UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

July 17, 2007

Florida Power and Light Company
ATTN: Mr. J. A. Stall, Senior Vice President
Nuclear and Chief Nuclear Officer
P. O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: TURKEY POINT NUCLEAR PLANT - INTEGRATED INSPECTION REPORT 05000250/2007003 AND 05000251/2007003

Dear Mr. Stall:

On June 30, 2007, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point Units 3 and 4. The enclosed integrated inspection report documents the inspection findings which were discussed on July 10, 2007, with Mr. W. Webster and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, two findings of significance were identified. Also, licensee identified violations which were determined to be of very low safety significance are listed in Section 4OA7 of this report. NRC is treating the violations as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy because of the very low safety significance of the violations and because they are entered into your corrective action program. If you wish to contest these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Turkey Point.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system(ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Michael E. Ernstes, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 05000250/2007003 and 05000251/2007003
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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cc w/encls:
William Jefferson
Site Vice President
Turkey Point Nuclear Plant
Florida Power and Light Company
Electronic Mail Distribution

James Connolly
Licensing Manager
Turkey Point Nuclear Plant
Florida Power and Light Company
Electronic Mail Distribution

Becky Ferrare
Licensing Department Administrator
Turkey Point Nuclear Plant
Florida Power and Light Company
Electronic Mail Distribution

Michael O. Pearce
Plant General Manager
Turkey Point Nuclear Plant
Florida Power and Light Company
Electronic Mail Distribution

William E. Webster, Vice President
Nuclear Operations South Region
Florida Power & Light Company
Electronic Mail Distribution

Terry Jones, Vice President
Nuclear Operations Support
Florida Power & Light Company
Electronic Mail Distribution

Rajiv S. Kundalkar
Vice President - Nuclear Engineering
Florida Power & Light Company
Electronic Mail Distribution

M. S. Ross, Managing Attorney
Florida Power & Light Company
Electronic Mail Distribution

Marjan Mashhadi, Senior Attorney
Florida Power & Light Company
Electronic Mail Distribution

Attorney General
Department of Legal Affairs
The Capitol
Tallahassee, FL 32304

William A. Passetti
Bureau of Radiation Control
Department of Health
Electronic Mail Distribution

Alejandro Sera
Miami-Dade County
Emergency Management Coordinator
Electronic Mail Distribution

County Manager
Metropolitan Dade County
111 NW 1st Street, 29th Floor
Miami, FL 33128

Craig Fugate, Director
Division of Emergency Preparedness
Department of Community Affairs
Electronic Mail Distribution

Curtis Ivy
City Manager of Homestead
Electronic Mail Distribution

Distribution w/encl: (See page 4)

Letter to J. A. Stall from Michael E. Ernstes, dated July 17, 2007

SUBJECT: TURKEY POINT NUCLEAR PLANT - INTEGRATED INSPECTION REPORT 05000250/2007003 AND 05000251/2007003

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-250, 50-251
License Nos:	DPR-31, DPR-41
Report No:	05000250/2007003, 05000251/2007003
Licensee:	Florida Power & Light Company (FP&L)
Facility:	Turkey Point Nuclear Plant, Units 3 & 4
Location:	9760 S. W. 344th Street Florida City, FL 33035
Dates:	April 1 to June 30, 2007
Inspectors:	S. Stewart, Senior Resident Inspector T. Hoeg, Senior Resident Inspector, St. Lucie M. Dudek, Acting Resident Inspector S. Ninh, Senior Project Engineer
Approved by:	M. Ernstes, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000250/2007-003, 05000251/2007-003; 04/01/2007 - 06/30/2007; Turkey Point Nuclear Power Plant, Units 3 and 4; Maintenance Effectiveness, Temporary Plant Modifications.

The report covered a three month period of inspection by resident inspectors and region based reactor inspectors. Two non-cited violations were identified. The significance of most findings is identified by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process", Revision 3, dated July 2000.

A. Inspector Identified & Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green: The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for failure of the licensee to promptly identify and correct the nonconformance of equipment important to safety, specifically the operation of air solenoids in the charging system outside the design maximum operating differential pressure (MOPD). When identified, the licensee scheduled repair/replacement of the solenoids.

  The finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure reliability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as Green using NRC Inspection Manual Chapter (MC) 0609, Appendix A, because it represented a design deficiency that had not been evaluated but did not result in any loss of function. The cause of the finding is related to the cross-cutting area of Human Performance, specifically Resources because the licensee did not minimize long-standing equipment issues and ensure maintenance backlogs were low enough to support safety, (MC 0305 aspect H.2(a)). (1R12).

- Green: The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, Procedures, for failure of the licensee to implement design controls when a wooden and wire structure was installed in the Unit 4 480 volt switchgear room. When identified to the licensee, the structure was removed and the issue was entered into the corrective action program.

  The finding was more than minor because the licensee did not complete an engineering evaluation of the modification and routine operator and management tours of the area did not identify the alteration as inappropriate. The finding screened as Green using NRC Inspection Manual Chapter 0609, Appendix A, because it represented a design or qualification deficiency that had not been evaluated but did not result in any loss of function. The cause of the finding is related to the cross-cutting area of Human Performance specifically Work

Practices because the licensee did not assure proper documentation of activities (MC 0305 aspect H.4(a)). (1R23)

B. Licensee Identified Violations

Three violations of very low safety significance, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been administered through the licensee's corrective action program. The violations and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status:

Unit 3 operated at full power throughout the period with the following exceptions: Unit 3 power was reduced to 50% on April 12 to clean main condenser waterboxes and other secondary maintenance. The unit was returned to full power on April 14. On June 6, Unit 3 complied with Technical Specification 3.0.3 and shutdown to Mode 3 because of multiple inoperable rod position circuits. Unit 3 was critical on June 17 at 1912, then returned to Mode 3 on June 18 due to a secondary system malfunction. The unit was restarted on June 21 at 2000 hours and returned to full power on June 23.

Unit 4 began the period at full rated thermal power and operated at or near full power for the inspection period with the following exceptions: Unit 4 power was reduced to 40% on May 30 for turbine valve testing and other secondary maintenance. The unit returned to full power on May 31.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity (Reactor-R)

1R01 Adverse Weather Protection

a. Inspection Scope

During the week of June 18, the inspectors reviewed and verified the status of licensee actions in accordance with their procedural requirements prior to the onset of hurricane season. The inspectors reviewed licensee procedures 0-ONOP-103.3, Severe Weather Preparations and 0-EP-AD-009, Hurricane Season Preparation. The inspectors performed site walk downs and tours of vulnerable areas to verify the licensee had made storm preparations. The inspectors reviewed the Hurricane Season Preparation exemption list and verified that the open exemptions were being documented in the corrective action program with a plan in place to correct them prior to a hurricane event. The following areas of the site exposed to outside weather conditions were specifically inspected:

Unit 3 and 4 turbine buildings
Diesel fuel oil storage tank berm area
Component cooling water pumps and heat exchangers
High head safety injection pumps
Ultimate heat sink cooling canals

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial Equipment Walkdowns

a. Inspection Scope

The inspectors conducted three partial alignment verifications of the safety-related systems listed below. These inspections included system reviews using plant lineup procedures, operating procedures, and piping and instrumentation drawings, which were compared with observed equipment configurations to verify that the critical portions of the systems were correctly aligned to support operability. Condition reports were checked to assure that the licensee was identifying and correcting equipment alignment issues.

- Unit 3, high head safety injection pump (pump A) following a failed surveillance test on the B pump. The inspection was conducted in accordance with procedure 3-OP-062, Safety Injection.
- Auxiliary feedwater train A in accordance with licensee procedure 0-OP-075, Auxiliary Feedwater, following a surveillance test on the system.
- Station blackout cross-tie and 4A emergency diesel generator following a failure of the 4B emergency diesel generator to start during surveillance procedure 4-OSP-23.1, Unit 4 Emergency Diesel Generator Operability Test (CR 2007-15763). The walkdown was done using licensee procedure 4-OP-023, Emergency Diesel Generator.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

.1 Fire Area Walkdowns

The inspectors toured the following nine plant areas during this inspection period to evaluate control of transient combustibles, the material condition including ignition sources, and operational status of fire protection systems including fire barriers used to prevent fire damage or fire propagation. The inspectors reviewed these activities using provisions in the licensee's procedure 0-ADM-016, Fire Protection Plan, and 10 CFR Part 50, Appendix R. The licensee's fire impairment lists, updated on an as-needed basis, were routinely reviewed. In addition, the inspectors reviewed the condition report database to verify that fire protection problems were being identified and appropriately resolved. The following areas were inspected:

- Unit 3 main feedwater platform
- Auxiliary feedwater pump area

- 4B 480 volt motor control center room
- Main control room
- Unit 3 4160 volt switchgear rooms
- Unit 4 emergency diesel generator rooms
- Unit 4 residual heat removal pump rooms
- Unit 3 emergency diesel generator rooms
- Unit 4 4160 volt switchgear rooms

b. Findings

No findings of significance were identified

1R06 Flood Protection Measures

.1 Internal Flooding

a. Inspection Scope

The inspectors conducted walkdowns of the following areas which included checks of the sumps to ensure that flood protection measures were in accordance with design specifications. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), Appendix 5F, Internal Plant Flooding, that discussed protection of areas containing safety-related equipment that may be affected by internal flooding. Specific plant attributes that were checked included structural integrity, sealing of penetrations, control of debris, and operability of sump systems.

- Unit 3 and Unit 4 4160-volt Switchgear Rooms
- Unit 3 and Unit 4 Residual Heat Removal (RHR) Pump Rooms

b. Findings

No findings of significance were identified.

.2 External Flooding

a. Inspection Scope

The inspectors reviewed the UFSAR, Appendix 5G, External Flood Protection for Turkey Point, that discussed the design flood levels and protection for areas containing safety-related equipment. A general site walkdown was conducted, with a specific walkdown of the Unit 3 and Unit 4 intake cooling water (ICW) pump areas. Specific plant attributes that were checked included structural integrity, sealing of penetrations below the design flood line, and adequacy of flood barriers. Procedure 0-SMM-102.1, Flood Protection Stoplog and Penetration Seal Inspection, was reviewed to ensure that the flood protection barrier was capable of performing its function during a design basis flood event of +20 feet above mean low water level for hurricane wave run-up.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

.1 Resident Inspector Quarterly Review

a. Inspection Scope

On April 23, 2007, the inspectors observed and assessed licensed operator training activities in the plant specific simulator to verify that operator performance was adequate and that evaluators were identifying and documenting crew performance problems. During the simulated event, identified by the licensee as Continuing Training Evaluation Scenario 750201300, Reactor Coolant Pump Seal Package Failure/Loss of Emergency Coolant Recirculation, the crew conducted actions to maintain safety during simulated events, that included reactor coolant pump seal leakage, problems with automatic control of steam generator level, failure of the plant equipment sequencer, and failure of a residual heat removal pump. The inspectors observed the operators' use of 3-ONOP-100, Fast Load Reduction; 3-EOP-E-0, Reactor Trip/Safety Injection; 3-EOP-E-1, Loss of Reactor of Secondary Coolant; and 3-EOP-ECA-1.1, Loss of Emergency Coolant Recirculation. An event classification (Site Area Emergency) was checked for proper classification and completion of the notification form. The simulator board configurations were compared with actual plant control board configurations. The inspectors specifically evaluated the following attributes related to operating crew performance:

- Clarity and formality of communication, Group dynamics
- Ability to take timely action to safely control the unit
- Prioritization, interpretation, and verification of alarms
- Correct use and implementation of off normal and emergency operation procedures; and emergency plan implementing procedures
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by operation's supervision, including ability to identify and implement appropriate technical specification actions, regulatory reporting requirements, and emergency plan actions and notification
- Evaluator's critique of crew performance, including review of CR 2007-12745 for failure of the crew to complete all identified critical tasks

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following equipment problem and associated condition reports to verify that the licensee's maintenance efforts met the requirements of 10 CFR 50.65 (Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants) and FPL Administrative Procedure 0-ADM-728, Maintenance Rule Implementation. The inspectors' efforts focused on maintenance rule scoping, characterization of maintenance problems and failed components, risk significance, determination of (a)(1) classification, corrective actions, and the appropriateness of established performance goals and monitoring criteria. The inspectors also interviewed responsible engineers and observed some of the corrective maintenance activities. The inspectors checked that when operator actions were credited to prevent failures, the operator was dedicated at the location needed to take timely action, and that the action was governed by applicable procedures. The inspectors checked to ensure that equipment problems were being identified and entered into the corrective action program. Because some deficiencies had involved work practices, the inspectors observed work in progress to determine that work controls were sufficient to prevent problems.

- System 47, Unit 3 charging system including boric acid transfer pumps, Condition Report 2005-23316 and Unit 3 health report for system 46, chemical and volume control - boron addition system, were reviewed

b. Findings

Introduction. A Green non-cited violation (NCV) of 10 CFR 50 Appendix B, Criterion XVI, Corrective Actions, was identified for failure to take prompt action to correct deficiencies in Quality Related (QR) components that were being operated outside their maximum operating differential pressures (MODP).

Description. On May 1, 2007, during a maintenance rule review of the Unit 3 charging system (System 47), the inspectors learned that solenoid valves SV-3-114A and SV-4-114A were being operated outside their prescribed range for differential pressure. These design deficiencies had existed for a long time (20 years) and although identified by the licensee in August 2005, they had not been corrected. Both units had refueling outages in 2006. Field walk-downs confirmed that the solenoid valves in question are model LB8300B64RU valves and have a maximum operating differential air pressure of 20 psid. The regulator setting for these valves was 90 psig. Problems with solenoid valves having air pressure greater than the MOPD were documented in NRC Information Notice 88-24, dated May 13, 1988.

The subject valves, SV-3-114A and SV-4-114A, are modeled as "Fails to Open" in the plant safety analysis (PSA), are normally shut, and have a risk achievement worth RAW = 8.7731 and fussell-vesely F-V = 0.0112. Based on these PSA values, these valves are considered to be of high safety significance and are used in emergency operating procedures 4-EOP-ECA-1.1 and 4-EOP-ECA-3.2 for refilling the refueling water storage tank.

The licensee identified these deficiencies on August 24, 2005, and initiated CR 2005-23316. The CR remained open and recommended that the subject solenoid valves be replaced. After inspector questioning, work orders (WOs) 35030151, 35030154, 35030155, 35030156, and 35030157 were planned to repair the deficient solenoid valves. The WOs had been scheduled for closure by April 27, 2007, but at the close of the inspection, work had been rescheduled for December 2007.

Analysis. The inspectors determined that the licensee's failure to take actions to restore solenoid valves SV-3-114A and SV-4-114B to full qualification was a performance deficiency because it represented operation not within the design of the facility. The finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure reliability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as Green using NRC Inspection Manual Chapter 0609, Appendix A, Attachment 1, (SDP Phase 1 worksheet) because it represented a design or qualification deficiency that had not resulted in a loss of function. The cause of the finding is related to the cross-cutting area of Human Performance - Resources because the licensee did not ensure that equipment was available to assure nuclear safety, specifically, the licensee did not minimize long-standing equipment issues and ensure maintenance backlogs were low enough to support safety, (MC 0305 aspect H.2(a)).

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, requires, in part, that conditions adverse to quality, such as deviations and nonconformance of equipment are promptly identified and corrected. Contrary to this requirement, as of May 1, 2007, solenoid valves SV-3-114A and SV-4-114B identified to be operating outside of their MODP on August 24, 2005, were not promptly corrected. Industry information to identify this condition had been issued in 1988. Because the failure to restore the subject valves to full qualification is of very low safety significance and has been entered in the licensee's corrective action program as CR 2005-23316, this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000250 and 251/2007-03-01, Failure to Maintain Design of Valves Important to Safety.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors completed in-office reviews and control room inspections of the licensee's risk assessment of seven emergent or planned maintenance activities. The inspectors compared the licensee's risk assessment and risk management activities against the requirements of 10 CFR 50.65(a)(4); the recommendations of Nuclear Management and Resource Council 93-01, Industry Guidelines for Monitoring the

Effectiveness of Maintenance at Nuclear Power Plants, Revision 3; and Procedures 0-ADM-068, Work Week Management and O-ADM-225, On Line Risk Assessment and Management. As needed, the inspectors discussed on-line risk with the licensee's risk assessment engineers. The inspectors verified that risk assessment issues were documented in the corrective action program. The inspectors also reviewed

the effectiveness of the licensee's contingency actions to mitigate increased risk resulting from the degraded equipment.

- April 11 and 12, Unit 3 and 4 risk assessments during repeated entry into technical specification 3.7.3.c for backwashing or mechanical cleaning of intake cooling water/component cooling water basket strainers due to clogging. Multiple implementations of licensee procedure 4-OP-19, Intake Cooling Water System, were specifically reviewed.
- April 24, Unit 3 risk assessment for work in progress when Unit 3 B vital inverter frequency was identified high out of specification (CR 2007-12491).
- April 27, Unit 3 risk assessment for work in progress when damage was suspected in the 3B intake cooling water basket strainer (CR 2007-12654).
- May 10, Unit 3 risk assessment for a Axial Flux Rod Deviation Monthly PM in progress when 2 rod positions indicators (RPI) (M6 in Control Bank C and G5 in Control Bank A) were inoperable (CR 2007-14098).
- May 22, Unit 4 risk assessment when 4B emergency diesel generator failed to start during a routine surveillance test (CR 2007-15763). The inspectors checked switchyard work and walked down the 4A emergency diesel generator, the blackout cross-tie, and auxiliary feedwater pump areas.
- June 5, Unit 3 risk assessment for the June 1 event when water leaked from electrical conduit over the 4B1 battery charger and tripped the charger, (CR 2007-16980)
- June 7, Unit 3 and Unit 4 risk assessments when the boric acid storage tanks were below the technical specification minimum capacity due to consumption to mitigate the unavailability of rod position indication on Unit 3

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed six interim disposition and operability determinations associated with the following condition reports to ensure that Technical Specification operability was properly supported and the system or component remained available to perform its safety function with no unrecognized increase in risk. The inspectors reviewed the UFSAR, applicable supporting documents and procedures, and interviewed plant personnel to assess the adequacy of the interim condition report disposition.

- CR 2007-10652; Weather related challenges on April 11 and April 12, 2007. Licensee procedure 4-OP-019, Intake Cooling Water System, the design basis document for the intake cooling water system, and 3/4-ONOP-11, Screenwash System/Intake Malfunction, were reviewed.

- CR 2007-10774, Control room roof is leaking. The review included verification with the FPL system engineer that a positive pressure is being maintained in the control room envelope.
- CR 2007-10568, Latent evidence of a 4.16 kV breaker exposure to water.
- CR 2007-12002, Unsatisfactory differential pressure and flow indications for 3B high head safety injection pump. The review included a review of the operability assessment and verification with the FPL system engineer that acceptable differential pressure and flows were available.
- CR 2007-14780, Containment spray pump cooling water low flow.
- CR 2007-16989, Rod position indications for all Unit 3 rods except M-6, G-5, and E-5.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the three post maintenance tests listed below, the inspectors reviewed the test procedures and either witnessed the testing and/or reviewed test records to determine whether the scope of testing adequately verified that the work performed was correctly completed and demonstrated that the affected equipment was functional and operable. The inspectors verified that the requirements of procedure 0-ADM-737, Post Maintenance Testing, were incorporated into test requirements. The inspectors reviewed the following work orders (WO) and/or surveillance procedures (OSP):

- Unit 4, WO 37004114-01 Replace isolation valve (4-40-291) for nitrogen backup supply to auxiliary feedwater control valves. Procedures 4-OSP-075.7, Auxiliary Feedwater Train 2 Backup Nitrogen Test, was performed to ensure the valve was operable.
- Train 1, WO 36021152-01 Inspection of CON-1 and 1M relays in panel C238 for auxiliary feedwater pump “A.” Procedure 0-PME-075.1, Auxiliary Feedwater Pump Electrical Preventive Maintenance, was performed to ensure MOV-6459A was operable.
- Unit 4, WO 36024745 Nuclear Instrument N-42 Quarterly Calibration. Procedure 4-OSP-59.4, “Power Range Nuclear Instrumentation Channel Operability Test,” was performed to verify operability of N-42.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities

The inspectors observed control of Unit 3 outage activities to determine whether the licensee appropriately considered the impact of risk. In particular, inspectors observed or reviewed the following outage related activities:

- Licensee's outage risk management
- Reactor plant shutdown and portions of the cooldown
- Results of the licensee boric acid corrosion walkdown inside containment
- Configuration control including reactor coolant system overpressure protection
- Control of containment, including foreign material control and readiness of containment sump for the plant return to operation
- Reactor plant startup and return to power operation
- Problem identification and resolution during the outage, including review of CR 2007-18294, written when an improper reactor coolant system dilution was initiated

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following five surveillance tests to verify that the tests met the technical specifications, the UFSAR, the licensee's procedural requirements and demonstrated the systems were capable of performing their intended safety functions and their operational readiness. In addition, the inspectors evaluated the effect of the testing activities on the plant to ensure that conditions were adequately addressed by the licensee staff and that after completion of the testing activities, equipment was returned to the positions/status required for the SSC's to perform their safety function. The tests reviewed included two inservice tests (IST).

- Unit 4, 0-OSP-074.3 Section 7.2, Standby Steam Generator Feedwater Availability Test, for pump B
- Unit 3, 0-OSP-062.2 Section 7.8, Safety Injection System Inservice Test, for pump B (IST)
- Unit 4, 0-OSP-0023.1 Section 7.1, Emergency Diesel Generator (EDG) Normal Start Test, for EDG A
- Unit 4, 0-OSP-062.2 Section 7.3, Safety Injection System Inservice Test, for pump A (IST)
- Unit 3, 0-OSP-075.2 Sections 7.1 and 7.2, Auxiliary Feedwater Train 2 Operability Verification, for pumps B and C

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors continued to periodically screen active temporary system alterations (TSA) for risk significant systems. The inspectors examined the alteration listed below, which included a check for the technical evaluation and its associated 10 CFR 50.59 screening. The temporary alteration was compared against the system design basis documentation to ensure that (1) the modification did not adversely affect operability or availability of other systems; (2) the installation was consistent with applicable modification documents; and (3) did not affect TS or require prior NRC approval.

- Wooden and wire structure installed in Unit 4 480 volt load center

b. Findings

1. Introduction. A Green non-cited violation (NCV) was identified for failing to implement procedures for design control for an installation in the vicinity of Class 1 components and structures.

Description. On April 5, 2007, the inspectors observed a wooden and wire alteration to the Unit 4, 480 volt switchgear building interior wall, adjacent to safety related switchgear and related components. The inspectors believed the alteration had been installed to butress spalling of the wall structure. The inspector inquired on the safety reviews for the alteration, including inspection, seismic qualification, transient combustible loading, and restoration plans, but no documentation of the alteration was identified. Routine operator rounds and management tours in the area did not identify the alteration or the lack of controls. When identified to the licensee, the alteration was removed and the issue was documented into the corrective actions program as CR 2007-10020. The Turkey Point UFSAR specifies the Unit 4 480 volt switchgear building as a Class 1 structure subject to design controls.

Analysis. The inspectors determined that the licensee's failure to implement design control procedures in installing a wooden and wire structure in the safety related 480 volt switchgear room was a performance deficiency. The finding was more than minor because the licensee did not complete an engineering evaluation of the modification and routine operator and management tours of the area did not identify the alteration or lack of controls. NRC Inspection Manual Chapter 0612, Appendix E, Example 4.a was applicable (failure to perform an engineering evaluation with missed opportunities for licensee identification) and the finding was more than minor. The finding screened as Green using NRC Inspection Manual Chapter 0609, Appendix A, Attachment 1, (SDP Phase 1 worksheet) because it represented a design or qualification deficiency that did not result in a loss of function. The applicable considerations may have included

seismic or structural qualification, and fire protection. The cause of the finding is related to the cross-cutting area of Human Performance, specifically Work Practices because the licensee did not assure proper documentation of activities (MC 0305 aspect H.4(a)) .

Enforcement. 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, requires, in part, that activities affecting quality be accomplished in accordance with procedures. FPL implements temporary changes to safety related structures by implementing 0-ADM-503, Control and Use of Temporary System Alterations. Contrary to the above, on April 5, 2007, the inspectors identified a wooden and wire alteration to the Unit 4 480 volt switchgear structure that had been installed absent of design controls, with no implementation of 0-ADM-503 requirements. When identified to the licensee, the alteration was removed and the issue was entered into the corrective action program as CR 2007-10020. Because the failure to implement the subject procedure is of very low safety significance and has been entered in the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000251/2007-03-02, Failure to Implement Design Controls In A Modification.

Cornerstone: Emergency Preparedness (EP)

1EP6 Drill Evaluation

.1 Simulator Based Training Evolution

Inspection Scope

On April 23, 2007, the inspectors observed the licensee simulator based training that included evaluation of licensed operator event classification. Results of the training are used by the licensee as inputs into the Drill/Exercise Performance and Emergency Response Organization Drill Participation Performance Indicators. The simulation involved a Site Area Emergency declaration for coolant system leakage greater than 50 gallons per minute and greater than charging pump capacity. The inspectors observed the licensee's event classification in accordance with licensee procedure 0-EPIP-20101, Duties of the Emergency Coordinator. Notification of the State Warning Point of the simulated event was not done. At the conclusion of the drill, the inspectors discussed the drill with plant staff and noted that licensee identified problems were documented in the corrective actions program.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution

.1 Daily Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a screening of items entered daily into the licensee's corrective action program. This review was accomplished by reviewing daily printed summaries of condition reports and by reviewing the licensee's electronic condition report database. Additionally, the reactor coolant system unidentified leakage was checked on a daily basis to verify no substantive or unexplained changes.

b. Findings

No findings of significance were identified

.2 Annual Sample Review

a. Inspection Scope

The inspectors selected the following three condition reports for detailed review and discussion with the licensee. The condition reports were reviewed to ensure that an appropriate evaluation was performed and appropriate corrective actions were specified and prioritized. Other attributes checked included disposition of operability, resolution of the problem including cause determination and corrective actions. In addition, the inspectors evaluated the condition reports in accordance with the requirements of the licensee's corrective actions process as specified in NAP-204, Condition Reporting. The inspectors also reviewed operator workarounds to verify that the licensee was identifying workaround problems at an appropriate threshold and entering them in the corrective action program. The inspectors reviewed the cumulative effects of the operator workarounds to verify that those effects could not increase the initiating event frequency, affect multiple mitigating systems, or affect the ability of operators to properly respond to plant transients and accidents.

- CR 2007-11440, During period of high grass influx on April 10-14, 2007, Turkey Point experienced increased out-of-service time on the intake cooling water system, condenser tube sheet fouling, and other problems. Multiple technical specification action entries were required to maintain the intake cooling water flows above minimum requirements.
- CR 2007-16269, Alternate shutdown communications box missing equipment (handset, headset); CR 2007-17682, Alternate shutdown communications test 0-OSP-300.4, has not been signed off as satisfactory since 2001.

- CR 2006-24561, Unit 3 Control Rod Bank C, Group 1, Rod M-6 individual rod position indication inoperable. (Included review of FPL License Amendment Request (LAR 192), Inoperable Rod Position Indication, dated May 17, 2007, after the subsequent failure of position indication for rod G5).

On June 6, 2007, the licensee placed Unit 3 in Mode 3 pursuant to Technical Specification 3.0.3 requirements due to multiple inoperable rod position indication circuits. The licensee initiated an event review to determine the cause of the faulty rod position indications. At the end of the inspection period, information from the license regarding the rod position indication problems, such as the Unit 4 extent of condition and evaluation of human performance aspects of using neoprene inserts in quality related connectors, were needed to resolve this issue. Therefore, pending additional inspection this will remain open as Unresolved Item URI 50-250&251/2007-03-03, Incorrect Connnector Components Cause Inoperability of Multiple Rod Position Circuits.

On June 10, 2007, in response to inspector questioning, the licensee found that the alternate shutdown dedicated communications system had not been tested satisfactorily since 2001. In response, the licensee started a review of system operability. At the end of the inspection period, information from the licensee regarding the nature of the individual failures and ability to mitigate communication problems were needed to resolve this issue. Therefore, pending additional inspection this will remain open as Unresolved Item URI 50-250&251/2007-03-04, Availability and Functionality of Unit 3 and Unit 4 Alternate Shutdown Systems.

b. Findings

No findings of significance were identified

.3 Semi-Annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, the inspectors reviewed the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector corrective actions item screening discussed in section 4OA2.1 above, plant status reviews, plant tours, document reviews, and licensee trending efforts. The inspectors' review nominally considered the six-month period of January through June 2007. The review also included issues documented outside the normal CAP such as in the periodic Chief Nuclear Officer's Indicator Report. Corrective actions associated with a sample of the issues identified in the licensee's corrective action program were reviewed for adequacy.

b. Assessment and Observations

No findings of significance were identified.

The inspectors identified a trend of recurring DC grounds. On June 1, a DC load center ground alarm occurred during an external rainstorm (CR 2007-16915). On June 6, a 3A DC ground occurred with the manual reactor trip inserted to shutdown Unit 3 (CR 2007-17360), and on June 28, multiple DC ground alarms were received (CR 2007-19585). NRC Information Notice 88-86, Supplement 1 noted problems that could occur if multiple DC grounds remain uncorrected.

4OA3 Event Followup

.1 (Closed) Licensee Event Report 0500250/2006-007: Age Related Capacitor Causes One Low Pressurizer Pressure Protection Channel to be Inoperable

On May 3, 2006, the licensee identified that one channel of pressurizer low pressure engineered safeguards (safety injection and block permissive) was inoperable for longer than the technical specification allowed time, due to high AC ripple from the power supply and a blown fuse. The issue was documented in the corrective action program as CR 2006-13427, the power supply and fuse were promptly repaired, and an investigation initiated. In the investigation, the licensee found that a capacitor in the power supply had exceeded its design life and had failed and that there was a missed opportunity to identify the condition, when a blown fuse was replaced on March 11, 2006 without documenting the problem in the corrective action program. The two licensee identified findings involve a violation of Technical Specification Table 3.3-2, Function 1.d, and licensee procedures for initiation of a condition report. The enforcement aspects of the LER are discussed in Section 4OA7. This LER is closed.

.2 (Closed) Licensee Event Report (LER) 05000251/2006-001-00, Containment Purge Penetration Fails Leak Rate Test due to Inadequate Preventive Maintenance on Isolation Valve

On November 28, 2006, with Unit 4 at Mode 5, the licensee performed the local leak rate test (LLRT) surveillance of the Unit 4 containment purge exhaust penetration (36). The penetration was observed to be leaking excessively as it could not be pressurized. A subsequent investigation determined that power-operated containment isolation valve POV-4-2602 was not fully closed. The cause of the event is inadequate preventative maintenance. Corrosion in the actuator bearing surfaces created friction that exceeded actuator closing capability. Immediate corrective actions included the lubrication of the actuator bearing surfaces, an increase in spring preload providing added closing force, and the installation of a valve disc travel stop. Successful stroke time testing and LLRT were completed. To prevent recurrence, a refueling outage preventive maintenance activity will be added to lubricate the bearing surfaces, and overhauls have been scheduled for POV-4-2602 and its counterpart on Unit 3 (POV-3-2602) during the next refueling outage for each unit.

The licensee determined that POV-4-2602 was inoperable from the last time it was stroked for a position indication surveillance on October 14, 2006. From October 27, 2006 to October 30, 2006, a containment purge was in progress in preparation for a refueling outage shutdown. Since POV-4-2602 was inoperable due to excessive

leakage from October 14, 2006, at least until repaired and tested on November 29, 2006, the penetration was not isolated within 24 hours per TS 3.6.1.7, Action b requirements.

The inspectors reviewed the subject LER and determined that this issue is greater than minor because it affected the equipment performance attribute and affected the Barrier Integrity Cornerstone in that an outboard containment isolation valve of the penetration 36 was inoperable for longer than the Technical Specification allowed outage time. The finding was evaluated against NRC Manual Chapter 0609 Appendix H and screened out by Phase 1 and 2 worksheets to be of low safety significance (Green) because POV-4-2603, the inside containment purge exhaust isolation valve, remained operable while POV-4-2602 was inoperable and the capability to isolate the penetration via POV-4-2603 was not lost. This issue involved a licensee-identified violation of TS 3.6.1.7, Action b requirements. The licensee documented this equipment problem in CR 2006-34852. The enforcement aspects of the violation are discussed in Section 4OA7. This LER is closed.

4OA6 Exit

Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Webster, Mr. Jefferson, and other members of licensee management on July 10, 2007. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. The licensee did not identify any proprietary information.

4OA7 Licensee Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as NCVs:

- 10 CFR 50, Appendix B, Criterion XVI, requires, in part, that conditions adverse to quality, such as failures and nonconformances, be promptly identified. FPL implements this requirement using administrative procedure NAP-204, which requires in step 3.7.1, that site personnel report conditions adverse to quality by generating a condition report. Contrary to the above, on March 11, 2006, technicians found a condition adverse to quality (blown fuse) for instrumentation comparator PC-3-455B and no condition report was written. The problem was identified by the licensee while evaluating a second blown fuse occurrence on May 3, 2006 and reported in Licensee Event Report 50-250/2006-007. When identified, the issue was documented in the corrective actions program as CR 2006-13427, and action was taken to remind technicians of their responsibility to document nonconformances in the corrective action program. The deficient condition was evaluated and corrected. This finding is only of very low safety significance because, due to redundant channels, the protective features remained available and when identified after the second fuse failure, the licensee

evaluated and corrected the cause of the problem (high AC ripple from the fuse power supply).

- Technical Specification Table 3.3-2, Functional Unit 1.d, requires three channels of Pressurizer Pressure Engineered Safety Feature Instrumentation be operable, or place the inoperable channel in the tripped condition within 6 hours for continued operation. Contrary to the above, during periods of continued reactor operation from March 6, 2006 through May 3, 2006, one channel of pressurizer pressure instrumentation was inoperable due to high AC ripple, and the inoperable channel was not placed in the tripped condition. When identified by the licensee during Surveillance Test 3-SMI-041.10 on May 3, 2006, the affected channel was placed in the tripped condition (as reported in Licensee Event Report 50-250/2006-007). The problem was documented in the corrective action program as CR 2006-13427 and corrected by replacing a failed capacitor that had exceeded its recommended service life. The finding is only of very low safety significance because, due to redundant channels, the protective features remained available.

- Technical Specification (TS) 3.6.1.7, Action b requires that during Modes 1 through 4, with a containment purge supply and/or exhaust isolation valve(s) having a measured leakage rate exceeding the limits of specification 4.6.1.7.2, restore the inoperable valve(s) to Operable status or isolate the penetrations such that the measured leakage rate does not exceed the limits of Specification 4.6.1.7.2 within 24 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Contrary to this, on November 28, 2006, the licensee determined that the outside containment purge exhaust isolation valve was inoperable from the last time it was stroked for a position indication surveillance on October 14, 2006 and no TS actions required were taken. This was identified in the licensee' s corrective action program as CR 2006-34852. This finding was determined to be of very low safety significance (Green) using the SDP Appendix H Phase 1 and 2 worksheets, because the inside containment purge exhaust isolation valve remained operable and the capability to isolate the penetration via POV-4-2603 was not lost.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:
J. Antignano, Fire Protection Supervisor
C. Brunstetter, Acting Emergency Preparedness Supervisor
R. Coffee, Acting Maintenance Manager
J. Connolly, Acting Licensing Manager
S. Greenlee, Engineering Manager
D. Hoffman, Operations Superintendent
W. Jefferson, Site Vice President
J. Molden, Operations Manager
M. Moore, Corrective Actions Supervisor
M. Murray, Emergency Preparedness Supervisor
M. Navin, Operations Department
K. O'Hare, Radiation Protection and Safety Manager
M. Pearce, Plant General Manager
W. Pravat, Work Controls Manager
G. Warriner, Quality Manager
B. Webster, Senior Vice President, FPL Operations

NRC personnel:
M. Ernstes, Chief, Reactor Projects Branch 3
C. Casto, Director, Division of Reactor Projects

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Open

05000250, 251/2007-03-03	URI	Incorrect Connnector Components Cause Inoperability of Multiple Rod Position Circuits
05000250, 251/2007-03-04	URI	Availability and Functionality of Unit 3 and Unit 4 Alternate Shutdown Systems

Closed

05000250/2006-007	LER	Age Related Capacitor Causes One Low Pressurizer Pressure Protection Channel to be Inoperable
05000251/2006-001	LER	Containment Purge Penetration Fails Leak Rate Test due to Inadequate Preventive Maintenance on Isolation Valve

Opened and Closed

05000250, 251/2007-03-01	NCV	Failure to Maintain Design of Valves Important to Safety
05000251/2007-03-02	NCV	Failure to Implement Design Controls in a Modification

Attachment