



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

Report Nos.: 50-250/89-49 and 50-251/89-49

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

Docket Nos.: 50-255 and 50-251

License Nos.: DPR-31 and NPF-41

Facility Name: Turkey Point 3 and 4

Inspection Conducted: October 28 - December 1, 1989

Inspectors:

[Signature] 12-28-89
R. C. Butcher, Senior Resident Inspector Date Signed

[Signature] 12-28-89
T. F. McElhinney, Resident Inspector Date Signed

[Signature] 12-28-89
G. A. Schiebli, Resident Inspector Date Signed

Approved by: *[Signature]* 12/20/89
R. W. Crienjak, Section Chief Date Signed
Reactor Projects Section 2B

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 IFI was identified.

50-250,251/89-49-01, IFI, Discrepancies in breaker numbers between EOPs and drawings.



REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *T. Abbatiello, Quality Assurance, Supervisor
- J. W. Anderson, Quality Assurance Supervisor
- *J. Arias, Technical Assistant to Plant Manager
- L. W. Bladow, Quality Assurance Superintendent
- R. M. Brown, Health Physics Supervisor
- J. E. Cross, Plant Manager - Nuclear
- R. J. Earl, Quality Control Supervisor
- T. A. Finn, Assistant Operations Superintendent
- S. M. Franzone, Lead Engineer
- S. T. Hale, Engineering Project Supervisor
- K. N. Harris, Vice President
- G. Heisterman, Electrical Assistant Superintendent
- R. J. Gianfrancesco, Assistant Maintenance Superintendent
- *V. A. Kaminskis, Technical Department Supervisor
- J. A. Labarraque, Senior Technical Advisor
- G. Marsh, Reactor Engineering Supervisor
- R. G. Mende, Operations Supervisor
- *L. W. Pearce, Operations Superintendent
- *D. Powell, Regulatory and Compliance Supervisor
- K. Remington, System Performance Supervisor
- *G. M. Smith, Service Manager - Nuclear
- F. H. Southworth, Assistant to Site Vice President
- R. N. Steinke, Chemistry Supervisor
- J. C. Strong, Mechanical Department Supervisor
- *G. S. Warriner, Quality Control, Supervisor
- *M. B. Wayland, Maintenance Superintendent
- J. D. Webb, Assistant Superintendent, Planning and Scheduling

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

*Attended exit interview on December 1, 1989.

Note: An Alphabetical Tabulation of acronyms used in this report is listed in paragraph 10.

2. Followup on Items of Noncompliance (92702)

A review was conducted of the following noncompliance 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 50-250.251/87-54-02. Concerning the failure to meet the requirements of TS 6.8.1. The licensee responded to this violation in FPL letters, L-88-185 dated April 18, 1988, and L-88-192 dated April 25, 1988. The corrective actions specified in the responses were reviewed and found to be adequate. This item is closed.

3. Followup on Inspector Followup Item, Inspection and Enforcement Information Notice, IE Bulletin (information only), IE Circular, and NRC Request (92701).

(Closed) IFI 50-250,251/88-30-01. Concerning specifying the correct EDG fuel oil pressure criteria to prevent entering TS action statement. The licensee modified O-OSP-023.1, Diesel Generator Operability Test, to specify the applicable ranges for the diesel fuel oil pressure to prevent entering TS action statement when not required. This item is closed.

4. Onsite Followup and In-Office Review of Written Reports of Nonroutine Events and 10 CFR Part 21 reviews (92700/90712/90713)

The Licensee Event Reports and/or 10 CFR Part 21 Reports 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) 50-250/P2186-02. Concerning Brown Boveri K600/K800 circuit breaker wiring harnesses. The licensee initiated REA TPN 86-100 to document the deficiencies identified by the vendor in a letter dated June 27, 1986. The REA was dispositioned in FPL letter JPES-PTP-86-1341 dated October 14, 1986, which identified the affected breakers and required a visual inspection to determine if the same problem existed at the facility. The inspection identified no deficiencies on Unit 3 breakers and one wiring deficiency on Unit 4 breaker 40212 which was corrected. There are two Unit 4 breakers requiring inspection, 40309 and 40311, which will be done in the near future. This item is closed.

(Closed) 50-250/P2187-01. Concerning inadequate high temperature resistance of Rockbestos coaxial cable insulation located on Sorrento high range radiation monitors. The licensee has Brand Rex coaxial cable



installed in this application. The Brand Rex cable was analyzed for this use under accident conditions and found to be acceptable. The evaluation is contained in PC/M 88-469. This item is closed.

5. Monthly Surveillance Observations (61726)

The inspectors observed TS required surveillance testing and verified: The test procedure conformed to the requirements of the TS, testing was performed in accordance with adequate procedures, test instrumentation was calibrated, limiting conditions for operation were met, test results met acceptance criteria requirements and were reviewed by personnel other than the individual directing the test, deficiencies were identified, as appropriate, and were properly reviewed and resolved by management personnel and system restoration was adequate. For completed tests, the inspectors verified testing frequencies were met and tests were performed by qualified individuals.

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

- 4-OSP-075.2 Auxiliary Feedwater Train 2 Operability Verification.
- 4-OSP-075.7 Auxiliary Feedwater Train 2 Backup Nitrogen Test.
- 0-OSP-075.11 Auxiliary Feedwater Pump Inservice Testing.
- OP 1604.1 Full Length Rod Cluster Control Periodic Exercise.

No violations or deviations were identified in the areas inspected.

6. Monthly Maintenance Observations (62703)

Station maintenance activities of 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 3C Charging Pump Hydraulic Coupling.
- Repair of Unit 4 High Pressure Turbine Control Oil Leak.
- Repair of 3A Charging Pump Hydraulic Coupling.
- Replacement of Unit 4 Startup Transformer Grounded Phase "B" Differential "R" Relay.

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
Auxiliary Building

The inspectors reviewed Attachment C, Loss of Offsite Power Concurrent with SI and Loss of One EDG Equipment Manipulation, to Emergency Operating Procedure 4-EOP-E-0. Steps 2.a and 2.b align spare battery chargers if EDG A or EDG B, respectively, are inoperable. The breaker numbers given in the noted procedural steps do not agree with those breaker numbers on drawing 5610-T-E-1592. For example:

	4-EOP-E-0	5610-T-E-1592
Step 2.a(1)	4D23-21	4A-21
2.a(2)	4D23-22	4A-22
2.a(3)	3D01-43	3A-43
2.a(4)	3D01-44	3A-44
2.b(1)	3D23-21	3B-21
2.b(2)	3D23-22	3B-22
2.b(3)	4D01-43	4B-43
2.b(4)	4D01-44	4B-44

The operators were familiar enough with the buses that they readily knew which breaker to manipulate. It was also observed that the local labels on the breakers agreed with 4-EOP-E-0 and not the drawing. These same comments apply to the Unit 3 EOP. The licensee was made aware of this discrepancy and their corrective actions will be followed as Inspector Followup Item 50-250,251/89-49-01.

Due to the numerous construction activities on going at the plant site and the requisite building materials, the inspectors reviewed the licensee procedures for preparing the plant following activation of the EP for a Natural Emergency. The licensee's procedure, EPIP 20101, Duties of Emergency Coordinator, dated May 5, 1989, classifies events for emergency notification purposes. EPIP 20106, Natural Emergencies, dated August 29, 1989, gives specific directions for preparing the plant for a natural emergency such as a hurricane. The procedures are well written and comprehensive in preparations. A tour of the site showed that containers for construction equipment, i.e, scaffolding, were secured in place by cables attached to large concrete weights.

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.

On October 27, 1989, at 5:42 p.m., with Unit 4 at 100 percent power the unit experienced a rapid load reduction of approximately 100 megawatts. The load reduction was apparently caused by a loss of turbine control oil pressure. The licensee initiated an ERT to determine the root cause of the occurrence. At 7:50 p.m., an oil leak was discovered at the number 4 high pressure turbine control valve. At 8:00 p.m., a unit shutdown to Mode 2 was commenced and the unit was off-line at 11:13 p.m. Further investigation revealed the oil leak was due to a cracked weld in the control oil pipe to the valve. The failed weld was repaired and the licensee performed vibration monitoring of the control oil piping during the unit restart on October 29, as the root cause of the recent weld failures appears to have been caused by vibration produced by the Unit 4 turbine. Several points of unusually high vibration were identified and additional pipe supports were designed and installed. A reduction in vibration amplitude was noted on the piping where the new constraints were added. The unit was returned to service at 10:31 p.m., on October 29, 1989.

The licensee notified the NRC of a significant event on November 10, 1989, in accordance with 10 CFR 50,72(b)(1)(ii)(B). The event was declared for Unit 3, which was operating at 100 percent power, due to the discovery that the capacity of the RCP lube oil collection tank was not in compliance with 10 CFR 50, Appendix R criteria. The Unit 3A RCP motor was replaced with a spare motor during the Unit 3 refueling outage in March 1987. The licensee later discovered the replacement motor had a larger oil capacity than the original motor, 275 gallons versus 200 gallons. Appendix R, Section III.0. requires a lube oil collection tank with sufficient volume to collect the oil from all three RCP motors (600 gallons). FPL requested and received an exemption from the NRC for a collection tank with the capacity to collect all the oil from the catastrophic failure of one RCP lube oil system (200 gallons) and the expected leakage from the remaining two RCP motors during an 18 month cycle (30 gallons or 230 gallons total). The lube oil collection tank was later found to have an as built capacity of 251 gallons. If the current Unit 3 A RCP motor lube oil system failed, the collection tank would overflow to the containment sump which is outside the design basis for this system. This issue was identified to the NRC Appendix R audit team who were on site conducting the Appendix R audit shortly after the issue was identified. Further discussion and resolution of this issue will be discussed in Inspection Report 50-250,251/89-37.

At 1:55 a.m., on November 26, 1989, the licensee notified the NRC Operations Center of the loss and subsequent recovery of the Unit 3 Startup Transformer. This notification was required by TS 3.7.2.a. and Interim TS 3.8.1.1.a.2. which states: "The NRC shall be notified within 24 hours and be advised of plans to restore the transformer to service". The transformer was declared out-of-service at 11:50 p.m., on November 25, 1989, when a grounded phase "B" relay for the Startup Transformer Differential "R" relay caused a lockout of the 240 KV OCBs feeding the transformer. A switching order was obtained to allow defeating the grounded phase "B" relay and reclosing the OCBs. The transformer was returned to service at 1:52 a.m., on November 26, 1989. The faulted phase "B" relay was replaced and tested satisfactorily on November 27, 1989.

9. 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 December 1, 1989. 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:

50-250,251/89-49-01, Inspector Followup Item. Discrepancies in breaker numbers between EOPs and drawings. (Paragraph 7)

10. Acronyms and Abbreviations

ADM	Administrative
AFW	Auxiliary Feedwater
ANSI	American National Standards Institute
AP	Administrative Procedures
ASME	American Society of Mechanical Engineers
CFR	Code of Federal Regulations
EDG	Emergency Diesel Generator
ENS	Emergency Notification System
EOP	Emergency Operating Procedure
EPIP	Emergency Plan Implementing Procedures
ERDADS	Emergency Response Data Acquisition and Display System
FPL	Florida Power & Light
gpm	Gallons Per Minute
IFI	Inspector Followup Item
LCO	Limiting Condition for Operation
LER	Licensee Event Report
MP	Maintenance Procedures
NCR	Non-conformance Report
NRC	Nuclear Regulatory Commission
OCB	Oil Circuit Breaker
ONOP	Off Normal Operating Procedure



OP	Operating Procedure
PC/M	Plant Change/Modification
PNSC	Plant Nuclear Safety Committee
PS-N	Plant Supervisor Nuclear
PWO	Plant Work Order
QA	Quality Assurance
QC	Quality Control
RCO	Reactor Control Operator
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
REA	Request for Engineering Assistance
SALP	Systematic Assessment of Licensee Performance
SRO	Senior Reactor Operator
TPNP	Turkey Point Nuclear Plant
TS	Technical Specification
URI	Unresolved Item