such as ^{3}H, ^{14}C, ^{99}Tc, ^{129}I, TRU, ^{241}Pu, ^{242}Cm, ^{63}Ni, and ^{55}Fe.

Note 2: "Principal Radionuclides" refers to those radionuclides contained in the waste in concentrations greater than .01 times the concentration of that nuclide listed in Table 1 or .01 times the smallest concentration of that nuclide listed in Table 2 of 10CFR61.

Note 3: "Type of Waste" is generally specified as described in NUREG 0782, Draft Environmental Impact Statement on 10CFR61 "Licensing Requirements for Land Disposal of Radioactive Waste".

Note 4: "Type of Container" refers to the transport package.

DMB

FLORIDA POWER & LIGHT COMPANY

MAR 04 1985

L-85-90

Dr. J. Nelson Grace
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
Suite 2900
101 Marietta Street NW
Atlanta, Georgia 30323

Dear Dr. Grace:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Semi-Annual Reports

Please find attached the Radioactive Effluent Release Data Report and the Radiological Environmental Monitoring Report for the period July 1, 1984 to December 31, 1984 for Turkey Point Units 3 and 4, as required by Technical Specification 6.9.4.

Should you or your staff have any questions on this information, please contact us.

Very truly yours,

J. W. Williams, Jr.
Group Vice President
Nuclear Energy

JWW/SAV/js

Attachment

cc: Director, Office of Inspection and Enforcement, USNRC
Document Control Desk, USNRC
Harold F. Reis, Esquire
PNS-LI-85-086-1

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