UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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ATLANTA, GA 30303-1257

July 28, 2010

Mr. Jon A. Franke, Vice President
Crystal River Nuclear Plant (NA1B)
15760 West Power Line Street
Crystal River, FL 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 – NRC INTEGRATED INSPECTION REPORT 05000302/2010003

Dear Mr. Franke:

On June 30, 2010, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Crystal River Unit 3. The enclosed inspection report documents the inspection findings, which were discussed on July 13, 2010, with you and other members of your staff.

The inspection examined activities conducted under your license as they related to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Daniel W. Rich, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

cc w/encl.: (see page 2)

Enclosure: Inspection Report 05000302/2010003
w/Attachment: Supplemental Information

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Letter to Jon A. Franke from Daniel W. Rich dated July 28, 2010

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-302
License No.:	DPR-72
Report No.:	05000302/2010003
Licensee:	Progress Energy (Florida Power Corporation)
Facility:	Crystal River Unit 3
Location:	Crystal River, FL
Dates:	April 1, 2010 – June 30, 2010
Inspectors:	T. Morrissey, Senior Resident Inspector R. Reyes, Resident Inspector R. Chou, Reactor Inspector (Section 4OA5.2)
Approved by:	D. Rich, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000302/201003; 04/01/2010-06/30/2010; Crystal River Unit 3; Routine Integrated Report.

The report covered a three month period of inspection by resident inspectors and a reactor inspector. 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 & Self-Revealing Findings

No findings were identified.

B. Licensee Identified Violations

None

Enclosure

REPORT DETAILS

Summary of Plant Status:

Crystal River 3 began the inspection period with the full core off-loaded to the spent fuel pool. The unit remained in this condition during the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

.1 Adverse Weather Protection: 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. Additionally, the inspectors toured the five 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.

- Emergency diesel generator rooms
- Control complex flood walls and doors
- South berm area and intake canal area
- Turbine building flood walls and doors
- Auxiliary building sea water room

b. Findings

No findings were identified.

.2 Adverse Weather Protection: External Flooding

a. Inspection Scope

The inspectors performed an inspection of the external flood protection features for Crystal River, Unit 3. The inspectors reviewed the Final Safety Analysis Report (FSAR), Chapter 2.4.2.4 Facilities Required for Flood Protection that depicted the design flood levels and protection 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. 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. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.3 Adverse Weather Protection: Offsite and Alternate AC Power System Readiness

a. Inspection Scope

The inspectors evaluated the summer readiness of both the off-site and on-site alternate AC power systems. The inspectors walked down the safety-related emergency diesel generators (EGDG-1A, 1B), non-safety-related emergency diesel generator (EGDG-1C), and the safety-related diesel driven emergency feedwater pump (EFP-3) to verify they would be available during a loss of off-site power event. The inspectors performed a walk down of the switchyard with plant personnel to verify the material condition of the offsite power sources was adequate. Open work orders (WOs) for the offsite and onsite AC power systems were reviewed to ensure degraded conditions were properly addressed. The inspectors verified that licensee and transmission system operator procedures contained communication protocols addressing the exchange of appropriate information when issues arise that could impact the offsite power system. The inspectors verified that no equipment or operating procedure changes have occurred since the last performance of this inspection that would potentially affect operation or reliability of the offsite or onsite AC power systems. The documents reviewed are listed in the attachment.

b. Findings

No findings were identified.

.4 Adverse Weather Protection: Tornado Watch

a. Inspection Scope

On April 25, 2010, the inspectors evaluated the licensee's preparations when the site was informed of being in a tornado watch. The licensee implemented procedure EM-220, Violent Weather, for the tornado watch. The inspectors walked down the outside protective area to ensure actions required by EM-220 were implemented.

b. Findings

No findings were identified. The tornado watch expired with no violent weather or tornado formation.

.5 Adverse Weather Protection: Deepwater Horizon Oil Spill

a. Inspection Scope

The inspectors evaluated the licensee's readiness associated with the threat from potential oil/tar balls from the Deepwater Horizon oil spill. The inspectors reviewed actions documented in nuclear condition report (NCR) 396702 initiated to track licensee oil spill contingency actions. The inspectors observed two sets of pom-poms were deployed in the intake canal to act as a sentinel for incoming oil/tar balls. The inspectors observed intake canal pom-pom inspections to verify no oil or tar balls were captured. The inspectors also inspected staged oil absorbent booms to verify they were available, in good condition and that the licensee had a means to deploy the booms if necessary. The inspectors also verified that the licensee had the ability to transition spent fuel cooling to a non-safety related cooling source that is not dependent on the Gulf of Mexico as its cooling source. This sample was chosen under inspection procedure 71111.01, Adverse Weather Protection, since an influx of oil and/or tar balls could affect the ultimate heat sink. At the end of the inspection period, there were no forecasts of oil/tar balls for the Crystal River area.

b. Findings

No findings were identified.

1R04 Equipment Alignment

Partial Equipment 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 three partial system alignments in system walkdowns using the listed documents:

- Emergency diesel generator EGDG-1B system using operating procedure OP-707, Operation of the ES Emergency Diesel Generators, while EGDG-1A was out of service for scheduled maintenance
- Train A nuclear service water (SW) and A train raw water systems, using OP-408, Nuclear Services Cooling System , while B trains SW and RW were out of service for scheduled maintenance
- Train B decay heat closed cycle (DC) and decay heat removal (DHR) systems using OP-404, Decay Heat Removal System, while A train of DC and DHR were out of service for scheduled maintenance

b. Findings

No findings were identified.

1R05 Fire Protection

Fire Area 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 five areas important to reactor safety:

- Auxiliary Building 95' level sea water room
- A and B train 480 volt engineering safeguards (ES) switch gear rooms
- Control Complex 164' HVAC equipment fan room
- Emergency feedwater initiation and control (EFIC) rooms
- Intermediate building (IB) 119' elevation

b. Findings

No findings were identified. During the IB walkdown, the inspectors identified degraded fire penetrations in the IB/turbine building wall associated with the A train main steam lines. An unresolved item (URI) was opened as documented in section 4OA2.2 of this report.

1R06 Flood Protection Measures

Internal Flood Protection

a. Inspection Scope

The Inspectors reviewed the Crystal River Unit 3, FSAR, Chapter 2.4.2.4, Facilities Required for Flood Protection, and the Crystal River Unit 3 Design Basis Documents that depicted protection for areas containing safety-related equipment to identify areas that may be affected by internal flooding. A walkdown of the B train decay heat (DH) pump and building spray (BS) pump vault 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

No findings were identified. During this internal flood inspection, the inspectors identified a degraded fire/flood penetration in the ceiling of the B train DH pump and BS pump vault. An unresolved item (URI) was opened as documented in section 4OA2.2 of this report.

1R11 Licensed Operator Requalification Program

Resident Inspector Quarterly Review

a. Inspection Scope

On April 20, 2010, the inspectors observed and assessed licensed operator crew response and actions for the Crystal River Unit 3 licensed operator simulator evaluated session SES-33. Session SES-33 involved an initial loss of coolant accident (LOCA). The leak rate increased and turned into a large break LOCA followed by a manual reactor trip and an engineered safeguards (ES) actuation. The inspectors observed the operator's use of abnormal procedures; AP-520, Loss of RCS Coolant Or pressure; AP-545, Plant Runback; and emergency operating procedures; EOP-02, Vital System Status Verification; and EOP-03, Inadequate Subcooling Margin. The operator's actions were verified to be in accordance with the above procedures. Event classification and notifications were verified to be in accordance with emergency management procedure EM-202, Duties of the Emergency Coordinator. The simulator instrumentation and controls were verified to closely parallel those in the actual control room. The inspectors evaluated the following attributes related to 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 abnormal and emergency operation procedures; and emergency plan implementing procedures
- Control board operation and manipulation, including high-risk operator actions
- Oversight and direction provided by supervision, including ability to identify and implement appropriate Technical Specification (TS) actions, regulatory reporting requirements, and emergency plan classification and notification
- Crew overall performance and interactions

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's effectiveness in performing routine maintenance activities. The review included an assessment of the licensee's practices associated with 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 (MR) 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 the following two equipment issues:

- NCR 31944, B train of raw water / DC system return to A(2), and NCR 380893, raw water system to remain in Maintenance Rule status A(2).
- NCR 379949, Trip of AHF-1A from low speed

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

Inspection procedure IP 71111.13, Maintenance Risk Assessments and Emergent Work Control specifies verification of performance of risk assessments for planned or emergent maintenance activities during all modes of operation. Due to the extended no mode condition i.e., full core off loaded to the spent fuel pool, to support reactor building containment repair, there were no opportunities for inspection in this area during the inspection period. Outage related risk assessment monitoring was performed under section 1R20.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed one NCR to verify that 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 TS, 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 verify that 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 corrective action procedure CAP-NGGC-200, Corrective Action Program. Due to the extended no mode condition i.e., full core off loaded to the spent fuel pool, to support reactor building containment repair, there were few opportunities for inspection in this area during the inspection period.

- NCR 396097, Foreign material dropped in diesel fuel tank B

b. Findings

No findings were identified.

1R18 Plant Modifications

Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the one design change package listed below to verify it met the requirements of procedures EGR-NGGC-0003, Design Review Requirements and EGR-NGGC-0005, Engineering Change. 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.

- EC 73336, Dressler Coupling Restraint Devices

b. Findings

No findings 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 five post-maintenance tests reviewed are listed below:

- OP-450, Emergency Feedwater System, and MP-500, Emergency Feed Water Pump (EFP-3) Diesel Engine Maintenance, after performing maintenance per WOs 1451102, 1061305, and 1414667
- SP- 354C, Functional Test Of The Alternate AC Diesel Generator EGDG-1C, after performing maintenance and installing an engineering change EC 73336 per WOs 1693276 and 1531765

- OP-707, Operation of the ES Emergency Diesel Generators, after performing planned maintenance on EGDG-1A per WO 1742866

- SP-340D, RWP-3B, DCP-1B and Valve Surveillance, and SP-344B, RWP-2B, SWP-1B and Valve Surveillance (Section 4.2 only), after performing planned maintenance per WOs 1395227, 1089516, 1572656 and 1559666
- SP-340B, DHP-1A, BSP-1A And Surveillance, after performing planned maintenance on the decay heat pump per WO 1662184

b. Findings

No findings were identified.

1R20 Refueling and Outage Activities

Steam Generator Replacement Refueling Outage (RFO16)

a. Inspection Scope

On September 26, 2009, the unit was shut down for a steam generator replacement refueling outage. NRC integrated inspection reports 05000302/2009005 and 05000302/2010002 documented NRC outage inspection activities prior to this inspection period. To verify the licensee was managing fatigue, the inspectors verified that the outage shift schedule for the inspection period allowed for the minimum days off in accordance with 10 CFR Part 26. In addition, the inspectors reviewed all the fatigue assessments (two) that were performed since implementation of the 10 CFR Part 26 fatigue management requirement. There were no fatigue waiver requests or fatigue self-declarations since the start of the outage to review. The inspectors also observed and monitored licensee controls over the refueling outage activities listed below. Additional inspection results for RFO16 will be documented in next quarter's NRC integrated inspection report 05000302/2010004. Documents reviewed are listed in the attachment.

- Outage related risk assessment monitoring
- Controls associated with reactivity management, electrical power alignments, and spent fuel pool cooling
- Implementation of equipment clearance activities

b. Findings

No findings were identified. During the creation of a temporary opening in the reactor containment building to support steam generator replacement, the licensee discovered an internal crack in the vicinity of the temporary opening. The circumstances associated with the crack in the containment wall are being assessed by an NRC special inspection team. This inspection is ongoing. The results of this inspection will be documented in NRC special inspection report 05000302/2009007.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed and/or reviewed five surveillance tests listed below to verify that TS 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.

In-Service Test:

- SP-340A,, RWP-3A, DCP-1A and Valve Surveillance (RWP-3A only)

Containment Isolation Valve Test:

- SP-179C, Containment Leakage Test – Type "C" (Main steam valves MSV-130 and MSV-148)
- SP-179C, Containment Leakage Test – Type "C" (Penetration 374, waste disposal system)

Surveillance Test:

- SP-354B, Monthly Functional Test Of the Emergency Diesel Generator EGDG-1B
- SP-334B, RWP-2B, SWP-1B And Valve Surveillance

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

Emergency Preparedness Drill

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 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 20, 2010, licensed operator simulator evaluated session SES-33 involving a loss of coolant accident (LOCA)
- April 14, 2010, licensee emergency response drill involving a LOCA and containment damage

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors checked the accuracy of the two PIs listed below. Performance indicator data submitted from April 2009 through March 2010 was compared for consistency to data obtained through the review of chemistry department records, monthly operating reports, and control room records. PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used to check the reporting for each data element. Surveillance procedures SP-317, Reactor Coolant System Water Inventory Balance, and SP-702A, Reactor Coolant Dose Equivalent I-131 were reviewed. A year's worth of data was reviewed for the listed PIs, however due to the extended shutdown, the PIs were only applicable for the dates of April 2009 through September 2009.

- Reactor coolant system activity
- Reactor coolant system leakage

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Review

a. Inspection Scope

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and in order to help identify 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 were identified.

.2 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 2010 through June 2010. The review also included issues documented in the licensee's Plant Health Committee Site Focus List – June 2010, various departmental CAP Rollup & Trend Analysis reports, various nuclear assessment section reports and maintenance rule (MR) reports. Corrective actions associated with a sample of the issues identified in the licensee's corrective action program were reviewed for adequacy.

b. Assessment and Observations

No findings were identified. The inspectors evaluated the licensee's trend methodology and observed that the licensee had performed a detailed review. The inspector's review of licensee performance over the last six months noted one negative trend associated with degraded fire penetrations. In April, the inspectors found a degraded flood/fire penetration in the floor between the auxiliary building 95' elevation and the auxiliary building 75' elevation B train DHR/BS vault. In June, the inspectors found two degraded fire penetrations in the wall between the intermediate building and the turbine building. These penetrations are associated with the A train main steam piping. In both cases, the licensee declared the penetrations inoperable, initiated fire watches and entered the issues into the CAP (NCRs 396095 and 406215). As a result of these NRC inspector observations, the licensee indicated that they will perform an extent of condition inspection of all fire/flood penetrations to determine whether the fire barrier inspection frequency needs to be adjusted. The issue associated with these degraded fire barriers is unresolved pending completion of NRC review and analysis of licensee corrective actions and is identified as Unresolved Item (URI) 05000302/2010003-01, Degraded Fire/Flood Barriers.

.3 Annual Sample Review

a. Inspection Scope

The inspectors reviewed priority 2A NCR 380893 that addressed raw water pump RWP-2A upper bearing failure. The inspectors checked that the issue had been completely and accurately identified in the licensee's corrective action program; safety concerns were properly classified and prioritized for resolution, apparent cause determination was sufficiently thorough, and appropriate corrective actions were initiated. 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.

b. Findings and Observations

The inspectors found that the licensee's investigation of the loss of RWP-2A as a result of a motor bearing failure and associated corrective actions were both comprehensive and thorough. This motor was new, but had been in the warehouse for the last 16 years. The investigation determined that an oil passage in the bearing was blocked by foreign material (grease) resulting in a lack of bearing lubrication which resulted in bearing failure. The licensee speculated that the original bearings contained the grease when they were installed in the motor 17 years ago. The motor vendor stated that they do not use or have this type of grease in their shop and that grease is not applied to an oil lubricating bearing. Due to the historical nature of this issue, the licensee was unable to determine the source of the grease.

.4 Annual Sample Review

a. Inspection Scope

The inspectors reviewed a priority 2 NCR 398561. This NCR described that the results from a Spent Fuel Pool boron analysis were higher than expected. The inspectors checked that the issues 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 determination was sufficiently thorough and appropriate corrective actions assignments were implemented in a manner consistent with the licensee's program procedures.

b. Findings and Observations

No findings were identified. The licensee identified the causes discussed below which accounted for the unexpected results. The licensee had not accounted for the full core offloaded into the spent fuel pool which caused a higher temperature in the pool. A higher temperature in conjunction with the spent fuel pool missile shields being off created a larger pool evaporation rate. Additionally, the licensee identified other opportunities for improvements in the procedural methods used to obtain the boron concentration data. A corrective action planned by the licensee included developing a more precise method for boron analysis and revise chemistry procedure CH-458, Analytical Procedures, with sufficient guidance to minimize variation between technicians performing the analysis. The inspectors found that the investigation was thorough and complete, and the assigned corrective actions addressed the issue.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel Activities

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee

security procedures and regulatory requirements relating to nuclear plant security. These observations took place during normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings were identified.

.2 Steam Generator Replacement Project and Containment Wall Repair (IP 50001)

a. Inspection Scope

The inspectors conducted a review of the licensee's Phases 3 and 4 of concrete removal, surface preparation, and concrete placement activities for the repair of the containment wall delamination and reinstallation of the containment wall opening created during the Steam Generator Replacement Project (SGRP) in the last quarter of 2009. The inspectors reviewed Engineering Changes (EC) 75219, Reactor Building Delamination Repair Phase 3 - Concrete Removal, Revision 14 and EC 75220, Reactor Building Delamination Repair Phase 4 - Concrete Placement, Revision 4. The inspectors reviewed Steam Generator Team (SGT) work packages (WP) 3-1732, Remove Containment Wall Concrete and WP 3-3732A, Restoration of Containment Concrete Wall. The inspectors observed the process of the hydro demolition of concrete. The inspectors reviewed and examined cracks in the lower elevation after the removal of 10 to 12 inches concrete for the delamination. The inspectors reviewed horizontal and vertical cracks above and to side of the containment wall opening after concrete removal of 10 to 12 inches for the delamination and extended concrete excavation beyond the vertical tendon sleeves. The inspectors reviewed nuclear condition report (NCR) 00395843, Concrete Removal Exposed Horizontal and Vertical Cracks. The inspectors also observed the surface preparation of concrete after the hydro demolition and pull-out testing to assure that the concrete surface after the preparation would have enough tension strength to bond the new and old concrete. The inspectors reviewed the vertical cracks from the core borings in this bay and other bays where the vertical cracks extended to the liner plate. The inspectors also reviewed the findings on old cracks identified by the Impulse Response testing and the core borings that showed the cracks were below the repair area and were not removed during the repair of the dome delamination that occurred during original construction. The inspectors reviewed the radial rebar drilling, grouting, void problems, and resolutions. The inspectors examined the rebar installation and tendon sleeve condition for the lower elevation and batch plant for the preparation of the concrete pour. The inspectors reviewed the engineering packages, work packages, and drawings. The reviews or observations were conducted in order to verify that the licensee performed activities in accordance with the approved documents.

The wall delamination repair efforts remained in progress at the end of this inspection period.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On July 13, 2010, the resident inspectors presented the inspection results to Mr. J. Franke, Site Vice President, and other members of licensee management. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:
J. Holt, Plant General Manager
D. Douglas, Manager, Maintenance
S. Cahill, Manager, Engineering
J. Huegel, Manager, Nuclear Oversight
P. Dixon, Manager, Training
C. Morris, Manager, Operations
D. Westcott, Supervisor, Licensing and Regulatory Programs
B. Akins, Superintendent, Radiation Protection
C. Poliseno, Supervisor, Emergency Preparedness
I. Wilson, Manager Outage and Scheduling
J. Franke, Vice President, Crystal River Nuclear Plant

NRC personnel:
D. Rich, Chief, Branch 3, Division of Reactor Projects

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000302/2010003-01 URI Degraded Fire/Flood Barriers (4OA2.2)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

AP-730, Grid Instability
AI-513, Seasonal Weather Preparations
NGGM-IA-0003, Transmission Interface Agreement for Operation, Maintenance, and Engineering Activities at Nuclear Plants
AP-1040, Aux Building Flooding
AP-1050, Turbine Building Flooding

Work Orders

1526054, Inspect water tight doors and flood gates

Miscellaneous

ODM Gulf Oil Spill Contingency

Section 1R05: Fire Protection

Procedures

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

Section 1R20: Refueling and Outage Activities

Procedures

AI-504, Guidelines for Cold Shutdown and Refueling
WCP-102, Outage Risk Management

Section: 4OA2 Problem Identification and Resolution

CAP-NGGC-0200, Corrective Action Program
ADM-NGGC-0101, Maintenance Rule Program

Section: 4OA5 Other Activities

Engineering Changes (EC)

EC 75219, Reactor Building Delamination Repair Phase 3 - Concrete Removal, Revision 14
EC 75220, Reactor Building Delamination Repair Phase 4 - Concrete Placement, Revision 4

Work Package (WP)

WP 3-1732, SGT Remove Containment Wall Concrete
WP 3-3732A, Restoration of Containment Concrete Wall.

Miscellaneous

Review of the 4” diameter of Core Bore sample from the drilling at Bay 3 and 4 and other bays for the vertical cracks.

Corrective Action Documents

NCR 00395843, Concrete Removal Exposed Horizontal and Vertical Cracks
SGT NCR 1021, Bond Testing Disposition
SGT NCR 1024, Vertical Cracks Identified
SGT NCR 1049, Voids were Identified Contained Inside of Radial Rebar Holes
SGT NCR 1051, A Radial Bar in El. 160’-0” was not Installed
SGT NCR 1058, Voids in New Grout