

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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THE UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT
WASHINGTON, D. C. 20250

OFFICE OF THE ASSISTANT ATTORNEY GENERAL
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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 $2 \times 10^{-4} \mu\text{Ci/ml}$.
- 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.

1. The first step in the process of the investigation is the identification of the problem. This is done by the investigator who is responsible for the investigation. The investigator must identify the problem and the scope of the investigation. The investigator must also identify the objectives of the investigation. The objectives of the investigation are the goals that the investigator wants to achieve. The objectives of the investigation are the goals that the investigator wants to achieve.

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.

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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 $\pm 10\%$.

b) Analytical Error

Analytical error will be assessed in the January Semiannual Report.

[illegible]

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| 1. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 1 |
| 2. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 2 |
| 3. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 3 |
| 4. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 4 |
| 5. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 5 |
| 6. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 6 |
| 7. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 7 |
| 8. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 8 |
| 9. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 9 |
| 10. 在 1990 年 12 月 31 日以前, 已在本行或本行所属的分支机构开立存款账户, 且存款余额在 100 元以上的客户。 | 10 |

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THE UNIVERSITY OF CHICAGO

[illegible]

1. 1990年12月1日以前，在《民法通则》施行以前，因侵权行为造成他人财产损失的，适用侵权行为发生地的法律。

5.0 BATCH RELEASES5.1 Liquid

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

5.2 Gaseous

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

6.0 UNPLANNED RELEASES6.1 Liquid

| | | | |
|----------------------------|----------|----------|--------|
| a) Number of releases | <u>0</u> | <u>0</u> | |
| b) Total activity released | <u>0</u> | <u>0</u> | Curies |

6.2 Gaseous

| | | | |
|----------------------------|------------------|------------------|--------|
| a) Number of releases | <u>5.00 E-01</u> | <u>5.00 E-01</u> | |
| b) Total activity released | <u>8.55 E+00</u> | <u>8.55 E+00</u> | Curies |

6.3 See attachments (if applicable) for:

- A description of the event and equipment involved.
- Cause(s) for the unplanned release.

EXHIBIT 10

| Exhibit | Exhibit | Exhibit | Exhibit |
|---------------|---------------|---------------|---------------|
| Exhibit 10.1 | Exhibit 10.2 | Exhibit 10.3 | Exhibit 10.4 |
| Exhibit 10.5 | Exhibit 10.6 | Exhibit 10.7 | Exhibit 10.8 |
| Exhibit 10.9 | Exhibit 10.10 | Exhibit 10.11 | Exhibit 10.12 |
| Exhibit 10.13 | Exhibit 10.14 | Exhibit 10.15 | Exhibit 10.16 |
| Exhibit 10.17 | Exhibit 10.18 | Exhibit 10.19 | Exhibit 10.20 |

Exhibit 10.2

| | | | |
|-----------------|-----------------|-----------------|-----------------|
| Exhibit 10.2.1 | Exhibit 10.2.2 | Exhibit 10.2.3 | Exhibit 10.2.4 |
| Exhibit 10.2.5 | Exhibit 10.2.6 | Exhibit 10.2.7 | Exhibit 10.2.8 |
| Exhibit 10.2.9 | Exhibit 10.2.10 | Exhibit 10.2.11 | Exhibit 10.2.12 |
| Exhibit 10.2.13 | Exhibit 10.2.14 | Exhibit 10.2.15 | Exhibit 10.2.16 |
| Exhibit 10.2.17 | Exhibit 10.2.18 | Exhibit 10.2.19 | Exhibit 10.2.20 |

EXHIBIT 11

Exhibit 11.1

| | | | |
|-----------------|-----------------|-----------------|-----------------|
| Exhibit 11.1.1 | Exhibit 11.1.2 | Exhibit 11.1.3 | Exhibit 11.1.4 |
| Exhibit 11.1.5 | Exhibit 11.1.6 | Exhibit 11.1.7 | Exhibit 11.1.8 |
| Exhibit 11.1.9 | Exhibit 11.1.10 | Exhibit 11.1.11 | Exhibit 11.1.12 |
| Exhibit 11.1.13 | Exhibit 11.1.14 | Exhibit 11.1.15 | Exhibit 11.1.16 |
| Exhibit 11.1.17 | Exhibit 11.1.18 | Exhibit 11.1.19 | Exhibit 11.1.20 |

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
TURKEY POINT PLANT
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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HEADQUARTERS
WASHINGTON, D.C.

TO: THE SECRETARY OF THE AIR FORCE
FROM: THE SECRETARY OF THE AIR FORCE

1. The purpose of this document is to provide information regarding the status of the Air Force's current operations and the results of the recent inspection.

2. The inspection was conducted by a team of experts from the Department of Defense and the Air Force. The team found that the Air Force's current operations are in good standing and that the results of the inspection are satisfactory.

3. The inspection was conducted in accordance with the Air Force's current operations and the results of the inspection are satisfactory. The inspection was conducted by a team of experts from the Department of Defense and the Air Force.

4. The inspection was conducted in accordance with the Air Force's current operations and the results of the inspection are satisfactory. The inspection was conducted by a team of experts from the Department of Defense and the Air Force.

5. The inspection was conducted in accordance with the Air Force's current operations and the results of the inspection are satisfactory. The inspection was conducted by a team of experts from the Department of Defense and the Air Force.

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7. The inspection was conducted in accordance with the Air Force's current operations and the results of the inspection are satisfactory. The inspection was conducted by a team of experts from the Department of Defense and the Air Force.

8. The inspection was conducted in accordance with the Air Force's current operations and the results of the inspection are satisfactory. The inspection was conducted by a team of experts from the Department of Defense and the Air Force.

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
SEMIANNUAL REPORT
JANUARY 1985 THROUGH JUNE 1985

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.

As the *Journal of the American Medical Association* noted, "The

FLORIDA POWER AND LIGHT COMPANY
 TURKEY POINT PLANT
 SEMIANNUAL REPORT
 JANUARY 1985 THROUGH JUNE 1985
 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
SEMIANNUAL REPORT
JANUARY 1985 THROUGH JUNE 1985

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 |

Figure 1. The effect of the concentration of the H_2O_2 solution on the amount of the released H_2 gas from the H_2 gas-generating system. The amount of the released H_2 gas was measured at 25°C and 1 atm. The amount of the released H_2 gas was measured at 25°C and 1 atm. The amount of the released H_2 gas was measured at 25°C and 1 atm.

Figure 1. The effect of the concentration of the *Agrobacterium* strain on the transformation efficiency of *Agrobacterium* strain 101. The *Agrobacterium* strain 101 was cultured in the YEA medium for 24 h at 28 °C. The cell concentration was adjusted to 1.0 × 10⁸ cells/mL. The cell suspension was mixed with the cell suspension of the *Agrobacterium* strain 101 at a ratio of 1:1, 1:2, 1:3, 1:4, 1:5, 1:6, 1:7, 1:8, 1:9, 1:10, 1:15, 1:20, 1:30, 1:40, 1:50, 1:60, 1:70, 1:80, 1:90, 1:100, 1:150, 1:200, 1:300, 1:400, 1:500, 1:600, 1:700, 1:800, 1:900, 1:1000, 1:1500, 1:2000, 1:3000, 1:4000, 1:5000, 1:6000, 1:7000, 1:8000, 1:9000, 1:10000, 1:15000, 1:20000, 1:30000, 1:40000, 1:50000, 1:60000, 1:70000, 1:80000, 1:90000, 1:100000, 1:150000, 1:200000, 1:300000, 1:400000, 1:500000, 1:600000, 1:700000, 1:800000, 1:900000, 1:1000000, 1:1500000, 1:2000000, 1:3000000, 1:4000000, 1:5000000, 1:6000000, 1:7000000, 1:8000000, 1:9000000, 1:10000000, 1:15000000, 1:20000000, 1:30000000, 1:40000000, 1:50000000, 1:60000000, 1:70000000, 1:80000000, 1:90000000, 1:100000000, 1:150000000, 1:200000000, 1:300000000, 1:400000000, 1:500000000, 1:600000000, 1:700000000, 1:800000000, 1:900000000, 1:1000000000, 1:1500000000, 1:2000000000, 1:3000000000, 1:4000000000, 1:5000000000, 1:6000000000, 1:7000000000, 1:8000000000, 1:9000000000, 1:10000000000, 1:15000000000, 1:20000000000, 1:30000000000, 1:40000000000, 1:50000000000, 1:60000000000, 1:70000000000, 1:80000000000, 1:90000000000, 1:100000000000, 1:150000000000, 1:200000000000, 1:300000000000, 1:400000000000, 1:500000000000, 1:600000000000, 1:700000000000, 1:800000000000, 1:900000000000, 1:1000000000000, 1:1500000000000, 1:2000000000000, 1:3000000000000, 1:4000000000000, 1:5000000000000, 1:6000000000000, 1:7000000000000, 1:8000000000000, 1:9000000000000, 1:10000000000000, 1:15000000000000, 1:20000000000000, 1:30000000000000, 1:40000000000000, 1:50000000000000, 1:60000000000000, 1:70000000000000, 1:80000000000000, 1:90000000000000, 1:100000000000000, 1:150000000000000, 1:200000000000000, 1:300000000000000, 1:400000000000000, 1:500000000000000, 1:600000000000000, 1:700000000000000, 1:800000000000000, 1:900000000000000, 1:1000000000000000, 1:1500000000000000, 1:2000000000000000, 1:3000000000000000, 1:4000000000000000, 1:5000000000000000, 1:6000000000000000, 1:7000000000000000, 1:8000000000000000, 1:9000000000000000, 1:10000000000000000, 1:15000000000000000, 1:20000000000000000, 1:30000000000000000, 1:40000000000000000, 1:50000000000000000, 1:60000000000000000, 1:70000000000000000, 1:80000000000000000, 1:90000000000000000, 1:100000000000000000, 1:150000000000000000, 1:200000000000000000, 1:300000000000000000, 1:400000000000000000, 1:500000000000000000, 1:600000000000000000, 1:700000000000000000, 1:800000000000000000, 1:900000000000000000, 1:1000000000000000000, 1:1500000000000000000, 1:2000000000000000000, 1:3000000000000000000, 1:4000000000000000000, 1:5000000000000000000, 1:6000000000000000000, 1:7000000000000000000, 1:8000000000000000000, 1:9000000000000000000, 1:10000000000000000000, 1:15000000000000000000, 1:20000000000000000000, 1:30000000000000000000, 1:40000000000000000000, 1:50000000000000000000, 1:60000000000000000000, 1:70000000000000000000, 1:80000000000000000000, 1:90000000000000000000, 1:100000000000000000000, 1:150000000000000000000, 1:200000000000000000000, 1:300000000000000000000, 1:400000000000000000000, 1:500000000000000000000, 1:600000000000000000000, 1:700000000000000000000, 1:800000000000000000000, 1:900000000000000000000, 1:1000000000000000000000, 1:1500000000000000000000, 1:2000000000000000000000, 1:3000000000000000000000, 1:4000000000000000000000, 1:5000000000000000000000, 1:6000000000000000000000, 1:7000000000000000000000, 1:8000000000000000000000, 1:9000000000000000000000, 1:10000000000000000000000, 1:15000000000000000000000, 1:20000000000000000000000, 1:30000000000000000000000, 1:40000000000000000000000, 1:50000000000000000000000, 1:60000000000000000000000, 1:70000000000000000000000, 1:80000000000000000000000, 1:90000000000000000000000, 1:100000000000000000000000, 1:150000000000000000000000, 1:200000000000000000000000, 1:300000000000000000000000, 1:400000000000000000000000, 1:500000000000000000000000, 1:600000000000000000000000, 1:700000000000000000000000, 1:800000000000000000000000, 1:900000000000000000000000, 1:1000

Figure 1. The effect of the concentration of the *Agrobacterium* strain on the transformation efficiency of *Agrobacterium* strain 101. The *Agrobacterium* strain 101 was cultured in YEA medium for 24 h at 28 °C. The cell concentration was adjusted to 1.0 × 10⁸ cells/ml. The cell suspension was mixed with the cell suspension of the *Agrobacterium* strain 101 at a ratio of 1:1, 1:2, 1:3, 1:4, 1:5, 1:6, 1:7, 1:8, 1:9, 1:10, 1:11, 1:12, 1:13, 1:14, 1:15, 1:16, 1:17, 1:18, 1:19, 1:20, 1:21, 1:22, 1:23, 1:24, 1:25, 1:26, 1:27, 1:28, 1:29, 1:30, 1:31, 1:32, 1:33, 1:34, 1:35, 1:36, 1:37, 1:38, 1:39, 1:40, 1:41, 1:42, 1:43, 1:44, 1:45, 1:46, 1:47, 1:48, 1:49, 1:50, 1:51, 1:52, 1:53, 1:54, 1:55, 1:56, 1:57, 1:58, 1:59, 1:60, 1:61, 1:62, 1:63, 1:64, 1:65, 1:66, 1:67, 1:68, 1:69, 1:70, 1:71, 1:72, 1:73, 1:74, 1:75, 1:76, 1:77, 1:78, 1:79, 1:80, 1:81, 1:82, 1:83, 1:84, 1:85, 1:86, 1:87, 1:88, 1:89, 1:90, 1:91, 1:92, 1:93, 1:94, 1:95, 1:96, 1:97, 1:98, 1:99, 1:100, 1:101, 1:102, 1:103, 1:104, 1:105, 1:106, 1:107, 1:108, 1:109, 1:110, 1:111, 1:112, 1:113, 1:114, 1:115, 1:116, 1:117, 1:118, 1:119, 1:120, 1:121, 1:122, 1:123, 1:124, 1:125, 1:126, 1:127, 1:128, 1:129, 1:130, 1:131, 1:132, 1:133, 1:134, 1:135, 1:136, 1:137, 1:138, 1:139, 1:140, 1:141, 1:142, 1:143, 1:144, 1:145, 1:146, 1:147, 1:148, 1:149, 1:150, 1:151, 1:152, 1:153, 1:154, 1:155, 1:156, 1:157, 1:158, 1:159, 1:160, 1:161, 1:162, 1:163, 1:164, 1:165, 1:166, 1:167, 1:168, 1:169, 1:170, 1:171, 1:172, 1:173, 1:174, 1:175, 1:176, 1:177, 1:178, 1:179, 1:180, 1:181, 1:182, 1:183, 1:184, 1:185, 1:186, 1:187, 1:188, 1:189, 1:190, 1:191, 1:192, 1:193, 1:194, 1:195, 1:196, 1:197, 1:198, 1:199, 1:200, 1:201, 1:202, 1:203, 1:204, 1:205, 1:206, 1:207, 1:208, 1:209, 1:210, 1:211, 1:212, 1:213, 1:214, 1:215, 1:216, 1:217, 1:218, 1:219, 1:220, 1:221, 1:222, 1:223, 1:224, 1:225, 1:226, 1:227, 1:228, 1:229, 1:230, 1:231, 1:232, 1:233, 1:234, 1:235, 1:236, 1:237, 1:238, 1:239, 1:240, 1:241, 1:242, 1:243, 1:244, 1:245, 1:246, 1:247, 1:248, 1:249, 1:250, 1:251, 1:252, 1:253, 1:254, 1:255, 1:256, 1:257, 1:258, 1:259, 1:260, 1:261, 1:262, 1:263, 1:264, 1:265, 1:266, 1:267, 1:268, 1:269, 1:270, 1:271, 1:272, 1:273, 1:274, 1:275, 1:276, 1:277, 1:278, 1:279, 1:280, 1:281, 1:282, 1:283, 1:284, 1:285, 1:286, 1:287, 1:288, 1:289, 1:290, 1:291, 1:292, 1:293, 1:294, 1:295, 1:296, 1:297, 1:298, 1:299, 1:300, 1:301, 1:302, 1:303, 1:304, 1:305, 1:306, 1:307, 1:308, 1:309, 1:310, 1:311, 1:312, 1:313, 1:314, 1:315, 1:316, 1:317, 1:318, 1:319, 1:320, 1:321, 1:322, 1:323, 1:324, 1:325, 1:326, 1:327, 1:328, 1:329, 1:330, 1:331, 1:332, 1:333, 1:334, 1:335, 1:336, 1:337, 1:338, 1:339, 1:340, 1:341, 1:342, 1:343, 1:344, 1:345, 1:346, 1:347, 1:348, 1:349, 1:350, 1:351, 1:352, 1:353, 1:354, 1:355, 1:356, 1:357, 1:358, 1:359, 1:360, 1:361, 1:362, 1:363, 1:364, 1:365, 1:366, 1:367, 1:368, 1:369, 1:370, 1:371, 1:372, 1:373, 1:374, 1:375, 1:376, 1:377, 1:378, 1:379, 1:380, 1:381, 1:382, 1:383, 1:384, 1:385, 1:386, 1:387, 1:388, 1:389, 1:390, 1:391, 1:392, 1:393, 1:394, 1:395, 1:396, 1:397, 1:398, 1:399, 1:400, 1:401, 1:402, 1:403, 1:404, 1:405, 1:406, 1:407, 1:408, 1:409, 1:410, 1:411, 1:412, 1:413, 1:414, 1:415, 1:416, 1:417, 1:418, 1:419, 1:420, 1:421, 1:422, 1:423, 1:424, 1:425, 1:426, 1:427, 1:428, 1:429, 1:430, 1:431, 1:432, 1:433, 1:434, 1:435, 1:436, 1:437, 1:438, 1:439, 1:440, 1:441, 1:442, 1:443, 1:444, 1:445, 1:446, 1:447, 1:448, 1:449, 1:450, 1:451, 1:452, 1:453, 1:454, 1:455, 1:456, 1:457, 1:458, 1:459, 1:460, 1:461, 1:462, 1:463, 1:464, 1:465, 1:466, 1:467, 1:468, 1:469, 1:470, 1:471, 1:472, 1:473, 1:474, 1:475, 1:476, 1:477, 1:478, 1:479, 1:480, 1:481, 1:482, 1:483, 1:484, 1:485, 1:486, 1:487, 1:488, 1:489, 1:490, 1:491, 1:492, 1:493, 1:494, 1:495, 1:496, 1:497, 1:498, 1:499, 1:500, 1:501, 1:502, 1:503, 1:504, 1:505, 1:506, 1:507, 1:508, 1:509, 1:510, 1:511, 1:512, 1:513, 1:514, 1:515, 1:516, 1:517, 1:518, 1:519, 1:520, 1:521, 1:522, 1:523, 1:524, 1:525, 1:526, 1:527, 1:528, 1:529, 1:530, 1:531, 1:532, 1:533, 1:534, 1:535, 1:536, 1:537, 1:538, 1:539, 1:540, 1:541, 1:542, 1:543, 1:544, 1:545, 1:546, 1:547, 1:548, 1:549, 1:550, 1:551, 1:552, 1:553, 1:554, 1:555, 1:556, 1:557, 1:558, 1:559, 1:560, 1:561, 1:562, 1:563, 1:564, 1:565, 1:566, 1:567, 1:568, 1:569, 1:570, 1:571, 1:572, 1:573, 1:574, 1:575, 1:576, 1:577, 1:578, 1:579, 1:580, 1:581, 1:5

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FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
SEMIANNUAL REPORT
JANUARY 1985 THROUGH JUNE 1985

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.

[illegible]

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1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

FLORIDA POWER AND LIGHT COMPANY
 TURKEY POINT PLANT
 SEMIANNUAL REPORT
 JANUARY 1985 THROUGH JUNE 1985
 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.

THE NATIONAL BUREAU OF INVESTIGATION DEPARTMENT OF JUSTICE WASHINGTON, D. C. 20535

MEMORANDUM FOR THE DIRECTOR, FBI
 SUBJECT: [Illegible]

[Extremely faint and mostly illegible body text consisting of several paragraphs of a memorandum format.]

Very truly yours,
 [Illegible Signature]

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
SEMIANNUAL REPORT
JANUARY 1985 THROUGH JUNE 1985

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

THE NATIONAL BUREAU OF INVESTIGATION
UNITED STATES DEPARTMENT OF JUSTICE
WASHINGTON, D. C. 20535

TO : DIRECTOR, FBI
FROM : SAC, NEW YORK
SUBJECT: [Illegible]

[Illegible text block]

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FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
SEMIANNUAL REPORT
JANUARY 1985 THROUGH JUNE 1985

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.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

FLORIDA POWER AND LIGHT COMPANY
 TURKEY POINT PLANT
 SEMIANNUAL REPORT
 JANUARY 1985 THROUGH JUNE 1985

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.

and the following:

1. The first part of the document is a header section containing the following information:

- Page 1 of 1
- Document ID: 123456789
- Date: 12/31/2023
- Author: John Doe
- Title: Project X - Final Report

2. The second part of the document is a table of contents:

| Section | Page |
|-----------------|------|
| 1. Introduction | 1 |
| 2. Methodology | 2 |
| 3. Results | 3 |
| 4. Discussion | 4 |
| 5. Conclusion | 5 |

3. The third part of the document is the main body of the report, which is divided into five sections:

- 1. Introduction: This section provides an overview of the project and its objectives.
- 2. Methodology: This section describes the methods used to collect and analyze data.
- 3. Results: This section presents the findings of the study.
- 4. Discussion: This section discusses the implications of the results and compares them to previous research.
- 5. Conclusion: This section summarizes the key findings and provides recommendations for future research.

4. The fourth part of the document is a list of references:

- Smith, J. (2020). The impact of climate change on global agriculture. *Journal of Environmental Science*, 12(3), 45-55.
- Johnson, A. (2019). The role of technology in modern education. *Education Research Journal*, 8(2), 101-115.
- Williams, B. (2018). The future of work: A report for the World Economic Forum. *World Economic Forum*, 1-100.

5. The fifth part of the document is a list of appendices:

- Appendix A: Data collected from the survey.
- Appendix B: Interview transcripts.
- Appendix C: Additional charts and graphs.

6. The sixth part of the document is a list of footnotes:

- Footnote 1: The data for this chart was collected from a sample of 100 participants.
- Footnote 2: The results of this study are consistent with those of previous research.

7. The seventh part of the document is a list of acknowledgments:

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21. The twenty-first part of the document is a list of appendices:

- Appendix A: Data collected from the survey.
- Appendix B: Interview transcripts.
- Appendix C: Additional charts and graphs.

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- Footnote 1: The data for this chart was collected from a sample of 100 participants.
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- Appendix B: Interview transcripts.
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- Williams, B. (2018). The future of work: A report for the World Economic Forum. *World Economic Forum*, 1-100.

29. The twenty-ninth part of the document is a list of appendices:

- Appendix A: Data collected from the survey.
- Appendix B: Interview transcripts.
- Appendix C: Additional charts and graphs.

30. The thirtieth part of the document is a list of footnotes:

- Footnote 1: The data for this chart was collected from a sample of 100 participants.
- Footnote 2: The results of this study are consistent with those of previous research.

31. The thirty-first part of the document is a list of acknowledgments:

- I would like to thank my supervisor, Dr. Jane Smith, for her guidance and support throughout the project.
- I also thank my colleagues for their help and assistance.

32. The thirty-second part of the document is a list of references:

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- Johnson, A. (2019). The role of technology in modern education. *Education Research Journal*, 8(2), 101-115.
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33. The thirty-third part of the document is a list of appendices:

- Appendix A: Data collected from the survey.
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34. The thirty-fourth part of the document is a list of footnotes:

- Footnote 1: The data for this chart was collected from a sample of 100 participants.
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35. The thirty-fifth part of the document is a list of acknowledgments:

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36. The thirty-sixth part of the document is a list of references:

- Smith, J. (2020). The impact of climate change on global agriculture. *Journal of Environmental Science*, 12(3), 45-55.
- Johnson, A. (2019). The role of technology in modern education. *Education Research Journal*, 8(2), 101-115.
- Williams, B. (2018). The future of work: A report for the World Economic Forum. *World Economic Forum*, 1-100.

37. The thirty-seventh part of the document is a list of appendices:

- Appendix A: Data collected from the survey.
- Appendix B: Interview transcripts.
- Appendix C: Additional charts and graphs.

38. The thirty-eighth part of the document is a list of footnotes:

- Footnote 1: The data for this chart was collected from a sample of 100 participants.
- Footnote 2: The results of this study are consistent with those of previous research.

39. The thirty-ninth part of the document is a list of acknowledgments:

- I would like to thank my supervisor,

At the time of the investigation, the following persons were interviewed:

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
SEMIANNUAL REPORT
JANUARY 1985 THROUGH JUNE 1985

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-I31 | 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 |

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

1. The purpose of this document is to provide a comprehensive overview of the project's objectives, scope, and timeline. The document is organized into several sections, each detailing a specific aspect of the project.

2. The project is designed to address the following key areas:

- Project Objectives: The primary goal is to develop a robust system that meets the needs of the organization and its stakeholders.
- Scope: The project will cover the development, testing, and deployment of the system, as well as the training of staff.
- Timeline: The project is scheduled to be completed within a 12-month period, with key milestones outlined in the timeline section.

3. The project team consists of the following members:

- Project Manager: [Name]
- System Analyst: [Name]
- Developer: [Name]
- Tester: [Name]
- Trainer: [Name]

4. The project is currently in the planning phase, and the next steps are to conduct a detailed analysis of the requirements and to develop a detailed project plan.

5. The project is expected to have a significant impact on the organization, improving efficiency and reducing costs.

6. The project is subject to change, and the project manager will be responsible for monitoring and controlling the project's progress.

7. The project is a high-priority initiative, and the project manager will ensure that the project is completed on time and within budget.

8. The project is a complex task, and the project manager will ensure that the project is managed effectively.

9. The project is a critical component of the organization's strategy, and the project manager will ensure that the project is aligned with the organization's goals.

10. The project is a challenging task, and the project manager will ensure that the project is completed successfully.

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FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
SEMIANNUAL REPORT
JANUARY 1985 THROUGH JUNE 1985

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.

SECRET

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1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT PLANT
SEMIANNUAL REPORT
JANUARY 1985 THROUGH JUNE 1985
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.

RECEIVED
FEDERAL BUREAU OF INVESTIGATION
U. S. DEPARTMENT OF JUSTICE
WASHINGTON, D. C. 20535

TO : DIRECTOR, FBI (100-374301)
FROM : SAC, NEW YORK (100-100000) (P)
SUBJECT: [REDACTED] (C)
RE: [REDACTED] (C)

100-374301-100

[REDACTED]

100-374301-100

TURKEY POINT PLANT
UNITS 3 AND 4
SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY 1985 - JUNE 1985

ATTACHMENT A
UNPLANNED RELEASES

THE UNIVERSITY OF

CHICAGO

OFFICE OF THE DEAN OF THE FACULTY

CHICAGO, ILLINOIS

MEMORANDUM

TO THE FACULTY

01/85 - 06/85

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 permissible concentration for Xe133 at the site boundary.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

Figure 1 is a schematic representation of the experimental design. It shows a sequence of events: a subject is presented with a stimulus (a circle with a dot), then a response is recorded (a circle with a dot), and finally a feedback is provided (a circle with a dot). The sequence is repeated for multiple trials, with a 'Start' signal at the beginning and an 'End' signal at the end. The diagram is labeled with 'Stimulus', 'Response', and 'Feedback'.

[illegible]

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The number of transformed cells was determined by the number of colonies obtained on the selective medium. The results are the mean of three independent experiments. Error bars represent standard deviation.

[illegible]

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TURKEY POINT PLANT

Units 3 & 4

SEMI-ANNUAL EFFLUENT RELEASE REPORT

(January 1985 - June 1985)

ATTACHMENT B

SOLID RADIOACTIVE WASTE SHIPMENTS

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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 Ci | 51.4 285 | 20 |
| b. Dry Compressible Waste Contaminated Equip. | m ³ Ci | 388.6 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 |
| | Cs ⁵⁵ | % | 2 |
| | Fe ³ | % | 1 |
| | H | % | |
| b. | Co ⁶⁰ | % | 52 |
| | Co ⁵⁵ | % | 27 |
| | Fe ⁶³ | % | 9 |
| | Ni ¹³⁷ | % | 6 |
| | Cs ¹³⁴ | % | 2 |
| | Cs | % | |

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

| <u>Waste Classification</u> | <u>Total Volume Ft3</u> | (Notel) <u>Total Curie Quantity</u> | (Notes 1,2) <u>Principal Radionuclides</u> | (Note 3) <u>Type of Waste</u> | R. G. 1.21 <u>Category</u> | (Note 4) <u>Type of Container</u> | <u>Solidification or Absorbent Agent</u> |
|---------------------------------|---------------------------------|--|--|--------------------------------------|-------------------------------|--|--|
| 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 > Type A | NA |

Florida Power & Light Co.
Turkey Point Unit Nos. 3&4
Semi-Annual Report
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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 quantitative 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.

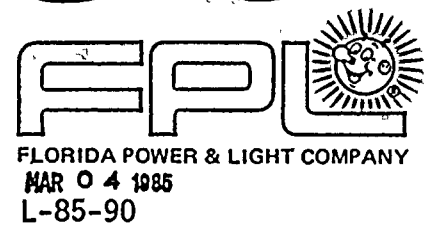
The most frequently used techniques for determining the total curie quantity in a package are the dose to curie methods and the (Concentration) x (Volume or Mass) calculations. Where appropriate, engineering type activation analyses may be applied. Since each of the above methodologies involves to some 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 ^3H , ^{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.



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
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