UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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ATLANTA, GEORGIA 30303-8931

April 27, 2006

EA-06-100

Mr. Dale E. Young, Vice President
Crystal River Nuclear Plant (NA1B)
ATTN: Supervisor, Licensing &
Regulatory Programs
15760 West Power Line Street
Crystal River, FL 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 - EXERCISE OF DISCRETION
NRC INTEGRATED INSPECTION REPORT 05000302/2006002

Dear Mr. Young:

On March 31, 2006, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Crystal River Unit 3 facility. The enclosed integrated inspection report documents the inspection findings, which were discussed on April 10, 2006, with you and 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.

This report documents one issue involving a failure to maintain two Main Feedwater Isolation Valves operable in one Main Feedwater flow path per Improved Technical Specification (ITS) 3.7.3 requirements. Although this issue constitutes a violation of NRC requirements, we have concluded that Crystal River's actions did not contribute to the degraded condition and thus, no performance deficiency was identified. Based on these facts, I have been authorized, after consultation with the Director, NRC Office of Enforcement, to exercise enforcement discretion in accordance with Section VII.B.6 of the Enforcement Policy and refrain from issuing enforcement action for the violation. An evaluation was performed and we have determined that this was an issue of very low safety significance.

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 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/

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

Docket No.: 50-302
License No.: DPR-72

Enclosure: Inspection Report 05000302/2006002
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

FPC

(ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

Joel T. Munday, Chief
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Letter to Dale E. Young from Joel T. Munday dated April 27, 2006.

SUBJECT: CRYSTAL RIVER UNIT 3 - EXERCISE OF DISCRETION
NRC INTEGRATED INSPECTION REPORT 05000302/2006002

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-302
License No.:	DPR-72
Report No:	05000302/2006002
Licensee:	Progress Energy Florida (Florida Power Corporation)
Facility:	Crystal River Unit 3
Location:	15760 West Power Line Street Crystal River, FL 34428-6708
Dates:	January 1, 2006 - March 31, 2006
Inspectors:	T. Morrissey, Senior Resident Inspector R. Reyes, Resident Inspector M. Bates, Operations Engineer (Section 1R11.2) T. Stetka, Senior Operations Engineer (Section 1R11.2)
Approved by:	Joel T. Munday, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000302/2006-002; 01/01/2006 - 03/31/2006; Crystal River Unit 3; Routine Integrated Inspection Report.

The report covered a three month period of inspection by the resident inspectors and an inspection by two regional inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process,” Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

None

B. Licensee-identified Violations

None

Enclosure

REPORT DETAILS

Summary of Plant Status:

Crystal River Unit 3 began the inspection period in mode 3. Following replacement of the "B" phase and repair of the "C" phase main stepup transformers, the unit was restarted on January 6 and was essentially at full power on January 10. On March 18, the unit was shutdown to mode 3 again to replace the "B" phase main stepup transformer. The unit was restarted on March 26 and reached full power on March 29. The unit operated at essentially full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity [R]

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors reviewed the licensee's plans for mitigating cold weather to assure that vital systems and components were protected from freezing in accordance with the licensee's Administrative Instruction AI-513, Seasonal Weather Preparations, Section 4.1, Cold Weather Preparations. The inspectors walked down portions of the systems listed below to check for any unidentified susceptibilities. Operability of heat trace circuits for boric acid storage tank piping was verified. Nuclear condition reports were reviewed to check that the licensee was identifying and correcting cold weather protection issues. This completed the annual sample required prior to the onset of cold weather.

- Emergency Feedwater Pump EFP-2
- Emergency Feedwater Pump EFP-3
- Boric Acid Storage Tanks
- A and B Emergency Diesel Generators (EGDG)

On February 13 and 14, when outdoor temperature fell below 40 degrees Fahrenheit (F), the inspectors verified that the licensee implemented AI-513, Seasonal Weather Preparations, Section 4.2, Freezing Weather. The inspectors walked down portions of the Emergency Feedwater Pump EFP-3 system to check for any unidentified susceptibilities. There were no sustained periods of freezing weather during the inspection period. This completed one sample for a site specific weather related condition.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns

a. Inspection Scope

The inspectors verified the critical portions of equipment alignments for selected trains that remained operable while the redundant trains were inoperable. The inspectors reviewed plant documents to determine the correct system and power alignments, and the required positions of select valves and breakers. The inspectors verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact mitigating system availability. The inspectors verified the following three partial system alignments in system walkdowns using the listed documents:

- January 11, EGDG-1A, using Operating Procedure (OP)-707, Operation Of The Engineered Safeguards Diesel Generators, and Surveillance Procedure (SP)-321, Power Distribution Breaker Alignment and Power Availability verification, while EGDG-1B was out of service for testing.

- February 14, Emergency Feedwater Pump EFP-3, using OP-450, Emergency Feedwater System, while Feed Water Pump (FWP)-7 was unavailable due to maintenance being performed on Diesel Generator MTDG1.

- February 22, Service Water Pump (SWP)-1B, using OP-408, Nuclear Services Cooling System, while SWP-1A was out of service for planned maintenance.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown

a. Inspection Scope

The inspectors conducted one detailed walkdown/review of the alignment and condition of accessible portions of the Make-up and High Pressure Injection System, which included the Boric Acid Storage Tank and associated pumps. The inspectors utilized licensee procedures, as well as licensing and design basis documents to verify that the system (i.e., pump, valve, and electrical) alignment was correct. During the walkdown, the inspectors also verified that: valves and pumps did not exhibit leakage that would impact their function; major portions of the system and components were correctly labeled; hangers and supports were installed and functional; and essential support systems were operational. The active/inactive boron leak list, equipment performance priority list, degraded equipment log were reviewed to determine if the identified deficiencies impacted the systems functions. In addition, the inspectors reviewed the system health report with the system engineer, reviewed open work orders and nuclear condition reports (NCRs) to verify that the licensee had appropriately characterized and prioritized equipment problems and alignment issues in the corrective action program. Additional documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Protection Walkdowns

a. Inspection Scope

The inspectors walked down accessible portions of the plant to assess the licensee's implementation of the fire protection program. The inspectors checked that the areas were free of transient combustible material and other ignition sources. Also, fire detection and suppression capabilities, fire barriers, and compensatory measures for fire protection problems were verified. The inspectors checked fire suppression and detection equipment to determine whether conditions or deficiencies existed which could impair the function of the equipment. The inspectors selected the areas based on a review of the licensee's probabilistic risk assessment. The inspectors also reviewed the licensee's fire protection program to verify the requirements of Final Safety Analysis Report (FSAR) Section 9.8, Plant Fire Protection Program, were met. Documents reviewed are listed in the attachment. The inspectors toured the following eight areas important to reactor safety:

- Main Control room
- 1B and 1C Make-up pump cubicles and Make-up valve gallery
- A and B Control Complex Chiller room
- Boric Acid Storage Tank and Pump area
- Borated Water Storage Tank area
- Main Stepup Transformer area
- 'A' and 'B' Decay Heat Pump and Building Spray Pump vaults
- Emergency Feed Tank building

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill

a. Inspection Scope

On January 25, the inspectors observed the licensee fire brigade respond to an unannounced simulated fire in the 480-Volt Unit Switchgear Room (95' Elevation turbine building). The inspectors checked the brigade's communications, ability to set-up and execute fire operations, and their use of fire fighting equipment. The inspectors verified compensatory actions were in place to ensure that additional alarms which may be received during the drill were addressed. Additionally, the inspectors verified the fire brigade considered the aspects as described below when the brigade conducted the firefighting activities. The inspectors attended the post-drill critique to check that the licensee's drill acceptance criteria were met and that any discrepancies were discussed and resolved. In addition to the drill observation, Administrative Instruction AI-2205, Administration Of CR-3 Fire Brigade

Organization And Duties Of The Fire Brigade, and the fire drill evaluation report were reviewed to assure that acceptance criteria were evaluated and deficiencies were documented and corrected.

- The brigade, including the fire team leader, had a minimum of five members
- Members set out designated protective clothing and properly donned gear
- Brigade leader maintained control. Members were briefed, discussed plan of attack, received individual assignments, and completed communications checks
- Fire brigade arrived at the fire scene in a timely manner, taking the appropriate access route specified in the strategies and procedures
- Control and command was set up near the fire scene and communications were established with the control room and the fire brigade members
- Fire hose lines reached all necessary fire hazard locations, were laid out without flow constrictions, and were simulated as being charged with water
- The fire area was entered in a controlled manner following the two person rule
- The fire brigade brought sufficient fire-fighting equipment to the scene to properly perform its fire-fighting duties
- The fire-fighting pre-fire plan strategies were utilized
- The drill scenario was followed, and the drill acceptance criteria were met
- Fire fighting equipment was returned to a readiness state after ending the drill

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

.1 Observed Simulator Evaluated Session

a. Inspection Scope

On January 19, the inspectors observed licensed operators response and actions for the Crystal River Unit 3 Simulator Evaluated Session, SES-36. In addition to responding to multiple instrument and equipment failures, the session required the crew to use plant abnormal and emergency operating procedures (EOPs) to respond to a reactor trip, loss of the 'B' ES 4160 Volt Bus, a 'B' Emergency Diesel Generator trip, and a loss of all emergency feedwater. Later in the scenario, the Emergency plan was entered and the licensee declared an Alert and simulated activation of the Technical Support Center and Operation Support Center. The EOPs entered included EOP-2, Vital System Status Verification, and EOP-04, Inadequate Heat Transfer. The inspection focused on high-risk operator actions performed during implementation of the emergency operating procedures; emergency plan implementation using emergency management procedure EM-202, Duties of the Emergency Coordinator; and the incorporation of lessons learned from previous plant events and simulator sessions. Through observations of the critique conducted by training instructors and plant management following the session, the inspectors assessed whether appropriate feedback was provided to the licensed operators regarding any identified weaknesses.

The inspectors specifically evaluated the following attributes related to operating crew performance:

- Clarity and formality of communication including crew briefings
- Ability to take timely action to safely control the unit
- Prioritization, interpretation, and verification of alarms
- Implementation of EOPs
- Control Board operation and manipulation, including operator actions
- Oversight and direction provided by supervision, including ability to identify and notify state authorities within the 15 minute requirement
- Effectiveness of the training oversight, evaluation, and critique

b. Findings

No findings of significance were identified.

.2 Biennial Review

a. Inspection Scope

The inspectors reviewed facility operating history and associated documents in preparation for this inspection. During the week of January 30, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of simulator operating tests associated with the licensee's operator requalification program. Each of the activities performed by the inspectors was done to assess the effectiveness of the licensee in implementing requalification requirements identified in 10 CFR 55, "Operators' Licenses." The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines as established by their Systems Approach to Training (SAT) based Institute of Nuclear Power Operations (INPO) approved program. The inspectors also reviewed and evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations. The inspectors observed two operator crews during the performance of the operating tests. Documentation reviewed included written examinations, Job Performance Measures (JPMs), simulator scenarios, licensee procedures, on-shift records, simulator modification request records and performance test records, the feedback process, licensed operator qualification records, remediation plans, watchstanding, and medical records. The records were inspected against the criteria listed in Inspection Procedure 71111.11. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's effectiveness in performing routine maintenance activities. This review included an assessment of the licensee's practices pertaining to the identification, scope, and handling of degraded equipment conditions, as well as common cause failure evaluations and the resolution of historical equipment problems. For those systems, structures, and components within the

scope of the maintenance rule per 10 CFR 50.65, the inspectors verified that reliability and unavailability were properly monitored, and that 10 CFR 50.65 (a)(1) and (a)(2) classifications were justified in light of the reviewed degraded equipment condition. Documents reviewed are listed in the attachment. The inspectors conducted this inspection for the two degraded equipment conditions associated with the items listed below.

- NCR 178425, Integrated Control System (ICS) IC-381-UL Module Failure
- NCR 106443, RC Pressure Boundary Leakage at Upper Level Tap for RC-1-LT3

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the risk impact associated with those activities listed below and verified the licensee's associated risk management actions. This review primarily focused on equipment determined to be risk significant within the maintenance rule. The inspectors also assessed the adequacy of the licensee's identification and resolution of problems associated with risk management including emergent work activities. The licensee's implementation of compliance procedure CP-253, Power Operation Risk Assessment, was verified in each of the following five work week assessments.

- Work Week 06W01 Risk Assessment for returning Unit 3 on-line and increasing power to 100 percent, after completing maintenance on the 500KV output transformers.
- Work Week 06W03 Risk Assessment for operation in condition Yellow due to Make-up valve (MUV)-69 out of service for planned maintenance.
- Work Week 06W05 Risk Assessment for operation with MUP-1C unavailable due to maintenance and during ICS troubleshooting activities
- Work Week 06W06 Risk Assessment for operation with unavailability of Diesel Engine MTDG1 and FWP-7
- Work Week 06W07 Risk Assessment for operation with unavailability of FWP-7, SWP- 1A, and Emergency Diesel Generator EGDG-1A

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

For the three non-routine plant evolutions described below, the inspectors reviewed the operating crew's performance, operator logs, control board indications, and the plant computer data to verify that operator response was in accordance with the associated plant procedures.

- January 6, Reactor startup and power escalation to Mode 1 in accordance with OP-210, Reactor Startup and OP-203, Plant Startup
- March 17, Reactor power reduction to below 50 percent in preparation for reactor shutdown in accordance with OP-204, Power Operations
- March 26, Reactor startup and power escalation to Mode 1 in accordance with OP-210, Reactor Startup

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following five NCRs to verify that the operability of systems important to safety was properly established, that the affected components or systems remained capable of performing their intended safety function, and that no unrecognized increase in plant or public risk occurred. The inspectors determined if operability of systems or components important to safety was consistent with technical specifications, the FSAR, 10 CFR Part 50 requirements, and when applicable, NRC Inspection Manual, Part 9900, Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety." The inspectors monitored licensee NCRs, work schedules, and engineering documents to check if operability issues were being identified at an appropriate threshold and documented in the corrective action program, consistent with 10 CFR 50, Appendix B requirements, and licensee procedure NGGC-CAP-200, Corrective Action Program.

- NCR 180337 Feedwater Valve (FWV)-32 Failure to open on demand during increase to 25% power
- NCR 183681 Reactivity Concern Associated With Axial Power Shaping Rod (APSR) Instrument Channel
- NCR 185229 Nuclear Services Closed Cycle Cooling System Leakage above normal
- NCR 187674 Improved Technical Specification (ITS) Pressurizer Heater Group Breaker Tripped
- NCR 179116 EGDG-1A Governor High Limit Anomaly During SP-354A

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors witnessed and/or reviewed post-maintenance testing procedures and/or test activities, as appropriate, for selected risk significant systems to verify whether: (1) testing was adequate for the maintenance performed; (2) acceptance criteria were clear, and adequately demonstrated operational readiness consistent with design and licensing basis documents; (3) test instrumentation had current calibrations, range, and accuracy consistent with the application; (4) tests were performed as written with applicable prerequisites satisfied; and (5) equipment was returned to the status required to perform its safety function. The six post-maintenance tests reviewed are listed below:

- WO 806329, Replace/Test ICS Function Generator Module IC-3815-IC
- Surveillance Procedure SP-701K, RM-A6 Particulate Calibration, after replacing a module and power supply on RM-A6 per WO 0622333
- WO's 812535 and 814197, Troubleshoot ICS/Replace/Test modules IC-2813-UL, IC-3415-UL and IC-386-UL2
- OP-411, Instrument and Station Air System, after performing maintenance on Instrument Air Compressor IAP-3B, per WO 697510
- SP-370, Quarterly Cycling Of Valves, after performing maintenance on Decay Heat Valve DHV-91 per WO 536867
- WO 762151, Test For Operability of valve MSV-414-SV4 after replacement

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities

.1 Forced Outage to Repair/Replace Main Stepup Transformers

a. Inspection Scope

On December 31, 2005, the unit was shutdown to Mode 3 to replace the "B" phase and repair the "C" phase main stepup transformers. The inspectors reviewed the outage plans to confirm that the licensee had appropriately considered risk in developing and implementing the plans. During the outage, the inspectors verified the status and configuration of electrical systems met ITS requirements and switchyard activities were controlled commensurate with safety and the outage risk control plan. The unit was restarted on January 6, 2006. Licensee documents reviewed for the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Forced Outage to Replace Main Stepup Transformer

a. Inspection Scope

On March 18, the unit was shutdown to Mode 3 to replace the "B" phase main stepup transformer. The inspectors reviewed the outage plans to confirm that the licensee had appropriately considered risk in developing and implementing the plans. During the outage, the inspectors verified the status and configuration of electrical systems met ITS requirements and switchyard activities were controlled commensurate with safety and the outage risk control plan. The unit was restarted on March 26. Licensee documents reviewed for the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed and/or reviewed the surveillance tests listed below to verify that technical specification surveillance requirements were followed and that test acceptance criteria were properly specified. The inspectors verified that proper test conditions were established as specified in the procedures, that no equipment preconditioning activities occurred, and that acceptance criteria had been met. Additionally, the inspectors also verified that equipment was properly returned to service and that proper testing was specified and conducted to ensure that the equipment could perform its intended safety function following maintenance or as part of surveillance testing. The following six activities were observed/reviewed:

In-Service Test:

- SP-334B Spent Fuel Pump SFP-1B Quarterly Surveillance

Surveillance Tests:

- SP-110C "C" Channel Reactor Protection System Functional Testing
- SP-146A EFIC Monthly Functional Test (During Modes 1, 2, 3) (Channel A only)
- SP-349A Emergency Feed Pump EFP-1 And Valve Surveillance

SP-332 Steam Line and Feed Water Isolation Functional Test

RCS Leak Detection Test:

- SP-317, Reactor Coolant System Leak Rate Determination

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed and reviewed two emergency response activities to verify the licensee was properly classifying emergency events, making the required notifications, and appropriate protective action recommendations. The inspectors assessed the licensee's ability to classify emergent situations and make timely notification to State and Federal officials in accordance with 10 CFR Part 50.72. The inspectors also evaluated classification and notification activities completed by the licensee's technical support center and emergency offsite facility staff for the emergency response facility drill. Emergency activities were verified to be in accordance with the Crystal River Radiological Emergency Response Plan, Section 8.0, Emergency Classification System, and 10 CFR Part 50, Appendix E. Additionally, the inspectors verified that adequate licensee critiques were conducted in order to identify performance weaknesses and necessary improvements.

- On January 19, licensed operator Simulator Evaluated Session, SES-36, involving a reactor trip, loss of the 'B' train ES 4160 Volt emergency power and a loss of all emergency feedwater.

- On March 1, the licensee conducted an emergency response facility drill involving a large break loss of coolant accident scenario which included a number of complicating events.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors checked licensee submittals for the performance indicators (PIs) listed below for the period January 1, 2004 through December 31, 2005 to verify the accuracy of the PI data reported during that period. Performance indicator definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Rev. 3, were used to check the reporting for each data element. The inspector checked licensee event reports (LERs), operator logs, daily plant status reports, the NCR database, the Maintenance Rule data base, and performance indicator data sheets to verify that the licensee had identified the cumulative safety system unavailabilities. The inspectors also checked the accuracy of the number of critical hours reported. In addition, the

inspectors interviewed licensee personnel associated with performance indicator data collection, evaluation, and distribution. The inspectors checked that any deficiencies affecting the licensee's performance indicator program were entered into the corrective action program and appropriately resolved.

Reactor Safety Cornerstone

- Safety System Unavailability, Residual Heat Removal System
- Safety System Unavailability, Heat Removal (AFW)

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution

.1 Daily Screening of Items Entered Into the Corrective Action Program

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order 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 attending daily plant status meetings, interviewing plant operators and applicable system engineers, and accessing the licensee's computerized database.

b. Findings

No findings of significance were identified.

.2 Annual Sample Review

a. Inspection Scope

The inspectors selected Condition Report 3-C99-3279, Unplanned Release Of Condensate Water (secondary system), for detailed review and discussion with the licensee. The inspectors checked that the issue had been completely and accurately identified in the licensee's corrective action program, and that safety concerns were properly classified and prioritized for resolution, apparent cause determinations were sufficiently thorough, and appropriate corrective actions were implemented in a manner consistent with safety and compliance with plant technical specifications and 10 CFR50. The inspectors also evaluated the NCR using the requirements of the licensee's corrective action program as delineated in Corrective Action procedure CAP-NGGC-200, Corrective Action Program.

b. Findings and Observations

No findings of significance were identified. The licensee's review of this issue and corrective actions were comprehensive and thorough.

4OA3 Event Followup

.1 (Closed) Licensee Event Report (LER) 05000302/2005-005-00: Inadvertent B Train Engineered Safeguards Actuation Due To Inadequate Procedure Guidance

The event report summarized an unintended actuation of the "B" Engineered Safeguards (ES) equipment which occurred on November 14, 2005. The licensee's root cause described that the guidance in the plant procedures for removal of the ES system from service was inadequate since it only required the system to be placed in "bypass," which did not disable the actuation function for all conditions. The planned sequence of the bus outage restoration allowed the ES system to come out of "bypass," thus causing an actuation of the system. The inspectors determined that this issue was a performance deficiency for failure to use adequate procedures to restore the bus and not preventing an inadvertent ES actuation. During the actuation, the Unit was in Mode 6 and all available equipment operated as designed and there were no equipment failures or damage due to this event. No water was injected into the core and no water transfer occurred. No new findings were identified in the inspectors's review. Licensee corrective actions included modifying the procedure to put channels in test mode. 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 the problem in NCR 175996. This LER is closed.

.2 (Closed) LER 05000302/2005-004-00, Motor-Operated Main Feedwater Isolation Valve Inoperable Due To Motor Rotor Oxidation/Corrosion

a. Inspection Scope

The inspectors reviewed the LER to evaluate the licensee's assessment of the event and to identify any licensee performance deficiencies associated with the cause.

b. Findings

Introduction: A violation of ITS 3.7.3 was identified for one Main Feedwater Isolation Valve being inoperable in excess of the allowed times. Enforcement discretion was exercised for this violation. This issue was determined not to be a finding because a performance deficiency was not identified.

Description: On October 28, 2005, a "B" train Main Feedwater isolation valve (FWV-29) failed to automatically close during a plant shutdown. The valve was subsequently manually closed utilizing the valve handwheel. The licensee and an outside vender determined the failure was caused by corrosion of the valve's magnesium motor rotor. The rotor's fan blades and shorting ring were found discolored and distorted with some fan pieces broken.

Based on the failure mechanism, the licensee using engineering judgement, concluded that the valve was inoperable for a period of time greater than the 72 hours allowed by ITS 3.7.3, Condition A, Required Action A.1. The motor for FWV-29 was installed in 1990 and was last successfully operated when the valve automatically opened during a reactor startup on September 11, 2004 .

Analysis: The inspectors determined that a violation of ITS 3.7.3, Condition A, Required Action A.1 occurred since the FWV-29 valve was inoperable in excess of the ITS allowed time (72 hours). The inspectors determined that this violation was more than minor because it affected the equipment

performance attribute of the Mitigating System cornerstone and because it affects the cornerstone objective of ensuring mitigating system availability. The inspectors determined that the valve failure was not a performance deficiency because the cause of the valve failure was not reasonably within the licensee's ability to foresee and correct to prevent the failure. Because a performance deficiency was not associated with this issue, it was not subject to evaluation under the Significance Determination Process (SDP). However, to understand the risk significance of the ITS violation, a risk assessment was performed. Since the valve would not have performed it's safety function for greater than the ITS allowed outage time, a Significance Determination Process (SDP) Phase 2 analysis was required. Based upon the Phase 2 results, a regional Senior Reactor Analyst performed a Phase 3 evaluation. The dominant accident sequence involved a Steam Generator Tube Rupture, failure to isolate the ruptured generator and failure of the Decay Heat Removal System through various human and equipment failures. The significance of the finding was mitigated because another valve in series with FWV-29 was available to isolate the line should the steam generator rupture. Additionally an exposure time of approximately 7 months was used in the evaluation because it was unknown when the valve actually failed. Therefore, the exposure time of one half the time from the last successful operation of the valve until its repair was used. The Phase 3 evaluation resulted in a very low safety significance finding (Green).

Enforcement: The NRC concluded that a violation of ITS occurred; however, the violation was not attributable to an equipment failure that was avoidable by reasonable licensee quality assurance measures or management controls. Because the applicable criteria specified in the NRC's Enforcement Policy was satisfied, the NRC is exercising enforcement discretion in accordance with Section VII.B.6 of the Enforcement Policy and is refraining from issuing enforcement action for this violation.

4OA6 Meetings

.1 Exit Meeting Summary

On April 10, 2006, the resident inspectors presented the inspection results to Mr. D. Young, Site Vice President and other members of licensee management, who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

On April 27, 2006, the resident inspectors informed Mr. J. Franke, Plant General Manager, and other members of licensee management of the NRC's decision to exercise enforcement discretion and not issue enforcement action for the violation of ITS as documented in LER 05000302/2005-004-00.

.2 Annual Assessment Meeting Summary

On April 11, 2006, the NRC's Chief of Reactor Projects Branch 3, Region II Public Affairs Officer, and Resident staff assigned to the Crystal River Nuclear Plant met with Progress Energy - Florida Power Corporation (FPC) to discuss the NRC's Reactor Oversight Process (ROP) and the Crystal River annual assessment of safety performance for the period of January 1, 2005 - December 31, 2005. The major topics addressed were: the NRC 's assessment program, the results of the Crystal River 3 assessment, and future NRC inspection activities. Attendees included FPC management, FPC site staff, and eleven members of the public.

This meeting was open to the public. The NRC's presentation material used for the discussion is available from the NRC's document system (ADAMS) as accession number ML061030486. Licensee's handout was presented at the meeting is also available from the NRC's document system (ADAMS) as accession number ML061030506. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee
M. Annacone, Manager, Engineering
W. Brewer, Manager, Maintenance
R. Hons, Manager, Training
J. Franke, Plant General Manager
J. Hays, Manager, Outage and Scheduling
J. Holt, Manager, Operations
P. Infanger, Supervisor, Licensing
M. Rigsby, Radiation Protection Manager
D. Roderick, Director Site Operations
J. Stephenson, Principal Nuclear Emergency Preparedness Specialist
T. Hobbs, Manager, Nuclear Assessment
D. Young, Vice President, Crystal River Nuclear Plant

NRC personnel:
J. Munday, Chief, Reactor Projects Branch 3, NRC Region II

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

05000302/2005-005-00	LER	Inadvertent B Train Engineered Safeguards Actuation Due to Inadequate Procedure Guidance (Section 4OA3.1)
05000302/2005-004-00	LER	Motor-Operated Main Feedwater Isolation Valve Inoperable Due to Motor Rotor Oxidation/Corrosion (Section 4OA3.2)

Attachment

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures
OP-402, Makeup and Purification System
OP-403B, Chemical Addition-Boric Acid System

Section 1R05: Fire Protection

Procedures
AI-2205A, Pre Fire Plan - Control Complex
AI-2205C, Pre Fire Plan - Auxiliary Building
AI-2205F, Pre Fire Plan - Miscellaneous Buildings and Components

Section 1R11.2 Licensed Operator Requalification

TPP-206, Simulator Program, Revision 05
TAP-403, Conduct of Written Examinations, Revision 8
TAP-405, NRC License Applications and Renewals, Revision 7
TAP-408, Development and Conduct of Job Performance Measures, Revision 3
TAP-409, Conduct of Simulator Training and Evaluation, Revision 14
TAP-410, NRC License Examination Security Program, Revision 05
TAP-412, Simulator Operation, Revision 01
EM-202, Duties of the Emergency Coordinator, Revision 77
TRN-NGGC-0002, Performance Review and Remedial Training, Revision 0
JPM# 223 (Plant), Purge the Main Generator, 10/18/05
JPM# 249 (Simulator), Dropped Rod Recovery, 09/07/05
JPM# 291 (Simulator), Perform EOP-14, Enclosure 7, 09/01/05
JPM# 333 (Plant), Perform a Waste Gas Release to the Containment Building, 9/14/05
JPM# 376 (Admin), Perform Time To Boil / Uncovery Calculation, 10/18/05
JPM# 400A (Admin), Determine Emergency Action Level and Protective Action Recommendations, 10/18/05
SES-16, Revision 09
SES-19, Revision 08
Open Trouble Report List dated 01/20/06

Section 1R12: Maintenance Effectiveness

Procedures

ADM-NGGC-0101, Maintenance Rule Program

Other
ICS Health Report January - June 2005
Equipment Performance Priority List
NCR 178412, Steam Generator/Reactor Master Station Response
ICS Maintenance Rule Database

Enhanced Design Basis Document for the Integrated Control System
Work Order 812535, ISC did not Properly Transfer

Section 1R20: Refueling and Outage Activities

Procedures

WCP-102, Outage Risk Assessment
OP-203, Plant Startup
OP-210, Reactor Startup

Section 4OA5: Other

Surveillance procedure SP-321, Power Distribution Breaker Alignment and Power Availability Verification
Progress Energy Interface Agreement, NGGM-IA-0031, Transmission Florida Interface Agreement for Operation, Maintenance, and Engineering Activities
Licensee compliance procedure CP-253, Power Operation Risk Assessment and Management
Licensee procedure AI-500, Conduct of Operations, Appendix 7
Annunciator Response Procedure AR-702, SSF Annunciator Response, section SF-A2- 07-07, 230KV Grid Degrading