



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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

July 13, 2007

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 - NRC INTEGRATED INSPECTION REPORT
05000302/2007003

Dear Mr. Young:

On June 30, 2007, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Crystal River Unit 3. The enclosed integrated inspection report documents the inspection findings, which were discussed on June 28, 2007, 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.

Based on the results of this inspection, the inspectors identified one 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 of the issue, and because it was entered into your corrective action program, the NRC is treating the issue as a non-cited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy. 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, NRC Region II; The Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the Crystal River Unit 3 site.

FPC

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of 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/

Michael E. Ernstes, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 05000302/2007003
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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Letter to Dale E. Young from Michael E. Ernstes, dated July 13, 2007

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05000302/2007003

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.: 50-302

License No.: DPR-72

Report No: 05000302/2007003

Licensee: Progress Energy Florida (Florida Power Corporation)

Facility Crystal River Unit 3

Location: 15760 West Power Line Street
Crystal River, FL 34428-6708

Dates: April 1, 2007 - June 30, 2007

Inspectors: T. Morrissey, Senior Resident Inspector
R. Reyes, Resident Inspector

Approved by: Michael E. Ernstes, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000302/2007-003; 04/01/2007 - 06/30/2007; Crystal River Unit 3; Flood Protection Measures.

The report covered a three-month period of inspection by the resident inspectors. One Green non-cited violation was identified during this inspection. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (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 Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings

Cornerstone: Mitigating Systems

Green. The inspectors identified a non-cited violation (NCV) of Improved Technical Specification 5.6.1.1.a, for failure to adequately establish and implement procedures required by Regulatory Guide 1.33, Appendix A, Section 9, Procedures for Performing Maintenance (PM). Specifically, no procedure, program or process existed to periodically inspect hydrostatic barriers to identify and repair any degradation of the seals which provide protection of safety-related equipment from internal flooding. Corrective actions completed or planned include: Repair and qualify applicable fire seals as hydrostatic barriers and establish a hydrostatic penetration seal preventative maintenance program.

The finding is more than minor because it affected the protection against external factors (i.e. flood hazard) attribute of the Mitigating System cornerstone and could have impacted the availability of mitigating equipment during an internal flood event if left uncorrected. The inspectors determined that several degraded fire barrier seals did not meet hydrostatic barrier acceptability requirements. The finding was assessed through the SDP Phase 1 screening and determined to be of very low safety significance since the as-found condition of the hydrostatic barriers would not have resulted in the loss or degradation of safety-related mitigating equipment in the event of an internal flood.

B. Licensee-identified Violations

None

Enclosure

REPORT DETAILS

Summary of Plant Status:

The unit operated at essentially 100 percent power during the quarter except for a reduction to 90 percent power on May 11 to perform planned turbine valve testing.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

Seasonal Susceptibility: Hurricane Season Preparation

a. Inspection Scope

The inspectors reviewed the licensee's hurricane season preparations using the licensee's Emergency Management Procedure EM-220, Violent Weather. The inspectors checked that the licensee maintained the ability to protect vital systems and components from high winds and flooding associated with hurricanes. The inspectors reviewed procedures associated with communication protocols between the licensee and the transmission system operator to verify proper coordination would be in place in the event of an off-normal or emergency event affecting the nuclear power plant. Additionally, the inspectors toured the six plant areas listed below to check for any vulnerabilities, such as inadequate sealing of water tight penetrations, or degraded barriers that could affect the associated systems. The inspectors verified that the licensee's violent weather committee had been established and that an initial preparatory walkdown had been completed. Documents reviewed are listed in the attachment. Nuclear condition reports (NCRs) were reviewed to verify that the licensee was identifying and correcting adverse weather protection issues.

- A and B emergency diesel generator rooms
- Control complex flood walls and doors
- Emergency feedwater pump EFP-3 building
- South berm area and intake canal area
- Equipment hatch missile shield area
- Auxiliary building sea water room

b. Findings

No findings of significance were identified.

Enclosure

1R04 Equipment Alignment

Partial System Walkdowns

a. Inspection Scope

The inspectors performed walkdowns of the critical portions of the selected trains to verify correct system alignment. 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 four partial system alignments in system walkdowns using the listed documents:

- April 17, Emergency Diesel Generator (EGDG)-1B system, 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 the EGDG-1A was out of service for maintenance
- May 2, A-train raw water (RW) and nuclear service water (SW) systems, using operating procedure OP-408, Nuclear Services Cooling System, while the emergency diesel generator EGDG-1B was out of service for maintenance
- May 30, A-train decay heat closed cycle cooling (DC) system, using operating procedure OP-404, Decay Heat Removal System, while the B-train emergency core cooling systems were out of service for maintenance
- June 19, B-train DC and decay heat removal (DHR) systems, using OP-404, Decay Heat Removal System, while the A-train emergency core cooling systems were out of service for maintenance

b. Findings

No findings of significance were identified.

1R05 Fire Protection

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 FSAR Section 9.8, Plant Fire Protection Program, were met. Documents reviewed are listed in the attachment. The inspectors toured the following eleven areas important to reactor safety:

- Emergency feedwater initiation and control (EFIC) rooms
- B decay heat removal and building spray vault
- Spent fuel pool floor
- Control complex 145' elevation
- A emergency diesel generator room and associated control room
- Emergency feed pump EFP-3, and fire pump diesel engine rooms
- A decay heat removal and building spray vault
- Auxiliary building spent fuel pumps and heat exchanger room
- Auxiliary building raw water pump and nuclear service water pump areas
- A and B vital battery inverter rooms
- Main control room

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

.1 Internal Flood Protection

a. Inspection Scope

The inspectors reviewed FSAR, Chapter 2.4.2.4, Facilities Required for Flood Protection, that depicted protection for areas containing safety-related equipment to identify areas that may be affected by internal flooding. A walkdown of the auxiliary building vault for the B-train decay heat and building spray pumps was conducted to ensure that flood protection measures were in accordance with design specifications. Specific plant attributes that were checked included structural integrity, sealing of penetrations, and operability of sump systems.

b. Findings

Introduction: A Green, non-cited violation (NCV) of Improved Technical Specification 5.6.1.1.a, for failure to adequately establish and implement procedures required by Regulatory Guide 1.33, Appendix A, Section 9, Procedures for Performing Maintenance (PM) was identified. Specifically, no procedure, program or process existed to periodically inspect hydrostatic barriers to identify and repair any degradation of the seals which provide protection of safety-related equipment from internal flooding.

Description: On April 4th, the inspectors identified a torn silicon rubber boot on a piping penetration between the 95' level auxiliary building and the 75' level B-train decay heat and building spray systems vault. A second piping penetration's boot was found to have small cracks. The licensee declared the fire barriers for both penetrations inoperable and established a roving fire watch. The inspector questioned the licensee whether the degraded rubber boots impacted the flood mitigation feature of the penetrations. The licensee determined that the design basis internal flood of seven inches on the 95' elevation of the auxiliary building, as described in the FSAR, Sections 9.5.2.1.6 and 9.5.2.3.2, Failure Considerations, could potentially impact safety-related equipment in the vault due to the degraded penetration boots. A roving flood watch was established. Based on the extent of damage to the boots, the licensee determined that leakage into the B-train vault during a postulated seven-inch flood would be well within the capacity of the B-train decay heat and building spray vault's sump pump and therefore would not have impacted operability of the equipment. The inspectors determined that the sump pump was available.

The licensee determined that these piping penetrations were qualified as fire barriers and were inspected periodically. The penetration seals had not been qualified as hydrostatic barriers. The licensee identified 57 seals on the 95' elevation of the auxiliary building that must serve a dual purpose for both fire and design basis internal flood concerns. The licensee was able to qualify all 57 fire seals as hydrostatic barrier seals. Several degraded seals that were acceptable as fire barriers required minor maintenance to make them acceptable as hydrostatic barriers. The licensee's investigation determined that they did not have a PM procedure established to inspect hydrostatic barriers necessary to protect safety-related equipment from an internal flooding event. Surveillance procedure SP-407, Fire Barrier Penetration Seals, periodically inspects these fire barrier penetration seals to ensure the seals function as an approved fire barrier. However, the acceptance criteria as a fire barrier allows some degradation that would not be acceptable for a hydrostatic barrier.

Analysis: The inspectors determined that the failure to have a hydrostatic barrier preventative maintenance procedure in place to ensure adequate internal flood protection for safety-related equipment is a performance deficiency. The finding is more than minor because it affected the protection against external factors (i.e. flood hazard)

attribute of the Mitigating System cornerstone and could have impacted the availability of mitigating equipment during an internal flood event if left uncorrected. The inspectors determined that several degraded fire barrier seals did not meet hydrostatic barrier acceptability requirements. The finding was assessed through the Significance Determination Process (SDP) Phase 1 screening and determined to be of very low safety significance since the as-found condition of the hydrostatic barriers would not have resulted in the loss or degradation of safety-related mitigating equipment in the event of an internal flood.

Enforcement: Improved Technical Specification 5.6.1.1.a requires that written procedures as described in Regulatory Guide 1.33, Revision 2, Appendix A be established, implemented and maintained. Regulatory Guide 1.33 Appendix A, Section 9, Procedures for Performing Maintenance, Sub-Section b, requires that preventative maintenance procedures and schedules be developed to include inspections of equipment and replacement of items that have a specific lifetime. Contrary to this, on April 4th, 2007, the NRC identified that the licensee failed to establish and implement a preventative maintenance procedure and schedule to inspect hydrostatic barriers necessary to protect safety-related equipment from internal flooding hazards. This finding is of very low safety significance and is in the licensee's corrective action program as NCRs 228463, 228565 and 229760. The finding is characterized as an NCV consistent with Section VI.A of the NRC Enforcement Policy, and is identified as NCV 05000302/2007003-001, Failure to Establish Preventative Maintenance Procedures for Hydrostatic Seals Necessary to Protect Safety-Related Equipment from Internal Flooding. Corrective actions completed or planned include: Repair and qualify applicable fire seals as hydrostatic barriers and establish a hydrostatic penetration seal preventative maintenance program.

.2 External Flood Protection

a. Inspection Scope

The inspectors performed an inspection of the external flood protection features for Crystal River, Unit 3. The inspectors reviewed the FSAR, Chapter 2.4.2.4, Facilities Required for Flood Protection, that depicted the design flood levels and protection for areas containing safety-related equipment to identify areas that may be affected by external flooding. The inspectors conducted a general site walkdown of all external areas of the plant including the turbine building, auxiliary building, and berm to ensure that flood protection measures were erected in accordance with design specifications. Emergency procedure EM-220, Violent Weather, was checked to verify that adequate measures were planned or established to protect against external flooding due to hurricanes. Specific plant attributes that were checked included structural integrity, sealing of penetrations below the design flood line, and adequacy of watertight doors between flood areas. Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

1R07 Heat Sink PerformanceAnnual Reviewa. Inspection Scope

The inspectors observed maintenance personnel perform heat exchanger inspections and operability assessments for the two listed heat exchangers. The inspector was present when the service water heat exchanger SWHE-1C was opened to observe tube side as-found fouling conditions to verify the heat exchanger was in a condition to perform its design function. The inspectors verified that the heat exchanger inspections and cleaning were performed in accordance with preventative maintenance procedure, PM-275, General Preventative Maintenance Work. The inspectors verified the assessments of the following two heat exchangers were performed utilizing OP-103B, Plant Operating Curves.

- Work order 1058610, SW Heat Exchanger SWHE-1C
- Work order 1032118, SW Heat Exchanger SWHE-1D

b. Findings

No findings of significance were identified.

1R11 Licensed Operator RequalificationResident Inspector Quarterly Reviewa. Inspection Scope

On April 24 and May 22, the inspectors observed two separate licensed operator crews response and actions for the Crystal River Unit 3 licensed operator simulator evaluated session SES-37, Loss of Raw Water/Loss of Offsite Power/Feedwater Line Break to verify that operator performance was adequate and evaluators were identifying and documenting crew performance problems. Emergency Operating Procedures (EOPs) used included EOP-02, Vital System Status Verification and EOP-05, Excessive Heat Transfer. This completed two samples representing observation of licensed operator requalification. 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 emergency operating procedures (EOPs)
- Control board operation and manipulation, including operator actions
- Assessment of emergency classifications
- Oversight and direction provided by supervision, including ability to identify and notification of state authorities within the 15 minute requirement

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. The inspectors conducted this inspection for two degraded equipment conditions listed below. The inspectors verified that the licensee was appropriately identifying and documenting maintenance rule issues in the corrective action program. Documents reviewed are listed in the attachment. The licensee's maintenance effectiveness was evaluated for the following two degraded equipment conditions:

- NCR 211171 Auxiliary electrical power (MT) safety related 4160V switchgear classified as maintenance rule (a)(1)
- NCR 223337, Reactor trip due to issues with the Integrated control system (ICS), and NCR 230276, Original MR Evaluation due date on ICS was incorrect

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

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 07W15, Risk assessment for operations with emergency diesel generator EGDG-1A out of service for scheduled maintenance
- Work Week 07W17, Risk assessment for operations with EGDG-1B, control complex chillers A and B individually out of service
- Work Week 07W20, Risk assessment for operations with emergency feed pump EFP-3 unavailable for planned maintenance
- Work Week 07W21, Risk assessment for operations with B emergency core cooling train (DC, RW and DHR) out of service for scheduled maintenance
- Work Week 07W24, Risk Assessment for operations with A emergency core cooling train (DC, RW and DHR) out of service for scheduled maintenance

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 reviewed 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 229102 Fairbanks Morse 10CFR 21 notification - Fuel Pump Bushing
- NCR 231293 Control complex chiller "A" tripped due to air inleakage
- NCR 228565 Holes in boot seals for penetrations PAB 97, 100 and 101
- NCR 231703 Non-conforming parts in diesel lube pumps DLP-6 and DLP-5
- NCR 235118 Spurious trip of reactor protection system channel D

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

- a. The inspectors reviewed the design change packages listed below to verify they met the requirements of procedures EGR-NGGC-0003, Design Review Requirements and EGR-NGGC-0005, Engineering Change. These engineering changes installed a new design cyclone separator on both the A-train building spray pump and decay heat pump. The inspectors observed the as-built configuration of the modification and observed installation, and reviewed testing activities associated with the modification. Documents reviewed included surveillance procedures, design and implementation packages, work orders, system drawings, corrective action documents, applicable sections of the updated final safety analysis report, Technical Specifications, and design basis information. Post maintenance testing data and acceptance criteria were reviewed. The inspectors verified that issues found during the course of the installation and testing associated with the modification were entered and properly dispositioned in the corrective action program. Since both engineering change packages were very similar, and installed and tested during the same system outage, this inspection counts towards one permanent plant modification sample.

- Engineering Change 65882, Building Spray Pump Cyclone Separator; and EC 65883, Decay Heat Pump Cyclone Separator

b. Findings

No findings of significance were identified

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors witnessed and/or reviewed post-maintenance test 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 eight post-maintenance tests reviewed are listed below:

- Surveillance Procedure SP 344A, RWP-2A, SWP-1A and Valve Surveillance (partial), performed after performing preventative maintenance on service water valve SWV-152, work order (WO) 745727
- Surveillance Procedures SP-354A, Monthly Functional Test of the Emergency Diesel Generator EGDG-1A and SP-370, Quarterly Cycling of Valves, performed after planned maintenance on EGDG-1A and replacement of valve EGV-22, WOs 899193, 880159 and 799159
- Operating Procedure OP-707, Operation of the ES Emergency Diesel Generators (Partial), performed after replacing a non-qualified Agastat time delay relay on DLP-6 circuitry per WO 968249
- Surveillance Procedure SP-344B, RWP-2B, SWP-1B And Valve Surveillance, performed after planned maintenance on the nuclear service water pump SWP-1B gear drive, per WO 1022587.
- Surveillance Procedure SP-349C, Emergency Feed Pump EFP-3 and Valve Surveillance, performed after performing maintenance on EFP-3 per WO 1029798
- Surveillance Procedures SP-344B, RWP-2B, SWP-1B and Valve Surveillance; SP-340D, RWP-3B, DCP-1B and Valve Surveillance; SP-340E, DHP-1B, BSP-1B and Valve Surveillance, after performing maintenance on B emergency core cooling systems per WO's 804363, 744012, 772373, 830714, 821930 and 1000303
- Surveillance Procedure SP-110B, "B" Channel Reactor Protection System Functional Test, after performing maintenance on the reactor protection system per WO 1059221
- Surveillance Procedure SP-340B, Decay Heat Pump-1A, Building Spray Pump-1A and Valve Surveillance; and Performance Test Procedures: PT-399, DCV-17, DCV-177, DCV-18 and DCV-178 Stroke Test (partial) and PT-136B, DC Flow

Balance (partial) after performing maintenance which included replacing the cyclone separator on the building spray and decay heat pumps, replacing corroded piping on the raw water pump RWP-3A pump motor cooler, and DC valve inspections per WO's 1055546, 1045278, 891070, 830715 and 1032245.

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-349B, EFP-2 and Valve Surveillance

Surveillance Tests:

- SP-108, Reactor Trip Module And Control Rod Drive Trip Functional Test
- SP-146A, EFIC Monthly Functional Test (During Modes 1, 2, 3)
- SP-500, Control Complex Habitability Envelope Integrated Leakage Determination
- SP-110C, "C" Channel Reactor Protection System Functional Test

Containment Isolation Valve Test:

- Surveillance procedure SP-179C, Containment Leakage Test - Type "C" (CIV-40)

b. Findings

No findings of significance were identified.

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. 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.

- April 24, licensed operator simulator evaluated session SES-37, Loss of Raw Water/Loss of Offsite Power/Feedwater Line Break
- May 23, licensee emergency response facility drill involving an earthquake and a loss of coolant scenario and other complicating events

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors checked the accuracy of the performance indicators listed below. Performance indicator data submitted from July 2006 through March 2007, was compared for consistency to data obtained through the review of chemistry department records, monthly operating reports, and control room records. Surveillance procedures SP-317, Reactor Coolant System Water Inventory Balance, and SP-702A, Reactor Coolant Dose Equivalent I-131 were reviewed.

- Reactor coolant system activity
- Reactor coolant system leakage

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 (CAP). 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 NCR 228565 for a detailed review. The NCR was initiated to address a potential flood concern associated with degraded silicon boots on several auxiliary building piping penetrations. The inspectors checked that the issue had been completely and accurately identified in the licensee's CAP, 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 CFR 50. The inspectors also evaluated the NCR using the requirements of the licensee's CAP as delineated in corrective action procedure CAP-NGGC-200, Corrective Action Program. Additional NCRs associated with the flood protection issue are listed in the attachment. The regulatory aspects of this NCR is documented in Section 1R06.

b. Findings and Observations

The inspectors determined that although the adverse condition investigation addressed how the penetrations were damaged, it did not determine the apparent cause of not having a preventative maintenance program in place for hydrostatic barriers. In addition, several corrective action assignment types were not in accordance with

corrective action procedure CAP-NGGC-200. The NCR was reopened to add additional information to the apparent cause and also to change the corrective action assignment types as required by procedure. The regulatory aspect of this NCR is documented in Section 1RO6.

.3 Semi-Annual Trend Review

a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," the inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in section 4OA2.1 above, plant status reviews, plant tours, and licensee trending efforts. The inspectors review nominally considered the six-month period of January 2007 through June 2007. The review also included issues documented in the Equipment Performance Priority List dated June 18, 2007; System Health Report July to December 2006 dated February 2007; various nuclear assessment section reports and maintenance rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's 1st Quarter 2007, Site CAP Rollup & Trend Analysis report. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy.

b. Assessment and Observations

No findings of significance were identified. The inspectors, in reviewing licensee performance over the last six months, noted one negative trend that was identified by the licensee.

In January, 2007, the licensee identified an adverse trend in plant configuration control (NCR 218895). These configuration control problems ranged from leaving a sampling valve open, inadvertently actuating a fire service alarm, to having an emergency diesel breaker failing to close (documented in NRC inspection report 05000302/2006005). The licensee continues to have a challenge in this area. In June, the Operations department documented an adverse trend over a two-week period related to human performance and configuration control (NCR 235991). Corrective actions for both NCRs in human performance and configuration control are scheduled to be completed over the remaining portion of this year.

40A3 Followup of Events and Notices of Enforcement Discretion

(Closed) LER 05000302/2007-002-00: Reactor Trip Caused by Failed Circuit Board in the Main Feedwater integrated Control System

On February 21, 2007, due to a failed circuit board, main feedwater became erratic resulting in a reactor trip. This event and its regulatory significance was previously discussed in Section 40A3 of NRC Inspection Report 05000302/2007002. The LER provided no additional information of significance. No additional findings of significance were identified.

40A6 Meetings

Exit Meeting Summary

On June 28, 2007, 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.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Annacone, Plant General Manager
W. Brewer, Manager, Maintenance
S. Cahill (Acting) Manager, Engineering
P. Dixon, Manager, Nuclear Assessment
J. Franke, Director of Site Operations
R. Hons, Manager, Training
I. Wilson (Acting), Manager, Outage and Scheduling
J. Holt, Manager, Operations
P. Infanger, Supervisor, Licensing
M. Rigsby, Superintendent, Radiation Protection
J. Stephenson, Supervisor, Emergency Preparedness
D. Young, Vice President, Crystal River Nuclear Plant

NRC personnel:

M. Ernstes, Chief, Reactor Projects Branch 3, NRC Region II

LIST OF ITEMS OPENED AND CLOSED

Opened and Closed

05000302/2007003-001	NCV	Failure to Establish Preventative Maintenance Procedures for Hydrostatic Seals Necessary to Protect Safety-Related Equipment from Internal Flooding (Section 1RO6.1)
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Closed

05000302/2007-002-00	LER	Reactor Trip Caused by Failed Circuit Board in the Main Feedwater integrated Control System (Section 4OA3)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather

Procedures

AP-730, Grid Instability

AI-500, Conduct of Operations Department Organization and Administration

AI-513, Seasonal Weather Preparations

Miscellaneous

Operations Focus List (Hot Weather Preparations, NCR 225694)

Work Order 836274, Inspect Water tight doors

Section 1R05: Fire Protection

Procedures

AI-2200, Guidelines for Handling Use and Control of Transient Combustibles

AI-2205A, Pre Fire Plan - Control Complex

AI-2205B, Pre Fire Plan - Turbine Building

AI-2205C, Pre Fire Plan - Auxiliary Building

AI-2205F, Pre Fire Plan - Miscellaneous Buildings and Components

SP-804, Surveillance of Plant Fire Brigade Equipment

HPP-502, Respiratory Equipment Inspection And Maintenance

Section 1R06: Flood Protection Measures

Procedures

AI-513, Seasonal Weather Preparations

Miscellaneous

NCR 169029, Corrective actions for lack of consideration for a design basis external flooding event

Work Order 836274, Inspect Water tight doors

Section 1R12: Maintenance Effectiveness

Nuclear Condition Reports

NCR 207901, MTMC-13 failure required plant runback

Miscellaneous

MT System Maintenance Rule Event List (April 2006 - April 2007)

MT System Health Report -Road to Green March 2007

Section 4OA2: Problem Identification and Resolution

Nuclear Condition Reports

229760, Possible adverse trend in internal/external flood protection issues

228463, Fire barrier penetration PAB-100 torn