



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

April 19, 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
05000250/2007002 AND 05000251/2007002

Dear Mr. Stall:

On March 31, 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 April 10, 2007, with Mr. W. Jefferson 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, no findings of significance were identified. However, a licensee identified violation which was determined to be of very low safety significance is listed in this report. NRC is treating this violation as a Non-cited Violation consistent with Section VI.A.1 of the NRC Enforcement Policy because of the very low safety significance of the issue and because it is entered into your corrective action program. If you wish to contest this non-cited violation, 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 and 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 the

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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 05000250/2007002 and 05000251/2007002
w/Attachment: Supplemental Information

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Report to J. A. Stall from Michael E. Ernstes dated April 19, 2007.

SUBJECT: TURKEY POINT NUCLEAR PLANT - INTEGRATED INSPECTION REPORT
05000250/2007002 AND 05000251/2007002

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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: 05000250/2007002, 05000251/2007002

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: January 1 - March 31, 2007

Inspectors: S. Stewart, Senior Resident Inspector
T. Kolb, Resident Inspector
W. Rogers, Senior Reactor Analyst, RII (4OA5.2)
A. Zoulis, Risk & Reliability Analyst, NRR (4OA5.2)
J. Mitman, Risk & Reliability Analyst, NRR (4OA5.2)
M. Cain, Senior Reactor Inspector (1R02, 1R17)
W. Fowler, Reactor Inspector (1R02, 1R17)
D. Mas Penaranda, Reactor Inspector (1R02, 1R17)
C. Even, Reactor Inspector (1R02, 1R17)

Approved by: M. Ernstes, Chief
Reactor Projects Branch 3

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SUMMARY OF FINDINGS

IR 05000250/2007-002, 05000251/2007-002; 01/01/2007 - 03/31/2007; Turkey Point Nuclear Power Plant, Units 3 and 4; Routine Integrated Report.

The report covered a three-month period of inspection by resident inspectors. 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

None

B. Licensee Identified Violations

A violation of very low safety significance, identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective actions are listed in Section 4OA7 of this report.

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REPORT DETAILS

Summary of Plant Status:

Unit 3 began the period at or near full power. Power was reduced to 40 percent on March 1, for main turbine valve testing and other planned maintenance. The unit returned to full power on March 3.

Unit 4 operated at or near full power during the inspection period with the following exception: Unit 4 was shutdown on February 7 for planned primary system maintenance. On February 9, the unit was taken critical at 1910 hours then continued to Mode 1 operation on the same day.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection

a. Inspection Scope

During the week of February 26, the inspectors verified the status of licensee actions in accordance with licensee off-normal procedure 0-ONOP-103.2, Cold/Hot Weather Conditions. This was the annual review of cold weather verification and included physical walkdowns of the following plant areas to check for any specific cold weather vulnerabilities and reviews of operator actions used to mitigate cold weather. The inspectors checked technical specifications and the Updated Final Safety Analysis Report (UFSAR) for cold weather design features and monitored the periodic testing of the diesel driven instrument air compressors during lower temperature weather. Although the licensee had initiated cold weather mitigation using the ONOP, there were no actual cold weather conditions at the site.

- Boric acid storage tank and transfer pump area
- Unit 3 charging pump room
- Unit 4 charging pump room

b. Findings

No findings of significance were identified.

1R02 Evaluations of Changes, Tests, or Experiments

a. Inspection Scope

The inspectors reviewed selected samples of evaluations to confirm that the licensee had appropriately considered the conditions under which changes to the facility, UFSAR, or procedures may be made, and tests conducted, without prior NRC approval. The inspectors reviewed evaluations for eight changes and additional information, such as calculations, supporting analyses, the UFSAR, and drawings to confirm that the licensee

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had appropriately concluded that the changes could be accomplished without obtaining a license amendment. The eight evaluations reviewed are listed in the Attachment.

The inspectors also reviewed samples of changes for which the licensee had determined that evaluations were not required, to confirm that the licensee's conclusions to "screen out" these changes were correct and consistent with 10CFR50.59. The sixteen "screened out" changes reviewed are listed in the Attachment.

The inspector also reviewed programmatic Condition Reports (CRs) to confirm that problems were identified at an appropriate threshold, were entered into the corrective action process, and appropriate corrective actions had been initiated.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

1. Partial Equipment Walkdowns

a. Inspection Scope

The inspectors conducted partial alignment verifications of the three safety-related systems listed below. These inspections included 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 operable systems were correctly aligned.

- Unit 4, high head safety injection during 4A safety injection pump planned maintenance per work order 35020536-01. The walkdown was done using licensee procedure 4-OP-62, Safety Injection System.
- Unit 3, Intake cooling water during planned replacement of the 3C intake cooling water pump per work order 35030563. The walkdown was done using licensee procedure 3-OP-019, Intake Cooling Water System.
- Unit 3, Auxiliary feedwater system during repair of controller HIC-3-14578B, as documented in CR 2007-6555. The walkdown was done using licensee procedure 3-OP-075, Auxiliary Feedwater System.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown

a. Inspection Scope

The inspectors conducted a detailed walkdown/review of the alignment and condition of

the Unit 3 Residual Heat Removal System to meet the requirements for low head safety injection and coolant recirculation should automatic safety injection be required. The inspectors utilized licensee procedure 3-OP-050, Residual Heat Removal System, and drawings 5613-M-3050 (Residual Heat Removal System) and 5613-M-3062 (Safety Injection System), as well as other licensing and design documents, when verifying that the system alignment was correct. During the walkdown, the inspectors verified, as appropriate, that: (1) valves were correctly positioned and did not exhibit leakage that would impact the function of any valve; (2) electrical power was available as required; (3) major portions of the system and components were correctly labeled, cooled, and ventilated; (4) selected hangers and supports were correctly installed and functional; (5) essential support systems were operational; (6) ancillary equipment or debris did not interfere with system performance; (7) tagging clearances were appropriate; and (8) valves were locked as required by the Turkey Point locked valve program. Pending design and equipment issues were reviewed to determine if the identified deficiencies significantly impacted the system's functions. The system health report for system 50, Residual Heat Removal; was used in the review. In addition, the inspectors reviewed the licensee's corrective action program to ensure that the licensee was identifying and resolving equipment alignment problems.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors toured the following nine plant areas during this inspection period to evaluate conditions related to control of transient combustibles and ignition sources, the material condition 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 a daily 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 and Unit 4 spent fuel pool pump and heat exchanger rooms
- Unit 4 125 VDC battery rooms
- Unit 3 emergency diesel generator day tank rooms
- Unit 3 residual heat removal pump and heat exchanger rooms
- Unit 4 Inverter room
- Unit 4 main steam platforms
- Main control room
- Boric acid pump and tank room
- Unit 4 charging pump room

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill

a. Inspection Scope

On January 12, 2007, the inspectors observed the licensee fire brigade respond to a simulated fire involving a hydrogen explosion at the Unit 3 turbine exciter. The inspectors verified that the drill was administered in accordance with licensee procedures FPAD-010, Fire Brigade and Mutual Aid Drill Scenario Development and 0-ONOP-016.10, Pre-Fire Plan Guidelines and Safe Shutdown Manual Actions. The inspectors checked the brigade's communications, ability to set-up and execute fire operations, and their use of fire fighting equipment. The inspectors observed the implementation of 0-EPIP-20101, Duties of the Emergency Coordinator, in determining the Alert Emergency Action Level (EAL) classification for this drill. The inspectors checked CR 2007-1346 that was written for inconsistent emergency classifications when the drill was run with differing crews. The inspectors verified that the licensee consider the aspects as described below, when the brigade conducted the firefighting activities and during the post-drill critique. The inspectors checked that licensee personnel documented drill observations in CR 2007-953.

- The brigade, including the fire brigade leader, consisted of five team members.
- The team members acquired and donned the appropriate turnout gear.
- Self contained breathing apparatus (SCBA) were available and properly used.
- SCBA program evaluated for proper storage, training, expectations for use, and maintenance.
- Control Room personnel verified and announced the fire location. The fire alarm was sounded and fire brigade personnel were dispatched.
- Fire brigade leader maintained control. Members were briefed (including potential hazards), discussed plan of attack, received individual assignments, and performed communications checks.
- Fire brigade arrived at the scene in a timely manner, taking the appropriate access route specified in the strategies and procedures.
- Command and control was established near the fire location. Communications were established with the control room personnel.
- Communications were efficient and effective between the control room, command post, plant operators and fire brigade members.
- Fire hose lines were capable of reaching the fire area, the lines were laid out without flow restrictions and were simulated as being charged. Use of additional fire equipment (i.e., monitor water canon, foam cart) was simulated.
- The fire area was entered in a controlled manner using the two person rule.
- The fire brigade arrived with sufficient fire fighting equipment to perform its fire fighting duties.
- The fire brigade checked for fire victims and propagation into other plant areas.
- The drill scenario was followed and the drill acceptance criteria were met.

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- A post-drill critique was held to identify strengths and weaknesses.
- All fire-fighting equipment associated with the drill was returned to a state of readiness following completion of the drill.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

On January 14, 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. The simulated events were done per Scenario 750006501, which involved a reactor coolant system leak followed by a total loss of AC power. The inspectors observed the operator's use of procedures 3-EOP-E-0, Reactor Trip and Safety Injection, 3-ECA-0.0, Loss of All AC Power, 3-ONOP-041.3, Excessive Reactor Coolant System Leakage, and 3-ONOP-100, Fast Load Reduction. Event classifications (including Unusual Event, Alert, and Site Area Emergency) were checked for proper classification using licensee procedure 0-EPIP-20101, Duties of the Emergency Coordinator. The licensee's management observation 2007-1245 was reviewed. The simulator board configurations were compared with actual plant control board configurations including recent modifications. The inspectors specifically evaluated the following attributes related to operating crew performance:

- Clarity and formality of communication
- 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
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by supervision, including ability to identify and implement appropriate technical specification actions, regulatory reporting requirements, and emergency plan classification and notification
- Crew overall performance and interactions

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following two equipment problems 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 Administrative Procedure O-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 corrective maintenance activities. Furthermore, the inspectors verified that equipment problems were being identified and entered into the corrective action program.

- CR 2005-16678, 3A high head safety injection pump failed to develop 300 gpm flow during surveillance testing, Unit 3 System Health Report 2006-4, for system 62, Safety Injection was reviewed.
- CR 2006-13427, Unit 3 pressurizer high pressure reactor trip comparator outside of acceptance criteria, Unit 3 System Health Report 2006-4 for system 63, Engineering Safety Feature Actuation System (ESFAS) was reviewed.

b. Findings

No findings of significance were identified.

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 six 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) and the recommendations of Nuclear Management and Resource Council 93-01, Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 3. Implementation of licensee procedures O-ADM-068, Work Week Management; and O-ADM-225, On Line Risk Assessment and Management were also verified. The inspectors reviewed the effectiveness of the licensee's contingency actions to mitigate increased risk resulting from the degraded equipment. The inspectors evaluated the following risk assessments during the inspection:

- January 4, 2007 risk assessment for failure of LT-4-495, Unit 4 steam generator "C" narrow range level. CR 2007-240.
- January 24, 2007 risk assessment for PT 3-496, Unit 3, C S/G pressure transmitter failure. Bi-stables tripped within 6 hours. CR 2007-1970.
- February 1, 2007 risk assessment for failure of SV-4-2906, Unit 4 ECF spray solenoid valve, failure to close. CR 2007-3082.
- February 7, 2007, risk assessment for removal of 3A intake cooling water pump when 3D 4160 volt bus was aligned to 3A bus. Prior to start of work, the 3D bus was realigned to the 3B bus.

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- March 1, 2007, risk assessment for planned Unit 3 downpower to 40 percent for main feedwater regulating valve tuning and main turbine valve testing.
- March 23, 2007, risk assessment during load reject testing of Unit 5.

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, structure 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 2007-738, Unit 4 AFW steam piping below minimum nominal acceptance criteria at hanger 80117-H-334-15.
- CR 2005-16678, 3A high head safety injection pump failed to develop 300 gpm flow during surveillance testing, Unit 3 System Health Report 2006-4, for system 62, Safety Injection was reviewed.
- CR 2007-1339, Latent error in ICW pump net positive suction head calculation due to low intake level. The final safety analysis report and a Sulzer pump evaluation and operability assessment were reviewed.
- CR 2007-2312, cracks on actuator yoke for 3-50-344, 3B ICW Basket Strainer Inlet Valve. FPL calculation PTN-BFSM-02-006, Rev.0 was reviewed.
- CR 2007-3932, potential operability issue with 125VDC battery charger supply breakers. In-rush current traces for 3A2 battery charger used along with FSAR Section 8 were reviewed.
- CR 2007-7246, shunt trip time exceeded acceptance criteria during reactor protection testing. Drawing 5613-M-430-146, sheet 6A was used.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors evaluated design change packages for nine modifications, in the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstone areas, to evaluate the modifications for adverse effects on system availability, reliability, and

functional capability. The modifications and the associated attributes reviewed are as follows:

PTN-ENG-SEMS-05-058, Revised Maintenance Intervals of Selected Mechanical Tasks from 24 Months to 48 Months Based on Revisions to the ESI-EMD Owners Group Maintenance Program into Units 3 & 4 Emergency Diesel Generators Maintenance Program (Mitigating Systems)

- Materials/Replacement Components
- Structural
- Process Medium
- Failure Modes

PTN-ENG-SEMS-06-007, Engineering Evaluation for Modified #3 RCP Seal Design (Initiating Events)

- Pressure Boundary
- Licensing Basis

PTN-ENG-SEMS-06-035, Ultra Low Sulfur Diesel Fuel Oil in the Emergency Diesel Generators (Mitigating Systems)

- Energy Needs
- Materials/Replacements Components
- Process Medium
- Licensing Basis

PCM 05-125, CCW Pump Modification Package for Seal Design Change, Bearing Design Change and Pump Casing Vent Modification (Mitigating Systems)

- Pressure Boundary
- Structural
- Process Medium

MSP 06-079, Replacement of the 3B Control Rod Drive Motor-Generator Set with Spare Unit Purchased from Zion Station Resource Recovery (Mitigating Systems)

- Materials/Replacement Components
- Process Medium
- Licensing Basis

MSP 05-115, AOV Program Setpoint Control (Mitigating Systems)

- Timing
- Process Medium
- Licensing Basis
- Failure Modes

PTN-ENC-SENS-05-008, 10 CFR 50.59 Evaluation for Potential Flooding of the Unit 3 Diesel Oil Storage Tank Area Due to Oil Pollution Control Modification; PCM 04-036, Modification for 3P10A (Mitigating Systems)

- Energy Needs
- Timing

- Control Signals
- Process Medium
- Licensing Basis
- Failure Modes

MSP 05-136, MG Set Output Breaker 4S7 Replacement U3/4 (Initiating Events)

- Energy Needs
- Material/Replacement Components
- Control Signals
- Process Medium
- Post-Modification Test
- Vendor Information
- Walkdown

PC/M 05-059, Core Exit Thermocouple Replacement Via In-core System Flux Thimbles at Location H1 and M3 (Barrier Integrity)

- Control Signals
- Pressure Boundary
- Post-Modification Test
- Flowpaths

For selected modification packages, the inspectors observed the as-built configuration. Documents reviewed included procedures, engineering calculations, modification design and implementation packages, work orders, site drawings, corrective action documents, applicable sections of the living UFSAR, supporting analyses, Technical Specifications, and design basis information.

The inspectors also reviewed selected CRs associated with modifications to confirm that problems were identified at an appropriate threshold, were entered into the corrective action process, and appropriate corrective actions had been initiated.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the six 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 3, WO 36022655-01, 3B emergency diesel generator air start y-strainer leak and coupling flex hose replacement
- Unit 4, WO 35020536-01, repair inboard seal leak on vent plug for 4A high head safety injection pump
- Unit 4, WO 35024519-01, Replace 4P9B, intake cooling water pump 4B, tested using 4-OSP-019.1, Intake Cooling Water Inservice Test
- Unit 4, WO 37002212-01, Replace relay SL-X-A, Turbine Valve Closed Reactor Protection System, tested using applicable section of 4-OSP-049.1, Reactor Protection System Logic Test
- Unit 4, WO 37002224-01, Replace relay NC-32D-X-B, Source Range RPS relay, tested using applicable section of 4-OSP-049.1, Reactor Protection System Logic Test
- Unit 3, WO 36023961-01, 4.16kV breaker 3AA13 inspection and swap

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities

.1 Unit 4 Outage

For the Unit 4 short duration Mode 3 outage that started on February 7, the inspectors evaluated licensee activities to verify the licensee considered risk in developing outage schedules, adhered to administrative risk reduction methodologies when changing plant configuration, and adhered to operating license and Technical Specification requirements that maintained defense-in-depth. The inspectors reviewed outage activities to verify that risk management strategies were implemented, including availability of safety systems, reactivity management, and containment control. The inspectors conducted a thorough walkdown of containment to check for evidence of leakage and to verify that controls were properly implemented to maintain operability of the containment including the recirculation sump. The inspectors reviewed activities during reactor restart and power escalation to verify that reactor parameters were within safety limits and that the startup evolutions were done in accordance with pre-approved procedures and plans. The inspectors verified that outage items had been entered into the licensee's corrective action program at an appropriate threshold.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following seven 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 system to perform its safety function. The tests reviewed included one inservice test (IST) and one reactor coolant system leak rate determination.

- 3-OSP-049.1, Reactor Protection System Logic Test
- 3-OSP-075.6, Auxiliary Feedwater Train 1 Backup Nitrogen Test
- 0-OSP-025.1, Control Room Emergency Ventilation System Operability Test.
- 3-OSP-028.6, Rod Cluster Control Assembly Periodic Exercise
- Unit 3 and 4 Test Procedure 06-041, 35-Year Containment Concrete and Tendon Inspection (observed lift test of tendon 51H35, buttress 5 end)
- 4-OSP-041.1, Reactor Coolant System Leak Rate Calculation (RCS leak)
- 0-OSP-062.2, Safety Injection System Inservice Test (IST)

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the Temporary System Alteration (TSA) listed below to ensure that it did not adversely affect the operation of the system. The inspectors screened temporary plant modifications for systems that were ranked high in risk for departures from design basis and for inadvertent changes that could challenge the systems to fulfill their safety function. Testing of the modification was checked for any unintended impacts. Condition reports 2006-25890 and 2006-34040 were reviewed by the inspectors. The inspectors conducted plant tours and discussed system status with engineering and operations personnel to check for the existence of temporary modifications that had not been appropriately identified and evaluated.

- TSA 03-06-041-015, 3B QSPDS Cold Leg "C" resistance temperature detector, TE-3-430B failure.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

.1 Barrier Integrity

a. Inspection Scope

The inspectors checked licensee submittals for the two performance indicators (PIs) listed below for the period January 1, 2006 through December 31, 2006, to verify the accuracy of the PI data reported during that period. Performance indicator definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Rev. 4, were used to check the reporting for each data element. The inspector checked, operator logs and chemistry department analysis data to verify that the licensee had identified and reported the proper values for reactor activity and leakage, as applicable. In addition, the inspectors observed chemistry personnel obtain and analyze primary coolant samples from both reactor units. The inspectors checked that deficiencies affecting the licensee's performance indicator program were entered into the corrective action program.

Barrier Integrity Cornerstone

- Reactor Coolant System Specific Activity (FPL procedure 0-NCAP-205, Reactor coolant System Activity Analysis was reviewed)
- Reactor Coolant System Leakage (FPL procedure 3/4-OSP-041.1 Reactor Coolant System Leakage Determination was reviewed)

b. Findings

No findings of significance were identified.

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, reactor coolant system unidentified leakage was routinely checked 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 CR for detailed review and discussion with the licensee. The condition report was 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. The inspectors evaluated the CR in accordance with the requirements of the licensee's corrective actions process as specified in NAP-204, Condition Reporting.

- CR 2006-20498 3A2 Battery charger maintenance procedure needs to be revised to reflect proper shunt.

b. Findings

No findings of significance were identified.

4OA3 Event Followup

.1 (Closed) Licensee Event Report 0500250/2006-002-01: As-Found Cycle 21 Main Steam Safety Valve Setpoints Outside Technical Specification Limits

On March 5, 2006, the licensee identified that two of the twelve Unit 3 main steam safety valves (MSSVs) were found with lift setpoints above their Technical Specification Table 3.7-2 limit of ± 3 percent. The two valves were declared inoperable and the test failures were documented in CR 2006-6537 and CR 2006-6522. In the LER supplement, the licensee reported that the cause for the setpoint drift was minor corrosion or micro-bonding of the valve inner components. The corrosion or micro-bonding is a known industry issue and is repetitive at Turkey Point. The licensee took interim actions to set and retest the valves, and long term actions to prevent recurrence were planned. The licensee evaluated the safety valve capability and determined using test data that the twelve MSSVs were capable of providing steam generator overpressure protection. This finding is more than minor because the reliability of valves used to mitigate certain events (over-pressure transients) was affected. The finding affects the Mitigating Systems cornerstone and was considered to have very low safety significance having screened as Green using NRC Manual Chapter 0609, Appendix A, Attachment 1 because no actual loss of safety function occurred due to redundant safety valves which assured adequate over-pressure protection. This licensee identified finding involved a violation of Technical Specification 3.7.1.1, Safety Valves. The enforcement aspects of the violation are discussed in Section 4OA7. This LER is closed.

.2 (Closed) Licensee Event Report 0500250&251/2006-008-00: Incorrect Emergency Diesel Fuel Oil Testing Program Surveillance Implementation

On November 1, 2006, the licensee identified that their fuel oil testing did not check for proper color of fuel oil prior to adding fuel to the plant storage tanks. Although the licensee did a visual check of new fuel oil for sediment and water, a color verification using a colorimeter was not included in the licensee's sampling program. The inspector verified that oil samples were tested in the laboratory for water and sediment, which is a redundant test, and only good fuel oil was placed in the plant storage tanks. The licensee identified the cause to be a failure to implement specific test requirements of the American Society for Testing and Materials (ASTM) standards, a lack of technical rigor, and insufficiently detailed procedures. The inspector checked the condition report and verified that licensee procedure 0-NCAP-015.4, Fuel Oil Clear and Bright Determination, had been revised to include the proper color testing. The inspector verified that a February 20, 2007 fuel oil shipment had been appropriately tested for color. Additionally, the inspector checked that the technical specification basis document had been revised to reference ASTM D1500-82 as the standard for fuel oil testing for color. No new findings were identified in the inspector's review. The finding constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section VI of the NRC Enforcement Policy. The licensee documented the issue in the corrective action program as CR 2006-31637. This LER is closed.

4OA5 Other

.1 Inspector Review of WANO Report

a. Inspection Scope

The inspectors reviewed the final report for the World Association of Nuclear Operators (WANO) plant assessment of Turkey Point Nuclear Power Plant conducted in July 2006. The inspectors reviewed the report to ensure that issues identified were consistent with NRC perspectives of licensee performance and to verify if any significant safety issues were identified that required further NRC follow-up.

b. Findings

No findings of significance were identified

.2 (Closed) Temporary Instruction 2515/167, Assurance of Industry Implementation of Key Shutdown Voluntary Initiatives

a. Inspection Scope

Between January 16-19, 2007, the inspectors confirmed through personnel interviews and document reviews that the licensee was continuing to implement the voluntary initiatives described in NUMARC 91-06, "Guidelines for Industry Actions to Assess Shutdown Management," and the commitments contained in letters dated January 3,

1989 and February 1, 1989 responding to Generic Letter 88-17, "Loss of Decay Heat Removal." This confirmation was based upon the Fall 2006 Refueling Outage. The inspectors focused on three broad areas. These were:

- How the five key safety functions defined in NUMARC 91-06 were administratively controlled throughout plant shutdown (Modes 5 & 6) and with the core off-loaded into the spent fuel pool.
- The administrative controls in place for ensuring decay heat removal remains in service when the reactor coolant system is vented to atmosphere and the steam generators are not capable of providing decay heat removal. Inclusive in this period would be reduced inventory conditions. Reduced inventory is defined as when the reactor coolant system water level is below the reactor pressure vessel flange by three feet.
- How the outage schedule is established and how changes, planned or emergent, are evaluated as they relate to 10 CFR 50.65(a)(4).

b. Findings

No findings of significance were identified.

40A6 Exit

1. Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Jefferson and other members of licensee management on April 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.

.2 Annual Assessment Meeting Summary

On April 17, 2007, the Branch Chief and the NRC's resident staff assigned to the Turkey Point Nuclear Plant, as well as the Region II Public Affairs Officer, met with Florida Power and Light Co. (FP&L) to discuss the NRC's Reactor Oversight Process (ROP) and the Turkey Point annual assessment of safety performance for the period of January 1, 2006 - December 31, 2006. The major topics addressed were: the NRC's assessment program, the results of the Turkey Point Units 3 and 4 assessment, and future NRC inspection activities. Attendees included FP&L management and site staff. No members of the public or news reporters were at the meeting.

This meeting was open to the public. The NRC's presentation material used for the discussion is available from the NRC's document system (ADAMS) as accession number ML071090097. The licensee did not have a handout presented at the meeting. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (The Public Electronic Reading Room).

Enclosure

4OA7 Licensee Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

- Turkey Point Technical Specification 3.7.1.1 requires all main steam code safety valves associated with each steam generator to be operable with lift settings as specified in Table 3.7-2 (of the TS). With one main steam line safety valve (in a generator) inoperable, in Mode 1, operation may continue provided that within 4 hours, reactor power shall be reduced to less than the maximum allowed of 53 percent of rated power. Contrary to the above, during Mode 1 operation prior to March 5, 2006, Turkey Point Unit 3 operated at greater than the maximum allowed power with a main steam safety valve inoperable due to having a higher than allowed lift pressure. When identified by the licensee during valve testing on March 5, power had been reduced to less than 50 percent, the valve setpoints were adjusted to within acceptable limits, and the issue was entered into the corrective action program. The finding is of very low safety significance because redundant safety valves assured that overpressure transients would be mitigated.

ATTACHMENT: SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:

J. Antignano, Fire Protection Supervisor
W. Burrows, Acting Maintenance Manager
J. Connolly, Acting Licensing Manager
S. Greenlee, Engineering Manager
D. Hoffman, Operations Superintendent
W. Jefferson, Site Vice-President
M. Moore, Corrective Actions Supervisor
M. Murray, Emergency Preparedness Supervisor
J. Molden, Operations Manager
K. O'Hare, Radiation Protection and Safety Manager
M. Pearce, Plant General Manager
W. Pravat, Work Controls Manager
J. Stall, Sr. Vice President, Chief Nuclear Officer
G. Warriner, Quality Manager
B. Webster, Senior Vice President, Operations

NRC personnel:

NRC Commissioner J. Merrifield
V. McCree, Region II Deputy Regional Administrator
M. Ernstes, Chief, Branch 3, Division of Reactor Projects
J. Shea, Director, Division of Reactor Safety

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Closed

0500250/2006-002-01	LER	As-Found Cycle 21 Main Steam Safety Valve Setpoints Outside Technical Specification Limits
0500250&251/2006-08-00	LER	Incorrect Emergency Diesel Fuel Oil Testing Program Surveillance Implementation
Temporary Instruction 2515/167		Assurance of Industry Implementation of Key Shutdown Voluntary Initiatives

LIST OF DOCUMENTS REVIEWED

Section 1R02: Evaluation of Changes, Tests, or Experiments

Full 10CFR 50.59 Evaluations:

PTN-ENG-SECS-04-070, Engineering Evaluation for L-Shaped Mast Climbing Work Platform Loads on the Auxiliary Building Roof
PTN-ENG-SECS-05-015, 10 CFR 50.59 Evaluation for Use of a Freeze Seal in Support of Maintenance on Relief Valve: RV-4-747A, RV-747B, RV-4-791D
PTN-ENG-SECS-05-017 & PTN-ENG-SECS-05-017 rev. 1, 10 CFR 50.59 Evaluation for Use of a Freeze Seal in Support of Maintenance on 4-357
PTN-SEEJ-89-085, Turkey Point Unit 3 Safety Evaluation for De-Energization of Unit 3 4160 Volt Safety Related Busses, Rev. 18
PTN-SEEJ-88-042, Safety Evaluation for De-Energization of Unit 4 4160 Volt Safety Related Busses, Rev. 14
PC/M 05-059, Core Exit Thermocouple Replacement Via In-core System Flux Thimbles at Location H1 and M3, U4, Rev. 0

PC/M 05-072 & 073, Feedwater and Bypass Control Valve Positioner Replacement for Units 3&4, Rev. 0
PTN-ENG-SENS-06-043, Response Test of Main Feedwater Control Valves In Mode 1

Screened Out Items

PTN-ENG-SEMS-05-051, RCP Seal Cooling Restoration
PTN-ENG-SEMS-05-058, Revised Maintenance Intervals of Selected Mechanical Tasks from 24 Months to 48 Months Based on Revisions to the ESI-EMD Owners Group Maintenance Program into Units 3 & 4 Emergency Diesel Generators Maintenance Program
PTN-ENG-SEMS-06-006, Engineering Evaluation for Modified #3 RCP Seal Design
PTN-ENG-SEMS-06-035, Ultra Low Sulfur Diesel Fuel Oil in the Emergency Diesel Generators
PCM 05-125, CCW Pump Modification Package for Seal Design Change, Bearing Design Change and Pump Casing Vent Modification
PTN-ENG-SENS-06-037, Changes to Surveillance Frequencies and Controls on Equipment Operational Rotation to Support an Enhanced Protected Train Philosophy, Rev. 0
PTN-ENG-SECS-06-021, Evaluation for Storage of Miscellaneous Items in Containment During all Modes of Operation, Rev. 2
PTN-ENG-SEMS-05-003, Stainless Steel Flex Hose in Containment During all Modes of Operation, Rev. 1
PTN-ENG-SEES-05-019, Evaluation for Temperature Monitoring Equipment in Containment During All Modes of Operation, U4, Rev. 0
PTN-ENG-SEIJ-06-010, EMI/RFI Evaluation of Wireless Predictive Maintenance Monitoring Equipment, U3, Rev. 0
PTN-ENG-SENS-05-049, Engineering Evaluation for Temporary Suspension of Continuous Monitoring Via the Plant Vent and Unit 3 Spent Fuel Pool Spings for the Performance of

Required Maintenance, Rev. 1

TN-ENG-SECS-05-061, Evaluation for SPEC-C-065 Conduit Sealing to Prevent Water Intrusion, U3/4, Rev. 0
PTN-ENG-SEMS-06-001, Safety Evaluation for use of a Freeze Seal in Support of Maintenance on Relief Valves RV-3-747A, RV-3-791D, RV-3-791E, Rev. 0
PTN-ENG-SECS-05-057, Epoxy Grouting Under the P2B AFW Pump Base Plate, Rev. 0
PTN-ENG-SECS-05-042, Temporary Removal of the Gas Decay Tank Plugs, Rev. 0
PTN-ENG-SECS-05-012, Circulating Water Pump Heavy Load Evaluation, Rev. 1

Work Orders

WO 34003081 01, Relief Valve for CCW Leaving RHR HX A
WO 34003093 03, Relief Valve for CCW Leaving RHR HX B
WO 30006617 02, Relief Valve for CCW Supply to Sample HX
WO 35013983, TE-4-16E Thermocouple Broken at Thimble
WO 35028751, Seal Conduits in 4A SWGR Room and Exterior
WO 36026778 01, FCV-4-478, 488, 498 Support TP 06-035

Procedures

0-GMM-102.5, Freeze Seal Application, 4/22/2005
0-GMM-102.5, Freeze Seal Application, 4/25/2005
0-NCCP-210, Sping and Dam Monitor Channel Checks, 8/7/06
0-NCZP-0851.3, Obtaining Plant Effluent Samples Via the Sping Monitors During Non-Accident Conditions, 8/7/06

Drawings

5610-M-600-95, 4" 150lb. Swing Check Valve Cast Stain. Steel Butt Weld Ends Stellite Trim Sht. 1, Rev. 3
5610-M-56, Ground Floor Elevation 18' – 0", Rev. 49
0-SMM-051.3, Containment Plan

Corrective Action Documents

2005-12466, Flux Thimble Thermocouples Damaged.
2005-22700, No Means to Implement Alternate sampling for Iodine and Particulate Sampling During Calibration of PV Sping.
2005-7332, R-4-11/12 Failed.
2005-12630, Inspection of U4 Conduits/Cables Routed in Close Proximity to RCS Legs During U4 Cycle 22 Refueling Outage.

Miscellaneous

Change Request Notice (CRN), 4356, Remove CET-3 from Scope of PC/M, U4

Audits and Assessments

PTN-ENG-05-0392, Turkey point Units 3 and 4 2003/2005 10 CFR 50.59 Summary Report
Section 1R17: Permanent Plant Modifications

Modification Packages

See LIST OF DOCUMENTS REVIEWED under Section 1R02: Evaluation of Changes, Tests, or Experiments

Procedures

3-OSP-023.1, Diesel Generator Operability Test, 7/25/2006
3-OSP-023.1, Diesel Generator Operability Test, 10/18/2006
3-OSP-023.1, Diesel Generator Operability Test, 12/28/2006
3-OSP-023.1, Diesel Generator Operability Test, 10/9/2006
TP 06-038, Unit 4 Feedwater/Bypass Feedwater Control Valve Positioner Replacement PMT
TP 06-040, Unit 4 S/G Feedwater Control Using Bypass While at Power
TP 06-035, Unit 4 Feedwater Control Valve Response Test
0-GMI-102.28, Fisher Fieldvue DVC6000 Series Digital Valve Positioner Calibration

Work Orders (WO)

35010511 1A, EDG 3A Oil Transfer Pump
35010511 1B, 3B Diesel Oil Transfer Pump
35028312 01, Hand Control Valve Actuator for RHR HX Flow Control
35007454 01, Hand Control Valve Actuator for RHR HX Flow Control
35021488 01, Hand Control Valve Actuator for RHR HX Flow Control
35013983 01, TE-4-16E Thermocouple Broken at Thimble
35028222, 4B CRDM MG Set Output Breaker Inspection and SW AP
36020364 01, HART Communications Compliance Voltage Test
36017437 01, Perform TDR Testing to verify Shields
35021607 01, FCV-4-479, 489, 499 Loop Cals
35021593 01, FCV-498 Actuator Replacement
35021592 01, FCV-498 Actuator Replacement
35023641 01, FCV-478 Actuator Replacement
36015682 01, FCV-4-478 Positioner Installation
36015682 02, FCV-4-479 Positioner Installation
36015682 03, FCV-4-488 Positioner Installation
36015682 04, FCV-4-489 Positioner Installation
36015682 05, FCV-4-498 Positioner Installation
36015682 06, FCV-4-499 Positioner Installation

Miscellaneous

ESI-EMD Owners Group Recommended Maintenance Program – Mechanical, Rev. 4
Amendment A
Maintenance Instruction 1728, Scheduled Maintenance Program Domestic Stationary Power
Units with Turbocharged Engines, Rev. H
PC/M 04-162, U3 'B' RCP Standpipe Fill Modification
03163-TR-009, Summary of Category 2 and 3 AOV Settings, Rev. 0
05-0519-C-001, AOV Program-FCV-3(4)-605 Valve/Actuator Capability
05-0519-C-002, AOV Program-HCV-3(4)-758 Valve/Actuator Capability
Change Request Notice (CRN), 4356, Remove CET-3 from Scope of PC/M, U4
Vendor Manual, V000211, Electrical Equipment of A.C. Power Supply System for Nuclear
Reactor Rod Controllers.
SPEC-E-012, Installation Inspection & Testing of Electrical Cable and Optical Fiber
Terminations at PTN, Rev. 4

Vendor Manual

VAREC Liquid Level Indicator 6700 Series, 4/92

Calculations

IC-TP.0001 R2, Diesel Oil Storage Tank Level and Temp Instrumentation
PTN-BFSM-01-007, AOV Program - Main Feedwater Bypass Valve/Actuator Capability
PTN-BFSM-01-009, AOV Program - Main Feedwater Control Valve/Actuator Capability

Drawings

5610-M-450-83, Turkey Point Units 3 & 4 Component Cooling Water Pumps Sect. Assembly,
Rev. 3
02-CARTEX-SE/110-E05-0083, Special Cartex-SE
5613-E-27, Mechanical Auxiliaries Fuel Transfer Pump 3P10B Diesel Generator 3B Breaker
35211, Rev. 0
5613-E-27, Mechanical Auxiliaries Fuel Transfer Pump 3P10A Diesel Generator 3A Breaker
30506, Rev. 0
5610-M-800-34, Assembly Drawing, Rev. 2
5610-M-1100-134, Model D100-60 Operator Valve Assembly
5613-M-3047, CVCS Charging and Letdown
5614-M-3047, CVCS Charging and Letdown
5613-M-3050, RHR System
5614-M-3050, RHR System

Corrective Action Documents

2007-802, Configuration Control Problem with AOV setpoint MSP 05-115
2006-8478, HCV-3-758 Evaluation of As-Left Diagnostic Data

2006-33860, As Left Diagnostic Testing of HCV-4-758 indicates some data not in accordance with Passport D034 Specifications
2005-12466, Flux Thimble Thermocouples Damaged.
2000-0379, Performed PWO 2551-63. No Data Available on Expected Test Results While Performing Steps 4 and 5 of SWD 63/2551.
2005-35056, Track Completion of MSP 05-136
2006-23210, Fisher DVC Positioner Firmware Change Awareness
2006-15460, PMCR, System 074, Procedure Enhancement
2006-28251, Inadequate Definition and Control of Firmware

Section 4OA5: Shutdown Risk Activities (TI-2515/167)

Procedure O-ADM-051, Outage Risk Assessment and Control, dated 10/24/06
Lesson Plan NO. 6902210, 3/4-ONOP-050, Loss of RHR, 8/31/04
Procedure 3-ONOP-033.1, Spent Fuel Pit Cooling System Malfunction, 4/30/03
Procedure 3-OP-041.9, Reduced Inventory Operations, 8/24/00
Procedure 3-OP-041.7, Draining the Reactor Coolant System, 10/12/06
Procedure 3-ONOP-041.8, Shutdown LOCA (Mode 5 or 6), 3/29/04
Procedure 3-ONOP-050, Loss of RHR, 2/5/04
Lesson Plan NO. 69182266, Shutdown LOCA, 2/22/04
Procedure 3-ONOP-033.2, Refuel Cavity Seal Failure, 4/30/03
Lesson Plan NO. 6902032, O-ADM-051, Outage Risk Assessment and Control, 3/27/06