RADIOACTIVE EFFLUENT RELEASE DATA

JANUARY 1983 THROUGH JUNE 1983

SUBMITTED BY

NUCLEAR CHEMISTRY DEPARTMENT

TURKEY POINT PLANT

FLORIDA POWER & LIGHT COMPANY

DISTRIBUTION

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SEMIANNUAL REPORT OF RADIOACTIVE EFFLUENT RELEASES, PTP UNITS 3 & 4 1/83 - 6/83

Introduction

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 Safety Guide 21 was met or exceeded.

Liquid Releases

Aliquots of representative pre-release samples were either isotopically analyzed for gamma emitting isotopes on a multichannel analyzer, 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 estimate the quantity of radioactivity released via the steam generator blowdown system.

The following comments will aid in the interpretation and evaluation of the liquid release data presented in Table I, pages 1 through 6.

1. The reported values in Table I, page 1, include in their computation the quantity of radioactivity released from both the waste disposal system and the secondary system. The secondary system releases occurred when contaminated water was blown down from the steam generators during primary to secondary leakage conditions, or when the generators were drained for repair or refueling. Activity that entered the plant storm drain system was also included in the secondary system activity released and in the total activity released.

2. The reported values in Table I, pages 2 and 3 are the total quantities of radioactivity for individual nuclides released from the waste disposal system and the secondary system together. The values in Table I, page 4 are for the waste disposal system only and page 5 is for the secondary system only.

3. During primary to secondary leakage, release of several short-lived nuclides from the secondary system occurs. These short-lived nuclides are not generally detected in batch released from the waste disposal system due to the long holdup time of processed water. Only those isotopes that were detected in the secondary system releases were reported. All non-detectable isotopes are listed as (—).

4. Weekly and monthly 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 composites were analyzed for gamma emmitting isotopes on a multichannel analyzer attached to a high resolution Ge(Li) detector, and for Sr-89 and Sr-90, using a chemical separation and subsequent beta determination with a 2π gas flow proportional counter. Tritium was determined by use of liquid scintillation techniques and gross alpha radioactivity was determined by use of a 2π gas flow proportional counter. All concentrations for radioactivity determined from analysis of a 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 compositing period.

5. 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. The results are totaled on a monthly basis in Table I, page 6. Dissolved gases, if any, from secondary system releases were determined from the samples of the individual releases. Isotopic concentrations were multiplied by the volume released to determine the quantity of radiogas nuclides released.

6. Representative samples of secondary system batch releases were analyzed individually for gamma emitting isotopes. Analysis of a representative composite for tritium was made for releases which occurred due to primary to secondary leakage.

7. The applicable limit for release of radioactive material in liquid waste is five curies per quarter excluding tritium and dissolved gases.

Airborne Releases

Airborne releases to the atmosphere occurred from: release of gas decay tanks, the instrument bleedline, containment purges, and the secondary system during conditions of primary to secondary leakage. 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, gross alpha analysis, and gross beta-gamma analysis,

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

d) Condensation of water vapor in a gas sample followed by analysis 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 equivalent by use of the plant vent process monitor recorder chart and the current calibration curve for the monitor.

The maximum rated capacity for the hogging jets and the maximum measured flow rate for the condenser air ejectors, and an estimate of the rate of exhaust from the atmoshperic dumps were used to conservatively estimate the airborne releases from the secondary system whenever applicable.

The following comments will aid in the interpretation and evaluation of the airborne release data presented in Table II.

1. Calculation of total radioactivity of noble gases, I-131, and particulates is based upon detectable radionuclides only.

2. The applicable limit for release of total radioactive materials in gaseous waste is 0.012 Ci/sec when averaged over the calendar quarter. The percent of the applicable limit for total gaseous release was computed as follows:

$$\% \text{ of Limit} = \frac{\text{Total curies released in gaseous waste during quarter} \times 100\%}{(.012 \text{ Ci/sec})\ (\text{Seconds in quarter})}$$

3. The applicable limit for the release of I-131 and particulate radionuclides with half-lives greater than eight days in airborne waste is:

$$\Sigma \frac{Q_i}{MPC_i} \leq 10{,}000 \frac{m^3}{sec}$$, where Q_i = release rate of i^{th} nuclide, Ci/sec and MPC_i = maximum permissible concentration of the i^{th} nuclide, Ci/m^3

The release rate, Q_i, was determined by dividing the total activity released in Ci, for the i^{th} nuclide ($t_{1/2} > 8d$), during the calendar quarter by the seconds in the quarter.

MPC_i values were obtained from 10CFR20, Appendix B, Table II, Column 1. The MPC chosen was the most conservative value of either the soluble or insoluble MPC for each isotope.

The percent of applicable limit was determined as follows:

$$\% \text{ of Limit} = \frac{\Sigma \frac{Q_i}{MPC_i} \times 100\%}{10{,}000 \text{ m}^3 / \text{sec}}$$

4. The maximum gaseous release rate for each month is listed in Table II, page 1, under Section A, Line 3. The applicable limit for maximum allowable release rate is 6.7 E+04 μCi/sec, average over one hour.

5. All values reported in Table II, pages 2 and 3, include the particulate, gaseous, and halogen activity released from the containments during purging, auxiliary building (leakage from pumps, valves, etc), the gas waste disposal system and the secondary system during conditions of primary to secondary system leakage. If a minimum detectable activity value was not calculated for an isotope, it will be listed as (—).

NUCLEAR CHEMISTRY PROCEDURE NC-3
PREPARATION OF THE MONTHLY "PRELIMINARY REPORT ON RADIOACTIVE RELEASES" AND THE "RADIOACTIVE EFFLUENT RELEASES" PORTION OF THE SEMIANNUAL OPERATING REPORT

TABLE I
Report of Radioactive Effluents: Liquid

Gross Radioactivity (β-γ)		January	February	March	April	May	June
1. Total Release	(mCi)	1.39 E+01	4.15 E+00	8.70 E+00	1.15 E+01	4.37 E+01	*8.58 E+02
2. Avg Concentration During Releases	(μCi/ml)	4.6 E-10	1.4 E-10	3.4 E-10	3.7 E-10	1.7 E-09	2.9 [illegible]
3. Avg Concentration for Month	(μCi/ml)	6.6 E-11	2.6 E-11	5.2 E-11	8.1 E-11	1.8 E-10	3.2 [illegible]
4. Max Concentration Released	(μCi/ml)	1.4 E-08	6.6 E-10	8.2 E-09	7.0 E-09	3.0 E-09	2.7 E-07 **
5. Percent of Technical Specification Limit for Total Activity Released	(%)		5.4 E-01			1.83 E+01	
Tritium							
1. Total Release	(Ci)	1.45 E+01	6.28 E+01	1.04 E+01	8.91 E+01	7.25 E+01	6.73 E+01
2. Avg Concentration During Releases	(μCi/ml)	4.8 E-07	2.1 E-06	4.1 E-07	2.8 E-06	2.8 E-06	2.3 E-06
3. Avg Concentration for Month	(μCi/ml)	6.8 E-08	3.9 E-07	6.2 E-08	6.3 E-07	3.0 E-07	2.5 E-07
Dissolved Noble Gas							
1. Total Release	(mCi)	4.69 E+02	1.5 E+00	2.4 E+00	4.4 E+01	4.29 E+02	2.2 E+00
2. Avg Concentration During Releases	(μCi/ml)	1.5 E-08	5.1 E-11	9.5 E-11	1.4 E-09	1.7 E-08	7.6 E-11
3. Avg Concentration for Month	(μCi/ml)	2.2 E-09	9.3 E-12	1.4 E-11	3.1 E-10	1.8 E-09	8.2 E-12
Gross Alpha Radioactivity							
1. Total Release	(mCi)	(<1.0 E-08)	(<1.2 E-08)	(<6.4 E-09)	(<1.4 E-08)	(<7.0 E-09)	(<1.1 E-08)
2. Avg Concentration During Releases	(μCi/ml)	(<3.3 E-19)	(<4.1 E-19)	(<2.5 E-19)	(<4.4 E-19)	(<2.7 E-19)	(<3.8 E-19)
3. Avg Concentration for Month	(μCi/ml)	(<4.7 E-20)	(<7.4 E-20)	(<3.8 E-20)	(<9.9 E-20)	(<2.9 E-20)	(<4.1 [illegible]
Volumes							
1. Vol of Liquid Waste to Discharge	(Liters)	2.99 E+07	1.47 E+07	1.90 E+07	2.74 E+07	4.66 E+07	3.44 E+07
2. Vol of Dilution Water During Rel.	(Liters)	3.03 E+10	2.96 E+10	2.53 E+10	3.15 E+10	2.57 E+10	2.91 E+10
3. Vol of Dilution Water for Month	(Liters)	2.12 E+11	1.62 E+11	1.68 E+11	1.42 E+11	2.43 E+11	2.67 E+11

NOTE: Numbers in parentheses represent maximum sensitivity in μCi/ml.

* Includes 527 mCi Na-24 used for moisture carryover test.

** C/MPC = 0.064

TABLE I

Report of Radioactive Effluents: Liquid - Total

Isotope	Unit	January	February	March	April	May	June
Ag-110m	mCi	1.26 E-01	(<3.6 E-08)	8.51 E-02	6.01 E-01	1.63 E-01	5.74 E-
Ba-140	mCi	(<4.4 E-07)	(<1.8 E-07)	(<3.3 E-07)	(<3.0 E-07)	(<3.7 E-07)	(<5.6 E-06)
Co-57	mCi	(<3.7 E-08)	(<1.9 E-08)	(<3.7 E-08)	1.65 E-02	(<3.8 E-08)	5.50 E-01
Co-58	mCi	3.16 E+00	5.48 E-01	1.40 E+00	1.18 E+00	1.45 E+00	4.81 E+01
Co-60	mCi	4.76 E+00	1.04 E+00	3.78 E+00	3.47 E+00	3.0 E+00	2.07 E+02
Cs-134	mCi	1.27 E+00	1.97 E-01	4.00 E-01	1.37 E+00	1.27 E+00	1.76 E+01
Cs-136	mCi	(<1.4 E-07)	(<5.6 E-08)	(<1.3 E-07)	(<9.0 E-08)	(<1.3 E-07)	5.50 E-01
Cs-137	mCi	2.70 E+00	4.45 E-01	9.80 E-01	2.62 E+00	1.87 E+00	3.25 E+01
Cs-138	mCi	--	--	--	--	7.5 E-01	--
F- 18	mCi	1.8 E-01	3.07 E-01	--	7.8 E-02	--	4.08 E-01
I-131	mCi	1.17 E+00	7.8 E-01	9.6 E-01	6.72 E-01	2.86 E+01	1.78 E+01
I-132	mCi	--	--	1.75 E-01	--	1.5 E-01	--
I-133	mCi	3.0 E-01	8.02 E-01	6.80 E-01	4.66 E-01	2.69 E+00	9.49 E-01
La-140	mCi	(<3.6 E-08)	(<3.1 E-08)	(<3.6 E-08)	(<2.8 E-08)	(<3.3 E-08)	(<5.3 E-
Mn-54	mCi	4.08 E-02	2.32 E-02	9.64 E-02	9.53 E-02	1.99 E-02	3.35 E-01
Na-24	mCi	--	--	--	--	--	5.27 E+02
Nb-95	mCi	8.89 E-02	1.15 E-02	(<8.6 E-08)	(<8.3 E-08)	(<1.1 E-07)	(<1.1 E-06)
Sb-125	mCi	6.72 E-02	(<7.2 E-08)	(<1.9 E-07)	4.28 E-01	6.07 E-02	4.31 E-01

NOTE: Numbers in parentheses represent maximum sensitivity in μCi/ml.

TABLE I

Report of Radioactive Effluents: Liquid - Total

Isotope	Unit	January	February	March	April	May	June
Sr-89	mCi	(<7.3 E-09)	(<9.4 E-09)	(<1.1 E-08)	3.7 E-01	3.7 E+00	1.76 E+00
Sr-90	mCi	(<5.6 E-09)	(<7.3 E-09)	1.4 E-01	1.0 E-01	(<8.1 E-09)	8.4 E-03
Zn-65	mCi	(<1.7 E-07)	(<6.7 E-08)	(<1.9 E-07)	4.34 E-02	(<1.9 E-07)	2.35 E+00
Total	mCi	1.39 E+01	4.15 E+00	8.70 E+00	1.15 E+01	4.37 E+01	8.58 E+02

NOTE: Numbers in parentheses represent maximum sensitivity in μCi/ml.

TABLE I

Report of Radioactive Effluents: Liquid - Waste Disposal System

tope	Unit	January	February	March	April	May	June
-110m	mCi	1.26 E-01	(<3.6 E-08)	8.51 E-02	6.01 E-01	1.63 E-01	5.74 E-01
-140	mCi	(<4.4 E-07)	(<1.8 E-07)	(<3.3 E-07)	(<3.0 E-07)	(<3.7 E-07)	(<5.6 E-06)
-57	mCi	(<3.7 E-08)	(<1.9 E-08)	(<3.7 E-08)	1.65 E-02	(<3.8 E-08)	5.50 E-01
-58	mCi	3.14 E+00	5.32 E-01	1.39 E+00	1.18 E+00	3.34 E-01	4.81 E+01
-60	mCi	4.59 E+00	1.02 E+00	3.74 E+00	3.44 E+00	1.12 E+00	2.06 E+02
-134	mCi	1.27 E+00	1.68 E-01	3.96 E-01	7.55 E-01	1.72 E-01	1.76 E+01
-136	mCi	(<1.4 E-07)	(<5.6 E-08)	(<1.3 E-07)	(<9.0 E-08)	(<1.3 E-07)	5.50 E-01
-137	mCi	2.44 E+00	3.34 E-01	8.73 E-01	1.55 E+00	3.28 E-01	3.23 E+01
-131	mCi	1.13 E-01	(<6.0 E-08)	(<7.1 E-08)	(<6.6 E-08)	1.67 E+01	1.58 E+01
-133	mCi	--	--	--	--	5.35 E-02	--
-140	mCi	(<3.6 E-08)	(<3.1 E-08)	(<3.6 E-08)	(<2.8 E-08)	(<3.3 E-08)	(<5.3 E-07)
-54	mCi	3.74 E-02	2.32 E-02	9.64 E-02	9.53 E-02	1.99 E-02	3.35 E-01
-95	mCi	8.89 E-02	1.15 E-02	(<8.6 E-08)	(<8.3 E-08)	(<1.1 E-07)	(<1.1 E-06)
-125	mCi	6.72 E-02	(<7.2 E-08)	(<1.9 E-07)	4.28 E-01	6.07 E-02	4.31 E-0
-89	mCi	(<7.3 E-09)	(<7.3 E-09)	(<9.0 E-09)	9.1 E-02	3.6 E-02	6.4 E-02
-90	mCi	(<5.6 E-09)	(<5.6 E-09)	1.9 E-02	2.7 E-03	(<5.8 E-09)	8.4 E-03
-65	mCi	(<1.7 E-07)	(<6.7 E-08)	(<1.9 E-07)	4.34 E-02	(<1.9 E-07)	2.35 E+00
otal	mCi	1.19 E+01	2.09 E+00	6.60 E+00	8.20 E+00	1.90 E+01	3.25 E+02

NOTE: Numbers in parentheses represent maximum sensitivity in μCi/ml.

TABLE I

Report of Radioactive Effluents: Liquid - Secondary System

Isotope	Unit	January	February	March	April	May	June
Co-58	mCi	2.3 E-02	1.6 E-02	5.2 E-03	--	1.12 E+00	--
Co-60	mCi	1.7 E-01	1.6 E-02	3.7 E-02	2.9 E-02	1.9 E+00	5.53 E-01
Cs-134	mCi	4.5 E-03	2.9 E-02	4.1 E-03	6.17 E-01	1.10 E+00	--
Cs-137	mCi	2.6 E-01	1.11 E-01	1.07 E-01	1.07 E+00	1.54 E+00	2.06 E-01
Cs-138	mCi	--	--	--	--	7.5 E-01	--
F- 18	mCi	1.8 E-01	3.07 E-01	--	7.8 E-02	--	4.08 E-01
I-131	mCi	1.06 E+00	7.8 E-01	9.6 E-01	6.72 E-01	1.19 E+01	2.02 E+00
I-132	mCi	--	--	1.75 E-01	--	1.5 E-01	--
I-133	mCi	3.0 E-01	8.02 E-01	6.80 E-01	4.66 E-01	2.64 E+00	9.49 E-01
Mn-54	mCi	3.4 E-03	--	--	--	--	--
Na-24	mCi	--	--	--	--	--	*5.27 E+02
Sr-89	mCi	--	(<9.4 E-09)	(<1.1 E-08)	2.8 E-01	3.7 E+00	1.7 E+01
Sr-90	mCi	--	(<7.3 E-09)	1.2 E-01	1.0 E-01	(<8.1 E-09)	--
Total	mCi	2.00 E+00	2.06 E+00	2.09 E+00	3.31 E+00	2.48 E+01	5.33 E+02

NOTE: Numbers in parentheses represent maximum sensitivity in μCi/ml.

TABLE I

Report of Radioactive Effluents: Liquid - Dissolved Gas

al		January	February	March	April	May	June
85	mCi	(<1.3 E-05)	(<1.2 E-05)	(<1.4 E-05)	(<1.2 E-05)	(<1.1 E-05)	(<1.8 E-05)
131m	mCi	1.2 E+01	(<1.4 E-06)	(<1.6 E-06)	(<1.6 E-06)	1.02 E+01	(<2.7 E-06)
133	mCi	4.51 E+02	1.1 E+00	2.0 E+00	4.3 E+01	3.96 E+02	2.1 E+00
133m	mCi	5.3 E+00	(<3.2 E-07)	(<3.7 E-07)	(<3.8 E-07)	1.58 E+01	(<5.9 E-07)
135	mCi	8.5 E-01	4.2 E-01	4.1 E-01	9.3 E-01	7.13 E+00	1.4 E-01
te Disposal System							
85	mCi	(<1.3 E-05)	(<1.2 E-05)	(<1.4 E-05)	(<1.2 E-05)	(<1.1 E-05)	(<1.8 E-05)
131m	mCi	1.2 E+01	(<1.4 E-06)	(<1.6 E-06)	(<1.6 E-06)	1.02 E+01	(<2.7 E-06)
133	mCi	4.51 E+02	1.1 E+00	2.0 E+00	4.3 E+01	3.96 E+02	2.1 E+00
133m	mCi	5.3 E+00	(<3.2 E-07)	(<3.7 E-07)	(<3.8 E-07)	1.58 E+01	(<5.9 E-07)
135	mCi	8.5 E-01	4.2 E-01	4.1 E-01	9.3 E-01	7.13 E+00	1.4 E-01
condary System							
85	mCi	--	--	--	--	--	--
131m	mCi	--	--	--	--	--	--
133	mCi	--	--	--	--	--	--
133m	mCi	--	--	--	--	--	--
135	mCi	--	--	--	--	--	--

NOTE: Numbers in parentheses represent maximum sensitivity in μCi/ml.

TABLE II
Report of Radioactive Effluents: Airborne

Fission and Activation Gases		January	February	March	April	May	June
1. Total Release	(Ci)	5.30 E+02	3.09 E+02	2.40 E+02	2.18 E+02	9.43 E+02	5.06 E+02
2. Avg Release Rate for Period	(μCi/sec)	1.8 E+02	1.28 E+02	9.9 E+01	9.0 E+01	3.12 E+02	2.09
3. Max Release Rate for Period	(μCi/sec)	1.2 E+04	6.24 E+04	4.03 E+03	4.39 E+03	1.7 E+04	8.61 E+02

*Maximum airborne release rate averaged over one hour for each month. Technical Specifications limit is 6.7 E+04 μCi/sec averaged over one hour.

Iodine - 131							
1. Total Iodine - 131	(Ci)	4.5 E-04	2.93 E-04	3.0 E-04	3.4 E-04	3.1 E-02	2.7 E-03
2. Avg Release Rate for Period	(μCi/sec)	1.5 E-04	1.21 E-04	1.2 E-04	1.4 E-04	1.0 E-02	1.1 E-03

Particulates							
1. Particulates (with $t_{1/2}$ >8 days)	(Ci)	1.08 E-04	4.8 E-05	8.7 E-05	7.4 E-05	1.10 E-04	1.05 E-05
2. Avg Release Rate for Period	(μCi/sec)	3.58 E-05	2.0 E-05	3.6 E-05	3.1 E-05	3.64 E-05	4.34 E-06
3. Gross Alpha Radioactivity	(Ci)	1.38 E-07	9.1 E-08	8.8 E-08	5.2 E-08	5.2 E-07	(<9.8 E-16)

Tritium							
1. Total Release	(Ci)	3.8 E-02	7.3 E-03	7.4 E-02	7.2 E-02	2.5 E-01	4.0
2. Avg Release Rate for Period	(μCi/sec)	1.3 E-02	3.0 E-03	3.1 E-02	3.0 E-02	8.3 E-02	1.7 E-02

Percent of Applicable Limit			
1. Fission and Activation Gases	(%)	1.2 E+00	1.8 E+00
2. I-131 and Part (t1/2>8d)	(%)	1.4 E-02	4.3 E-01

NOTE: Numbers in parentheses represent maximum sensitivity in μCi/ml.

TABLE II
Airborne Releases - Particulates

tope	Unit	January	February	March	April	May	June
-130	Ci	(<1.1 E-13)	(<7.8 E-14)	(<1.2 E-13)	(<8.8 E-14)	(<1.0 E-13)	(<1.2 E-1
-144	Ci	(<7.2 E-14)	(<7.8 E-14)	(<6.4 E-14)	(<7.1 E-14)	3.0 E-06	(<1.1 E-
-58	Ci	3.4 E-05	8.6 E-06	1.7 E-05	1.24 E-05	3.6 E-06	(<3.8 E-14)
-60	Ci	5.8 E-05	2.8 E-05	5.1 E-05	2.65 E-05	7.2 E-05	6.5 E-06
-134	Ci	(<4.7 E-14)	2.2 E-06	3.9 E-06	3.79 E-06	3.8 E-06	(<4.1 E-14)
-137	Ci	8.0 E-06	8.5 E-06	1.05 E-05	1.12 E-05	2.6 E-05	3.1 E-06
-131	Ci	.4.4 E-06	(<2.0 E-14)	1.0 E-06	(<1.9 E-14)	8.2 E-07	6.6 E-07
-140	Ci	(<1.9 E-14)	(<3.1 E-14)	(<2.2 E-14)	(<2.7 E-14)	(<4.7 E-14)	(<2.4 E-14)
-54	Ci	3.0 E-06	(<2.9 E-14)	2.1 E-06	3.99 E-06	7.8 E-07	(<4.2 E-14)
-95	Ci	(<3.6 E-14)	(<2.7 E-14)	(<2.8 E-14)	7.1 E-08	(<2.4 E-14)	(<3.8 E-14)
-103	Ci	(<2.8 E-14)	(<1.9 E-14)	(<2.4 E-14)	2.4 E-07	(<1.5 E-14)	(<2.3 E-14)
-124	Ci	(<5.0 E-14)	(<7.1 E-14)	(<4.5 E-14)	1.8 E-07	(<3.7 E-14)	(<7.0 E-14
-125	Ci	(<7.2 E-14)	(<5.8 E-14)	(<6.5 E-14)	1.5 E-05	(<4.5 E-14)	(<7.7 E-14)
-89	Ci	6.3 E-07	3.7 E-07	9.4 E-07	4.3 E-07	3.9 E-07	2.2 E-
-90	Ci	5.3 E-08	1.2 E-07	7.2 E-08	(<1.2 E-15)	(<1.2 E-15)	(<9.2 E-16)
tal	Ci	1.08 E-04	4.8 E-05	8.7 E-05	7.4 E-05	1.10 E-04	1.05 E-05

NOTE: Numbers in parentheses represent maximum sensitivity in μCi/ml.

TABLE II
Airborne Releases - Gaseous

ssion and Activation Gases otope	Unit	January	February	March	April	May	June
r-41	Ci	2.2 E-01	1.49 E-01	1.5 E-01	1.5 E-01	4.3 E-01	3.8 E-
r-85	Ci	1.94 E+00	2.03 E+00	1.41 E+00	6.5 E+00	5.9 E+00	4.2 E+00
r-85m	Ci	2.5 E-01	9.4 E-02	5.3 E-02	7.3 E-02	2.7 E-01	3.0 E-01
r-87	Ci	(<4.6 E-06)	2.1 E-02	3.0 E-02	2.9 E-02	1.4 E-01	5.0 E-02
r-88	Ci	2.4 E-01	9.3 E-02	7.6 E-02	1.00 E-01	3.1 E-01	3.1 E-01
e-131m	Ci	4.6 E+00	4.1 E+00	3.0 E+00	4.5 E+00	9.4 E+00	4.2 E+00
e-133	Ci	5.16 E+02	3.00 E+02	2.33 E+02	2.49 E+02	9.18 E+02	4.88 E+02
e-133m	Ci	3.2 E+00	1.48 E+00	1.2 E+00	1.2 E+00	4.5 E+00	3.9 E+00
e-135	Ci	3.2 E+00	1.41 E+00	8.7 E-01	1.01 E+00	4.6 E+00	5.1 E+00
e-135m	Ci	(<4.3 E-05)	(<5.1 E-05)	(<1.1 E-04)	(<2.9 E-03)	(<6.6 E-05)	(<6.0 E-05)
e-138	Ci	(<1.2 E-04)	(<1.6 E-04)	(<2.5 E-04)	(<5.5 E-04)	(<2.0 E-04)	(<1.8 E-04)
otal	Ci	5.30 E+02	3.09 E+02	2.40 E+02	2.18 E+02	9.43 E+02	5.06 E+02

logens (Gaseous) otope	Unit	January	February	March	April	May	June
-131	Ci	4.5 E-04	2.93 E-04	3.0 E-04	3.4 E-04	3.1 E-02	2.7 E-03
-133	Ci	9.0 E-05	2.28 E-04	1.84 E-04	3.2 E-04	1.7 E-03	4.3 E-04
-135	Ci	(<2.3 E-13)	(<1.9 E-13)	(<2.4 E-13)	(<2.9 E-13)	(<2.9 E-13)	(<2.2 E-13)
r-82	Ci	(<7.1 E-14)	(<6.7 E-14)	(<6.7 E-14)	(<6.8 E-14)	(<1.4 E-13)	(<6.8 E-14)
otal	Ci	5.4 E-04	5.21 E-04	4.8 E-04	6.6 E-04	3.3 E-02	3.1 E-03

Numbers in parentheses represent maximum sensitivity in uCi/ml.

PLANT TURKEY POINT

RADIOACTIVE WASTE REPORT

JANUARY 1, 1983 THRU JUNE 30, 1983

DATE OF SHIPMENT	CURIES	CUBIC FEET	DISPOSITION
01-04-83	0.1740	1050	Shipped to Hanford, WA.
01-05-83	0.1420	1050	Shipped to Hanford, WA.
01-06-83	2.0610	170	Shipped to Barnwell, S.C.
01-15-83	127.8750	84	Shipped to Barnwell, S.C.
01-18-83	0.0499	200	Shipped to Barnwell, S.C.
01-19-83	0.1950	1050	Shipped to Hanford, WA.
01-20-83	0.0540	1050	Shipped to Hanford, WA.
01-21-83	0.0850	200	Shipped to Barnwell, S.C.
01-28-83	109.2750	84	Shipped to Barnwell, S.C.
02-01-83	0.0560	1050	Shipped to Hanford, WA.
02-02-83	0.1090	1050	Shipped to Hanford, WA.
02-07-83	1.7120	170	Shipped to Barnwell, S.C.
02-10-83	0.7357	170	Shipped to Barnwell, S.C.
02-14-83	4.3200	170	Shipped to Barnwell, S.C.
02-15-83	3.1200	200	Shipped to Barnwell, S.C.
02-18-83	3.9000	200	Shipped to Barnwell, S.C.
02-22-83	0.1190	1050	Shipped to Hanford, WA.
02-23-83	0.0730	1050	Shipped to Hanford, WA.
03-01-83	0.06574	1050	Shipped to Hanford, WA.
03-02-83	0.0417	1050	Shipped to Hanford, WA.
03-08-83	0.0776	1050	Shipped to Hanford, WA.
03-09-83	0.0340	1050	Shipped to Hanford, WA.
03-15-83	0.0260	945	Shipped to Barnwell, S.C.
03-22-83	0.1050	1050	Shipped to Hanford, WA.
03-29-83	0.0980	1050	Shipped to Hanford, WA.
03-30-83	0.0650	1050	Shipped to Hanford, WA.
04-12-83	0.1480	85	Shipped to Barnwell, S.C.
04-15-83	0.0990	85	Shipped to Barnwell, S.C.
04-15-83	87.1870	84	Shipped to Barnwell, S.C.
04-19-83	0.1000	85	Shipped to Barnwell, S.C.
04-20-83	0.1220	1050	Shipped to Hanford, WA.
04-22-83	0.0360	1050	Shipped to Hanford, WA.
04-25-83	0.1160	85	Shipped to Barnwell, S.C.
04-27-83	0.1050	170	Shipped to Barnwell, S.C.
04-28-83	0.1100	85	Shipped to Barnwell, S.C.
05-02-83	0.0790	85	Shipped to Barnwell, S.C.
05-04-83	0.0900	1050	Shipped to Hanford, WA.
05-05-83	0.1100	85	Shipped to Barnwell, S.C.
05-09-83	0.25122	170	Shipped to Barnwell, S.C.
05-12-83	0.7830	170	Shipped to Barnwell, S.C.
05-17-83	0.0870	1050	Shipped to Hanford, WA.
05-18-83	0.0380	1050	Shipped to Hanford, WA.
06-03-83	161.5000	84	Shipped to Barnwell, S.C.
06-06-83	3.2000	200	Shipped to Barnwell, S.C.
06-14-83	0.8928	1050	Shipped to Hanford, WA...
45 Shipments	509.62266 Curies	26116 Cubic Feet	
On-Site as of 7/1/83	257.300 Curies	2800 Cubic Feet	

Copy to K. Montgomery
Docket File

FPL

83: 18

August 29, 1983
L-83-468

Mr. James P. O'Reilly
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, Suite 2900
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

Re: Turkey Point Units 3 & 4
Docket Nos. 50-250 and 50-251
Semi-Annual Report of
Radioactive Effluent Releases

Please find attached the subject report for the period January 1, 1983, through June 30, 1983, in accordance with Technical Specification 6.9.4.

Very truly yours,

Robert E. Uhrig

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/PLP/mpc

Attachment

cc: Harold F. Reis, Esquire

DESIGNATED ORIGINAL

Certified By

IE25