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

July 20, 2004

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 - NRC INTEGRATED INSPECTION REPORT 05000250/2004003 AND 05000251/2004003

Dear Mr. Stall:

On June 26, 2004, 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 June 29, 2004, with Mr. T. Jones 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 Section 4OA7 of this report. If you contest the NCV in this report, 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 20555-0001; 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 Senior Resident Inspector at the Turkey Point facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document

Room or from the Publicly Available Records ( PARS) component of the 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 by Son Ninh for//**

Joel T. Munday, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 05000250/2004003 and
05000251/2004003
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

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| Docket Nos: | 50-250, 50-251 |
| License Nos: | DPR-31, DPR-41 |
| Report No: | 05000250/2004003, 05000251/2004003 |
| Licensee: | Florida Power & Light Company (FP&L) |
| Facility: | Turkey Point Nuclear Plant, Units 3 & 4 |
| Location: | 9760 S. W. 344th Street<br>Florida City, FL 33035 |
| Dates: | March 28, 2004 - June 26, 2004 |
| Inspectors: | K. Weaver, Senior Resident Inspector<br>K. Green-Bates, Resident Inspector<br>C. Patterson, Senior Resident Inspector<br>S. Ninh, Senior Project Engineer<br>T. Ross, Senior Resident Inspector<br>S. Stewart, Senior Resident Inspector<br>E. Brown, NRR Project Manager |
| Approved by: | Joel T. Munday, Chief<br>Reactor Projects Branch 3<br>Division of Reactor Projects |

Enclosure

# SUMMARY OF FINDINGS

IR 05000250/2004-003, 05000251/2004-003; 03/26/2004 - 06/26/2004; Turkey Point Nuclear Power Plant, Units 3 and 4; Integrated Inspection Report.

The report covered a three month period of inspection by resident inspectors, a region based project engineer, and an NRR project manager. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Overnight Process", Revision 3, dated July 2000.

A. NRC Identified & Self-Revealing Findings

No findings of significance were identified.

B. Licensee Identified Violation

A violation of very low safety significance, which was 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. The violation and corrective action tracking number are listed in Section 4OA7 of this report.

Enclosure

REPORT DETAILS

Summary of Plant Status:

Unit 3 operated at full power during most of the inspection period with the following exceptions. On May 21, 2004, Unit 3 reduced power to approximately 30% for turbine valve testing and turbine plant cooling water (TPCW) heat exchanger cleaning. Following the maintenance activities, Unit 3 returned to 100 % power on May 25. On June 17, Unit 3 reduced power to 2% (Mode 2), due to an oil leak on the high pressure oil supply line to the Turbine Stop Valve 3-10-009. On June 18, following repairs to the turbine high pressure oil supply line, Unit 3 commenced a power increase and subsequently achieved 100% power on June 21. On June 25, Unit 3 commenced a power reduction to approximately 2% (Mode 2), due to a turbine oil system malfunction. On June 28, following maintenance and repairs to the turbine oil system, Unit 3 commenced a power increase and on June 29 achieved 100% full power.

Unit 4 operated at full power during most of the inspection period with the following exceptions. On May 1, 2004, Unit 4 reduced power to approximately 28% for TPCW system maintenance, pump maintenance, and turbine control valve testing. Following the maintenance activities, Unit 4 returned to full power on May 4. On May 14, Unit 4 experienced an automatic reactor trip from 100% power, when the Steam Generator Feedwater Flow Control Valve (FCV-4-478) failed closed and subsequently resulted in a rapid decrease in steam generator inventory. On May 16, following the post trip review and maintenance activities to repair the Feedwater Flow Control Valve (FCV-4-478), Unit 4 was restarted and on May 19 returned to 100% full power. On May 23, Unit 4 experienced an unexpected secondary feedwater control system swing and reduced power to approximately 90% percent. On May 26, following troubleshooting and maintenance activities, Unit 4 returned to 100% power.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection - Actual Weather Conditions

a. Inspection Scope

On May 25 and 26, 2004, in response to a lack of rainfall, which resulted in lower than normal intake canal levels, the inspectors performed a review of the design features of mitigating systems which could be affected, and implementation of the licensee's contingency plan and procedures to protect the mitigating systems from the low canal level conditions. In addition, the inspectors performed a walk down of portions of the intake canal and the Intake Cooling Water (ICW) System to verify that the low canal level would not affect the net positive suction head water level limits for the Unit 3 and Unit 4 safety related ICW pumps. The inspectors verified that the system would remain operable during the lower than normal intake canal level. The inspectors reviewed Procedure 3-ONOP-019, "Intake Cooling Water Malfunction," and the Updated Final Safety Analysis Report (UFSAR) and the Technical Specifications in order to verify the licensee's compliance.

b. Findings

No findings of significance were identified**.**

1R04 Equipment Alignment

a. Inspection Scope

Partial Equipment Walkdowns

The inspectors conducted five partial alignment verifications of the safety-related systems listed below. The inspectors reviewed the operability of a redundant train or backup system/train while the other trains were inoperable or out of service. These inspections included reviews of plant lineup procedures, operating procedures, and piping and instrumentation drawings, which were compared with observed equipment configurations to verify that the critical portions were correctly aligned and that they identified any discrepancies that could affect operability.

- Unit 3 and Unit 4, Auxiliary Feedwater System (AFW) Pumps B and C, while A AFW Pump was out of service for testing, in accordance with Procedure 3-OP-075, "Auxiliary Feedwater System," conducted on April 12, 2004
- Unit 3, 3B Emergency Diesel Generator (EDG), while the 3A EDG was out of service for testing, in accordance with Procedure 3-OSP-023.1, "Diesel Generator Operability Test," conducted on April 9, 2004
- Unit 3, Charging Pumps A and C, while the 3B Charging Pump was being overhauled, in accordance with Procedure 3-OP-047, "CVCS - Charging and Letdown," conducted on April 20, 2004.
- Unit 3, ICW System, while the 3C ICW Pump was taken out of service, in accordance with Procedure 3-OP-019, "Intake Cooling Water System," conducted on April 26 and 27, 2004.
- Unit 4, 4A EDG, while 4B EDG was out of service for 2-year engine preventive maintenance activities and engine overhaul, using Procedure 4-OP-023, "Emergency Diesel Generator," conducted on June 23, 2004

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, and selected fire

barriers used to prevent fire damage or fire propagation. The inspectors reviewed these activities against provisions in the licensee's off Normal Operating Procedure 0-ONOP-016.8, "Response to a Fire/Smoke Detection System Alarm," Administrative Procedures 0-SME-091.1, "Fire and Smoke Detection System Annual Test"; O-ADM-016.4 "Fire Watch Program"; 0-ADM-016,"Fire Protection Plan, and 10 CFR Part 50, Appendix R. 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 4, AFW Pump Room (Fire Zone 84)
- Unit 4, 4B DC Equipment Room (Fire Zone 101)
- Unit 3 and 4, Electrical Equipment Room (Fire Zone 25)
- Unit 3, A DC Equipment Room (Fire Zone 104)
- Unit 3 and 4, Spare Battery Room (Fire Zone 25A)
- Unit 3, 3B EDG Building (Fire Zone 72)
- Unit 3, 3A EDG Building (Fire Zone 73)
- Unit 3, HHSI System Pump Room (Fire Zone 53)
- Unit 4, 4A EDG Building (Fire Zone 138)

b. Findings

No findings of significance were identified.

1R05 Flood Protection Measures

a. Inspection Scope

Internal Flooding

The inspectors toured the following two risk significant areas that could be affected by internal flooding. The inspectors reviewed the UFSAR for Internal Flooding Criteria, to identify risk significant areas that could be affected by internal flooding and to verify flood mitigation plans and equipment were consistent with the design requirements. The inspectors performed a walkdown of the risk significant areas to verify that the flood mitigation equipment for these areas was operable and available in the event of an internal flood. The inspectors reviewed past condition reports for flooding related items to ensure that discrepancies were being identified and appropriately resolved. Licensee procedures and documents reviewed are included in the Attachment to this report.

- Unit 4, 4A, 4160V Switchgear Room
- Unit 4, 4B, 4160V Switchgear Room

b. Findings

No findings of significance were identified.

1R07 Heat Sink performance

a. Inspection Scope

The inspectors reviewed the results of two component cooling water (CCW) heat exchanger (HX) performance tests that were conducted in the month of April 2004, to verify that CCW HXs were capable of removing the design basis accident heat load as required. The inspectors also reviewed Technical Specification 3/4.7.2, UFSAR, Section 9, Calculation No. PTN-BFJI-95-003, "Effect of Instrumentation Uncertainty on Allowable ICW Temperature Calculation," Revision 1, and Calculation No. PTN-BFJM-96-004, "Revised CCW HX Operability Curves for Thermal Uprate," to verify that test results were consistent with design acceptance criteria and frequency of surveillance or testing were appropriately implemented.

- Unit 3 OSP-030.4, Component Cooling Water Heat Exchanger Performance Test
- Unit 4 OSP-030.4, Component Cooling Water Heat Exchanger Performance Test

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

On May 27, 2004, the inspectors observed and assessed licensed operator actions on the simulator to a Loss of Offsite power and a Loss of ICW accident scenario that also involved the failure of numerous critical safety components. This licensed operator training was conducted in preparation for the upcoming hurricane season. The inspectors specifically evaluated the following attributes related to operating crew performance. Licensee procedures and documents reviewed are included in the Attachment to this report.

- 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 Operating Procedures and Emergency Plan Implementing Procedures
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by Operations supervision, including ability to identify and implement appropriate Technical Specification actions, regulatory reporting requirements, and emergency plan actions and notifications
- Effectiveness of the post training critique.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the following three equipment problems and associated condition reports to verify 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 0-ADM-728, "Maintenance Rule Implementation." The inspectors' efforts focused on maintenance rule scoping, characterization of the 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. Furthermore, the inspectors verified that equipment problems were being identified at the appropriate level and entered into the corrective action program.

- Condition Report 04-061, 4A Emergency Diesel Generator Trouble Alarm
- Condition Report 04-048, Unit 4 Rod Cluster Control Assembly E-7 Oscillations
- Condition Report 04-2273, Debris in the TPCW system

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 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." The inspectors also 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:

- Unit 3 and Unit 4, Plant Vent Stack SPING and Radiation Monitor R14 emergent work, and contingency actions on April 12 and 13, 2004

- Unit 3, 3A DC Load Center ground emergent work and risk assessment, conducted on April 8 and 9, 2004
- Unit 3 and Unit 4, risk assessment and emergent work for the low canal level and low intake pump well levels, with the 3C ICW Pump out of service, on April 26 and 27, 2004
- Unit 4 power reduction and emergent work maintenance activities for the TPCW system conducted on May 1, 2004
- Unit 4 emergent work for reactor trip recovery and maintenance activities conducted on May 18, 2004
- Unit 3 and Unit 4, risk assessment for the 4AA05 Startup Transformer Breaker replacement outage, conducted on June 4, 2004
- Unit 3, Online Risk Assessment of maintenance and tag out of High Head Cold Leg Safety Injection MOV-3-843B and surveillance testing of the 3B EDG on June 15, 2004

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events

a. Inspection Scope

This inspection evaluated operator, maintenance and engineering response and performance for the following four non-routine plant evolutions to ensure they were appropriate and in accordance with the required procedures. The inspectors also evaluated performance problems to ensure that they were entered into the corrective action program. Licensee procedures and documents reviewed are included in the Attachment to this report. The following events or evolutions were reviewed:

- On May 17 through 18, the inspectors observed and evaluated operator, maintenance and engineering response to the Unit 4 automatic reactor trip. The inspector reviewed and evaluated the licensee's post trip review, and observed the recovery activities and subsequent power increase.
- On May 23, the inspectors observed and evaluated operator, maintenance and engineering response to the Unit 4 secondary system swings that resulted in a Unit 4 unplanned power reduction.
- On June 17, the inspectors observed and evaluated operator, maintenance and engineering response to the Unit 3, unplanned power reduction to 2%, Mode 2, due to an oil leak on the high pressure oil supply line to the Turbine Stop Valve 3-10-009.
- On June 25, the inspectors observed and evaluated operator, maintenance and engineering response to the Unit 3, unplanned power reduction to 2%, Mode 2, due a malfunction of the turbine oil system and the No. 2 turbine control valve.

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.

- Unit 3 and Unit 4, Condition Report 2004-1610, Degraded operability of the plant vent stack SPING
- Unit 3 and Unit 4, Condition Report 2004-2152, 3C ICW pump and low intake pump well level
- Unit 3 and Unit 4, Condition Report 2004-2360, Access door inadvertently left open in control room HVAC system
- Unit 3, Condition Report 2004-2311, Increasing pressure indication on components that should not be pressurized, containment isolation valve may be leaking
- Unit 4, Condition Report 2004-1977, 4B HHSI pump outboard bearing leaking oil
- Unit 3, Condition Report 2004-1304, Rod Position Indication (RPI) E7 fluctuating

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modification

a. Inspection Scope

The inspectors reviewed the documentation for Plant Change/Modification (PC/M) 01-012 to change the AFW bus stripping actuation circuits such that the auto start relays are automatically reset after two minutes. As part of PC/M 01-012, the inspectors reviewed the 10 CFR 50.59, safety, single-failure, electrical separation, and EDG/Battery Loading/Load Sequencing evaluations. The inspectors verified that no new single-failure was introduced, no prior NRC approval was needed for this change, and the applicable 10 CFR 50, Appendix A General Design Criteria related to electrical independence and testability continued to be met. The inspectors reviewed the modifications to the design drawings and associated surveillance procedure to verify that the changes to the

procedures and drawings were made. Furthermore, the inspectors reviewed the surveillance test to ensure that no new failure modes were introduced either by the modification or the new testing added to ensure proper functioning of modified circuitry.

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 procedures:

- Unit 3, 3B EDG, post maintenance testing per WO 33022738, following maintenance, conducted on April 20, 2004
- Unit 4, 4C ICW Pump post maintenance testing in accordance with Procedure 4-OSP-019.1, "Intake Cooling Water Inservice Test," following replacement under WO 310121026 and WO 31012566, conducted on May 7, 2004
- Unit 4, 4A 4KV Bus Supply from Startup Transformer Breaker, post maintenance breaker trip coil testing conducted under WO 32012496, on June 4, 2004
- Unit 4, 4A 4KV Bus Supply from Startup Transformer Breaker post maintenance testing, in accordance with Procedure 4-OP-005, "4160 Volt Buses A, B, and D," conducted on June 4, 2004
- Unit 3, 3C Charging Pump post maintenance testing in accordance with Procedure 3-OP-047, "CVCS-Charging and Letdown," conducted on June 5, 2004
- Unit 4, 4A EDG post maintenance testing in accordance with Procedure 4-OSP-23.1, "Diesel Generator Operability Test," conducted on June 8, 2004

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following six 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 SSCs to perform its safety function. The tests reviewed included one safety injection system inservice test (IST).

- Unit 3 and Unit 4, Procedure 0-OSP-074.3, "Standby Steam Generator Feedwater Pumps Availability Test," on April 9, 2004
- Unit 3, Procedure 3-OSP-023.1,"Diesel Generator Operability Test. " for the 3A EDG, on April 9. 2004.
- Unit 3, Procedure 3-OP-033, "Spent Fuel Pit Cooling System," for surveillance testing of the spent fuel pit emergency cooling pumps, conducted on April 13, 2004
- Unit 3 and Unit 4, Procedure 3-OSP-075.6, "Auxiliary Feedwater Train 1 Backup Nitrogen Test," on April 12, 2004
- Unit 3, Procedure 3-OSP-049.1, "Reactor Protection System Logic Test," conducted on April 19, 2004
- Unit 3, Procedure 0-OSP-062.2, "Safety Injection System Inservice Test," for the 3A Safety Injection Pump In service Test (IST) on June 5, 2004

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors completed a review of the following two temporary modifications and the supporting safety evaluation. The inspectors compared the temporary modification package against the requirements established in Administrative 0-ADM-503, "Control and Use of Temporary System Alterations (TSA)," and system requirements contained in the UFSAR. As part of TSAs, the inspectors reviewed the 10 CFR 50.59 evaluations to verify that no new single-failure was introduced, no prior NRC approval was needed for the TSA, and the applicable 10 CFR 50, Appendix A General Design Criteria continued to be met. In addition, the inspectors completed in-office reviews and walkdown verifications system restoration.

- TSA 04-04-023-06, Alternate method of supplying 120 Vac 60 Hertz power to PS-1 for 4A EDG Annunciator
- TSA 03-03-05-17, Disconnect broken 3C 4KV bus lockout relay

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)

1EP6 Drill Evaluation

a. Inspection Scope

On June 1, 2004, the inspectors observed an operating crew in the simulator during the second quarter emergency plan drill of the site emergency response organization. During the drill the inspectors assessed operator actions to verify that emergency classification, notification, and protective action recommendations were made in accordance with the emergency plan implementing procedures and 10 CFR 72. Additionally, the inspectors reviewed whether the initial activation of the emergency response centers was correctly conducted. Technical Specifications required actions during the drill were reviewed to assess correct implementation. Drill critique items were discussed with the licensee and reviewed to verify that drill issues were identified and captured.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

.1 Reactor Safety Cornerstone Performance Indicators

a. Inspection Scope

The inspectors sampled licensee submittals for the six PIs listed below for the period January 2003 through March 2004 to verify the accuracy of the PI data reported. PI definitions and guidance contained in NEI 99-02, “Regulatory Assessment Indicator Guideline,” Revision 2, were used to verify the basis in reporting for each data element. The inspectors also reviewed a selection of Licensee Event Reports, portions of Unit 3 and Unit 4 operator log entries, daily morning reports (including the daily condition report descriptions), system health reports, monthly operating reports, and PI data sheets to verify that the licensee had adequately identified the safety system unavailability during

the previous four quarters. This number was compared to the number reported for the PI during the current quarter. In addition, the inspectors also interviewed licensee personnel associated with the PI data collection, evaluation, and distribution.

Reactor Safety Cornerstone

- Safety System Unavailability, EDG, System Unavailability, Unit 3
- Safety System Unavailability, EDG, System Unavailability, Unit 4
- Safety System Unavailability, HHSI, System Unavailability, Unit 3
- Safety System Unavailability, HHSI, System Unavailability, Unit 4
- Safety System Unavailability, RHR, System Unavailability, Unit 3
- Safety System Unavailability, RHR, System Unavailability, Unit 4

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 daily screening of items entered into the licensee’s corrective action program. This review was accomplished by reviewing daily hard copy summaries of condition reports and by reviewing the licensees electronic condition report database.

b. Findings

No findings of significance were identified

.2 Annual Sample Review

a. Inspection Scope

As required by Inspection Procedure 71152, “Identification and Resolution of Problems,” the inspectors performed a detailed review of the following two deficient conditions and the associated condition reports. The condition reports were examined to verify safety concerns were properly classified and prioritized for resolution; technical issues were evaluated and dispositioned to address operability and reportability; root cause or apparent cause determinations were sufficiently thorough; extent of condition, generic implications, common causes, and previous history were adequately considered, and

appropriate corrective actions (short and long-term) were implemented or planned in a manner consistent with safety and Technical Specification compliance.
The inspectors also evaluated the condition reports against the requirements of the licensee's corrective action program as delineated in Procedure NAP-204, "Condition Reporting," and 10 CFR 50, Appendix B.

As a result of having identified a previous substantive cross-cutting issue in 2003, the inspectors placed additional focus and emphasis on the completeness and adequacy of the licensee's problem identification and corrective actions for each of the condition reports associated with the two deficient conditions.

The first issue was the result of a lack of rainfall which resulted in a low water level in the intake canal and intake wells from which ICW, circulating water pumps, and screenwash pumps draw water. As a result of the low water level, on one occasion the net positive suction head (NPSH) for the 3C ICW Pump was below the limit necessary for the pump to be considered operable. In addition, the low level also resulted in a loss of suction for the Unit 3 and Unit 4 screenwash pumps. The following condition reports are associated with this deficient condition.

- CR 04-2152 Water level low in all intake wells/canal
- CR 04-2200 ANPO log readings do not provide sufficient direction to provide for adequate monitoring of intake level
- CR 04-2244 3C ICW Pump running with intake level below minimum required

In response to this condition, the licensee's Engineering and Operations staff performed a thorough evaluation of the impact of the low canal level on the circulating water system, the screen wash system, and various combinations of those pumps to better understand the characteristics of their canal and intake system. In addition, the licensee developed an Off Normal Operating Procedure 0-ONOP-011.1, "Intake Canal Low Level," to provide detailed instructions for evaluating intake well levels and securing equipment to preclude the intake well levels from dropping below the operability limit for the safety-related ICW pumps for both Units. The use of this guidance was to ensure that the ICW pumps on both units remain operable and available to perform their safety function. In addition, the licensee stationed maintenance workers to be available 24 hours per day to address maintenance related issues until the conditions improved. Based on a review of these CRs, a review of the Off Normal Procedure 0-ONOP-011.1, discussions with engineers and plant management, and information exchanged during licensee meetings, the inspector concluded that the licensee's assessment of the identified problem and the subsequent corrective actions were thorough and appropriate.

The second issue involved the Control Room Ventilation System Dampers failing to perform per design on five separate occasions in a 16 month time frame. The following condition reports are associated with this deficient condition.

- CR 03-4134& CR 04-1298 Control room heating and ventilation system damper D3 indicated that it closed with the test switch No. 2 in Test. Test switch No. 2 should keep damper D3 open
- CR 03-4187 The control room ventilation system dampers have failed to perform per design on five separate occasions in the previous sixteen months. Request investigation into generic issues with the dampers to prevent further failures

The licensee initiated a CR for each of the above failures. In addition, CR 03-4187 was initiated to review the previous CR's as a group to identify if a common cause failure mechanism existed. The licensee concluded that the apparent cause for each failure was not related. However, because the dampers had become obsolete and parts were no longer available, the licensee approved a Plant Change Modification to install a new model of dampers and motor operators for Dampers D2 and D3. The inspector reviewed each of the damper failures in detail and also concluded that the apparent causes of the failures were not related. Based on this review, the inspector concluded that the licensee's characterization of each problem was complete and accurate and the corrective actions were appropriate.

b. Findings

No findings of significance were identified.

.2 Semi Annual Trend Review

a. Inspection Scope (71152)

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," the inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspector's review was focused on repetitive equipment issues, but also considered the results of daily inspector corrective action program item screening discussed in section 4OA2.1 above, licensee trending efforts, and licensee human performance results. The inspectors review nominally considered the six month period of January 2004 through June 2004, although some examples expanded beyond those dates when the scope of the trend warranted. The review also included equipment issues identified in the Unit 3 and Unit 4 HHSI System Health Reports, human performance issues identified in the 1st and 2nd quarter Departmental Human Performance Corrective Action Program Rollup Reports for the Operations, Maintenance and Engineering Departments as well as the Turkey Point Plant Corrective Action Program Trend Report. The inspectors compared and contrasted their results with the results contained in the licensees latest quarterly corrective action program rollup trend reports and quarterly HHSI system health report. Corrective actions associated with a sample of the issues identified in the licensees reports were reviewed for adequacy.

The inspectors also evaluated the departmental corrective action rollup reports against the requirements of the licensee's corrective action program as specified in Procedure NAP-204, "Condition Reporting," and Procedure 0-ADM-533, "Condition Report Trending."

b. Findings

There were no findings of significance identified. The inspectors evaluated the licensee trending methodology and observed that the licensee had performed a detailed review. The inspectors compared the licensee process results with the results of the inspectors' daily screening and did not identify any discrepancies or potential trends in the corrective action program data that the licensee had failed to identify. One potentially significant degrading trend which involved unit unplanned downpowers was identified by both the inspectors and the licensee during this inspection period. Each of the unplanned downpowers have been the result of diverse equipment issues involving secondary systems. However, the licensee has determined that a review of the events should be performed to identify if there are any common processes or organizational contributors to these events. The licensee documented this potentially degrading trend in Condition Report 2004-3467.

4OA3 Event Follow-up

.1 Closed) Licensee Event Report (LER) 05000250/2003-002-01, Manual Reactor Trip due to Low Steam Generator Level

On January, 27, 2003, Unit 3 was manually tripped due to low water level in the 3C steam generator. This supplemental LER was submitted to revise the 10 CFR 50.73 event reporting criteria and to document the root cause of the event and related corrective actions. The cause of this event was a failure of the 4CM motor driven air compressor while the 3CM was out of the service. A contributing cause was the failure of the 3CD and 4CD diesel-driven compressors to autostart. Equipment problems and design deficiencies also contributed to this event. The event was addressed in the licensee's corrective action program as Condition Report 03-0134. An NRC identified finding for inadequate corrective actions to address long standing problems with the 3CD and 4CD diesel driven instrument air compressors was documented in the Section 4OA2 of the NRC Inspection Report 05000250, 251/2003003-02. Subsequently, the licensee has taken comprehensive corrective actions to address these issues. The inspectors reviewed the supplemental LER and no additional findings of significance were identified. This LER is closed.

.2 (Closed) LER 05000251/2003-002-00, As-Found Cycle 20 Main Steam Safety Valve Setpoint Outside Technical Specification Limits

On October 2, 2003, Unit 4 was in Mode 1 and holding at 49% power when Technical Specification (TS) surveillance testing of the main steam safety valves (MSSVs) found that one of the four valves lifted at 4.01 % above the setpoint pressure, which was outside the TS limit of -3% to +3%. The valve was declared inoperable and Unit 4 entered TS Action

Statement 3.7.1.1.b. Since reactor power was at 49%, which was below the 53% reactor power required per TS 3.7.1.1.b, no reactivity changes were required. The cause of the high as found lift setpoint was determined to be micro-bonding of the nozzle and disc. The valve was subsequently overhauled, tested satisfactorily and returned to service. Subsequently, additional testing of two MSSVs were performed in accordance the Inservice Testing (IST) program requirements. All other MSSVs tested were within the range of the required setpoint pressure. The licensee performed an evaluation and concluded the as-found setting of the inoperable valve was within analytical bound and therefore the overpressure design basis criteria were not exceeded during the operating cycle. The maintenance procedure was revised to include specific lapping instructions to prevent miro-bonding of the MSSV seats. This problem was identified and resolved through the licensee's corrective action program as Condition Report 03-2903.

The inspectors verified that the applicable TS Action Statement was complied with once the condition was identified. The licensee assumed that the existence of micro-bonding in the affected valve may have developed during the operating cycle and existed prior to the TS surveillance testing. Therefore, a condition outside of TS was reported. The inspectors also verified that the LER was not submitted to NRC within 60 days of the discovery of the event per 10 CFR 50.73 (a) requirements. The licensee documented the problem in Condition Report 03-4033. This finding constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy. This LER is closed.

. 3 (Closed) LER 05000250/2003-007-00, Containment Spray Pump Failed During Mode 5 Refueling Outage Testing

On March 15, 2003, Unit 3 was in Mode 5, following the planned refueling outage. During the Train B engineered safeguards integrated testing, unusual noises and an electrical odor were detected from the 3B containment spray pump (CSP) when the pump was started. The 3B CSP was secured. Subsequent investigations revealed that the pump had failed and found that the pump casing wear ring was fused to the impeller wear ring. The probable root cause of the failure was a loss of internal pump clearance due to the large amount of diametrical clearance between the pullout assembly and the pump casing rabbet fit. A possible contributing factor was inadequate venting of the pump casing or piping causing air binding. The pump was overhauled, successfully tested and returned to service on March 20, 2003.

Corrective actions included to check the torque on the 4A, AB and 3A CSP pullout assembly to pump casing main flange; to revise the associated six month CSP preventive maintenance (PM) activity to verify the main casing torque; to revise the containment spray system procedure for actions to be taken on return to service after discharge piping has been drained; and to incorporate the as-found and as left diameter measurements, and a minimum casing torque requirement in the CSP maintenance procedure. The licensee evaluated the failure mechanism and concluded that the 3B CSP had been inoperable for 24 days since February 6, 2003. Technical Specification 3.6.2 Action a. requires that

during Modes 1 through 4, with one Containment Spray System inoperable restore the inoperable pump to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

The inspectors reviewed the LER and were not able to determine that there was a performance deficiency associated with this event. However, the issue was reviewed by NRC management and processed under the SDP to determine the level of risk significance. The inspectors noted that the primary purpose of the containment spray system is to spray cool water into the containment in the event of loss-of coolant accident. Operation of containment spray system in conjunction with the emergency containment cooling system and filtering system is designed to ensure that containment pressure does not exceed its design value of 55 psig at 283 degree F. The finding is greater than minor because it affected containment barrier objective in that containment design pressure parameters may have impacted due to an actual loss of safety function of one CSP for longer than the Technical Specification allowed outage time. The SDP Phase 1 for the containment barriers was evaluated and screened out as Green because the finding did not represent an actual open path in the physical integrity of reactor containment or an actual reduction of atmospheric control function of the reactor containment. The finding is of very low safety significance (Green) because the 3A CSP remained operable and available to fulfill the accident analysis required function during this 24 day period. This issue involved a licensee-identified violation of TS 3.6.2 requirements. The enforcement aspects of the violation are discussed in Section 4OA7. This LER is closed.

4OA5 Other Activities

(Discussed) NRC Temporary Instruction (TI) 2515/156, “Offsite Power System Operational Readiness”

a. Inspection Scope

The inspectors collected data from licensee maintenance records, event reports, corrective action documents and procedures and through interviews of station engineering, maintenance, and operations staff, as required by the Temporary Instruction (TI ) 2515/156. The data was gathered to assess the operational readiness of the offsite power systems in accordance with NRC requirements such as Appendix A to 10 CFR Part 50, General Design Criterion (GDC) 17; Criterion XVI of Appendix B to10 CFR Part 50, Plant Technical Specifications (TS) for offsite power systems; 10 CFR 50.63; 10 CFR 50.65 (a)(4), and licensee procedures. Documents reviewed for this TI are listed in the attachment.

b. Findings

No findings of significance were identified. Based on the inspection, no immediate operability issues were identified. In accordance with TI 2515/156 reporting requirements, the inspectors provided the required data to the headquarters staff for further analysis.

4OA6 Meetings, including Exit

Exit Meeting Summary

On June 29, 2004, the resident inspectors presented the inspection results to Mr. T. Jones and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violation

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

Technical Specification 3.6.2 Action a. requires that during Modes 1 through 4, with one Containment Spray System inoperable restore the inoperable pump to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Contrary to the above, on May 7, 2003, the licensee determined that the Unit 3B CSP was inoperable for 24 days since February 6, 2003 and no required actions were taken. This was identified in the licensee' s corrective action program as Condition Report 03-0701. This finding was determined to be of very low safety significance (Green) using the SDP Phase 1 Screening Worksheet for the Containment Barriers Cornerstone, because the 3A CSP remained operable and available to fulfill the accident analysis required function during this 24 day period.

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

Licensee personnel:

J. Cadogan, Engineering
O. Hanek, Licensing Engineer
J. Johns, Maintenance Rule Coordinator
W. Johns, Security Manager
T. Jones, Site Vice-President
M. Murray, Emergency Preparedness Coordinator
M. Navin, Operations Manager
K O'Hare, Radiation Protection and Safety Manager
W. Parker, Licensing Manager
M. Pearce, Plant General Manager
W. Prevatt, Work Control Manager
B. Stamp, Operations Supervisor
T, Sweeney, Engineering Electrical Supervisor
G. Warriner, Site Quality Manager

NRC personnel:

K. Weaver, Senior Resident Inspector

### LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

None

Closed

| | | |
|---|---|---|
| 05000250/2003-002-01 | LER | Manual Reactor Trip due to Low Steam Generator Level (Section 4OA3.1) |
| 05000251/2003-002-00 | LER | As-Found Cycle 20 Main Steam Safety Valve Setpoint Outside Technical Specification Limits (Section 4OA3.2) |
| 05000250/2003-007-00 | LER | Containment Spray Pump Failed During Mode 5 Refueling Outage Testing (Section 4OA3.3) |

Discussed

NRC Temporary Instruction (TI) 2515/156, "Offsite Power System Operational Readiness"

Attachment

## LIST OF DOCUMENTS REVIEWED

### 1R06: Flood Protection Measures

Procedures
Procedure 0-EPIP-20106, “Natural Emergencies”

Condition Reports
CR-2003-3729

Miscellaneous
NRC Safety Evalaution Report, “Susceptibility of Safety-Related Systems to Flooding From Failure of Non-Category I Systems for Turkey Point Plant, Units 3 and 4"
UFSAR Apendix 5F, Internal Plant Flooding
UFSAR Apendix 5G, External Flood Protection for Turkey Point
Engineering Guideline for Internal Floor Protection for Turkey Point Unit 3 and 4
Selected Licensing Issues (SLI) 5610-000-DB-001, Section VIII. Internal Flooding Criteria

### 1R11: Licensed Operator Requalification

Procedures
Procedure 3-ONOP-050, “Loss of RHR”
Procedure 0-EPIP-2001, “Duties of Emergency Coordinator”
Procedure 3-ONOP-004, “Loss of Offsite Power”
Procedure 0-EPIP-20106, “Natural Emergencies”
Procedure 3-0NOP-030, “Component Cooling Water Malfunction”

### 1R12: Maintenance Effectiveness

Condition Reports
Condition Report 02-1486, Unit 4 Shutdown Bank ‘A’ Rod Position for C9 Misaligned
Condition Report 03-2964, Rod Deviation Alarm for Unit 3 Control Banks A and D

Miscellaneous
System Checklist / Health Report (Period:2003-04): 023 / EDGs; 028 Control Rod Drives
Unit 4 Operator Logs 03/01 and 03/04; 06/09-06/10

Procedures
Procedure 0-ADM-728, Revision 12/23/02, “Maintenance Rule Implementation”
Procedure 0-ADM-032, Revision 12/23/03, “NRC Performance Indicators”
Procedure 0-OSP-059.14, Revision 12/5/03, “Rod Position Indication (RPI) Verification”
Procedure 4-ONOP-028.2, Revision 10/30/03, “RCC Position Indication Malfunction
Drawing: 5614-E-28, sheets 38A1, 38A8, 38B9, Electrical Auxiliaries Diesel Generator 4K4A Start/Stop Circuits

**1R13: Maintenance Risk Assessments and Emergent Work**

Miscellaneous
Drawing: 5613-T-L1, sheet 9A1, EDG Start Signals
Unit 3 Operator Logs 06/15-16

Procedures
Procedure 3-OSP-023.1, Revision 4/19/04C, "Diesel Generator Operability Test"

**1R14: Personnel Performance During Non-Routine Plant Evolutions and Events**

Condition Reports
CR-2004-2592
CR-2004-2591
CR-2004-3404
CR-2004-3373
CR-2004-2808

Procedures
Procedure 0-ADM-511, "Post Trip Review"
Procedure 3-GOP-103, "Power Operation to Hot Standby"
Procedure 4-GOP-301, "Hot Standby to Power Operation"
Procedure 0-ADM-200, "Conduct of Operations"
Procedure 4-OP-089, "Main Turbine"
Procedure 0-ADM-217, "Conduct of Infrequently Performed Tests or Evolutions"
Procedure 0-ADM-555, "Reactivity Management"
Procedure 4-EOP-E-0, "Reactor Trip or Safety Injection"
Procedure 4-EOP-ES-0.1, "Reactor Trip Response"

**1R17: Permanent Plant Modifications**

Miscellaneous
Work Order Task 31014322 01, PCM1012/AFW Bus Stripping Reset
Drawings: 5613-E-26, sheets 12B/01-012 and 12C/01-012, Feedwater & Condensate Aux Feedwater Pumps Auto Start Circuit
Drawing: 5614-E-26, sheet 12C, Feedwater & Condensate AFW Pumps Auto Start Circuit

Procedures
Procedures 3/4-OSP-075.4, Revisions 11/25/03, "Auxiliary Feedwater Auto-Start Test"

**4OA5: Other Activities**

Procedures
Procedure 0-ADM-225, "On Line Risk Assessment and Management,"
Procedure 3-OSP-023.1, "Diesel Generator Operability Test"
Procedure 0-ADM-216, "Control of Work on Systems Shared by Turkey Point Fossil and Turkey Point Nuclear Plants and Switchyard Access"

Procedure 4-ONOP-090, “Abnormal Generator MW/MVAR Oscillation

Miscellaneous
Engineering Evaluation PTN-ENG-SEES-04-016

Condition Reports
CR-04-170, 40 MVAR/5MW swings on both units
CR-0702, Switchyard voltage indicated greater than 241.5KV in the control room
CR 04-1526, Megavar and megawatt swings on both Unit 3 and Unit 4
CR 04-0845, System dispatcher called and requested a reduction of switchyard voltage

## LIST OF ACRONYMS

| | |
|---|---|
| AFW | Auxiliary Feedwater |
| ANPO | Assistant Nuclear Plant Operator |
| CCW | Component Cooling Water System |
| CR | Corrective Action Condition Report |
| CS | Containment Spray System |
| CSP | Containment Spray Pump |
| EDG | Emergency Diesel Generator |
| FCV | Flow Control Valve |
| HHSI | High Head Safety Injection |
| HX | Heat Exchanger |
| ICW | Intermediate Cooling Water |
| IST | In Service Testing |
| LER | Licensee Event Report |
| MSSV | Main Steam Safety Valve |
| NCV | Non-cited Violation |
| NPSH | Net Positive Suction Head |
| PI | Performance Indicator |
| PM | Preventive Maintenance |
| PMT | Post Maintenance Test |
| psig | pounds per square inch |
| RCS | Reactor Coolant Systems |
| RHR | Residual Heat Removal |
| RPI | Rod Position Indication |
| SDP | Significance Determination Process |
| TI | Temporary Instruction |
| TPCW | Turbine Plant Cooling Water |
| TSA | Temporary System Alteration |
| UFSAR | Updated Finial Safety Analysis Report |
| WO | Work Orders |