



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

OCT 10 1984

Report Nos.: 50-250/84-27 and 50-251/84-28

Licensee: Florida Power and Light Company
9250 West Flagler Street
Miami, FL 33101

Docket Nos.: 50-250 and 50-251

License Nos.: DPR-31 and DPR-41

Facility Name: Turkey Point 3 and 4

Inspection Conducted: August 20-24, 1984

Inspectors: C. M. Hosey
C. M. Hosey

9/26/84
Date Signed

W. T. Cooper
W. T. Cooper

9-26-84
Date Signed

Approved by: G. R. Jenkins
G. R. Jenkins, Section Chief
Division of Radiation Safety and Safeguards

9/28/84
Date Signed

SUMMARY

Scope: This routine, unannounced inspection involved 33 inspector-hours on site in the areas of audits and surveillances, radioactive effluent releases, radioactive material control, transportation of radioactive material, NUREG 0737 requirements, reactor coolant quality, filter testing, internal exposure control, external exposure control, IE Information Notices, and followup on previous inspector identified items.

Results: Two violations - failure to analyze carbon samples from a Unit 4 emergency containment filter within 45 days of removal and failure to have a specific radiation work permit to decontaminate material in the dry storage warehouse.

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REPORT DETAILS

1. Licensee Employees Contacted

- *K. N. Harris, Vice President
- *C. J. Baker, Plant Manager, Nuclear
- *D. D. Grandage, Operations Superintendent
- *V. A. Kaminskas, Reactor Supervisor
- *P. W. Hughes, Health Physics Supervisor
- *J. A. Labarraque, Technical Department Supervisor
- E. R. LaPierre, Radiochemist
- D. E. Meil:, Assistant Radiochemist
- *M. J. Crisler, Quality Control Supervisor
- *L. W. Bladow, QA Operations Supervisor
- R. M. Brown, HP Operations Supervisor
- J. R. Bates, HP ALARA Supervisor

Other licensee employees contacted included three technicians, two operators, four mechanics, and three office personnel.

NRC Resident Inspectors

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 24, 1984, with those persons indicated in paragraph 1 above. The failure to analyze carbon samples from the Unit 4 emergency containment filter train within 45 days of removal (paragraph 7); and the failure to have a specific Radiation Work Permit to decontaminate material in the dry storage warehouse (paragraph 8) were discussed in detail. The licensee acknowledged the inspection findings and took no exceptions.

A proposed Technical Specification change to permit the licensee to break containment integrity of an operating unit in order to periodically test the containment atmosphere sampling section of the post-accident sampling system was discussed. Licensee management stated that the change would be submitted to NRR by October 31, 1984 (previously discussed in inspection report 50-250 84-13).

The development of administrative procedures covering the training of chemistry personnel in the operation of the post-accident sampling and the effluent monitoring (SPING-4) systems and specifying the periodic testing surveillance and calibration requirements for the post-accident sampling system was discussed (paragraph 15). Plant management agreed to have a licensee representative call the inspector during the week of August 27, 1984, and provide a date when the procedures would be issued. In a

August 31, 1984 telephone conversation, E. LaPierre, Plant Radiochemist, informed G. R. Jenkins of the Region II Office that the administrative procedures would be prepared and ready for issue by October 1, 1984.

3. Licensee Action on Previous Inspection Findings (92702)
 - a. (Closed) Violation (250/84-08-01): The inspector reviewed the licensee's response to the violation dated May 21, 1984, and verified that the corrective action specified in the response had been taken. The inspector had no further questions.
 - b. (Closed) Violation (250/84-08-03): The inspector reviewed the licensee's response to the violation dated May 21, 1984, and verified that the corrective action specified in the response had been taken. The inspector had no further questions.
4. Licensee Audits and Surveillance (83722, 83724, 83725, 83726, 83728, 84722, 84723, 84724, and 86721)

The inspector discussed the audit and surveillance program related to radiation protection, radioactive waste management, and transportation of radioactive material with licensee representatives. The inspector reviewed the following quality assurance audits and evaluated the scope and followup actions:

QAO-PTP-84-03-537, TS 6.11 and 6.12, High Radiation Areas, Respiratory Protection, Qualifications of HP Technicians and Decontamination of Personnel and Equipment, March 9-27, 1984

QAO-PTP-84-01-526, Meteorological Instruments, January 23 - February 3, 1984

QAO-PTP-84-04-550, Release of Material from RCA and Shipment of Radioactive Material (HP-40), April 30 - May 9, 1984

QAO-PTP-84-559, TS 4.6, Emergency Containment Cooling Systems, July 23, 1984

QAO-PTP-84-569, TS 3.9, Radioactive Material Release, Radiochemistry, July 26 - August 13, 1984

QAO-PTP-84-563, Organization, Facility Qualifications, July 7-18, 1984

The inspector also reviewed the following quality control surveillance reports and evaluated the scope and followup actions:

84-1930, Nuclear Chemistry, August 12-13, 1984

84-0636, Review of Chemistry Training Program

84-1612, Chemistry

No violations or deviations were identified.

5. Radioactive Effluent Releases

a. Liquid Waste (84723)

Technical Specification 3.9.1 specifies the requirements for release rates for radioactive liquid effluents, sampling and analysis, continuous monitoring and operation of the radioactive waste system. The inspector reviewed selected liquid release records for June - August 1984.

The inspector reviewed changes incorporated in Operating Procedure 5163.2, Waste Disposal System - Controlled Liquid Release to the Circulating Water, May 31, 1984, to evaluate the technical aspects of the changes and to determine if the changes had been made in accordance with plant procedures.

The inspector reviewed the latest calibration (September 14, 1983) of the radioactive liquid waste discharge monitor R-18. The alarm setpoints specified on the liquid release permits appeared to be appropriately established. The inspector also reviewed the results of monthly tests of monitor R-18, performed in 1984, in accordance with Operating Procedure 11104.1, Process Radiation Monitoring System - Periodic Test.

b. Gaseous Waste (84724)

Technical Specification 3.9.2 specifies the requirements for release rates for gaseous radioactive effluents, sampling and analysis, continuous monitoring, maximum activity in a waste gas decay tank and operations of the gaseous waste systems.

The inspector reviewed selected records of radioactive gaseous releases from waste gas decay tanks, containment purges and through the steam jet air ejector systems in 1984.

The inspector reviewed changes made to the following procedures to evaluate the technical aspects of the change and to determine if the changes were made in accordance with plant procedures:

Operating Procedure 5503.1, Waste Disposal System - Gaseous Disposal System Operation, June 12, 1984

Operating Procedure 5523.1, Waste Disposal System - Gas Decay Tank, Controlled Release to Atmosphere, April 20, 1984

The inspector reviewed the records for the most recent calibration of the Plant Vent Stack Gas Monitor (R-14) performed December 31, 1983, using Maintenance Procedure 11107.1, Process Radiation Monitoring System - Maintenance and Calibration, February 24, 1983.

c. Semiannual Radioactive Effluent Reports (84722, 84723, and 84724)

Technical Specification 6.9.4 requires the licensee to submit a Semiannual Radioactive Effluent Release Report, summarizing the gaseous, liquid, and solid waste released off-site. The inspector reviewed the report for the period of July 1983 through December 1983, submitted to the NRC on March 1, 1984. The inspector also reviewed the draft data sheets to be submitted with the report for the period of January 1, 1984, through June 30, 1984. The inspector reviewed selected supporting data for the reports.

No violations or deviations were identified.

6. Reactor Coolant Quality (84723)

Technical Specification 3.1.4 specifies the total specific activity of the reactor coolant and the maximum concentration of radioiodine in the reactor coolant. Technical Specification 3.1.5 specifies the maximum concentration of oxygen, chlorides, and fluorides in reactor coolant. Technical Specifications 3.1.4 and 3.1.5 also include specific action statements if the limits are exceeded. The inspector reviewed selected results of daily reactor coolant samples for Units 3 and 4 for July and August 1984.

No violations or deviations were identified.

7. Testing of Filter Systems (84724)

Technical Specification 4.7 specifies operating and performance test for the emergency containment filter system, post-accident containment vent system and the control room ventilation (emergency internal cleanup) system. The operation test includes pressure drop and flow test, auto initiation (when required) and minimum run times for each month. The performance test includes, in-place DOP testing of the high efficiency particulate air filters, testing of the charcoal filters with halogenated hydrocarbons, and a determination of the iodine removal efficiency of the charcoal.

Operating Procedures 4704.3 and 10304.1 specify the methods for performing the in-place filter test for the emergency containment filters and the control room emergency ventilation filters respectively.

The inspector reviewed the results of the in-place filter test for the emergency containment filter performed on April 29, 1984, and the control room emergency ventilation filters performed on August 21 and 22, 1984.

Technical Specification 4.7.2.a requires that a charcoal surveillance specimen be removed from the emergency containment filter plenum at least once every 18 months or after every 720 hours of system operation and be analyzed within 45 days after removal of the sample. The analysis shall verify greater than 99.9% removal efficiency for elemental iodine. Plant Operating Procedure 4704.2, Emergency Containment Charcoal Filter Surveillance Specimen Evaluation, August 19, 1982, implements the Technical

Specification requirement. The inspector reviewed the completed data sheets for procedure 4704.2 documenting the removal of the charcoal samples from the Unit 4 "B" train on July 20, 1982, and March 24, 1984. The vendor's test report number 1041 indicates the July 20 sample was analyzed on November 1, 1982, 103 days after removal. The vendor's test report number 1524 indicates the sample removed on March 24 was received on May 11, 1984 (48 days after removal) and analyzed on July 9, 1984, 107 days after removal. In both cases, the test reports were reviewed by the chemistry supervisor, the technical department supervisor or his representative without noting that the analysis was not performed within the limit specified in the Technical Specifications. The inspector stated that failure to ensure that the carbon analysis was performed within 45 days after removal from the emergency containment filter system was a violation of Technical Specification 4.7.2.a (250/84-27-01; 251/84-28-01).

8. Surveys, Monitoring, and Control of Radioactive Material (83724 and 83726)

10 CFR 20.201(b) requires each licensee to make or cause to be made such surveys as (1) may be necessary for the licensee to comply with the regulations in this part, and (2) are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present.

The inspector reviewed selected records of radiation and contamination surveys performed in July and August 1984, and discussed the survey results with licensee representatives.

10 CFR 20.203 specifies the posting, labeling, and control requirements for radiation areas, high radiation areas, airborne radioactivity areas, and radioactive material. Additional requirements for the control of high radiation areas are contained in Technical Specification 6.12.

During tours of the plant, the inspector reviewed the licensee's posting and control of radiation areas, high radiation areas, airborne radioactivity areas, contamination areas, radioactive material areas, and the labeling of radioactive material.

Technical Specification 6.8 requires that written procedures and administrative policies be established, implemented, and maintained that meet or exceed the requirements and recommendations of Regulatory Guide 1.33, Appendix A. Regulatory Guide 1.33, Appendix A, states that the licensee have a radiation work permit procedure. Health Physics Procedure, HP-1, Radiation Work Permit, April 2, 1984, provides information and detailed instructions for preparing and processing radiation work permits (RWP).

During a tour of the plant on August 22, 1984, the inspector observed two workers decontaminating tools and equipment in a decontamination area set aside in the dry storage warehouse. In discussion with the inspector, the workers stated they were working under radiation work permit 1951. In reviewing RWP 1951, the inspector noted that the RWP covered the movement of material between various trailers and the dry storage warehouse. It did not cover the opening of bags, segregation of waste, or decontamination of

equipment. When the inspector informed the health physics supervisor responsible for the work area that the RWP did not cover the work being performed, work in the area was stopped and RWP 1968 was prepared to cover the work to be performed. A licensee representative informed the inspector that RWP 930 had been in effect to cover decontamination of tools and equipment in the dry storage warehouse; however, it was terminated on August 6, 1984. The health physics shift supervisor considered RWP 1951 applicable.

Procedure HP-1, paragraph 4.1 states that specific RWPs are required for areas posted "RWP Required for Entry." The dry storage warehouse was posted RWP required for entry on August 22, 1984. Paragraph 4.5 of HP-1 also states that an approved RWP shall be posted prior to beginning work for which the RWP was requested. The inspector stated that failure of the workers to have a specific radiation work permit to cover the opening of bags of radioactive material, sorting of the material, and the decontamination of equipment between August 8-22, 1984, is an example of failure to follow procedure HP-1 and is a violation of Technical Specification 6.8 (250/84-27-02; 251/84-28-02).

9. Internal Exposure Control (83725)

10 CFR 20.103(a) establishes the limits for exposure of individuals to concentrations of radioactive materials in air in restricted areas. This section also requires that suitable measurements of concentrations of radioactive materials in air be performed to detect and evaluate the airborne radioactivity in restricted areas and that appropriate bioassays be performed to detect and assess individual intake of radioactivity.

The inspector reviewed selected results of general in-plant air samples taken during the months of July and August 1984, and the results of samples taken to support work covered by specific radiation work permits issued for work in August 1984.

10 CFR 20.103(b) requires that when it is impracticable to apply process or engineering controls to limit concentrations of radioactive material in air below 25% of the concentrations specified in Appendix B, Table I, Column 1 of this part other precautionary measures should be used to maintain the intake of radioactive material by any individual within seven consecutive days as far below 40 MPC-hours as is reasonably achievable.

By review of records, observations, and discussions with licensee representatives, the inspector evaluated the licensee's respiratory protection program, including the issue, use, decontamination, surveys, repair inspections and storage of respirators.

No violations or deviations were identified.

10. External Exposure Control (83724)

10 CFR 20.101 specifies the applicable radiation dose standards. The inspector reviewed the computer printouts (NRC Form 5 equivalent) for the second and third quarter of 1984 and verified that the radiation doses recorded for plant personnel were well within the quarterly limits of 20.101.a.

During tours of the plant, the inspector observed workers wearing the appropriate personnel monitoring devices.

No violations or deviations were identified.

11. Transportation of Radioactive Material (86721)

10 CFR 71.5 requires that licensees who transport licensed material outside the confines of its plant or other place of use, or who deliver licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation in 49 CFR Parts 170 through 189.

10 CFR 71.91 specifies records that the licensee is required to maintain for each non-exempt shipment of radioactive material. The inspector reviewed selected records of radioactive waste shipments made during the period of January - August 1984, and verified that the licensee had maintained the records required by 10 CFR 71.91.

The inspector observed the performance of radiological surveys and the loading of a waste shipment, consisting of ten LSA boxes, on August 22, 1984. The inspector performed independent radiation surveys and verified that the radiation levels were within the limits specified in 49 CFR. The inspector also reviewed the appropriate records for the shipment and discussed the shipment with licensee representatives.

The inspector reviewed changes made to procedure HP-40 (March 22, 1984) and verified that the changes were properly made and consistent with regulations.

No violations or deviations were identified.

12. Solid Waste (84722)

10 CFR 20.311 requires a licensee who transfers radioactive waste to a land disposal facility to prepare all waste so that the waste is classified in accordance with 10 CFR 61.55 and meets the waste characteristics requirements of 10 CFR 61.56. It further establishes specific requirements for conducting a quality control program and for maintaining a manifest tracking system for all shipments.

The inspector reviewed selected manifests prepared for waste shipments made during the period July - August 1984, to verify that a tracking system was being used to insure that shipments arrived at the intended destination without undue delay.

During the period of January 1 - June 20, 1984, the licensee made 35 radioactive waste shipments to licensed burial facilities. These shipments contained 1438 curies in 17,717 cubic feet of waste. As of July 1, 1984, the licensee estimated a total of 6,730 cubic feet of waste remained onsite. The total activity remaining on site was estimated to be 16.8 curies.

No violations or deviations were identified.

13. ALARA Program (83728)

10 CFR 20.1c states that persons engaged in activities under licenses issued by the NRC should make every reasonable effort to maintain radiation exposure as low as reasonably achievable (ALARA). The recommended elements of an ALARA program are contained in Regulatory Guide 8.8., Information Relevant to Ensuring that Occupational Radiation Exposure at Nuclear Power Stations will be ALARA, and Regulatory Guide 8.10, Operating Philosophy for Maintaining Occupational Radiation Exposures ALARA.

The inspector discussed the ALARA goals and objectives for the current year with licensee representatives and reviewed the man-rem estimates and results for the current year.

As of July 31, 1984, the actual collective exposure for calendar year 1984 was 1234 man-rem which represented 88 percent of the estimated exposure for the year.

No violations or deviations were identified.

14. IE Information Notices (92717)

The following IE Information Notices were reviewed to ensure their receipt and review by appropriate licensee management:

84-24, Physical Requalification of Individuals to Use Respiratory Protective Devices

84-34, Respirator User Warning: Defective Self-Contained Breathing Apparatus Air Cylinder

84-40, Emergency Worker Doses

84-59, Deliberate Circumventing of Station Health Physics Procedures

84-60, Failure of Air-Purifying Respirator Filters to Meet Efficiency Requirement

84-61, Overexposure of Diver in Pressurized Water Reactor (PWR) Refueling Cavity

No violations or deviations were identified.

15. Followup on Previous Inspector Identified Items (92701)

- a. (Closed) IFI (83-20-01), Minimum Wind Speed During Gas Releases. This item concerned a licensee evaluation of the recommendation in plant procedure 5523.1 that gas releases only be initiated when the wind speed is 10 mph or greater. During previous inspections, the inspector had noted that on occasion, releases were initiated when the wind speed was less than 10 mph. The operations superintendent agreed to have the evaluation performed and to make appropriate changes to the procedure, if necessary. The inspector had no further questions.
- b. (Closed) IFI (83-31-06), Vendor Calibration of the SPING-4 Monitor. The inspector reviewed the additional information obtained by the licensee from the vendor and discussed the information with licensee representatives. The vendor demonstrated the high range gas monitor is linear over the ranges specified by NUREG 0737, Item II.F.1(1). The inspector had no further questions.
- c. (Closed) IFI (83-31-09). Monitoring of Steam Jet Air Ejector Releases. This item concerns the problems of monitoring iodines and particulates in the SJAE exhaust stream with the presences of high moisture. The licensee has tested a refrigeration system for cooling the air stream and removal of moisture prior to passing the sample air through the SPING-4 monitor. The system proved satisfactory for removing moisture, however, the SJAE exhaust quickly caused corrosive damage to the refrigeration system. The licensee will change the material in the refrigeration unit and will reinstall the system upon settlement of a strike of air conditioning workers in the Miami area. The inspector had no further questions.
- d. (Closed) IFI (84-13-02), Reactor coolant hydrogen levels as determined by PASS not within specifications. The licensee determined that the vendor had failed to provide computer software to make pressure, volume and temperature corrections. The software has been received by the plant. However, the system is currently down for valve modifications. A licensee representative stated that the system will be tested upon completion of maintenance on the system. The inspector had no further questions.
- e. (Open) IFI (84-08-04), Formal Program for Training/Retraining, Chemistry Personnel to Operate the Post-Accident Sampling System and SPING-4 Effluent Monitors. This item concerned the development of formal administrative procedures which specified the training/retraining requirements (type, frequency, etc.) for chemistry personnel who operate the post accident sampling systems and the SPING-4 effluent monitors. In discussions with licensee representatives, the inspector determined that the procedures had not been formally developed. The inspector stated that such procedures are necessary to assure management that personnel operating these systems are adequately trained.

- f. (Open) IFI (84-13-01), Procedure for Periodic Testing, Calibration, and Surveillance of the Post Accident Sampling System. This item concerned the development of plant administrative procedures which would specify the requirements for periodic surveillance testing, calibration frequency, calibration methods and responsible plant department for insuring the operability of the post accident sampling system. As of August 24, the appropriate procedures had not been prepared.