



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report Nos.: 50-250/84-14 and 50-251/84-14

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 at Turkey Point site near Homestead, Florida

Inspector: *T. A. Peebles*
T. A. Peebles, Senior Resident Inspector

15 June 84
Date Signed

Accompanying Personnel: D. R. Brewer

Approved by: *Stephen A. Elrod*
Stephen A. Elrod, Chief
Division of Reactor Projects

15 June 84
Date Signed

SUMMARY

Inspection on April 7-28, 1984

Areas Inspected

This routine, unannounced inspection involved 254 inspector-hours on site, including 45 hours of backshift, in the areas of licensee action on previous enforcement items, IE Bulletin followup, LER followup, annual and monthly surveillance, annual and monthly maintenance, operational safety, Emergency Safety Features Walkdown, Plant Trips, refueling, design changes, organization and administration, independent inspection and exit interviews.

Results

Of the twelve areas inspected, no violations or deviations were identified in ten areas; three violations were found in two areas (paragraph 7, inadequate surveillance test and failure to follow procedure; and paragraph 9, failure to follow clearance tag procedure).

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *K. N. Harris, Vice President of Turkey Point - Nuclear
- *C. J. Baker, Plant Manager - Nuclear
- *J. P. Mendiotta, Maintenance Superintendent - Nuclear
- *D. W. Haase, Operations Superintendent - Nuclear
- *J. P. Lowman, Assistant Superintendent Mechanical Maintenance - Nuclear
- L. L. Thomas, Assistant Superintendent Mechanical Maintenance
- J. Kenney, Primary Maintenance Supervisor
- P. Bannister, Secondary Maintenance Supervisor
- W. R. Williams, Assistant Superintendent Electrical Maintenance - Nuclear
- J. W. Kappes, Instrumentation and Control Supervisor
- T. A. Finn, Operations Supervisor
- A. W. Byrnes, Auxiliary Supervisor
- W. Miller, Training Supervisor
- V. A. Kaminskas, Reactor Engineering Supervisor
- J. S. Wade, Chemistry Supervisor
- J. H. Hopkins, Rad Waste Supervisor
- *M. J. Crisler, Quality Control Supervisor
- K. N. York, Document Control Supervisor
- *J. A. Labarraque, Technical Department Supervisor
- *J. Arias, Regulation & Compliance Lead Engineer
- *K. Jones, Operations QA Supervisor
- *D. Grandage, Plant Engineering Supervisor
- *W. Bladow, Acting QA Operations Supervisor
- J. E. Moba, Section Supervisor-Licensing
- J. Ferrare, QA Engineer
- W. R. Lightfoot, System Performance Coordinator
- R. E. Garrett, Plant Security Supervisor
- D. W. Jones, Licensing Technical Engineer
- *J. E. Moore, Start-up Superintendent - Nuclear

Other licensee employees contacted included construction craftsmen, technicians, operators, mechanics, electricians and security force members.

*Attended Exit Interview

2. Exit Interview

The inspection scope and findings were summarized during management interviews held throughout the reporting period with the nuclear plant manager and selected members of this staff. An exit meeting was held on April 26, 1984, with the persons noted above. The licensee acknowledged the inspection findings and agreed to the commitment addressed at the end of paragraph 11.

Mr. H. C. Dance, Chief, Branch 2, Division of Projects and Resident Programs, accompanied the resident inspectors on a plant tour on April 26, 1984, and then held a meeting with the Plant Manager - Nuclear and the Vice President of Turkey Point - Nuclear to discuss progress towards meeting Turkey Point Plant Performance Enhancement Program goals.

3. Licensee Action on Previous Enforcement Items
 - a. Evaluation of Performance Enhancement Program

The program does not appear to have established escalated priorities for procedures and drawings which are used frequently, for example:

- (1) Unlabeled valves exist on the Safety Injection drawings;
- (2) The Emergency Diesel Generator Operating Procedure does not have sign-offs for the system line-up or for independent verification;
- (3) There is no procedure which addresses the loss of electrical distributions to control room instrumentation.

These items will be reviewed as an unresolved item (250/84-14-01).

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. Unresolved items are identified in paragraphs 3 and 5.

5. IE Bulletin Followup (92703)

The inspector discussed the requirements of several pending IE Bulletins with the licensee. Based on an analysis of licensee supplied information and documentation, the inspector closed all action items related to the following two bulletins. An addition bulletin was inspected and remains open.

(Closed) IE Bulletin 80-09. "Hydramotor Deficiencies". A field verification was performed which revealed that no Hydramotor operators are installed in either of the two units. A review of design documents and vendor drawings, made prior to June 23, 1980, and documented by licensee letter L-80-201 indicated that Hydramotor operators were not used in either nuclear unit. This bulletin is closed for both units.

(Closed) IE Bulletin 80-20. "Westinghouse W-2 Switch Malfunctions". A review of Plant Change Modification (PC/M) 81-81 and PC/M 81-82 was completed. The inspector was satisfied that each potentially faulty type W-2 control switch used in safety-related applications has been replaced. This bulletin is closed for both units.

(Open) IE Bulletin 79-27. "Loss of Non-Class IE Power to Instrumentation". The inspector reviewed the intent of IE Bulletin 79-27 and determined that the required emergency procedures, including procedures required to achieve a cold shutdown condition during a sustained loss of power to an instrument bus, have not been implemented. Discussions with licensee personnel revealed that an INPO finding addressed this deficiency in October 1983. The licensee has, as a result of the finding, committed to implement the procedures by August 1984. The events surrounding a reactor trip on April 24, 1984, are related to the lack of instrument bus procedures and are addressed elsewhere in this report. The absence of procedures covering the operation of vital instrument buses is an unresolved item. (250/84-14-02) IE Bulletin 79-27 remains open pending the implementation of the instrument bus procedures.

6. Licensee Event Report Followup (92700)

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications (TS).

(Closed) LER 250-83-04. "Mechanical Failure of Diaphragm Valve from the Waste Gas Decay Tank".

The licensee changed the procedure for releases (OP-5523.1) on March 18, 1983, to assure that the air is removed from the discharge valve to preclude accidental opening. There have been no further problems with this release path and this item is closed.

(Open) LER 250-83-09. "Auxiliary Feedwater (AFW) Pump failed to come up to speed and no flow was delivered due to a failed differential pressure transmitter (DPT)".

(Open) LER 250-83-12. "Auxiliary Feedwater Pump failed to develop required RPM due to failed DPT".

Both of the above LERs were to be addressed by PC/M 83-49 and by the task force set up to correct AFW pump problems. There have been no conclusions reached to date, and the issue will be followed under these LER numbers.

7. Monthly and Annual Surveillance Observation (61726/61700)

The inspectors observed TS required surveillance testing and verified that testing was performed in accordance with adequate procedures; that test instrumentation was calibrated; that Limiting Conditions for Operation (LCO) were met; that test results met acceptance criteria requirements and were reviewed by personnel other than the individual directing the test; that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel; and that system restoration

was adequate. For completed tests, the inspector verified that testing frequencies were met and tests were performed by qualified individuals.

The inspector witnessed/reviewed portions of the following test activities:

3A Battery Discharge Test	Core Thermal Power Evaluation
Emergency Diesel Operational Test	Determination of Reactor Shutdown Margin
Mechanical Snubber Testing	Safety Injection Inservice Inspection (ISI) Hydrostatic Test
Target Axial Flux Determination	

On April 19, 1984, the inspector was observing the "B" Emergency Diesel Generator (EDG) eight hour test. (OP 4304.3-March 18, 1983) and noted that the temperature readings available from the cylinder exhaust discharge pyrometers were not being recorded or observed by the operator and were not addressed by the test procedure. The shift supervisor gave permission to observe the indications and it was noted that the reading of one of the twenty cylinders was downscale and could have been either a cylinder problem or pyrometer problem. TS 4.8 requires that the eight hour test be conducted every 18 months to assure that the diesel generator cooling system functions are within design limits. This cannot be accomplished without appropriate calibrated instrumentation and required, evaluated readings. Therefore, this inadequate surveillance testing is a violation (250/84-14-03). The licensee has consulted with the diesel vendor and has stated that the test will be rewritten and rerun during this surveillance interval.

On April 17, 1984, the inspector observed the performance of a hydrostatic test on the Safety Injection (SI) system. The test was being performed to meet ten year ISI surveillance requirements and to verify the adequacy of recently completed welds on the SI piping for Unit 4. The inspector noticed that contrary to a recommendation in Operating Procedures (OP) 0206.6 "Hydrostatic pressure Testing for Inservice Inspection Requirements", a temporary relief valve had not been installed on the discharge of the test pump. The inspector discussed the use of preset automatic pressure relief valves with supervisory personnel and determined that, although OP-0206.6 section 5.1 states "A temporary relief valve should be installed on the test pump discharge", relief valves were used infrequently. A brief review of OP-0206.6 during the hydrostatic test revealed possible procedural discrepancies and prompted the inspector to perform a detailed review of the Quality Assurance (QA) records for the test on April 23, 1984. Several discrepancies that were noted in the implementation of the operating procedure are itemized below:

- a. Section 8.7 of the procedure requires any relief valve which must be gagged during the hydrostatic test to be listed in the "remarks" section of the test record sheet. Contrary to this requirement, relief valve 859 was gagged but not listed in the "remarks" section.

- b. Section 8.5 of the procedure requires that the valve position sheet to be filled-in indicating the valves which form the boundaries of the test. Contrary to this requirement, test boundary valves 940D, 941P, and 859 were not listed on the valve position sheets. The valve position sheets were used to develop the clearance tagout for the hydrostatic test as required by Section 8.6, but since the three valves were left off the valve position sheets they were not included in the clearance.
- c. Since relief valve 859 was not listed in the remarks section of the test record sheet and not listed on the valve position sheet and consequently did not receive a clearance tag, removal of the gag installed during the test was not promptly independently verified. Only after the inspector deduced that the relief valve must have been gagged and made inquiries as to the status of the valve were steps taken to independently verify that the gag had been removed. The verification took place six days after the hydrostatic test had been completed.
- d. Section 8.5 of the procedure requires the ISI Coordinator to verify that the valve position sheets correctly reflect the hydrostatic test boundaries shown on the approved system drawing. Contrary to this requirement the ISI Coordinator did not make the required verification prior to the start of the test and had not made the verification six days after test completion.
- e. Quality Assurance Manual procedure QP-11.4, "Test Control Program", Section 5.2.4, requires that hydrostatic testing procedures shall consider:
 - (1) Acceptance criteria;
 - (2) Test medium chemistry requirements;
 - (3) Precautions to prevent damage to installed instrumentation or items external to test boundaries;
 - (4) Special instruments, such as insertion and removal of hydrostatic pins, temporary supports, etc.;
 - (5) Test cycles and hold times.

Contrary to the requirements of QP 11.4, Operating Procedure 0206.6 does not consider any of the above listed items.

The above listed discrepancies constitute a failure to implement procedures which is a violation. (250/84-14-04)

8. Monthly and Refueling Maintenance Observations (62703/62700)

Station maintenance activities of safety-related systems and components were observed/reviewed to ascertain that they were conducted in accordance with

approved procedures, regulatory guides and industry codes or standards and in conformance with TS.

The following items were considered during this review: LCO were met while components or systems were removed for service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and fire prevention controls were implemented.

The inspector reviewed the plans for repair of secondary steam leaks during the cold shutdown which began April 26 and found them to be comprehensive.

The following maintenance activities were observed/reviewed:

Snubber Removal

'A' Feedwater nozzle removal and replacement Unit 4

Incore instrumentation changeout

Electrical Inspection of 'B' EDG

No violations or deviations were identified.

9. Operational Safety Verification (71707)

The inspector observed control room operations, reviewed applicable logs, conducted discussions with control room operators, observed shift turnovers, and confirmed operability of instrumentation. The inspectors verified the operability of selected emergency systems, reviewed tagout records, verified compliance with TS LCO and verified return to service of affected components.

The inspectors verified by review of procedures, material installation, and operational status, the completion of TMI action item II.B.I.

The inspectors, by observation and direct interviews, verified that the physical security plan was being implemented in accordance with the station security plan.

The inspectors verified that maintenance work orders had been submitted as required and that followup and prioritization of work was on-going.

The inspectors observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection control.

Tours of the Unit 4 containment, auxiliary, diesel and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations.

The inspectors walked down accessible portions of the following safety-related systems on Unit 3 and 4 to verify operability and proper valve alignment:

- AFW pump steam supply locked valves
- Containment isolation valves - Unit 4
- Electrical line-up including 3C/4C Busses and switchyard
- Emergency diesel generators

On April 18, the inspector requested the licensee review arrangements for diverting the water from a leak on 3B main feedwater non-return valve because the train B AFW regulating valves were being soaked. The Nuclear Plant Supervisor investigated and initiated maintenance to re-arrange the water diversion. This was promptly accomplished.

Various plant tours were conducted by the inspectors. Attention was focused on the operability of safety-related equipment in the following areas: cable spreading rooms; rod control equipment rooms; switchgear rooms; diesel generator and day tank rooms; Unit 4 containment; and the auxiliary building. During the tour particular emphasis was placed on the examination of clearance tags recently issued as a result of the Unit 4 refueling outage. Clearance tags were examined to verify that they were placed on the appropriate equipment, were completely filled out, were signed and dated, and correctly indicated the desired component position. Certain clearance tags were examined to ascertain whether the required independent verification had been properly performed. Three major discrepancies concerning the implementation of Administrative Procedure (AP) 0103.4, "In-Plant Equipment Clearance Orders" were noted and are itemized below:

- a. April 16, 1984. During a tour of the radiation waste building, the inspector found six clearance tags hanging on waste effluent filter valves near the resin transfer area. The tags were not filled out, signed or dated and were being used as an informal way to indicate that repositioning the valves could adversely affect the liquid waste flowpath. Use of the tags in such an informal manner undermines the clearance concept and is contrary to the requirements of AP-0103.4.
- b. April 17, 1984. While observing the performance of a SI system hydrostatic test, the inspector found four clearance tags hanging on hydrostatic test hoses. The tags were not filled out, signed or dated and were being used as an informal way to indicate that disconnecting the hoses would adversely affect the hydrostatic test.
- c. April 19, 1984. While observing the performance of an EDG eight hour full load test, the inspector observed a Nuclear Operator filling the EDG day tank from the diesel oil storage tank. The Nuclear Operator disregarded two clearance tags properly hanging on the transfer pump ON-OFF control switch and the transfer pump discharge valve. Although the discharge valve had been tagged "shut" and the pump motor control switch tagged "off", the operator opened the valve and energized the

pump without following the temporary lift of clearance procedures itemized in AP-0103.4.

The failure to properly fill out and hang clearance tags and the failure to obtain temporary clearance lifts constitutes a failure to implement the requirements of AP-0103.4 and is a violation (250/84-14-05). This violation is a repeat of violation 250,251/84-11-01.

10. Engineered Safety Features (ESF) Walkdown (71710)

The inspectors verified the operability of the Residual Heat Removal (RHR) system on Unit 4 and the High Head Safety Injection (HHSI) system on Unit 3 by performing a complete walkdown of the accessible portion of the system. The following specifics were reviewed/observed as appropriate: that the licensee's system lineup procedures match plant drawings and the as-built configuration; that equipment conditions and items that might degrade performance (hangers and supports are operable, housekeeping, etc.) were identified; with assistance from licensee personnel that the interior of the breakers and electrical or instrumentation cabinets were inspected for debris, loose material, jumpers, evidence of rodents, etc.; that instrumentation was properly valved in and functioning and calibration dates were appropriate; and that valves were in proper position, power was available, and valves were locked as appropriate; and local and remote position indication was compared.

No violations or deviations were identified.

11. Plant Trips (93702)

Following the plant trips on April 24, 1984, the inspector ascertained the status of the reactor and safety systems by observation of control room indicators and discussions with licensee personnel concerning plant parameters, emergency system status and reactor coolant chemistry. The inspector verified the establishment of proper communications and reviewed the corrective actions taken by the licensee.

All systems responded as expected, and the plant was returned to operation on April 25, 1984.

The cause of the trip was operator error due to opening the output breaker of an inservice vital bus inverter instead of the standby inverter as the tagout directed. The licensee changed the procedure to include a caution to check the ammeter.

The licensee committed to assign responsibility to assure that the transfer switches for the inverters were properly maintained on a continuing basis. (IFI-250/84-14-06)

No violation or deviations were identified.

12. Refueling Activities (60710)

The inspector observed activities in the control room and Unit 4 containment during defueling operations and verified that:

- a. Direct communications were established between the control room, spent fuel pit and Unit 4 refueling stations.
- b. Radiation levels in the containment and spent fuel storage area were being monitored continuously.
- c. Containment integrity was being maintained as required by licensee TS.
- d. Minimum boron concentration and subcritical neutron flux monitoring were in accordance with TS requirements.
- e. Staffing requirements were in accordance with the TS.
- f. The licensee was maintaining good housekeeping practices in the refueling area.
- g. Controlling procedures had been reviewed and approved and applicable fuel transfer procedures were available for immediate reference.

The inspector observed several fuel elements being removed from the vessel and transferred to the spent fuel pit. No significant discrepancies were noted. However, the inspector noticed that one of two drop lights providing illumination inside the vessel had burned out. Two operable lights are required by Operating Procedure 16002.6, "Preparations and Precautions for Refueling Fuel Shuffle". Supervisory personnel expressed some uncertainty when questioned as to whether any fuel was removed from the core prior to replacement of the one failed drop light. The inspector believes that one fuel element may have been removed prior to the manipulator crane operator realizing that a drop light had failed. The location of the removed fuel element was near the functioning light and visibility in this region of the core was adequate. The inspector discussed the matter with licensee supervisory personnel and is satisfied that an increased awareness of lighting status is being emphasized.

No violations or deviations were identified.

13. Design Changes and Modifications (37700)

The inspectors reviewed the records for the design changes listed below to verify that design changes were reviewed in accordance with TS and the established Quality Assurance (QA) program; that design changes were conducted in accordance with written procedures which included identification of inspections required by codes or standards, and acceptance test procedures which defined acceptance values or acceptance standards; that

test records verified performance of equipment modified to technical specifications/FSAR requirements and performance of modified equipment was reviewed and approved; that operating procedure modifications were made and approved in accordance with TS; that installation procedures were adequate for the identified function; that as-built drawings were changed to reflect the modifications; and that records of design changes were maintained as described in 10 CFR 50.59b and the established QA program.

PC/M 81-81	Unit 3	W-2 Switch Replacement
PC/M 81-82	Unit 4	W-2 Switch Replacement
PC/M 84-80	Unit 4	FW Nozzle Repair
PC/M 83-202	Unit 4	Loose Parts Metal Impact Monitoring (installation)
PC/M 83-105	Unit 4	Flux Map System Upgrade
PC/M 83-109	Unit 4	Regenerative Heat Exchanger Shielding

No violations or deviations were identified.

14. Organization and Administration (36700)

The inspector verified that changes in the organizational structure and assignments had been reported to the NRC through the licensee's QA program and verified that persons assigned to new or different positions in the licensee's organization since the last inspection of this area satisfy qualifications identified in the TS, the licensee's QA program, and applicable national standards.

This included an organization change which was announced April 24, 1984, naming Mr. K. N. Harris as Vice President of Turkey Point-Nuclear.

No violation or deviation were identified.

15. Independent Inspection Effort (92706)

The inspectors routinely attended meetings with licensee management and shift turnovers between shift supervisors, shift foreman licensed operators during the reporting period. These meetings and discussions provided a daily status of plant operating and testing activities in progress as well as discussion of significant problems or incidents.

No violations or deviations were identified.