



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

October 27, 2003

Florida Power & Light Company  
ATTN: Mr. J. A. Stall  
Senior Vice President of Nuclear Operations  
PO Box 14000  
Juno Beach, FL 33408-0420

**SUBJECT: TURKEY POINT NUCLEAR PLANT - INTEGRATED INSPECTION REPORT  
05000250/2003004 AND 05000251/2003004**

Dear Mr. Stall:

On September 27, 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 October 3, 2003, 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, there was one self-revealing finding of very low safety significance (Green). The finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because the violation was entered into your corrective action program, the NRC is treating this violation as non-cited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy. 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 the non-cited violation 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 2.790 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

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(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/*

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 05000250/2003004 and 05000251/2003004  
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

cc w/encl:

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-250, 50-251

License Nos: DPR-31, DPR-41

Report Nos: 05000250/2003004 and 05000251/2003004

Licensee: Florida Power & Light Company

Facility: Turkey Point Nuclear Plant, Units 3 & 4

Location: 9760 S. W. 344<sup>th</sup> Street  
Florida City, FL 33035

Dates: June 29, 2003 - September 27, 2003

Inspectors: C. Patterson, Senior Resident Inspector  
J. Hanna, Acting Senior Resident Inspector  
K. Green-Bates, Resident Inspector  
S. Ninh, Senior Project Engineer

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

Enclosure

## SUMMARY OF FINDINGS

IR 05000250/2003-004, 05000251/2003-004; 06/29/2003 - 09/27/20003; Turkey Point Nuclear Power Plant, Unit 3 & 4; Event Followup.

The report covered a three month period of inspection by resident inspectors. One Green non-cited violation was identified. The significance of the finding is indicated by its' 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. Inspector Identified and Self-Revealing Findings

#### Cornerstone: Mitigating Systems

- Green. A self-revealing finding was identified concerning a failure to comply with 10 CFR 50, Appendix B, Criterion V, "Instruction, Procedures, and Drawings." Licensee drawings and instructions used to research Clearance Zone 28-01 relay tagouts were not sufficient to assure that the design basis Engineering Safety Feature Actuation Signal (ESFAS) function of these components was protected. As a result, a plant configuration was established which rendered the automatic start of all AFW pumps on a Low-Low Steam Generator Level signal unavailable while U3 was in Operational Mode 3.

This finding is greater than minor since it affected the Mitigating System Cornerstone objective for Equipment Availability and had an actual safety impact of rendering the automatic start of all AFW pumps on a Low-Low Steam Generator Level signal unavailable while in Operational Mode 3. This finding was reviewed using the Significance Determination Process and was determined to be of very low safety significance because for the two applicable design basis accidents requiring this signal, alternative methods would have started the AFW pumps and the system would have been able to perform its safety function. (Section 4OA3.1)

### B. Licensee Identified Violations

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 corrective action program. The violation and corrective action tracking number are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status:

Unit 3 operated at full power during most of the inspection period. On August 15, 2003, Unit 3 reduced power to 20% due to temperature control problems associated with the cooling of the main turbine generator exciter. The two turbine plant cooling water heat exchangers were cleaned and the unit returned to full power on August 17, 2003.

Unit 4 operated at full power during most of the inspection period. On August 1, 2003, Unit 4 reduced power to 30% due to temperature control problems associated with cooling of the main turbine generator exciter. The two turbine plant cooling water heat exchangers were cleaned and the unit returned to full power on August 4, 2003. The unit started power coastdown on September 21, 2003, in preparation for a refueling outage and was at 94% at the close of the inspection period.

### 1. REACTOR SAFETY

#### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity (Reactor-R), Emergency Preparedness (EP)**

##### 1R01 Adverse Weather Protection

###### a. Inspection Scope

In September, due to the proximity of Hurricane Isabel to the site, 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 four partial alignment verifications of the safety related systems listed below during the inspection period to review 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:

- 3B Intake Cooling Water (ICW) header while the 3A ICW header was out of service for cleaning the 3A ICW/(Component Cooling Water) CCW basket strainer
- Unit 4 (Auxiliary Feedwater) AFW Train 1 while AFW Train 2 was out of service for operability testing
- Unit 4A, 3A and 3B (Emergency Diesel Generators) EDGs while the Unit 4B EDG was declared inoperable due to testing
- Unit 4 AFW Pump A Train 1 while Train 2 AFW Pumps B and C were out of service

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors toured the following eight 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 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, 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 4B 4160 Switchgear Room (Fire Zone 67)
- Unit 4A 4160 Switchgear Room (Fire Zone 68)
- Unit 4 Auxiliary Transformer Area (Fire Zone 82)
- Unit 3 Auxiliary Transformer Area (Fire Zone 87)
- Unit 3 and Unit 4 Auxiliary Feedwater Pump Area (Fire Zone 84)
- Unit 3 and Unit 4 Pipe and Valve Room Fire Zone 35)
- Unit 3 and Unit 4 Auxiliary Building Hallway (Fire Zone 58)
- Unit 3 and Unit 4 AFW Pump Area (Fire Zone 84)

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 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 Load Center 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 the switchgear room penetrations, and unobstructed floor drains. Equipment used for flood mitigation, such as switchgear room sump pumps, sump system level alarms and external drains, 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 Unit 3 and Unit 4 load center room flood mitigating functions. 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.

## 1R07 Heat Sink Performance

### a. Inspection Scope

The CCW system at Turkey Point is a safety-related high risk significant system. The inspectors reviewed the Unit 3 and Unit 4 CCW heat exchanger (HX) thermal performance testing results that were conducted in the month of July 2003, to verify that the CCW HXs were capable of removing the basis accident heat load as required. The inspectors also reviewed Technical Specification (TS) 3/4.7.2, Final Safety Analysis

Report (FSAR) Section 9, 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 ensure that test acceptance criteria, number of plugged tubes, instrument errors, and frequency of surveillance or testing were appropriately accounted for and included in the licensee's procedures 3/4 OSP-030.4, Component Cooling Water Heat Exchanger Performance Test and 3/4 OSP-019.4, Component Cooling Water Heat Exchanger Performance Monitoring.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On July 23, 2003, the inspectors observed and assessed licensed operator actions on a simulator scenario for a main steam isolation valve failing closed and a steam leak inside containment that also involved the failure of critical safety equipment. The licensee used Simulator Practice Scenario 008 "Team Training", Attachments 5, 11 and 58. 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 two equipment problems and associated Condition Reports (CRs) 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 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 whether equipment problems were being identified at the appropriate level and entered into the corrective action program.

- CR 03-1525 Unit 3 Steam Jet Air Ejector Found Flooded With Water
- CR 03-1560 Inverter & Battery Room Air Conditioning Unit Grounded

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the following seven emergent items, as described in the referenced CRs or work orders (WOs). The inspectors verified that the emergent work activities were adequately planned and controlled, as described in O-ADM-068, Work Week Management and O-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 03-1528 Gauge Calibration
- CR 03-1624 Boric Acid on High Head Safety Injection
- CR 03-1647 3A Load Center Undervoltage Relay Failure
- CR 03-2249 Demineralized Water Storage Tank - Water on Top of Bladder
- CR 03-1563 3C CCW Inservice Test (IST) - CCW Not Receiving a Valid Auto Start Signal
- CR 03-1331 Unit-3 Backup Pressurizer Heaters Continuously Energized
- CR 03-2174 AFW Lube Oil Pump Footvalve Failure

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During 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:

- On July 14, 2003, Unit 3 3A load center under voltage relay 327H/3A2 did not reset during the performance of surveillance test 3-OSP-006.2, "U3 480 Volt Switchgear Undervoltage Test". Unit 3 made a brief planned entry into TS 3.0.3 for the troubleshooting of the load center under voltage relay 327H/3A2. The licensee determined that the 3A2 switch did not work properly and needed to be replaced. The switch remained jumpered while waiting for the replacement. The switch was repaired on September 17, 2003. (CR 03-1647 & CR 03-1648)
- On July 14, 2003, during the performance of a Unit 3 3B Charging pump Equipment Clearance Order 3-03-07-027 of the system train, steps were performed out of sequence. (CR 03-1705, 03-1708, 03-1710, 03-2021)

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following six 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 interim CR disposition.

- |                       |   |
|-----------------------|---|
| • CR 03-1441          | Turbine Plant Cooling Water Isolation Valve |
| • CR 03-1597          | 4A Emergency Containment Cooler             |
| • PTN-ENG-SENS-03-009 | Control Room Habitability                   |
| • CR 03-1847          | Failure of Control Room Damper, D-2         |
| • CR 03-0895, Sup. 1  | 4A EDG Fuse Clips                           |
| • CR 03-2306          | 3A EDG Wrong Oil Added                      |

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the following four 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 list of tests:

- WO 33002399 Fire Pump Casing Vent
- 4-OSP-023.1 Diesel Generator Operability Test
- WO 33015160-8 B AFW Lube Oil Pump
- WO 33014567-5 A AFW Lube Oil Pump

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors reviewed the outage plans and contingency plans for the Unit 4 refueling outage, scheduled for October 6 - 26, 2003, to confirm that the licensee had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. The inspectors also observed portions of the planned outage activities listed below.

Outage Risk

Prior to the start of the refueling outage the inspectors reviewed the outage risk assessment with the licensee. The outage risk status or color and plant evolutions during the outage were reviewed. The risk assessment was planned according to plant procedure, O-ADM-051, Outage Risk Management. The inspectors reviewed that the outage unit risk as described in the plan was consistent with the outage work orders on file.

Refueling Activities

The inspectors observed new fuel pool load activities in the control room and spent fuel pool areas. Core load activities were observed and activities verified in accordance with procedure 4-OP-038.5, Refueling Pre-Shuffle in Spent Fuel Pit.

In addition, the nuclear fuel supplier informed the licensee of an issue involving a nonconformance associated with the top and bottom nozzles of some fuel assemblies. The inspectors observed the licensee inspect the nozzles on the new fuel assemblies and verified that CRs were generated as appropriate.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following five surveillance tests to verify that the tests met the TS, the Updated Final Safety Analysis Report (UFSAR), and licensee procedure

requirements and demonstrated the systems were capable of performing their intended safety functions and their operational readiness.

- 3-OSP-030.4, Component Cooling Water Heat Exchanger Performance Test
- 4-OSP-030.4, Component Cooling Water Heat Exchanger Performance Test
- 3-OSP- 023.2, 3A EDG 24 Hour Full Load Test and Load Rejection
- 3-OSP-030.1, 3C Component Cooling Water IST
- 4-OSP-075.2, B AFW Operability Test

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following two active temporary modifications to verify that risk significant items did not adversely affect the operation of a system that was altered. The inspectors reviewed plant procedure 0-ADM-503, Control and Use of Temporary System Alterations (TSA), to verify that the modifications were controlled as required by procedure. In addition, the inspectors toured plant areas and specifically looked for any temporary modifications that might not be identified to ensure that all issues were recognized. The following active temporary modifications were reviewed:

- U4 AFW Nitrogen Backup Cage - Trip Sensitive Equipment Protection Modification
- TSA 3-03-006-022 Troubleshooting Modifications for 3A 480 Volt Undervoltage Circuit

b. Findings

No findings of significance were identified.

**Cornerstone: Emergency Preparedness (EP)**

1EP6 Drill Evaluation

a. Inspection Scope

On August 19, 2003, the inspectors observed an operating crew in the simulator during the 3rd quarter EP drill of the site emergency response organization. During this drill the inspectors assessed operator actions in the control room simulator to verify whether emergency classification, notification, and protective action recommendations were made in accordance with implementing procedures. Additionally, the inspectors evaluated the adequacy of the post drill critiques conducted in the simulator.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled licensee submittals for the two performance indicators (PIs) listed below for the period from third quarter 2002 through second quarter 2003. 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 each data element.

Reactor Safety Cornerstone

- Safety System Unavailability - High Pressure Injection System
- Safety System Unavailability - Emergency AC Power System

The inspector reviewed a selection of licensee event reports (LERs), portions of Unit 3 and Unit 4 operator log entries, daily morning reports (including the daily CR descriptions), the monthly operating reports, and PI data sheets to verify that the licensee had adequately identified the number of unavailable hours that occurred during the previous four quarters. These unavailable hours were 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.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors selected the following CRs for detailed review and discussion with the licensee. These CRs were examined to verify whether problem identification was timely, complete and accurate; 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 TS compliance. The inspectors evaluated the CRs against the requirements of the licensee's corrective action program as delineated in Administrative Procedures ADM-518, Condition Reports, ADM-059, Root Cause Analysis, and 10 CFR 50, Appendix B.

- CR 03-1331 U3 Pressurizer Back-up Heaters and Millstone OE
- CR 03-1847 Control Room Emergency Intake Duct Flow Balancing

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up

.1 (Closed) Licensee Event Report (LER) 05000250/2003-005-00, Disabling Both Auxiliary Feedwater Trains Inadvertently During Mode 3

Introduction: A self revealing Green NCV was identified for failure to comply with 10 CFR 50, Appendix B, Criterion V, "Instruction, Procedures, and Drawings". Licensee drawings and documents used to develop Clearance Zone 28-01 relay tagouts were not sufficient to assure that the design basis ESFAS function of these components was protected. As a result, a plant configuration was established which rendered the automatic start of all AFW pumps on a Low-Low Steam Generator Level signal unavailable while Unit 3 was in Operational Mode 3.

Description: On March 1, 2003, Unit 3 was in Operational Mode 4 (Hot Standby) during a planned shutdown for Refueling Outage (RFO) Cycle 20. During the shutdown, when steam generators were drained to below the 10% AFW initiation setpoint, the AFW Steam Supply MOVs failed to open as required. The licensee's analyses concluded that the cause of the failure was the reactor protection and engineered safety features actuation system (ESFAS) relays for both trains of AFW had been inadvertently disabled. Equipment tagout of Clearance Zone 28-01 performed earlier in the day to isolate equipment, had caused two breakers (3D23-08 and 3D01-40) to be opened. Subsequent investigation into plant design basis, identified that opening these two breakers disabled both channels of AFW automatic actuation logic and relays and therefore impacted operation of the AFW system on a Unit 3 Low-Low Steam Generator (SG) Level signal. The licensee did not realize that plant documents used to develop the AFW clearance were inadequate until the valves failed to open.

Analysis: This finding is greater than minor since it affected the Mitigating System Cornerstone objective for Equipment Availability and had an actual safety impact of rendering the automatic start of all AFW pumps on a Low-Low Steam Generator Level signal unavailable while in Operational Mode 3. The finding was assessed using the Significance Determination Process for Reactor Inspection Findings, Phase 2 worksheets for the applicable initiating event likelihood; the exposure time for this condition was less than 3 days; and the following plant conditions and assumptions were made.

1. For a Loss of Normal Feedwater design basis accident, annunciator response procedure 3-ARP-097.CR and emergency operating procedure 3-EOP-E-0 instruct the operator to verify AFW pumps are started and if not, manually start them. The inspectors found that there was ample time for the operator to perform this action, given the fact that the unit had already been shutdown for 1 hour.



2. For a Loss of all Non-Emergency AC Power design basis accident, automatic actuation of the AFW pumps would still have occurred on a bus stripping signal.

This finding was determined to be of very low safety significance (Green).

Enforcement: 10 CFR 50, Appendix B, Criterion V, "Instruction, Procedures, and Drawings", states in part that "measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions." Contrary to this, plant drawing 5613-M-430-146, Sheet 12 A, Rev.4, "Reactor Protection System Control Circuits Train A" and document 5610-E-855, Rev. 490, "AC/DC Breaker List", did not adequately reflect the ESFAS design function. As a result, on March 1, 2003, while in Mode 3, when these documents were used to develop a clearance of the AFW system, the automatic start feature of AFW on a Unit 3 Low-Low Steam Generators Level signal was defeated and rendered all AFW pumps inoperable. Because this self revealing failure for a mitigating system was determined to be of very low safety significance and has been entered into the corrective action program (CR 03-0406, 03-2802) this violation is being treated as a non-cited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy, NUREG-1600: NCV 05000250/2003004-01, Failure to Maintain Design Documentation to Prevent Inadvertent Loss of Both Trains of AFW Automatic Actuation Logic and Relays. This LER is closed.

- .2 (Closed) Licensee Event Report (LER) 05000251/2003-001-00: Channel Failure of the Qualified Safety Parameter Display System

On April 10, 2003, the 4A Core Exit Thermocouple Subcooling Margin Monitor of the Qualified Safety Parameter Display System (QSPDS) was not responding during the power reduction. The licensee identified that some inputs to the 4A Channel of the QSPDS had stopped responding to actual plant conditions since March 22, 2003. These inputs were inoperable for more than 18 days which exceeded the 7 days TS Action Statements 31 and 37 of Accident Monitoring TS 3.3.3.3 for inoperability of the 4A In-Core Thermocouples, and the Reactor Vessel Level Monitoring System. The licensee determined the apparent cause of the failure was a sticking input relay on one of the thermocouple input board on Chassis number 2 of the 4A QSPDS. Corrective actions included increased monitoring and trending of QSPDS. This finding is greater than minor because it affected the Reactor Safety Mitigating System cornerstone objective in that operators may rely on equipment availability and reliability to respond to initiating events to prevent undesirable consequences during the accidents. The issue was considered to have very low safety significance because the remaining independent and redundant channel was operable to provide indication to operators in the control room. This event did not involve a performance issue and was not assessed through the SDP but was reviewed by NRC management. This licensee-identified issue involved a violation of TS 3.3.3.3 Action Statements 31 and 37. The enforcement aspects of the violation are discussed in Section 4OA7. This LER is closed.

.3 (Closed) Licensee Event Report (LER) 05000250/2003-006-00: Technical Specification Required Shutdown Due to Inoperable Containment Isolation Valve.

On April 28, 2003, with Unit 3 in Mode 1 at 100 percent power, the licensee entered TS 3.6.4, Containment Isolation Valves, Action Statement D, which required that the unit be in at least Hot Standby within 6 hours and in Cold Shutdown within the following 30 hours. This TS was entered in order to effect repairs to an inoperable containment isolation valve, CV-3-200B, which had excessive leakage. The licensee's apparent cause of the excessive leakage was attributed to wear on the valve stems, cages and plugs due to a lack of a defined preventative maintenance program of the letdown isolation valves. Corrective actions included the repair of CV-3-200A, B, C letdown isolation valves and revision of the preventative maintenance program to improve the reliability of these components. The inspectors noted that the licensee's failure to perform an as found leak Type C test prior to adjusting the frame cap screws on CV-3-200B was in violation of plant procedure 0-ADM-531, Containment Leakage Rate Testing Program and Administrative TS 6.8.4.h, the containment leakage rate testing requirements. Also, step 5.8.7.2 of 0-ADM-531 procedure states that if as found testing is not performed, then the component shall be tested at a frequency of at least once per 30 months. A review of the performance of the isolation valves since startup from the previous refueling outage did not provide any evidence that containment leakage rate limits required by TS 3.6.1.2 were exceeded prior to the unit shutdown on April 28, 2003. Therefore, 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. The licensee documented this violation CR 03-1014. This LER is closed.

.4 (Closed) LER 05000250/2003-008-00: Manual Reactor Trip to Repair Shutdown Bank B Rod Control System Logic Failure

On May 20, 2003, a controlled shutdown of Unit 3 was conducted due to a failure in the rod control system. Operator performance was previously discussed in NRC Inspection Report 250,251/2003-03, Section 1R14. The required Technical Specification (TS) for an inoperable shutdown control rod bank was followed and there was no violation of TS. The failure was determined to be due to a degraded connector in a control circuit card. Several corrective actions were taken including correcting the specific card failure and scheduling an inspection of all the card connectors with the vendor during the next refueling outage for both units. This LER is closed.

4OA6 Meetings, including Exit

Exit Meeting Summary

On October 3, 2003, 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 Violations

The following violation of very low 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 disposition as a non-cited violation (NCV).

Action Statement 31 of TS 3.3.3.3, applicable to In-core Thermocouples, states that if the number of OPERABLE channels is less than the Total Number of Channels, either restore the inoperable channel to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours. Action Statement 37 of TS 3.3.3.3, applicable to the Reactor Vessel Level Monitoring System, states that if the number of OPERABLE channels is one less than the total than the Total Number of Channels, either restore the inoperable channel to OPERABLE status within 7 days or, if repairs are not feasible without shutting down, prepare and submit a Special Report to the NRC within 30 days following the event. On April 10, 2003, the 4A Channel of In-Core Thermocouples and Reactor Vessel Level Monitoring System had been inoperable for more than 18 days and exceeded the 7 days TS Action Statements 31 and 37 of TS 3.3.3.3. This violation was identified in licensee's corrective action program as CR-03-0909. This finding is only of very low safety significance because the remaining independent and redundant channel was operable to provide indication to operators in the control room.

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee personnel:

M. Cornel, Training Manager  
M. Chambers, AFW System Engineer  
T. Jones, Site Vice-President  
M. Lecal, Operations Manager  
T. Miller, Maintenance Manager  
M. Moore, Performance Improvement Manager  
S. Wisler, 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:

K. Green-Bates, Resident Inspector  
J. Hanna, Acting Senior Resident Inspector  
J. Munday, Branch Chief  
S. Ninh, Project Engineer  
C. Patterson, Senior Resident Inspector

### LIST OF ITEMS OPENED AND CLOSED

#### Opened and Closed

05000250/2003004-01	NCV	Failure to Maintain Design Documentation to Prevent Inadvertent Loss of Both Trains of AFW Automatic Actuation Logic and Relays(Section 4OA3.1)
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#### Closed

05000250/2003-005-00	LER	Disabling Both Auxiliary Feedwater Trains Inadvertently During Mode 3 (Section 4OA3.1)
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05000251/2003-001-00	LER	Channel Failure of the Qualified Safety Parameter Display System (Section 4OA3.2)
05000250/2003-006-00	LER	Technical Specifications Required Shutdown Due to Inoperable Containment Isolation Valve (Section 4OA3.3)
05000250/2003-008-00	LER	Manual Reactor Trip to Repair Shutdown Bank B Rod Control System Logic Failure (Section 4OA3.4)