UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

July 21, 2003

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 05000250/2003003 AND 05000251/2003003

Dear Mr. Stall:

On June 28, 2003, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Turkey Point Units 3 and 4. The enclosed integrated inspection report documents the inspection findings which were discussed on July 3, 2003, with Mr. M. Pearce 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 results of this inspection, the inspectors identified two self-revealing findings of very low safety significance (Green). Both of these findings have been entered into your corrective action program. Additionally, 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 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 20555-0001; 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 2.790 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 05000250/2003003 and 05000251/2003003
w/Attachment: Supplement Information

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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:	05000250/2003003 and 05000251/2003003
Licensee:	Florida Power & Light Company
Facility:	Turkey Point Nuclear Plant, Units 3 & 4
Location:	9760 S. W. 344th Street Florida City, FL 33035
Dates:	April 6, 2003 - June 28, 2003
Inspectors:	C. Patterson, Senior Resident Inspector K. Green-Bates, Resident Inspector
Approved by:	Joel T. Munday, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000250/2003-003, 05000251/2003-003; 04/06/2003-06/28/2003; Turkey Point Nuclear Power Plant, Units 3 and 4; Personnel Performance Related to Non-Routine Plant Evolutions and Events, and Identification and Resolution of Problems.

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

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events Cornerstone

- Green. A self-revealing finding was identified concerning a human performance issue which resulted in a secondary plant transient and numerous annunciators including both steam generator feed pump low suction pressure alarms. The plant transient occurred when the Moisture Separator Re-heaters (MSRs) were placed in service at a higher power level than normal without adequate procedural guidance or management involvement.

  This finding is greater than minor because a human error adversely affected the Initiating Events cornerstone objective of limiting the likelihood of events that upset plant stability during power operations. However, because a plant trip did not occur, nor were the operation of any mitigating systems affected, the finding was determined to be of very low safety significance. (Section 1R14)

- Green. A self-revealing finding was identified concerning inadequate corrective action to address starting problems with the two diesel driven instrument air compressors which resulted in a plant trip when the instrument air pressure degraded and the compressors failed to start and load. Numerous condition reports had been written over several years but adequate plant focus was not taken to correct the problem until after the plant trip occurred.

  This finding is greater than minor since it affected the Initiating Events cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during power operations. This finding was reviewed using the Significance Determination Process and was determined to be of very low safety significance because several systems such as auxiliary feedwater, standby steam generator feed pumps, and manual realignment of the feedwater control valves were available. (Section 4OA2)

B. Licensee Identified Findings

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 actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status:

Unit 3 shut down on April 28, 2003, to repair an inoperable containment isolation valve on the chemical and volume control system (CVCS) letdown line. The unit restarted May 1, 2003, and reached 100% power on May 2, 2003. Unit 3 shut down on May 20, 2003, to correct a control rod system problem that occurred during testing of the control rods. The unit returned to power operation on May 21, 2003, and remained at essentially 100% power until the end of the report period.

Unit 4 operated at essentially 100% power during this report period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors performed a walkdown of the site and reviewed the licensee's preparations for hurricane high winds/rain and implementation of 0-OSP-102.1 Flood Protection Stoplog Inspection, EPIP-20106 Natural Emergencies; and 0-ONOP-103.3 Severe Weather Preparations, to verify that those preparations limited the risk of weather related initiating events, ensured accessibility to accident mitigation system equipment, and adequately protected accident mitigation systems from adverse weather effects. The inspectors also reviewed the condition of selected flood mitigation structures and components and verified that corrective actions were taken at the appropriate thresholds within a time schedule which met the local onset of hurricane season. Where licensee identified deficiencies were observed, the inspectors verified that the deficiencies were properly entered into the corrective action program and timely resolution was being pursued.

b. Findings

No findings of significance were identified**.**

1R04 Equipment Alignment

a. Inspection Scope

Partial Equipment Walkdowns

The inspectors conducted three partial alignment verifications of the risk significant systems listed below to assess the operability of required redundant trains or backup systems 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 identify any discrepancies that could affect operability of the redundant train or backup system. The inspectors reviewed the following systems:

- 3A, 4A and 4B Emergency Diesel Generators (EDG) while 3B EDG was out of service
- U3 and U4 Component Cooling Water (CCW) System while the 3C CCW Heat Exchanger was out of service for repairs
- Four Temporary Air Compressors while the Diesel Driven Air Compressors, 3CD and 4CD, were out of service for modifications

Complete System Walkdown:

The inspectors conducted a detailed review of the alignment and condition of the U3 and U4 Auxiliary Feedwater (AFW) System and associated Back-up Nitrogen system while the 3C AFW Pump was out of service for replacement. Correct alignment and operating conditions were determined from the applicable portions of drawings, operating procedures, applicable chapters of the Updated Final Safety Analysis Report (UFSAR), and technical specifications (TS) as well as procedures and other documents listed below.

- 5610-075-DB-001 Design Basis Document for the Auxiliary Feedwater System
- 4-OP-075 Auxiliary Feedwater System
- 4-OP-075.5 Auxiliary Feedwater System Flowpath Verification

The detailed review also verified electrical power lineups, component labeling, and proper hanger and support installations. During pump replacement, periodic checks verified that contract maintenance personnel were using appropriate procedures and equipment, and that appropriate licensee supervisory staff were present. When pumps were operated, checks were done to ensure that vibration was not excessive, pump leakoff was not excessive, and bearing oilers were at the proper level. The walkdowns also included evaluation of system piping and supports against the following considerations:

- Piping and pipe supports did not show evidence of water hammer
- Oil reservoir levels indicated normal
- Snubbers did not indicate any observable hydraulic fluid leakage
- Component foundations were not degraded

A review of outstanding maintenance work orders and related condition reports was performed to verify that deficiencies did not significantly affect the auxiliary feedwater system mitigating function. The inspectors discussed with operations management equipment alignment issues to verify that problems were being identified and appropriately resolved.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Area Walkdowns

a. Inspection Scope

The inspectors toured the following ten plant areas 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 evaluated these conditions against provisions in the licensee's Off Normal Operating Procedure, 0-ONOP-016.8, Response to a Fire/Smoke Detection System Alarm, 0-SME-091.1, Fire and Smoke Detection System Annual Test, 0-ADM-016, Fire Protection Plan, and 10 CFR Part 50, Appendix R. The following areas were inspected:

- Unit 4 CCW Pump and Heat Exchanger Area (Fire Zone 47)
- Unit 3 and Unit 4 AFW Pump Area (Fire Zone 84)
- Unit 3 South Electrical Penetration Room (Fire Zone 20)
- Unit 4 North Electrical Penetration Room (Fire Zone 26)
- Unit 3 Steam Generator Feedwater Pump Room (Fire Zone 69)
- 4A Battery Room (Fire Zone 109)
- 3B Battery Room (Fire Zone 110)
- Unit 3 and Unit 4 Electrical Equipment Room (Fire Zone 25)
- 4B Battery Room (Fire Zone 102)
- 3A Battery Room (Fire Zone 103)

b. Findings

No findings of significance were identified.

.2 Annual Fire Brigade Drill

a. Inspection Scope

On April 22 and June 2, 2003, the inspectors observed fire brigade drills for the East Warehouse (Fire Zone F-12) and Unit 3 Steam Generator Feedwater Pump room (Fire Zone 69), to evaluate the readiness of the licensee's personnel to fight fires. Specific aspects evaluated were: use of protective clothing and self contained breathing apparatus; fire hose deployment and reach; approach into the fire area; effectiveness of communications among the fire brigade members and the control room; sufficiency of fire fighting equipment brought to the fire scene; site security measures for fire personnel entering the site; and the drill objectives and acceptance criteria.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed Turkey Point Final Safety Analysis Report Sections 1.6 and 1.3, as well as the procedures and other flood mitigation documents listed below, which depicted design flood levels and protection for areas containing risk and safety-related equipment to determine consistency with design requirements and identify areas that may be affected by internal or external flooding.

- Drawing No. JPN-PTN-SECJ-90-057; Drains Subject to BackFlow Inside Flood Protection Barrier Network
- Bechtel Power Corporation No. SFB-3274; Turkey Point Units 3 & 4 Engineering Guideline for Internal Flood Protection.
- Turkey Point Units 3 & 4 Design No. 5610-000-DB-001 Sect VIII; Internal Flooding Criteria
- Turkey Point Units 3 & 4 Design No. 5610-000-DB-001 Sect IX; External Flooding Criteria
- Procedure No. EPIP-20106, Natural Emergencies
- Procedure No. 0-OSP-102.1, Flood Protection Stoplog Inspection

A general site walkdown was conducted, with a specific walkdown of the risk significant Unit 3 and Unit 4 Residual Heat Removal (RHR) rooms to ensure that flood protection measures were in accordance with design specifications. Specific attributes that were checked included structural integrity, flood platform heights for safety equipment, the sealing of RHR room penetrations, and unobstructed floor drains. Equipment used for flood mitigation, such as RHR sump pumps, sump system level alarms and external stop logs, were reviewed for operability and/or structural integrity. Potential flooding sources were examined to verify proper maintenance.

A review of outstanding maintenance work orders and related condition reports was performed to verify that deficiencies did not significantly affect the RHR room flood mitigating function. The inspectors discussed with engineering and maintenance management equipment issues to verify that identified problems were being appropriately resolved in a timely fashion.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On June 4, 2003, the inspectors observed and assessed licensed operator actions on the loss of the Refueling Water Storage Tank and CCW systems coincident with a fire and loss of offsite power scenario. 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 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 TS 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 CRs 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 0-ADM-728. 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 attended applicable expert panel meetings, 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.

- CR 03-1086 Unit 3 RHR room sump pump failure
- CR 03-0885 4A EDG control power fuse clips
- CR 03-1235 Unit 4 reactor coolant system leak from reactor coolant filter

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the following six emergent items, as described in the referenced CRs or safety evaluation. The inspectors verified that the emergent work activities were adequately planned and controlled, as described in 0-ADM-068, Work Week Management and 0-ADM-225, On Line Risk Assessment and Management. The inspectors verified that, as appropriate, contingencies were in place to reduce risk,

minimize time spent in increased risk configurations, and avoid initiating events. The following items were reviewed:

- CR 03-0759 3C Reactor Coolant Pump (RCP) Seal
- CR 03-1161 Rod Control Urgent Failure alarm
- CR 03-1016 Inoperable containment isolation valve
- CR 03-1150 Scaffold in RHR pump room
- CR 03-1244 Unit 4 dropped rod bistable actuation
- CR 03-1149 4B EDG control power fuse clips

b. Findings

No findings of significance were identified.

1R14 Personnel Performance Related to Non-Routine Plant Evolutions and Events

a. Inspection Scope

For the non-routine events described below, the inspectors reviewed operator logs, plant computer data, and strip charts to determine what occurred and how the operators responded, and to verify that the response was in accordance with plant procedures.

- Plant operators conducted a controlled shutdown of Unit 3 on April 28, 2003, to repair an inoperable containment isolation valve, CVCS letdown isolation valve CV-3-200B. Mode 3 was entered for troubleshooting and repairs. The unit returned to full power on May 2, 2003. However, a plant transient occurred at 90% power during the start-up when the moisture separator heaters (MSRs) were placed in service. This was determined to be caused by a human performance error that is discussed in the findings section.

- Plant operators conducted a controlled shutdown of Unit 3 on May 20, 2003, due to a failure in the rod control system which occurred during a control rod exercise surveillance test. The failure occurred when a shutdown control rod bank B was partially inserted. Plant operators promptly followed the required TS actions. The inspectors verified that operator actions followed TS and procedures 3-ONOP-028, Reactor Control System Malfunction, and 3-GOP-103, Power Operation to Hot Standby.

- Plant operators promptly responded to Unit 4, Dropped Rod and Axial Flux Rod Deviation alarms on May 29, 2003. After reviewing plant parameters, operators confirmed that no actual control rod movement had taken place. The Reactor Protection Indication system had malfunctioned for a single control rod and the appropriate TS actions were taken until the condition was corrected.

b. Findings

Introduction: A self-revealing Green finding was identified concerning a human performance error that occurred when placing the MSRs in service at 90% power instead of the normal 40% power. Due to equipment problems with the equalizing

timing valves the MSRs were placed in service at a higher power level than normal without adequate procedural guidance or management involvement. As a result a secondary side plant transient occurred which resulted in a low suction pressure condition for the steam generator main feedwater pumps and numerous control room annunciators.

Description: Plant procedure 3-GOP-301, Hot Standby to Power Operation, states that at approximately 200 MWe the MSRs are to be placed in service using 3-OP-072.1, Moisture Separator Reheater. The MSR timing valves did not operate and were therefore operated manually. (The timing valves provide a bypass around the main MSR steam isolation valve and are timed to open slowly, taking approximately an hour, to reduce the transient effects on the secondary plant.) Additionally, due to a number of other startup activities taking place the MSRs were not placed in service until around 90% power.

As several of the main MSR steam isolation valves were opened a secondary plant transient occurred. A number of annunciators were received including both steam generator feed pump low suction pressure alarms. The transient lasted approximately 3 to 4 minutes before being stabilized. The operators were unaware that placing the MSRs into service at this higher power level would have such an effect. The associated Operations Procedure 3-OP-072.1 did not address manual operation of the timing valves and did not contain a specified upper power limit for placing the MSRs in service to assure plant stability.

Analysis: The finding is greater than minor because a human error adversely affected the Initiating Events cornerstone objective of limiting the likelihood of events that upset plant stability during power operations. However, because a plant trip did not occur, nor were the operation of any mitigating systems affected, the finding was determined to be of very low safety significance (Green). This finding is in the licensee's corrective action program as CR 03-1050.

Enforcement: No violation of regulatory requirements occurred. The inspectors determined that the finding did not represent a noncompliance because it occurred on non-safety-related secondary plant equipment. This finding is being tracked as FIN 05000250/2003003-01, A Personnel Error Resulted in a Secondary Plant Transient.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following seven operability determinations to ensure that TS 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 CR disposition.

- CR 03-0909 4A Qualified Safety Parameter Display System (QSPDS) not responding

- CR 03-0886 Containment High Pressure Safety Injection alarm
- CR 03-0928 AFW flow
- CR 03-1113 Battery gases escaping
- CR 03-0965 Reactor Protection System low flow bistable
- CR 03-1244 Unit 4 Dropped Rod and Axial Flux Rod Deviation alarm actuations
- CR 03-1350 Unit 3 containment temperatures near TS Limit

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspectors reviewed the Operator Work Arounds (OWAs) outstanding on June 16, 2003. The inspectors performed a semi-annual evaluation of the potential cumulative effects of all outstanding OWAs. These potential effects were discussed with control room supervision and operators. Furthermore, the inspectors reviewed the current OOS logs and walked down the control rooms to verify OWAs were being identified and properly entered into the corrective action program. The following seven OWAs were reviewed:

- CR 03-1363 Instrument Air Dryer High Temperature Alarms
- CR 01-0632 Heater Drain Tank and Level Control Swings
- CR 03-1316 Turbine Cylinder Heat Control Valve Cycles Excessively
- CR 02-1725 Turbine Control Valve Drifts Open
- CR 02-2162 4A RCP Degraded Number One Seal
- CR 03-0882 3A Accumulative Level Rises During HHSI Pump Runs
- CR 03-1094 MSR Timing Valves Do Not Time Requiring Manual Action

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors evaluated plant change/modification (PC/M) package for PC/M 03-032, 3CD & 4CD Upgrades and Enhancements. The package was evaluated to assess any adverse effects on system availability, reliability, and functional capability.

The inspectors observed the as-built configuration for this modification to ensure it was installed in accordance with the design. Documents reviewed included procedures, engineering calculations, modifications, work orders, site drawings, corrective action documents, applicable sections of the living UFSAR, supporting analysis, TSs, and design basis information.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the following nine 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 completed correctly 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 list of tests:

- WO 33000725 C AFW drain line leak repair
- 4-OSP-204 Accident monitoring instrumentation channel checks-QSPDS
- WO 33003302 4A CCW pump following preventive maintenance
- WO 33003470 4A CCW pump following oil test port installation
- WO 33009868 Unit 3 spent fuel pool level gauge repair
- WO 32007463 B AFW trip and throttle valve relay replacement
- WO 33001050 4CD instrument air compressors following preventive maintenance
- WO 33000510 4B EDG electric air compressor following preventive maintenance
- WO33003367-01 Unit 4 DPI-4-152B reactor coolant filter indicator following maintenance

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors reviewed the outage plans for the Unit 3 short duration outage that started on April 28, 2003, to repair a containment isolation valve. The inspectors confirmed that the licensee had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing the outage plan. The

inspectors observed portions of the shutdown and cooldown processes and verified the cooldown rate during the initial plant cooldown did not exceed TS limits. System pressures and level indications were observed for proper operation to ensure adequate core cooling was maintained. The inspectors reviewed that the outage unit risk as described in daily status sheets was consistent with the plan. On April 30, 2003, the inspectors conducted a partial walkdown of containment during the outage to inspect for reactor coolant system leaks and debris that could enter the containment sumps. The inspector monitored plant heatup, initial criticality, and power ascension to verify mode changes were made with the required equipment operable. Reactor coolant system boundary leakage was monitored to verify leakage requirements were met.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either reviewed or witnessed the following surveillance tests to verify that the tests met the TS, the UFSAR, and licensee procedure requirements and demonstrated the systems were capable of performing their intended safety functions and their operational readiness.

- 3-OSP-051.5 Local Leak Rate Tests Valves CV-3-200A, B, and C (containment isolation valve surveillance)
- 4-OSP-204 Accident Monitoring Instrumentation Channel Checks (QSPDS)
- 3-OSP-023.1 3B EDG Operability Test
- 3-OSP-028.6 Control Rod Exercise
- 3-OSP-075.2 AFW Train 2 Operability Verification
- 3-OSP-075 Auxiliary Feedwater System

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)

1EP6 Drill Evaluation

a. Inspection Scope

On June 24, 2003, the inspectors monitored from both the Technical Support Center and Control Room Simulator, the second quarter EP drill of the site emergency response organization. During the drill the inspectors assessed if actions taken for emergency classification, notification, and protective action recommendations were made in accordance with the EP implementing procedures and 10 CFR 50.72. The inspectors reviewed whether the initial activation of the emergency response centers

was correctly conducted due to a security event. Technical specifications required actions during the drill were reviewed to assess correct implementation. Drill critique items were discussed and reviewed with the licensee to verify that drill issues were being identified and captured.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors reviewed licensee submittals for the performance indicators (PIs) listed below for the period from second quarter 2002 through first quarter 2003 for Units 3 and 4. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Rev. 2, were used to verify the basis in reporting for data element. The inspectors reviewed the licensee's data sheets performed by procedure 0-ADM-032, NRC Performance Indicators. RCS leakage and chemistry data were also periodically reviewed during this period.

Reactor Safety Cornerstone

- Safety System Functional Failures
- Reactor Coolant Activity
- Reactor Coolant Leakage

Additionally, the inspectors reviewed operating reports, plant procedure 0-ADM-032, NRC Performance Indicators, and NRC inspection reports to verify the reported PI data was complete and accurate.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

Annual Sample Review

a. Inspection Scope

The inspectors performed a detailed review of the evaluation and corrective actions associated with CR 03-0137. This CR focused on the manual reactor trip of Unit 3 on January 27, 2003, which occurred when the diesel driven instrument air compressors 3CD and 4CD failed to automatically start and load on decreasing instrument air pressure, as designed. Because there have been previous failures of these

compressors and they have been in maintenance rule status a(1) since 2000, the inspectors also performed a historical review of other maintenance problems associated with the diesel driven instrument air compressors.

b. Findings and Observations

Introduction: A self-revealing Green finding was identified for inadequate corrective action to address long standing problems with the 3CD and 4CD diesel driven instrument air compressors.

Description: The inspectors determined through a historical review of CRs that there were numerous occasions when the 3CD and 4CD compressors failed to start or other system problems occurred. The list of CRs reviewed included; 97-0072, 97-2039, 98-0453, 00-0099, 00-1415, 00-2373, 00-2411, 01-0030, 01-0037, 01-0421, 01-1249, 01-1945, 01-2432, 02-0022, 02-0453, 02-1095 and 02-1247. One CR written in 2001, 01-0421 documented that the annual CR trend report indicated a negative long term trend in performance of the instrument air system. The apparent cause for that CR was determined to be an inadequate design that resulted in multiple failures of the compressors to start.

When the plant tripped as a result of another failure of the diesel air compressors to start on January 27, 2003, CR 03-137 was initiated. A diesel specialist assisted the licensee and determined that the start logic scheme for the diesel air compressors was unique to Turkey Point. While a standard or typical diesel start and load logic is based on engine RPM, the Turkey Point diesels were based on engine oil pressure. It was demonstrated that with the nonstandard start logic the engine would crank building up oil pressure but stop cranking before the engine actually started, which is what was observed during the January 27 plant trip. In addition, un-related deficiencies were identified in the fuel system that attributed to less than ideal start conditions.

Analysis: The lack of effective corrective action for the long standing starting problems with the diesel driven instrument air compressors was more than minor since it affected the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. This finding was reviewed using the Significance Determination Process and was determined to be of very low safety significance (Green) because several systems such as AFW, standby steam generator feed pumps, and manual realignment of the feedwater control valves were available. The licensee initiated CR 03-1019 to address the organizational issues that allowed acceptance of the previous failures without effective corrective action.

Enforcement: No violation of regulatory requirements occurred. The inspectors determined that the finding did not represent a noncompliance because it occurred on non-safety-related secondary plant equipment. This finding is being tracked as FIN 05000250, 251/2003003-02, Inadequate Corrective Action Resulted in a Plant Trip.

4OA3 Event Follow-up

.1 (Closed) Licensee Event Report (LER) 05000250/2003003-00, 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 C steam generator. The air operated main feedwater control valves drifted closed due to a momentary loss of the running instrument air compressors. The cause of the failure was the motor driven air compressor 4CM failed and the 3CM was out of service. The backup diesel driven air compressors 3CD and 4CD failed to pick up the load. The 3CD and 4CD were started locally and restored instrument air pressure. The unit responded as designed and was stabilized in Mode 3. A temporary system alteration was made adding two temporary instrument air compressors for each unit and the unit was restarted. Additional comments concerning the root cause of the diesel driven air compressors failure to load is in Section 4OA2. This LER is closed.

.2 (Closed) LER 05000250/2003004-00, As-Found Cycle 19 Main Steam Safety Valve Setpoints Outside Technical Specification Limits

During the power reduction for a March 2003 refueling outage for Unit 3, four Main Steam Safety Valves (MSSV) lifted outside the TS limits of plus or minus 3% during surveillance testing. The cause of the setpoints outside the TS limits was determined to be micro-bonding between the valve and disc for three of the valves. The valves seating surfaces were lapped to a specific finish to eliminate the micro-bonding. The fourth valve setpoint deviation was due to a misalignment of the valve yoke rod and nut. Corrective action was to correct the dimensions of the valve parts. These four valve setpoints found outside the required TS limits are a violation of TS 3.7.1.1. The licensee's analyses concluded that the as found condition of the MSSV did not exceed 110% design basis criteria for an over pressure transient. The event had no impact on the health and safety of the public. Since these problems were found during surveillance testing this LER was dispositioned as an NCV in section 4OA7 of this report. A previous NRC identified violation was issued in NRC IR 05000250, 251/2003002 for failure to report MSSV test results for previous outages along with several issues associated with the identification and resolution of these failures. This LER is closed.

4OA5 Third Party Reviews

The inspectors reviewed the final Institute of Nuclear Power Operations report for the June 2002 evaluation. There were no significant safety issues documented that were not known by the NRC.

4OA6 Meetings, including Exit

Exit Meeting Summary

On July 3, 2003, the resident inspectors presented the inspection results to Mr. M. Pearce 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 Violations

The following violation of very low significance (green) was identified by the licensee and is a violation of NRC requirement which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for disposition as a non-cited violation (NCV).

The Technical Specification 3.7.1.1 requires that the Main Steam Safety Valves lift setpoint be within plus or minus 3% of a specified value. Contrary to this, during surveillance testing prior to a refueling outage, the licensee identified that four valves tested outside the tolerance band as described in the licensee's corrective action program condition report CR 03-0368. This finding is of very low safety significance because the as found condition was within the 110% of design basis criteria for an overpressurization event.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:

E. Avella, Acting Plant General Manager
M. Cornel, Training Manager
T. Jones, Site Vice-President
M. Lacal, Operations Manager
T. Miller, Acting Maintenance Manager
M. Moore, Health Physics Supervisor
W. Parker, Licensing Manager
M. Pearce, Plant General Manager
W. Prevatt, Work Control Manager
G. Warriner, Quality Assurance Manager
A. Zielonka, Site Engineering Manager

NRC personnel:

J. Munday, Branch Chief
C. Patterson, Senior Resident Inspector
K. Green-Bates, Resident Inspector

LIST OF ITEMS OPENED AND CLOSED

Opened and Closed

05000250/2003003-01	FIN	A Personnel Error Resulted in a Secondary Plant Transient (Section 1R14)
05000250, 251/2003003-02	FIN	Inadequate Corrective Action Resulted in a Plant Trip (Section 4OA2)

Closed

05000250/2003003-00	LER	Manual Reactor Trip due to Low Steam Generator Level (Section 4OA3)
05000250/2003004-00	LER	As found Cycle 19 Main Steam Safety Valve Setpoints Outside Technical Specification Limits (Section 4OA3)

Attachment