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

July 8, 2003

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 50-302/03-04

Dear Mr. Young:

On June 28, 2003, 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 30, 2003, with Mr. Roderick and other members of your staff.

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

Based on the results of this inspection, 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 and because the violation was entered into your corrective action program, the NRC is treating this violation as a non-cited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy. If you contest this NCV, 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 20555-001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Crystal River Unit 3.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of 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 50-302/03-04
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No.:	50-302
License No.:	DPR-72
Report No.:	50-302/03-04
Licensee:	Florida Power Corporation
Facility:	Crystal River Unit 3
Location:	15760 West Power Line Street Crystal River, FL 34428-6708
Dates:	April 06, 2003 - June 28, 2003
Inspectors:	S. Stewart, Senior Resident Inspector R. Reyes, Resident Inspector W. Sartor, Senior Emergency Preparedness Inspector (1EP2, 1EP3, 1EP4, 1EP5, 4OA1)
Approved by:	Joel T. Munday, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000302/2003-004; Florida Power Corporation; 04/06/2003 - 06/28/2003; Crystal River Unit 3; Surveillance Testing.

The report covered a three month period of inspection by resident inspectors and an announced inspection by a regional emergency preparedness inspector. One Green Non-Cited Violation was identified. 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 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. A finding was identified for failure to implement increased frequency testing of a safety-related pump, after the pump differential pressure was found in the Alert range of the ASME Code, Section XI test on December 2, 2002. When tested on May 22, 2003, the pump was found in the Action range and was declared inoperable.

  A non-cited violation of Technical Specification 5.6.2 was identified. The finding is greater than minor because an engineering evaluation was required to assure that accident analysis requirements were met during the subsequent period of operation with differential pressure below the design minimum value. If the finding had not been corrected, pump performance could have resulted in the safety system not being capable of performing its design function to remove residual heat following an accident. The finding is of very low safety significance because the maximum period of operation below the design minimum differential pressure was of short duration and redundancy existed that assured the safety function remained available. (Section 1R22)

B. Licensee Identified Violations

None

REPORT DETAILS

Summary of Plant Status

Crystal River 3 operated at or near full power during the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors reviewed the licensee's hurricane season preparations against the Emergency Management Procedure EM-220, Violent Weather, Revision 27, to assure that vital systems and components were protected from high winds and flooding associated with hurricanes. Additionally, the inspectors conducted walkdowns of the plant areas listed below to check for any vulnerabilities, such as inadequate sealing of water tight penetrations, inoperable sump pumps, and other sources of potential internal and external flooding. Nuclear condition reports were reviewed to verify that the licensee was identifying and correcting adverse weather protection issues.

- Turbine and auxiliary building flood walls and doors
- Emergency feedwater pump 3 building, including internal sump
- Berm and intake area

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed the following partial system walkdowns during this inspection period. The inspectors reviewed the alignment of the selected risk-significant systems to evaluate the readiness of the redundant trains while one train was out of service for maintenance. The inspectors checked switch and valve positions using the alignments specified in the listed operating procedures and checked electrical power alignment to critical components. The inspectors reviewed applicable sections of the Crystal River 3 Final Safety Analysis Report to obtain design and operating requirements. Nuclear condition reports were reviewed to verify that the licensee was identifying and correcting component alignment issues.

- Control complex chiller CHHE-1B using operating procedure OP-409, Plant Ventilation System, when chiller CHHE-1A was out of service on May 19, 2003, for preventive maintenance per work order 00289559.

- Control Complex Chiller CHHE-1A using operating procedure OP-409, Plant Ventilation System, when Chiller CHHE-1B was out of service on June 12, 2003, for troubleshooting and repair per work order 420060.

- Emergency Diesel Generator EGDG-1B using Operating Procedure OP-707, Operation Of The ES Emergency Diesel Generators, when EGDG-1A was out of service for testing on June 18, 2003.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors walked down the following risk-significant plant areas to verify that control of transient combustibles and ignition sources were consistent with the licensee's Fire Protection Plan and 10 CFR Part 50, Appendix R. The inspectors also evaluated the material condition, operational lineup, and operational effectiveness of fire protection systems and assessed material condition of fire barriers used to contain fire damage. The inspections were completed using the standards of the Crystal River Fire Protection Plan; 10 CFR Part 50, Appendix R; the Florida Power Corporation Analysis of Safe Shutdown Equipment; and the Final Safety Analysis Report. As applicable, the inspectors checked that compensatory measures for degraded fire system components were implemented. The inspectors observed weekly performance of fire alarm checks done in accordance with surveillance procedure SP-323, Evacuation and Fire Alarm Demonstration.

- Control Complex Ventilation Room
- Decay Heat Pump and Heat Exchanger Areas
- Raw Water Pump and Service Water Heat Exchanger Area
- 4160 volt Vital Switchgear Rooms
- Alternate Shutdown Panel Room
- Turbine Driven Emergency Feed Water (EFW) Pump and Motor Driven EFW Pump Area
- Make Up Pump Rooms
- Battery and Inverter Rooms
- Emergency Feedwater Pump EFP-3 Building

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed the Crystal River Unit 3, Final Safety Analysis Report, 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 internal or external flooding. A general site walkdown was conducted, with a specific walkdown of the internal and external areas of the turbine building, auxiliary building, and berm to ensure that flood protection measures were in accordance with design specifications. Specific attributes that were checked included structural integrity, sealing of penetrations below the design flood line, adequacy of watertight doors between flood areas, and operability of sump systems including level alarms.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the thermal performance of the service water heat exchanger system which provides cooling to safety related equipment during normal and emergency operations. The inspectors reviewed 16 months of service water heat exchanger performance results, to determine if the frequency of cleaning provided for acceptable heat exchanger performance. Operating procedure OP-103B, Plant Operating Curves, which described heat exchanger acceptance criteria was reviewed to verify that heat exchanger performance results matched design criteria. On a sampling basis, the inspectors reviewed condition reports generated as a result of additional evaluation required on performance data. On June 3, 2003, the inspectors observed maintenance personnel perform PM-275, Enclosure 1, Service Water Heat Exchanger Shoot & Clean, on the 1A Service Water Heat Exchanger, to verify that the number of plugged tubes were within the limit of operability of the heat exchanger and were appropriately accounted for in the heat exchanger performance calculations.

Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On June 9, 2003, the inspectors observed licensed operator actions on the plant specific simulator to Simulator Evaluated Session, SES-03, which included a pressurizer level instrument failure and a loss of coolant accident. The session involved crew response

to the simulated events which included failure of safety equipment. 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 including a reactor trip alarm
- Correct use and implementation of emergency operating procedure EOP-2, Vital System Status Verification, and emergency operating procedure EOP-3, Inadequate Subcooling Margin
- Control board operation and manipulation, including high-risk operator actions such as throttling of high pressure injection
- Oversight and direction provided by supervision, including ability to identify and implement appropriate technical specification actions
- Implementation of regulatory reporting requirements, and a simulated emergency plan "Unusual Event" and "Alert" notifications in accordance with the Radiological Emergency Response Plan
- Effectiveness of the post training critique

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed performance of the systems listed below to evaluate the licensee's implementation of the maintenance rule (10CFR50.65). The inspectors checked that licensee personnel monitored unavailability of equipment important to safety and trended key performance parameters. For the equipment problems described in the nuclear condition reports (NCRs), the inspectors reviewed the licensee's implementation of the Maintenance Rule (10CFR50.65) with respect to the characterization of failures, the appropriateness of the associated a(1) or a(2) classifications, and the appropriateness of either the a(2) performance criteria or the a(1) goals and corrective actions. The inspectors checked if the licensee maintained safety functions when important equipment was out of service for maintenance. The inspectors also periodically reviewed the licensee's implementation of 10 CFR 50, Appendix B and technical specification requirements regarding safety system problems.

The inspectors routinely checked that the licensee promptly entered problems with plant equipment into the corrective action program or the corrective maintenance program. The inspectors checked that the licensee monitored work practices and documented work problems in the corrective action program.

- NCR 92813, Makeup Pump cooling water relief valve found partially lifted

- NCR 88129, "B-train" Service Water System Exceeds Maintenance Rule Unavailability Criteria And Put in A1

- NCR 88719, Problems with Diesel Fuel Oil Transfer Pumps -1A and 1B: including documents PC 3-C00-2145, PC 3-C00-2641, PC 3-C00-3318

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the following work week risk assessments to assess the effectiveness of the licensee's work management. The inspectors assessed operability of equipment using technical specifications, the Final Safety Analysis Report, licensee procedures, and regulatory information such as NRC Generic Letter 91-18, Revision 1, Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded And Nonconforming Conditions. The inspectors routinely reviewed maintenance schedules to check that overall risk was minimized through preservation of safety functions including decay heat removal capability, reactor coolant system inventory control, electric power availability, reactivity control, and primary containment control. The inspectors checked if licensee personnel were assuring that key safety functions were preserved by managing risk and assessing maintenance for risk prior to performance. The inspectors checked if maintenance activities were conducted as planned by touring plant areas observing maintenance in progress, monitoring control room activities, and monitoring the licensee's degraded equipment log. The inspectors checked that upon identification of an unplanned situation, the resulting emergent work was evaluated by the licensee for risk and controlled as described in technical specifications; licensee Compliance Procedure CP-253, Power Operations Risk Assessment and Management; and Operations Instruction OI-7, Control of Equipment and System Status. The inspectors checked that risk significant emergent work was documented in the corrective action program and that risk management actions were promptly initiated.

- Work Week 03W14, Work Week Risk Assessment for planned power reduction to support maintenance on main feedwater pump, FWP-2B, (NCR 89991)

- Work Week 03W19, Work Week Risk Assessment for preventive maintenance on vital inverter VBIT-1D revised on May 14 when repairs were required for the control switch on Instrument Air compressor IAP-3B per work order WO407980

- Work Week 03W20, Work Week Risk Assessment for maintenance on control complex chiller CHHE-1A revised when raw water pump RWP-2A failed its quarterly surveillance on low differential pressure, (NCR 94529)

- Work Week 03W22, Work Week Risk Assessment for plant power reduction to support maintenance on secondary cooling heat exchanger SCHE-1B revised when service water relief valve SWV-398 lifted and failed to close making makeup pump MUP-1B inoperable (WO 405894, NCR 94956)

- Work Week 03W23, Work Week Risk Assessment for maintenance on service water heat exchanger SWHE-1C for cleaning revised when both Units 1 and 2 were offline causing auxiliary steam to be lost (NCR 95577)

- Work Week 03W23, Work Week Risk Assessment for maintenance on service water heat exchanger SWHE-1C for cleaning revised again on failure of both control room chillers, CHHE-1A and CHHE-1B (NCR 95966)

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

a. Inspection Scope

For the non-routine events described below, the inspectors observed operations, checked appropriate logs and plant computer data, and interviewed personnel, to check what occurred and how the operators performed. The inspectors checked that personnel performance was in accordance with plant procedures. As applicable, the inspectors observed operator pre-evolution briefings, including Infrequently Performed Test or Evolution (ITOE) briefings.

- On May 19, 2003, the inspectors observed the control room reactor operators perform a reactor power increase from 96 to 100 percent. The inspectors checked that the power change was done in accordance with licensee operating procedure OP-204, Power Operations.

- On May 21, 2003, the inspectors reviewed operator response to a failed up-limit stop on the fuel handling machine during planned fuel moves in the spent fuel pool. The inspectors checked that fuel handling limits and precautions were maintained. The inspectors observed that the fuel being handled at the time of the failure had been safely placed in a fuel pool location and fuel handling activities were suspended pending correction of the problem and documentation in the corrective action program.

- During the week of June 9, 2003, the inspectors checked diving activities in the spent fuel pool for planned maintenance on fuel handling equipment in preparations for fuel movement. The inspectors attended planning meetings, and reviewed the work activities with maintenance, health physics, and operations personnel. Contingencies to stop work and provide emergency assistance to the diver were reviewed. The radiation protection survey was reviewed and during the dive the radiological controls were checked to verify that 10 CFR Part 20, Subpart G requirements were being met. Additionally, the inspector checked the path taken by the diver to verify the planned path was properly followed to avoid very high radiation areas.

- On June 11, 2003, the inspectors observed the control room respond to a loss of both trains of control complex cooling, when both control complex chillers, CHHE-1A and CHHE-1B tripped on overload current. The licensee entered Technical Specification 3.0.3 and on initiation of a plant shutdown made a 4 hour report (per 10 CFR 50.72) to the NRC. The inspectors checked that the licensee followed technical specification and procedure requirements and observed maintenance activities to restore one chiller to service.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following degraded or nonconforming conditions to determine if operability of systems or components important to safety was consistent with technical specifications, the Final Safety Analysis Report, 10 CFR Part 50 requirements, and when applicable, NRC Generic Letter 91-18, Revision 1, Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions. The inspectors monitored licensee nuclear condition reports (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-200, Corrective Action Program. The inspectors checked that when plant problems were identified, the resulting change in plant risk was identified and managed. The following issues, including the related nuclear condition reports (NCRs), were specifically checked:

- NCR 90049, Feedwater valve FWV-28 hand switch did not close the valve
- NCR 90672, Emergency diesel generator, EGDG-1B low jacket coolant water temperature
- NCR 88719, Emergency diesel generator fuel pump DFP-1A discharge pressure in the action range of ASME Section XI code
- NCR 94259 Raw water pump RWP-2A differential pressure in the action range of ASME Section XI code

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors observed or reviewed the following post-maintenance testing activities for risk significant systems to check the following (as applicable): (1) the effect of

testing on the plant had been adequately addressed; (2) testing was adequate for the maintenance performed; (3) acceptance criteria were clear and demonstrated operational readiness; (4) test instrumentation was appropriate; (5) tests were performed as written; and (6) equipment was returned to its operational status following testing. The inspectors evaluated the licensee activities against the technical specifications, the Final Safety Analysis Report, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications. The inspectors routinely checked that post maintenance testing issues were resolved in the licensee's corrective action program.

- Surveillance Procedure SP-354B, Emergency Diesel Generator EGDG-1B Functional Test, functional check and leak check of the diesel air start system following maintenance to correct an air leak, Work Order 406369 (NCR92953)

- PM-136A, Control Complex Chiller CHHE-1A - Post Maintenance Testing, functional check of the chiller after annual preventive maintenance

- Surveillance Procedure SP-130, Engineered Safeguards Monthly Functional Test, functional check of test switch RC-3-BT9 and relay 63Y1-RC6 after cleaning and lubrication, Work Order 419758

- Work Order 420060, Remove, Test, and Reinstall Thermal Overload Relays for CHHE-1B, functional check and calibration of thermal overloads

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors checked the following surveillance tests for risk-significant systems or components, to assess compliance with Technical Specifications, 10 CFR Part 50, Appendix B, and licensee surveillance procedure (SP) requirements. The testing was also checked for consistency with the Final Safety Analysis Report. The inspectors checked if the testing demonstrated that the systems were ready to perform their intended safety functions. During the inspections, the inspectors verified that licensee personnel were documenting surveillance problems in the corrective action program in accordance with 10 CFR Part 50, Appendix B, Criterion XVI, and licensee procedure CAP-NGGC-200, Corrective Action Program.

Inservice test (IST) activities were reviewed to ensure testing methods, acceptance criteria, and corrective actions were in accordance with the ASME Code, Section XI, and Florida Power Corporation ASME Section XI, Ten Year Inservice Testing Program, dated May 4, 1998.

- SP-344A, Raw Water Pump RWP-2A, Service Water Pump SWP-1A and Valve Surveillance on May 22, 2003 (IST)

- SP-190D, Functional Test Of Fire Detection Systems - Control Complex on May 12, 2003
- SP-349B, EFP-2 and Valve Surveillance, performed on May 14, 2003 (IST)
- SP-344B, RWP-2B, SWP-1B, and Valve Surveillance on June 8, 2003 (IST)

b. Findings

Introduction. A Green non-cited violation (NCV) of Technical Specification 5.6.2 was identified for failure to implement increased frequency testing per ASME Code, Section XI, Inservice Testing of Pumps, after raw water pump RWP-2A differential pressure was found degraded in the Alert range during testing on December 2, 2002. On May 22, 2003, during similar testing, RWP-2A was found in the Action range and was declared inoperable.

Description. During quarterly surveillance testing, on May 22, 2003, raw water pump RWP-2A differential pressure was found in the Action range of the ASME Code, Section XI, OM Part 6, acceptance criteria. In reviewing this occurrence, the inspectors determined that the licensee had observed a degrading pump differential pressure since 1996 and the pump had been in both the Alert and Action range during testing in 2000. At that time in 2000, the pump differential pressure was re-baselined and an investigation into the cause of the degrading trend was initiated. The vendor informed the licensee in February 2000, that the degradation was likely caused by pump casing wear ring corrosion which could eventually cause the pump to degrade to a level below the design minimum value with accompanying flow loss due to increased impeller recirculation. The licensee had trended the degradation and planned to repair the pump during the October 2003 refueling outage.

On December 2, 2002, after differential pressure was found in the Alert range of the Section XI test, the surveillance was re-performed using the same instrumentation, and a second reading above the Alert limit was obtained. Engineering was contacted and determined that the second reading was satisfactory and no increased frequency testing was specified. This decision was based, in part, on the plan to repair the pump during the upcoming October refueling outage. When the quarterly test was performed on May 22, 2003, the differential pressure was determined to be in the Action level of the code and below the minimum design differential pressure assumed in the plant accident analysis. Redundant readings with higher accuracy instrumentation confirmed this result.

Subsequent to the May 22, 2003, test, the licensee performed an operability concern review (OCR) of the as-found test data. The licensee determined that the degraded RWP-2A pump was still fully capable of performing its safety function for the remainder of the cycle based on the projected rate of degradation as long as the intake temperature was less than 95 degrees F and service water heat exchanger fouling was less than 20 percent. Consistent with NRC Generic Letter 91-18, Revision 1, increased pump testing and monitoring of heat exchanger fouling and intake water temperature were instituted as compensatory measures until pump repair could be performed.

Analysis. The finding adversely impacted the Nuclear Services Closed Cycle Cooling System (SW) availability, in the Mitigating System and Containment Barrier cornerstone. Had the degrading condition been left uncorrected, a loss of safety function would be a more significant safety concern. Also, because an engineering evaluation was required to assure that accident analysis requirements were met during the period of operation with differential pressure below the design minimum value, the finding was greater than minor. The significance determination process (SDP) Phase 2 worksheet for loss of Nuclear Service Closed Cycle Cooling System was completed for the performance deficiency, assuming a maximum period of operation below the design minimum differential pressure of four days, which was the duration of time when service water heat exchanger fouling was about 20 percent since the previous surveillance test. Assumptions were made that the initiating event likelihood was not affected and an operator could place a clean, fourth service water heat exchanger in service during an accident, should the expected plant lineup be insufficient for system cooling due to heat exchanger fouling. The worksheet evaluation with EIHP and EFW functions reduced by a factor of one, due to the performance deficiency, indicated a finding of very low safety significance (Green). The Phase 2 result was validated by a regional Senior Reactor Analyst.

Enforcement. Crystal River 3, Technical Specification 5.6.2. Programs and Manuals, requires that the Inservice Testing Program (Section XI of the ASME Boiler and Pressure Vessel Code) be implemented. ASME Section XI, Division 1, implements OM Part 6, Inservice Testing of Pumps in Light-Water Reactor Power Plants, which specifies quarterly testing of nuclear services seawater pump, RWP-2A. OM Part 6 includes measurement of pump differential pressure and requires that if the measured test parameter values falls within the Alert range, the frequency of testing shall be doubled until the cause of the deviation is determined and the condition corrected. Contrary to the above, since December 2, 2002, when raw water pump RWP-2A differential pressure was measured below the acceptable range, in the Alert range, the frequency of testing was not doubled nor was the cause of the deviation corrected. Because the failure to implement the inservice testing program requirement was of very low safety significance and had been entered into the licensee's corrective action program (NCR 94858), this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 50-332/03-04-01, Failure to Implement Inservice Testing Program Requirements. At the end of the inspection period, the licensee had implemented increased frequency monitoring of the pump performance.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the plant engineering changes log for temporary modifications that could cause departures from design bases. The specific temporary modifications listed below were checked for operability implications by reviewing the design package against technical specification bases and final safety analysis report descriptions. The inspectors routinely conducted plant tours and discussed system status with engineering and operations personnel to check for the existence of temporary modifications that had not been appropriately identified and evaluated.

- Engineering Change 48833, Reduce Decay Heat Pump DHP-1A Vibration by Installing a Vibration Absorber Clamp on the Discharge Piping (MAR T-01-00-00-14)

- Engineering Change 51732, Provide temporary closure assist pressure to the operator of service water valve SWV-355, (NCR 85102)

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert Notification System Testing

a. Inspection Scope

The inspector reviewed the alert (siren) and notification system (ANS) designed to meet the acceptance criteria of Section B of Appendix 3, NUREG-0654, and described in Section 9.4 of the Crystal River Unit 3 Radiological Emergency Response Plan (RERP). The weekly complete cycle tests were reviewed against the test frequencies commitments listed in paragraph 9.4.2 of the RERP. The inspector reviewed testing results, assessed the failure rate of individual sirens and the effectiveness of repairs, and reviewed any changes related to the siren system.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing

a. Inspection Scope

The inspector reviewed Table 6.1 of the RERP to determine the licensee's commitment for on-shift and augmentation staffing. The results of the augmentation drills, most recently conducted on November 25, 2002, were evaluated against the annual requirement identified in REP-11, Conduct of Drills and Exercises Supporting the RERP.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector reviewed the changes made to Revision 23, dated March 27, 2003, of the RERP against the requirements of 10 CFR 50.54(q) to determine whether any of the changes decreased the effectiveness of the RERP.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspector evaluated the efficacy of licensee programs that addressed weaknesses and deficiencies in emergency preparedness. Items reviewed included exercise and drill critique reports, emergency preparedness assessment reports done by the Nuclear Assessment Section, and the licensee's Corrective Action Program. The review was conducted against the requirements listed in Section 18.4 of the RERP.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

.1 Emergency Preparedness Cornerstone

a. Inspection Scope

On April 17-18, 2003, licensee records were reviewed to determine whether the submitted performance indicators (PI) values through the first quarter of 2003 were calculated in accordance with the guidance contained in Section 2.4 (Emergency Preparedness Cornerstone) of NEI 99-02, Revision 2, "Regulatory Assessment Performance Indicator Guideline."

- Emergency Response Organization (ERO) Drill/Exercise Performance
- ERO Drill Participation
- Alert and Notification System Reliability

The inspector assessed the accuracy of the PI for ERO drill and exercise performance (DEP) over the past eight quarters through review of a sample of drill and exercise records. The inspector assessed the accuracy of the PI for ERO drill participation during the previous eight quarters for personnel assigned to key positions in the ERO.

The inspector assessed the accuracy of the PI for the alert and notification system reliability through review of a sample of the licensee' s records of the weekly complete cycle tests.

b. Findings

No findings of significance were identified.

.2 Reactor Safety Cornerstone

a. Inspection Scope

The inspectors checked licensee submittals for the PIs listed below for the period June 1, 2002 through May 31, 2003 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. 2, were used to check the reporting for each data element. The inspector checked licensee event reports (LERs), operator logs, daily plant status reports, nuclear condition reports (NCRs), and performance indicator data sheets to verify that the licensee had identified the cumulative safety system unavailabilities. The inspectors also verified that there were no scrams with loss of heat removal nor unplanned power changes during the review period. 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.

- Unplanned Scrams Per 7000 Critical Hrs
- Scrams With Loss of Normal Heat Removal
- Unplanned Power Changes per 7000 Critical Hrs
- Safety System Unavailability, Emergency AC Power

b. Findings

No findings of significance were identified.

4OA2 Problem Identification and Resolution

.1 Annual Sample Review

a. Inspection Scope

The inspectors selected the following nuclear condition report (NCR) for detailed review and discussion with the licensee. The NCR was examined to verify whether problem identification was timely, complete and accurate; safety concerns were properly classified and prioritized for resolution; technical issues were evaluated and dispositioned to address operability and reportability; root cause or apparent cause determinations were sufficiently thorough; extent of condition, generic implications, common causes, and previous history were adequately considered; and appropriate

corrective actions (short and long term) were implemented or planned in a manner consistent with safety and compliance with plant technical specifications and 10 CFR 50, Appendix B. The inspectors also evaluated the NCR using the requirements of the licensee's corrective action program as delineated in Corrective Action Procedure CAP-NGGC-0200, Corrective Action Program.

- NCR 94259: RWP-2A failed to meet acceptance criteria of surveillance procedure. The NCR tracked the discovery and resolution of the raw water pump RWP-2A differential pressure in the Action range of the ASME Section XI test on May 22, 2003. Related corrective documents reviewed included Precursor Card PC 3-C00-0447, Raw Water Pump RWP-2A declared out-of-service due to low differential pressure on February 9, 2000; Problem Report PR96-0139, RWP-2A high vibration and flow instability after rebuild on April 15, 1996; NCR 78462, RWP-2A in Alert on differential pressure during SP-344A on December 2, 2002; and NCR 67142, Raw Water Pump RWP-2A will require modification during refuel outage 13R (October 2003) on July 26, 2002.

b. Findings and Observations

There were no findings identified. The inspectors observed that a degrading differential pressure condition for raw water pump RWP-2A, likely due to corrosion of pump components in seawater, had been identified in 1996, then tracked in a number of consecutive corrective action report documents.

.2 Cross Reference to PI&R Findings Documented Elsewhere

Section 1R22 describes a finding for failure to implement the ASME Section XI Code during testing of raw water pump, RWP-2A. The licensee had missed an opportunity to closely monitor pump performance before the performance degraded below design minimum values.

4OA3 Event Followup

a. Inspection Scope

The inspectors observed the licensee's response to the loss of both trains of control complex cooling on June 11, 2003. The inspectors checked that the licensee recognized and responded to the event, monitored plant parameters important to safety such as temperatures in areas containing safety equipment, and took prompt action to restore the cooling before limits were exceeded. The inspectors observed the licensee prepare notification to the NRC in accordance with 10 CFR 50.72 and checked that technical specification requirements were implemented.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

.1 Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. Roderick and other members of licensee management at the conclusion of the inspection on June 30, 2003. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. The licensee did not identify any proprietary information.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel:

M. Annacone, Manager, Operations
S. Bernhoft, Supervisor, System Engineering
W. Brewer, Manager, Work Controls
R. Davis, Manager, Training
M. Folding, Security Manager
J. Franke, Plant General Manager
S. Johnson, Supervisor, Corrective Actions Program
J. Kreuhm, Manager, Maintenance
S. Powell, Supervisor, Licensing
D. Roderick, Director Site Operations
M. Rigsby, Radiation Protection Manager
J. Stephenson, Supervisor, Emergency Preparedness
J. Terry, Manager, Engineering
R. Warden, Manager, Nuclear Assessment
D. Young, Vice President, Crystal River Nuclear Plant

NRC Personnel:

C. Casto, Director, Division of Reactor Safety, NRC Region II
J. Munday. Chief, Reactor Projects Branch 3, NRC Region II
W. Rogers, Senior Reactor Analyst, NRC Region II

LIST OF ITEMS OPENED AND CLOSED

Opened and Closed

50-302, 03-04-01	NCV	Failure to Implement Inservice Testing Program Requirements (Section 1R22)

LIST OF DOCUMENTS REVIEWED

List of Documents Reviewed (Sections 1EP2,3,4,5; 4OA1)

Plant Operating Manual

AI-4000, Schedule for Radiological Emergency Response Plan Maintenance

Problem Investigation Process

Adverse Condition Investigation Form, Action Request Number 81641