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

Report Nos.: 50-250/89-12 and 50-251/89-12

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: February 25, 1989 through March 31, 1989

Inspectors: William K. Poertner for — 4/24/89
R. C. Butcher, Senior Resident Inspector — Date Signed

William K. Poertner for — 4/24/89
T. F. McElhinney, Resident Inspector — Date Signed

William K. Poertner for — 4/24/89
G. A. Schnebli, Resident Inspector — Date Signed

Approved by: R. V. Crlenjak — 4/24/89
R. V. Crlenjak, Section Chief — Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine resident inspector inspection entailed direct inspection at the site in the areas of monthly surveillance observations, monthly maintenance observations, engineered safety features walkdowns, operational safety and plant events.

Results: One violation was identified: Failure to follow procedures resulting in valve 4-201B being open and draining RCS water to the containment sump.

One licensee identified violation was identified: Failure to calibrate a liquid radwaste effluent line flow transmitter within ADM-021 frequency.

One unresolved item* was identified in that Reactor Coolant Pump (RCP) seal injection throttle valve 4-297A was open, contrary to GOP-305, resulting in the inadvertent increase in drain down water level.

*Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations.

8905100054 890426
PDR ADOCK 05000250
Q PDC

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*T. Abbatiello, Quality Assurance Supervisor
J. W. Anderson, Quality Assurance Supervisor
J. Arias, Senior Technical Advisor to the Plant Manager
L. W. Bladow, Quality Assurance Superintendent
J. E. Cross, Plant Manager-Nuclear
*R. J. Earl, Quality Control Supervisor
T. A. Finn, Training Supervisor
S. T. Hale, Engineering Project Supervisor
R. J. Gianfrencesco, Maintenance Superintendent
V. A. Kaminskas, Technical Department Supervisor
R. G. Mende, Operations Supervisor
*J. S. Odom, Site Vice President
L. W. Pearce, Operations Superintendent
*F. H. Southworth, Assistant to Site VP
J. C. Strong, Mechanical Department Supervisor
M. Stanton, Instrument and Control Department Supervisor
*K. Van Dyne, Acting Regulatory and Compliance Supervisor
M. B. Wayland, Electrical Department Supervisor
*J. D. Webb, Operations - Maintenance Coordinator

Other licensee employees contacted included construction craftsman, engineers, technicians, operators, mechanics, and electricians.

*Attended exit interview on March 31, 1989

Note: An alphabetical tabulation of acronyms used in this report is listed in paragraph 12.

2. Followup on Items of Noncompliance (92702)

A review was conducted of the following noncompliances to assure that corrective actions were adequately implemented and resulted in conformance with regulatory requirements. Verification of corrective action was achieved through record reviews, observation and discussions with licensee personnel. Licensee correspondence was evaluated to ensure that the responses were timely and that corrective actions were implemented within the time periods specified in the reply.

(Closed) Violation 50-250,251/88-14-01, concerning material for use in ICW gauge fittings was not properly controlled. The licensee responded to this violation in letter L-88-364, dated August 29, 1988. The NRC considered the response and the actions taken to prevent recurrence to be adequate. This violation is closed.

(Closed) Violation 50-250,251/88-18-01, concerning the failure to follow procedure for rod control system malfunction. The licensee responded to this violation in Letter L-88-433, dated September 30, 1988. The NRC considered their response and the actions taken to prevent recurrence to be adequate. This violation is closed.

3. Follow-up on Inspector Followup Items (IFIs) (92701).

(Closed) Inspector Followup Item 50-250,251/88-11-03, concerning the differences in documentation associated with ICW gauge assembly material. This IFI was subsequently upgraded to a violation (50-250,251/88-14-01) and therefore this IFI is closed.

4. Onsite Followup and In-Office Review of Written Reports of Nonroutine Events (92700/90712)

The Licensee Event Reports (LERs) discussed below were reviewed and closed. The inspectors verified that reporting requirements had been met, root cause analysis was performed, corrective actions appeared appropriate, and generic applicability had been considered. Additionally, the inspectors verified that the licensee had reviewed each event, corrective actions were implemented, responsibility for corrective actions not fully completed was clearly assigned, safety questions had been evaluated and resolved, and violations of regulations or TS conditions had been identified. When applicable, the criteria of 10 CFR 2, Appendix C, were applied.

(Closed) LER 50-251/87-19, concerning a turbine runback caused by a spurious spike in the RPI system due to a loose solder joint in a cable connector for Rod E-5. The loose solder joint was repaired and the connectors for all remaining RPIs were inspected and defects identified. This LER is closed.

(Closed) LER 50-251/87-25, concerning a containment and control room ventilation isolation due to high Rubidium in the containment following a unit shutdown. The event was evaluated to have been caused by the rapid shutdown of the unit and subsequent depressurization as a precautionary measure against an approaching hurricane. An RCS leak rate calculation was performed and the results showed no unexpected RCS leakage. This LER is closed.

(Closed) LER 50-250/88-02, concerning a reactor coolant system pressure decrease caused by a malfunctioning pressurizer spray valve. The primary cause of the event was a defective controller for pressurizer spray valve PCV-3-455B. The controller was subsequently replaced. This LER is closed.

(Closed) LER 50-250/88-04, concerning AFW initiation on low SG level due to inadequate monitoring of the SG level by the operator. The root cause of the event was the failure of the operator to monitor SG level due to

involvement in other testing. The operator was counseled and the event was discussed with all other operations personnel. This LER is closed.

5. Monthly Surveillance Observations (61726)

The inspectors observed TS required surveillance testing and verified: that the test procedure conformed to the requirements of the TS, 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 deficiencies were identified, as appropriate, and were properly reviewed and resolved by management personnel and that system restoration was adequate. For completed tests, the inspectors verified that testing frequencies were met and tests were performed by qualified individuals.

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

- 3-OSP-075.1 Auxiliary Feedwater Train 1 Operability Verification
- 0-OSP-023.1 Diesel Generator Operability Test
- 0-OSP-074.3 Standby Steam Generator Feedwater Pumps Available Test
- 0-OSP-074.4 Standby Steam Generator Feedwater Pumps/Cranking Diesel's Test

On March 6, 1989, during performance of 3-OSP-075.1, Auxiliary Feedwater (AFW) Train 1 Operability Test, revision dated September 20, 1988, the A AFW pump governor oil level was found out of sight high. A Plant Work Order (PWO) was initiated to drain some of the oil out of the governor while the pump was operating. The oil was drained to the proper level in the sightglass and the test was completed satisfactorily. The inspectors questioned the licensee as to the adequacy of the governor oil filling method when I&C department draws a sample. The vendor manual (Woodward Governor) recommends that the oil level be at the mark on the sightglass with the pump operating. Oil level should be visible in the sightglass under all other conditions. The vendor further stated that the oil must never be above the line where the case and column castings meet. Oil above this level will be churned into foam by the flyweight head. The I&C department periodically drains an oil sample from the AFW pump governors for oil analysis. This draining is accomplished by a PWO. The inspectors reviewed some of the instructions contained on these PWOs and found varying degrees of instructions listed. Some instructions gave a specific oil level while others directed I&C personnel to return oil level to normal. The inspectors believe that non-specific instructions on the PWO could lead to improper oil level in the AFW pump governors such as was

found on the March 6, 1989, surveillance test. The other item noted by the inspectors is that 3-OSP-075.1, step 7.13, has the operators check governor oil level prior to running the pump by verifying that the level is above the line in the sightglass. This check verifies that the minimum level is present, however, it does not verify if too much oil is present. Therefore the pump could be started with too high of a level in the governor. The inspectors will followup on this issue via Inspector Followup Item (IFI) 50-250,251/89-12-01.

On March 27, 1989, the licensee discovered that the liquid radwaste effluent line flow transmitter, FT-1064, was out of calibration. The operators placed Process Radiation Monitor (PRM) R-18 out of service and restricted any further liquid releases until the flow channel was calibrated. The flow transmitter was calibrated and returned to service on March 29, 1989. The flow transmitter was previously calibrated on April 11, 1987. Technical Specifications (TS), table 4.1-3, item 2.a, specified the liquid radwaste effluent line flow rate monitor channel calibration frequency as each refueling. Since this flow transmitter is common equipment, the licensee performed the calibrations based on the Unit 3 refueling cycles. However, Administrative Procedure (ADM)-021, Technical Specification Implementation Procedure, revision dated March 13, 1989, table 4.3.6, requires that the channel calibration for FT-1064 be performed at least once per 18 months. Considering the 25 percent grace period from the last performance date, the flow transmitter was required to be calibrated by February 27, 1989. TS 6.8.1 requires that written procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements and recommendations of Appendix A of USNRC Regulatory Guide 1.33 and Sections 5.1 and 5.3 of ANSI N18.7-1972. ANSI section 5.1 requires that procedures be followed. ADM-021, Technical Specification Implementation Procedure, revision dated March 13, 1989, requires that the requirements of the Interim TS be complied with unless the requirements are either waived in accordance with ADM-021, or are less restrictive than the current TS. Table 4.3.6 of the Interim TS requires that the liquid radwaste effluent line flow rate monitor be calibrated at least once per 18 months. Contrary to the above, FT-1064 was not calibrated within the specified frequency, and a waiver was not obtained in accordance with ADM-021. This is a violation, however, no notice of violation will be issued since this item meets the criteria specified in 10 CFR 2, Appendix C, for a licensee identified violation.

No violations or deviations were identified in the areas inspected.

6. Monthly Maintenance Observations (62703)

Station maintenance activities on safety related systems and components were observed and reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides, industry codes and standards, and in conformance with TS.

The following items were considered during this review, as appropriate: LCOs were met while components or systems were removed from service; approvals were obtained prior to initiating work; activities were accomplished using approved procedures and were inspected as applicable; procedures used were adequate to control the activity; troubleshooting activities were controlled and repair records accurately reflected the maintenance performed; functional testing and/or calibrations were performed prior to returning components or systems to service; QC records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were properly implemented; QC hold points were established and observed where required; fire prevention controls were implemented; outside contractor force activities were controlled in accordance with the approved QA program; and housekeeping was actively pursued.

The inspectors witnessed/reviewed portions of the following maintenance activities in progress:

- Repair of 4A HHSI pump.
- Troubleshooting "A" AFW pump T&T valve.
- Troubleshooting Unit 4 PORV Backup Nitrogen Regulators.

No violations or deviations were identified in the areas inspected.

7. Operational Safety Verification (71707)

The inspectors 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, verified that maintenance work orders had been submitted as required and that followup and prioritization of work was accomplished. The inspectors reviewed tagout records, verified compliance with TS LCOs and verified the return to service of affected components.

By observation and direct interviews, verification was made that the physical security plan was being implemented.

Plant housekeeping/cleanliness conditions and implementation of radiological controls were observed.

Tours of the intake structure and diesel, auxiliary, control 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 to verify operability and proper valve/switch alignment:

A and B Emergency Diesel Generators
Control Room Vertical Panels and Safeguards Racks
Intake Cooling Water Structure
4160 Volt Buses and 480 Volt Load and Motor Control Centers
Unit 3 and 4 Feedwater Platforms
Unit 3 and 4 Condensate Storage Tank Area
Auxiliary Feedwater Area
Unit 3 and 4 Main Steam Platforms

On March 29, 1989, the licensee shut down Unit 3. At 4:53 p.m., power reduction was initiated per GOP-103, Power Operation to Hot Standby, and the unit was taken off line at 8:30 p.m. Unit 4 was already in cold shutdown for a refueling outage. Unit 3 was taken off line while the licensee assures itself of the effectiveness of its operator requalification training program. This action was taken as a result of deficiencies identified during requalification testing the previous week. A Confirmation of Action Letter dated March 30, 1989, confirms the licensee's commitment to take Unit 3 off line until the licensee can perform special evaluations to demonstrate that operators not involved in the recent requalification testing meet performance requirements. This effort is expected to be completed within one week.

On March 2, 1989, with Unit 4 in Mode 5 and drained down to the reactor vessel flange, the Unit 4 Reactor Control Operator (RCO) noted an increase in the draindown level. Investigation by the operators found that the increase in level was due to unisolating the "A" Reactor Coolant Pump (RCP) seal injection isolation valve (4-298G). The "A" RCP seal injection throttle valve (4-297A), which is upstream of 4-298G, was found open on its backseat. Valve 4-297A was required to be tagged closed in accordance with General Operating Procedure (GOP) 4-305, Hot Standby to Cold Shutdown, under a cold shutdown clearance. The licensee was still investigating this incident at the end of this inspection period, therefore, this item will be tracked as Unresolved Item (URI) 50-250,251/89-12-02.

No violations or deviations were identified in the areas inspected.

8. Plant Events (93702)

The following plant events were reviewed to determine facility status and the need for further followup action. Plant parameters were evaluated during transient response. The significance of the event was evaluated along with the performance of the appropriate safety systems and the actions taken by the licensee. The inspectors verified that required notifications were made to the NRC. Evaluations were performed relative to the need for additional NRC response to the event. Additionally, the following issues were examined, as appropriate: details regarding the cause of the event; event chronology; safety system performance; licensee compliance with approved procedures; radiological consequences, if any; and proposed corrective actions.

At 8:15 a.m. on March 9, 1989, the licensee declared and terminated simultaneously an unusual event after finding Unit 4 drain valve 201B open and draining reactor coolant to the containment sump. Unit 4 was in cold shutdown and the licensee was filling and venting the reactor coolant system per 4-OP-041.8. Section 5.2.2.15 requires increasing reactor pressure to 125 psig. Due to the slow response on pressure increase, at 5:45 a.m., an N.O. was instructed to look for leaks or misaligned valves. At 6:15 a.m., valve 4-201B, letdown orifice downstream drain, was discovered open with a tygon tube vent rig installed. The tygon tubing was routed to drain to the containment sump. The valve was immediately closed. The Unit 4 containment sump level instrumentation was out of service for maintenance. Health physics reported the containment sump level was at 67 inches following this event which corresponds to a sump inventory of approximately 9926 gallons. The leak rate was originally estimated at approximately 39.8 gpm. Later calculations indicate the leak rate was probably closer to 11 gpm. Based on an estimated 39 gpm, at 6:58 p.m. per the PSN log, emergency notification should have been initiated per the licensee's Emergency Plan Implementing Procedure (EPIP) 20101. Paragraph 3.2 of EPIP 20101, requires declaration of an unusual event if reactor coolant system water inventory indicates leakage greater than 10 gpm. The licensee's promptness on reporting this event will be discussed in Inspection Report 50-250,251/89-08. The licensee has initiated an Event Response Team (ERT) to review the circumstances regarding this event and determine the cause and recommend corrective actions to prevent recurrence. Preliminary investigation has shown that a drain rig was installed on valve 201B on December 3, 1988, to permit work on valves CV-200A and C. No documentation exists showing this drain rig was ever removed. On January 13, 1989, an LLRT for valves 200A, B and C was conducted which required valve 201B to be closed and/or capped. The clearance for this test did not address the 201B valve. On January 17, 1989, operations verified valve 201B closed with independent verification. Again on March 5, 1989, operations verified valve 201B closed with independent verification. On March 8, 1989, at 3:00 p.m., the licensee initiated fill and vent of the RCS, per 4-OP-041.8, and control valves CV-200A, B and C were opened which would allow RCS water to fill the piping which valve 201B drains. Paragraph 3.1 of 4-OP-041.8 requires the Chemical and Volume Control System be operable or in operation.

Calculations indicate valve 201B was open at the time CV 200A, B, and C were opened permitting RCS water to drain to the containment sump. On March 9, 1989, at 6:15 a.m., valve 201B was found open as stated earlier. Operations had conducted procedure OSP-041.1, Reactor Coolant System Leak Rate Calculation, on March 8, 1989, at 5:30 p.m., and March 9, 1989, at 5:00 a.m., and failed to identify that valve 201B was open and draining RCS water. TS 6.8.1 requires that written procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements and recommendations of Section 5.1 of ANSI N18.7-1972. ANSI N18.7-1972, section 5.1.2 specifies that procedures shall be followed.

Operating Procedure 4-OP-047, CVCS-Charging and Letdown, requires valve 4-201B to be closed as its normal position. Contrary to the above, valve 201B was found open with no written clearance to place the valve in the open position. Failure to follow procedures and maintain valve 201B in the closed position will be identified as violation 50-250,251/89-12-03. Problems with configuration control have been identified in previous NRC inspection reports and have resulted in violations being issued. Due to NRC concerns in this area and since a root cause has not yet been identified, this will be cited as a separate violation.

9. Installation and Testing of Modifications (37828)

An inspection was conducted to ascertain the licensee's methods of assuring that design changes and modifications meet the requirements of Technical Specifications, 10 CFR 50.59, and 10 CFR 50, Appendix B, Criterion III. Each of the PC/M packages contained a written safety evaluation which concluded that the change could be implemented without prior NRC approval under the provisions of 10 CFR 50.59. Each modification resulted in the respective system, as described in the FSAR, being changed to provide increased reliability or maintainability. None of the PC/Ms required change to the facility Technical Specifications. The inspectors verified by direct observation that the work was being performed by qualified workers and in accordance with approved instructions and drawings contained in the work package. The installation of the hardware was verified to be in accordance with the as-built drawings. Installation, preoperational, and startup testing were adequate to ensure that the system/equipment met the performance requirements of the design criteria. The following modification was reviewed during this inspection period:

- PC/M 87-100, Turkey Point Unit 4 Reactor Cavity Seal Replacement (REA-TPN-86-83).

  This PC/M provided for the replacement of the Unit 4 reactor cavity seal system and the installation of a restraint system for the reactor cavity seal ring plate in its storage location. The seal system was modified to provide redundant passive seals to prevent leakage in excess of 50 GPM, which is well within the capacity of the two 75 GPM reactor sump pumps and also provides an acceptable rate of level decrease in the reactor cavity/spent fuel pool levels (2 inches/hour) allowing for adequate operator response time. This modification also provided an inflatable seal to reduce primary seal leakage to as low as practical (less than 1 GPM) for housekeeping and ALARA concerns. The non-safety related inflatable seal is also provided with a continuous pressurization system. The package also addressed the replacement of twelve reactor cavity seal ring anchor bolts with grout-in-place type anchor bolts.

In addition to the PC/M the following procedures were reviewed to ensure this new seal design was included:

- O-GMM-043.6, Reactor Vessel Cavity Seal Ring Installation
- 4-OP-038.1, Preparation for Refueling Activities
- 4-OP-201, Filling/Draining the Refueling Cavity and the SFP Transfer Canal.

During the review of this PC/M, one concern was identified in that testing of the passive seals subsequent to the initial installation test may not be adequate. This item was discussed in Inspection Report 88-39 and was promptly corrected by the licensee.

No violations or deviations were identified in the areas inspected.

10. Management Meeting (94702)

On March 16, 1989, the bi-monthly NRC/FPL Management Meeting was conducted at the site. This was the tenth in a series of meetings which were initiated by Enforcement Action (EA) 87-85 issued in October 1987. The meeting was attended by NRC Regional and Headquarters Management and FPL Site and Corporate Management. The topics of discussion included: Plant Status; RHR draindown event of of January 19, 1989; Thimble tube cracks on Unit 3 seal table; procurement of spare parts for maintenance; maintenance improvement efforts; and new security initiatives.

11. Exit Interview (30703)

The inspection scope and findings were summarized during management interviews held throughout the reporting period with the Plant Manager - Nuclear and selected members of his staff. An exit meeting was conducted on March 31, 1988. The areas requiring management attention were reviewed. No proprietary information was provided to the inspectors during the reporting period. The inspectors had the following findings:

- 50-250,251/89-12-01, Inspector Followup Item. Possible improper oil level in the AFW pump governor. (Paragraph 5)
- 50-250,251/89-12-02, Unresolved Item. RCP seal injection throttle valve 4-297A in the open position contrary to GOP 4-305, resulting in inadvertent increase in drain down water level. (Paragraph 7)
- 50-250,251/89-12-03, Violation. Failure to follow procedures resulting in valve 201B being open and draining RCS water to the containment sump. (Paragraph 8)
- Licensee Identified Violation. Failure to calibrate the liquid radwaste effluent line flow transmitter at the frequency specified by ADM-021. (Paragraph 5)

12. Acronyms and Abbreviations

ADM	Administrative
a.m.	ante meridem
ANSI	American National Standards Institue
AP	Administrative Procedures
ASME	American Society of Mechanical Engineers
CCW	Component Cooling Water
CCTV	Closed Circuit Television
CFR	Code of Federal Regulations
CS	Containment Spray
DP	Differential Pressure
ENS	Emergency Notification System
EPIP	Emergency Plan Implementing Procedure
ERT	Event Response Team
FPL	Florida Power & Light
FSAR	Final Safety Analysis Report
HHSI	High Head Safety Injection
ICW	Intake Cooling Water
IEB	Inspection and Enforcement Bulletin
IFI	Inspector Followup Item
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LIV	Licensee Identified Violation
LLRT	Local Leak Rate Test
LOCA	Loss of Coolant Accident
MP	Maintenance Procedures
NCR	Non-conformance Report
NO	Nuclear Operator
NPSH	Net Positive Suction Head
NRC	Nuclear Regulatory Commission
ONOP	Off Normal Operating Procedure
OOS	Out of Service
OP	Operating Procedure
OTSC	On the Spot Change
PA	Protected Area
PC/M	Plant Change/Modification
p.m.	post meridiem
PNSC	Plant Nuclear Safety Committee
PSN	Plant Supervisor Nuclear
PSP	Physical Security Procedures
QA	Quality Assurance
QC	Quality Control
RCO	Reactor Control Operator
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RHR	Residual Heat Removal
SRO	Senior Reactor Operator
TS	Technical Specification
TSA	Temporary System Alteration
URI	Unresolved Item