UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

OCT 24 1985

Report Nos.: 50-250/85-31 and 50-251/85-31

Licensee: Florida Power and Light Company
9250 West Flagler Street
Miami, FL 33102

Docket Nos.: 50-250 and 50-251 License Nos.: DPR-31 and DPR-41

Facility Name: Turkey Point 3 and 4

Inspection Conducted: September 23 - 27, 1985

Inspector: L. A. Franklin 10/21/85
L. A. Franklin Date Signed

Approved by: W. E. Cline 10/21/85
W. E. Cline, Section Chief Date Signed
Emergency Preparedness and Radiological
Protection Branch
Division of Radiation Safety and Safeguards

SUMMARY

Scope: This routine, unannounced inspection entailed 32 inspector-hours onsite in the areas of audits and surveillances, radioactive effluent releases, reactor coolant quality, filter testing, and the radiological environmental monitoring program.

Results: Of the five areas inspected, no violations or deviations were identified.

## REPORT DETAILS

1. Persons Contacted

Licensee Employees

*H. T. Young, Plant Manager-Nuclear
D. D. Grandage, Operations Superintendent
*E. R. LaPierre, Chemistry Supervisor, Nuclear
*P. W. Hughes, Health Physics Supervisor
*J. Arias, Jr., Regulatory Compliance Supervisor
J. G. Mosesso, Coordinator, Compliance Network
R. J. Acosta, Quality Assurance Superintendent
M. R. Costa, Instrument and Control Supervisor
B. A. Abrishami, System Performance Engineer Supervisor
J. D. Ferrare, Quality Assurance Engineer
A. J. Gould, Technical Advisor, Radiochemistry and Waste Manager
E. F. Baker, Site Superintendent, Land Management
*E. Hayes, Instrument and Control Supervisor
*M. J. Crisler, Quality Control Supervisor
*R. Hart, Licensing Engineer
*J. Crockford, Assistant Superintendent Nuclear Operations

Other licensee employees contacted included three technicians and four office personnel.

NRC Resident Inspectors

*T. A. Peebles, Senior Resident Inspector
*D. R. Brewer, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 27, 1985, with those persons indicated in paragraph 1 above. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Licensee Audits and Surveillance (80721, 84723, and 84724)

The inspector discussed the audit and surveillance program related to liquid waste, gaseous waste, and the radiological environmental monitoring program with licensee representatives. The inspector reviewed the following quality assurance audits and evaluated the scope and followup actions:

QAS-ENR-85-1 RADIOLOGICAL ENVIRONMENTAL AND RADIOACTIVE EFFLUENT TECHNICAL SPECIFICATIONS. February 19, 1985 - April 10, 1985

QAO-PTP-84-569 ADEQUACY OF THE RADIOCHEMISTRY DEPARTMENT IMPLEMENTATION OF TECHNICAL SPECIFICATION 3.9 (Radioactive materials release) July 26 - August 13, 1984

QAO-PTP-85-682 NUCLEAR ENERGY DEPARTMENT CHEMISTRY PARAMETERS MANUAL (Initial program audit) September 19 - 27, 1985

QAO-PTP-85-618 OPERATIONAL SAFETY REVIEW, TECHNICAL SPECIFICATION 4.1-1 (Process monitor calibration) April 12 - May 2, 1985

QAO-PTP-85-060 ON SITE METEROLOGICAL PROGRAM (Environmental Technical Specification) January 25 - February 7, 1985

The inspector also noted in discussions with licensee representatives from all departments that the Quality Control Department is active in performing inspection activities.

No violations or deviations were identified.

6. Procedure Reviews (80721, 84723, 84724)

Technical Specification 6.8 requires the licensee to prepare, approve, and adhere to procedures including, under the category of radiation control, procedures covering liquid and gaseous radwaste management and radiological environmental monitoring programs. The inspector reviewed the following procedures:

PNS-ENV.10 (Revised 2/15/85) RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM, TURKEY POINT UNIT NOS. 3 AND 4, ST. LUCIE UNIT NOS. 1 AND 2

OP-4704.3 (Revised 6/4/85) EMERGENCY CONTAINMENT FILTER SYSTEM PERFORMANCE TEST

OP-5163.1 (Revised 6/14/84) WASTE DISPOSAL SYSTEM - WASTE CONDENSATE TANKS, POLISHING DM AND MONITOR TANK OPERATION

OP-5163.2 (Revised 4/19/85) WASTE DISPOSAL SYSTEM - CONTROLLED LIQUID RELEASE TO THE CIRCULATING WATER

OP-5163.3 (Revised 9/5/84) WASTE DISPOSAL SYSTEM - WASTE MONITOR TANKS AND DEMINERALIZER OPERATION

OP-5503.1 (Revised 6/12/84) WASTE DISPOSAL SYSTEM - GASEOUS DISPOSAL SYSTEM OPERATION

OP-5504.1 (Revised 4/24/85) POST ACCIDENT CONTAINMENT VENT SYSTEM - FILTER PERFORMANCE TEST

OP-5508.1 (Revised 6/12/85) WASTE DISPOSAL SYSTEM - ACCIDENTAL RELEASE OF RADIOACTIVE GAS

OP-5510.1 (Revised 10/6/84) WASTE DISPOSAL SYSTEM - OBSERVATION OF THE GAS ANALYSIS AND GAS SAMPLING PROCEDURES

OP-5523.1 (Revised 4/19/85) WASTE DISPOSAL SYSTEM - GAS DECAY TANK, CONTROLLED RELEASE TO ATMOSPHERE

OP-10304.1 (Revised 4/24/85) CONTROL ROOM EMERGENCY VENTILATION FILTER SYSTEM - PERFORMANCE TEST

OP-11100 (Revised 3/13/85) PROCESS RADIATION MONITORING SYSTEM - OPERATING INSTRUCTIONS

OP-11104.1 (Revised 7/12/85) PROCESS RADIATION MONITORING SYSTEM - PERIODIC TEST

OP-11107.1 (Revised 2/24/83) PROCESS RADIATION MONITORING SYSTEM - MAINTENANCE AND CALIBRATION

OP-11108.1 (Revised 3/13/85) PROCESS RADIATION MONITOR - OFF NORMAL CONDITION OPERATION

NC-2 (Revised 7/3/85) SCHEDULE FOR PERIODIC TESTS

NC-10 (Revised 4/15/82) CALIBRATION OF THE PLANT VENT STACK GAS MONITOR

NC-13 (Revised 9/5/84) GAS FLOW PROPORTIONAL COUNTER EFFICIENCY CHECKS

NC-20 (Revised 7/3/85) SCHEDULE FOR INSTRUMENTATION AND EQUIPMENT PERFORMANCE EVALUATIONS

NC-23A (Revised 12/20/84) OPERATION OF THE POST ACCIDENT SAMPLING SYSTEM (PASS) FOR REACTOR COOLANT (RCS) DURING NON-EMERGENCY CONDITIONS

NC-23B (Revised 9/18/84) OPERATION OF THE POST ACCIDENT SAMPLING SYSTEM (PASS) FOR CONTAINMENT AIR (CAS)

NC-23C (Revised 9/18/84) OPERATION OF THE POST ACCIDENT SAMPLING SYSTEM (PASS) FOR REACTOR COOLANT (RCS) DURING EMERGENCY CONDITIONS

NC-25C (Revised 12/28/84) DETERMINATION OF THE LOWER LIMIT OF DETECTION (LLD) FOR ISOTOPIC ANALYSIS

NC-40 (Revised 12/28/84) DETERMINATION OF DISSOLVED FISSION AND ACTIVATION GASES IN A TYPICAL LIQUID RELEASE

NC-42 (Revised 12/28/84) SAMPLE PREPARATION, ANALYSIS AND DOCUMENTATION OF MONTHLY AND QUARTERLY LIQUID RELEASE COMPOSITES

NC-43 (Revised 12/28/84) SAMPLING AND ANALYSIS OF THE CONTENTS OF LIQUID WASTE TANKS FOR GROSS BETA-GAMMA OR ISOTOPIC RADIOACTIVITY

NC-44 (Revised 8/14/85) PREPARATION OF A LIQUID RELEASE PERMIT

NC-45 (Revised 11/3/83) DETERMINATION OF TRITIUM ACTIVITY FOR LIQUID RELEASE COMPOSITES

NC-46 (Revised 4/15/82) DETERMINATION OF GROSS BETA-GAMMA AND/OR GROSS ALPHA ACTIVITY FOR LIQUID RELEASE COMPOSITES

NC-47 (Revised 12/28/84) DETERMINATION OF RATIO OF ISOTOPIC CONCENTRATION TO MAXIMUM PERMISSIBLE CONCENTRATION (C/MPC) IN LIQUID RELEASE

NC-50 (Revised 8/14/85) EXCHANGE OF PLANT VENT AND UNIT 3 SPENT FUEL PIT PARTICULATE AND IODINE FILTER CARTRIDGES, ANALYSIS AND DOCUMENTATION OF RESULTS

NC-50A (Revised 12/31/84) SAMPLING OF THE PLANT VENT, UNIT 3 SPENT FUEL PIT VENT, AND AIR EJECTOR VENTS FOR NOBLE GAS AND TRITIUM

NC-51 (Revised 6/17/82) DETERMINATION OF STRONTIUM 89-90 ACTIVITY ON PLANT VENT AND SPENT FUEL PIT FILTERS

NC-52 (Revised 1/3/85) SAMPLING AND ANALYSIS, PREPARATION AND DOCUMENTATION OF GAS DECAY TANK RELEASE

NC-53 (Revised 12/31/84) SAMPLING AND ANALYSIS OF CONTAINMENT ATMOSPHERE FOR INSTRUMENT BLEED LINE AND CONTAINMENT PURGE RELEASES

NC-53A (Revised 12/31/84) PREPARATION AND DOCUMENTATION FOR A CONTAINMENT PURGE PERMIT

NC-54 (Revised 4/15/82) ACCOUNTING FOR GAS LEAKAGE FROM THE AUXILIARY BUILDING

NC-55 (Revised 6/17/82) SEVEN DAY GROSS BETA-GAMMA AND GROSS ALPHA ACTIVITY ON THE PLANT VENT AND SPENT FUEL PIT PARTICULATE FILTER

NC-56 (Revised 4/15/82) OPERATION OF THE PLANT VENT MONITOR UNDER LOSS OF COOLANT ACCIDENT OR SIMILAR CONDITIONS

NC-57A (Revised 4/15/82) COUNTING IODINE FILTERS DURING RADIOLOGICAL ACCIDENT CONDITIONS

The licensee has contracted with the State of Florida for environmental sampling and analysis. In addition to the above procedures the inspector reviewed the following State of Florida procedures.

Quality Control Procedure A (Revised 9/21/84) QC PROCEDURES FOR COLLECTION, IDENTIFICATION, AND REPORTS OF INTERLABORATORY QC.

Quality Control Procedure B (Revised 9/21/84) QC PROCEDURE FOR ANALYSIS AND REPORTING OF INTERLABORATORY QC

Laboratory Analytical Procedure C (Revised 9/21/84) LABORATORY ANALYTICAL PROCEDURE FOR GROSS ALPHA AND GROSS BETA-GAMMA ANALYSIS, TRITIUM IN WATER, AND STRONTIUM 89-90 IN MILK

Calibration Procedure 2 (Revised 9/21/84) CALIBRATION PROCEDURE FOR THE CALIBRATION OF PROPORTIONAL COUNTER

Calibration Procedure 3 (Revised 9/21/84) CALIBRATION PROCEDURE FOR CALIBRATION OF GAMMA ANALYZER

Calibration Procedure 4 (Revised 10/26/84) CALIBRATION PROCEDURE FOR CALIBRATION OF LIQUID SCINTILLATION COUNTER

Administrative Procedure C (Revised 9/10/84) ADMINISTRATIVE PROCEDURE FOR CONSISTENT DEVELOPMENT, REVIEW, APPROVAL, DISTRIBUTION, AND REVIEW OF ALL PROCEDURES USED BY THE DEPARTMENT OF HEALTH AND REHABILITATION SERVICES, ENVIRONMENTAL RADIATION CONTROL SECTION

Technical Memorandum 2 (Revised 9/21/84) TECHNICAL MEMORANDUM FOR LOWER LIMIT OF DETECTION FOR ANALYSIS

All of the above procedures and instructions had been reviewed and approved by appropriate management, as provided in specifications.

No violations or deviations were identified.

7. Reactor Coolant Chemistry and Radiochemistry (84723)

Technical Specifications 3.1.4 and 3.1.5 establish sampling and analysis requirements for reactor coolant, including chloride concentration, conductivity, pH, gross activity determination; isotopic analysis for dose-equivalent iodine-131, and E-Bar determination.

The inspector discussed sampling and analysis procedures and practices with licensee personnel and reviewed selected logs and analysis record packages for the period of April 1, 1985 through August 30, 1985.

No violations or deviations were identified.

8. Radioactive Liquid Wastes and Liquid Effluent Treatment Systems (84723)

Technical Specification 3.9.1 establishes limits for concentrations of radioactive materials in liquid effluents.

The inspector reviewed selected liquid effluent release permits for the period April - August 1985 and determined that the calculated release concentrations were less than the limits of the Technical Specification. A review of the Semi-Annual Effluent Release Reports for calendar year 1984 indicated that release concentrations were a small fraction of the release limits.

Technical Specification 3.9.1 requires the liquid radwaste system to be operable. The Technical Specification further requires the appropriate portions of the liquid radwaste system to be used to reduce the radioactive materials in liquid wastes prior to their discharge when the projected doses due to liquid effluents from the site, when averaged over 31 days, would exceed 0.06 mrem to the total body or 0.2 mrem to any organ.

The inspector reviewed selected operating records for the liquid radwaste system and determined that calculated doses had not exceeded the specified limits during the period April 1985 to August 1985; however, the licensee had elected to use the liquid radwaste system for the entire period to minimize the radioactivity content of effluents.

Technical Specification 3.9.1 requires the licensee to limit the dose or dose commitment to an individual from radioactive materials in liquid effluent releases to:

a. During any calendar quarter: less than or equal to 1.5 mrem to the total body and to less than or equal to 5 mrem to any organ, and

b. During any calendar year: less than or equal to 3 mrem to the total body and to less than or equal to 10 mrem to any organ.

The inspector reviewed the ODCM and corresponding implementing procedures as well as selected release permits and dose calculation records kept to demonstrate compliance with requirements of Technical Specification 3.9.1. The inspector also reviewed the Semi-Annual Effluent Release Reports for January - June 1984 and July - December 1984. Dose calculation records and reports indicated that the specified limits had not been exceeded.

The inspector verified from selected records of liquid effluents, releases made during the period of April 1985 through August 1985, that the records required by Technical Specification 6.10 were maintained in terms of frequency and content.

No violations or deviations were identified.

9. Radioactive Gaseous Waste and Gaseous Effluent Treatment Systems (84724)

Technical Specification 3.9.2 requires that the dose rate due to radioactive materials released in gaseous effluents from the site shall be limited to:

a. For noble gases: less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin, and

b. For radioiodines and for all radioactive materials in particulate from and radionuclides (other than noble gases) with half lives greater than eight days: less than or equal to 1500 mrem/yr to any organ.

The inspector reviewed selected logs and records for the period of April 1985 through August 1985 and determined that the calculated dose rate was within the limits of the Technical Specification.

Technical Specification 3.9.2 requires that the air dose due to noble gases released in gaseous effluents to areas at or beyond the site boundary shall be limited to:

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

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

The inspector reviewed selected logs and records for the period of April 1985 through August 1985 and determined that the calculated noble gas air dose was within the limits of the Technical Specification.

Technical Specification 3.9.2 requires that the dose to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than eight days in gaseous effluents released from each reactor unit to areas at and beyond the site boundary shall be limited to:

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

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

The inspector reviewed selected logs and records for the period of April 1985 through August 1985 and determined that the calculated dose was within the limits of the Technical Specification.

Technical Specification 3.9.2 requires that the gaseous radwaste treatment system and the ventilation exhaust treatment system shall be operable and that appropriate portions of these systems shall be used to reduce releases of radioactivity when the projected doses in 31 days due to gaseous effluent releases from each reactor unit, to areas at and beyond the site boundary would exceed either:

a. 0.2 mrad to air from gamma radiation, or
b. 0.4 mrad to air from beta radiation, or
c. 0.3 mrem to any organ of a member of the public

The inspector reviewed selected records and logs of gaseous effluent releases from the period of April 1985 through August 1985 and determined that projected doses due to gaseous effluent releases were within the prescribed limits.

Technical Specification 3.9.2 requires that the quantity of radioactivity contained in each gas storage tank shall be limited to less than or equal to 160,000 curies of noble gases (considered as Xe-133).

The inspector reviewed selected records and logs of gaseous concentrations in gaseous storage tanks for the period of April 1985 through August 1985 and determined that the maximum quantity of radioactivity in each tank had been a small fraction of the prescribed limit.

In the inspector's review of compliance with Technical Specifications the inspector reviewed the ODCM and relevant implementing procedures for determining projected offsite doses resulting from gaseous effluent releases. The inspector also reviewed selected procedural records of the calculation of projected offsite doses and verified certain of the licensees determinations by calculation, using the methods described in the ODCM and implementing procedures.

The inspector verified from selected records of gaseous effluent releases made during the period from April 1985 to August 1985, that the records required by Technical Specification 6.10 were maintained in terms of frequency and content.

The inspector also reviewed the Semi-Annual Radiological Effluent Release Reports for January - June 1984, and July - December 1984.

No violations or deviations were identified.

10. Engineered Safety Feature (ESF) High Efficiency Particulate Air (HEPA) Filter Systems (84724)

Technical Specification 4.7 defines the operating and surveillance requirements for ESF HEPA filter and charcoal adsorption systems. The inspector discussed operation, testing, and maintenance of the systems with licensee personnel. The inspector reviewed selected records of in-place DOP leak tests of HEPA filter banks.

No violations or deviations were identified.

11. Records Retention (84723, 84724)

Technical Specification 6.10 requires the licensee to retain records of gaseous and liquid radioactive material released to the environment for the duration of the operating license. The inspector verified from searches of selected records of liquid and gaseous radioactive effluent releases made during the period from April 1, 1985 through August 30, 1985, that the records required by the Technical Specification were retained in terms of frequency and content and were accessible for recall and review.

No violations or deviations were identified.

12. Semi-Annual and Annual Report (84723, 84724, 80721)

Technical Specification 6.9.4 requires the licensee to submit an Annual Radiological Environmental Operating Report. Technical Specification 6.9.4 also requires the licensee to submit a Semi-Annual Radioactive Effluent Release Report.

The inspector reviewed the Annual Radiological Environmental Monitoring Report for calendar year 1984 and the Semi-Annual Radioactive Effluent Release Reports for January-June 1984 and July-December 1984.

No technical discrepancies were noted and the reports were consistent with the Technical Specification requirements.

13. Environmental Monitoring Program (80721)

The inspector conducted a detailed review of the radiological environmental monitoring and surveillance program to determine if the status of the program was consistent with sampling, analytical requirements, and schedules defined in Technical Specification 4.12. The inspection included the following: (1) review and discussions with licensee personnel of monitoring, surveillance, and radiological procedures: (2) review of selected sampling records and equipment calibration records; (3) examination of two air particulate and radioiodine monitoring stations; and (4) examination of selected area TLD stations.

Implementation of the environmental sampling program was detailed in procedure PNS-ENV 1.0 Radiological Environmental Monitoring Program (Revised 2/15/85). This procedure specified sample types and locations, sampling frequency, method of sample collection, and type of frequency of analyses. The inspection disclosed that the radiological environmental monitoring and surveillance program was implemented in accordance with Environmental Technical Specification requirements.

The licensee demonstrated the ability to track and control various environmental samples by maintaining records for field collection of samples.

The inspector determined that the Meteorological Monitoring Program, a corporate function, had been evaluated by the site QA staff to determine whether or not the program met the commitments and requirements of the licensees technical specifications. In addition the inspector verified by direct observation that the meteorlogical monitoring instrumentation was functioning properly.

No violations or deviations were identified.