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

July 19, 2001

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 50-302/01-02

Dear Mr. Young:

On June 30, 2001, the NRC completed an inspection at your Crystal River Unit 3. The enclosed report documents the inspection findings which were discussed on July 2, 2001, with you 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.

No findings of significance were identified.

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/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Leonard D. Wert, Chief
Reactor Projects Branch 3
Division of Reactor Projects

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

Enclosure: Inspection Report 50-302/01-02

Attachment: Florida Power Corporation slides presented at Annual Assessment Meeting.

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No:	50-302
License No.	DPR-72
Report No:	50-302/01-02
Licensee:	Florida Power Corporation (FPC)
Facility:	Crystal River Unit 3
Location:	15760 West Power Line Road Crystal River, FL 34428-6708
Dates:	April 1- June 30, 2001
Inspectors:	S. Stewart, Senior Resident Inspector S. Sanchez, Resident Inspector G. Kuzo, Senior Radiation Protection Specialist (Sections 2PS1, 2PS3) W. Sartor, Senior Emergency Preparedness Specialist (Sections 1EP2, 1EP3, 1EP4, 1EP5, 4OA1.1-.3)
Approved by:	Leonard Wert, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000302-01-02, on 4/1 - 6/30/2001, Florida Power Corporation, Crystal River Unit 3, Integrated Inspection Report.

The inspection was conducted by the resident inspectors and inspectors from the Region II office; a senior emergency preparedness inspector and a senior radiation protection specialist. There were no findings. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

None

B. Licensee Identified Violations

None

Report Details

Summary of Plant Status:

Crystal River Unit 3 operated at full power until May 13, 2001, when power was reduced to 65 percent because of a problem with the main step-up transformers. Later that day, a feedwater valve issue was identified. On May 18, the plant was placed in cold shutdown to repair the feedwater valve. On May 21, during plant heatup, unidentified reactor coolant system leakage was determined to be 1.1 gallons per minute. The plant was placed in cold shutdown and repairs were made to a decay heat removal system valve. The plant was returned to power operation on May 31.

1. REACTOR SAFETY

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

1R04 Equipment Alignment

a. Inspection Scope

The inspectors conducted partial alignment walkdowns of the risk important systems listed below to evaluate the readiness of the redundant trains or backup systems while the other trains were out of service. The walkdowns included verification of appropriate switch or valve positions to identify any discrepancies and verification of electrical power to critical components. Applicable sections of the Final Safety Analysis Report were reviewed. During diesel testing, the inspectors verified that operators correctly used shields to protect A train switches while B train components were manipulated. During a plant shutdown period, the inspectors observed that all safety systems were intact and electric supply was fully operational. The inspectors walked down the 480 volt switchgear in the control complex, reviewed control boards and verified conditions against the plant status boards and licensee procedure requirements. When the plant was shutdown, the inspectors reviewed the outage schedule to verify that no significant deviations from an effective safety system lineup were planned.

- Emergency Diesel Generator (EDG) 1A during testing of EDG 1B
- Shutdown safety system lineups during Mode 5 operations
- EDG 1B during testing of EDG 1A

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assure control of transient combustibles and ignition sources; to verify the operational condition of fire protection systems; and assess fire barriers used to contain fire damage. Sections of the Fire Protection Plan; Administrative Instruction AI-2200, Guidelines for Handling, Use, and Control of Transient Combustibles; Maintenance Procedure 805, Sealing of Penetrations; Surveillance Procedure SP- 607, Fire Damper Inspection; SP-802, Fire Hose Hydrostatic Test and Hose Reel Inspection; and SP-800, Monthly Fire Extinguisher Inspection, were reviewed during these inspections. Precursor cards reviewed included PC-01-0967 for a problem with the auto closing of a fire door. The inspectors verified that the required fire watch was established when the problem was identified, and the door was repaired the next day. The inspectors also verified that a fire watch was established when the cable spreading room halon system was removed from service for routine testing.

- Main Control Room
- A and B Emergency Feedwater Initiation and Control Rooms
- Engineered Safeguards (ES) 4160 Volt Switchgear Rooms
- ES 480 Volt Switchgear Rooms
- Inverter Rooms
- Makeup/High Pressure Injection Pump Rooms

On May 3, the inspectors observed the FPC fire brigade respond to a simulated fire at the A main feedwater pump. The inspectors observed that fire brigade members were at the scene within ten minutes from the start of the drill and extinguished the fire using water after simulating that the carbon dioxide gaseous system had automatically initiated. The inspectors observed that brigade response included proper use of protective clothing and self-contained breathing apparatus, that fire fighting equipment was staged and used properly, and that communications were effective. The inspectors verified that the FPC drill acceptance criteria were met.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed licensed operator performance in the plant simulator on April 9. The scenario included a degraded emergency feedwater system, a feedwater transient resulting in a loss of main feedwater, an automatic reactor trip, and ultimately, core cooling using once-thru-core-cooling with the high pressure injection pumps. The operating crews demonstrated the conduct of abnormal and emergency operations, including abnormal procedure AP-510 (Rapid Power Reduction) and emergency procedures EOP-2 (Vital System Status Verification) and EOP-4 (Inadequate Heat

Transfer). The inspectors observed the crew's ability to perform actions prescribed by the procedures, oversight and direction provided by crew supervisors, crew emergency plan classifications and notifications, and the quality of crew interactions and internal communications. The inspectors also observed that the FPC evaluators adequately assessed crew performance and that the simulator facility closely matched the actual operating facility. The inspectors verified that the prescribed critical tasks were met, and the crew's actions met licensee expectations.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

.1 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the performance of the systems listed below and assessed the effectiveness of maintenance on these systems. Reviews focused on maintenance rule scoping in accordance with 10 CFR 50.65 and characterization of system or component problems. Additionally, the (a)(1) or (a)(2) classifications were reviewed. Procedures reviewed included compliance procedures CP-153A, Maintenance Rule Implementation, and CP-153B, Monitoring the Performance of Structures, Systems, and Components Under the Maintenance Rule. Other documents reviewed included portions of: the Final Safety Analysis Report; Technical Specifications; the March 2, 2000 Maintenance Rule Scoping Report; the Fourth Quarter, Year 2000 System Health Report; and the First Quarter Year 2001 System Health Report. The inspectors reviewed Precursor Card PC-01-0950 which was written when a fuse failed in the Y channel of non-nuclear instrumentation. The inspectors also reviewed system engineering letter SE01-0123, which documented that the feedwater system had exceeded the (a)(1) performance criterion of a repetitive functional failure on May 31, 2001, when the disc for feedwater check valve FWV-46, separated from the valve and lodged in the valve outlet. As result of the problem, the plant was shutdown, the valve was repaired, and the feedwater system was declared in 10 CFR 50.65 (a)(1). The inspectors also reviewed Precursor Cards PC-01-0266 and PC-01-1156, which documented divider plate degradation in the C and D service water heat exchangers and a declining differential pressure performance trend in building spray pump BSP-1A, respectively.

- Non-Nuclear Instrumentation
- Main Feedwater System
- Service Water System
- Building Spray System

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed daily maintenance schedules and observed work controls to evaluate risk assessments before maintenance activities were conducted. The inspectors also reviewed maintenance schedules to assure that risk was minimized. The inspectors verified that FPC was managing risk appropriately by assuring that key safety functions were preserved and that upon identification of an unplanned situation, the resulting emergent work was evaluated for risk and controlled as described in Compliance Procedure 253, Power Operations Risk Assessment and Management, and Operations Instruction 7, Control of Equipment and System Status. The inspectors did not identify instances when more than one safety system was out-of-service at a time. The inspectors confirmed that emergent work was identified and addressed through the corrective action program. In addition to routine evaluations, the risk controls associated with the emergent maintenance listed below (referencing the licensee corrective action document) were specifically evaluated:

- PC-01-1194, Main step-up transformer deluge actuation causes non-safety battery charger grounds.
- PC-01-0985, Makeup pump 1A leaking in excess of maximum allowable leakage outside containment.
- PC-01-1302, Decay heat valve DHV-3 leakage increased to an unacceptable amount during startup from feedwater valve FWV-46 repairs.
- PC-01-1263, Dose equivalent iodine spiked following shutdown for FWV-46 repairs.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

a. Inspection Scope

The inspectors observed activities related to the online replacement of reactor coolant system (RCS) differential pressure transmitter, RC-14B-DPT4. The inspectors observed that an infrequently performed test or evolution (ITOE) briefing was conducted for the maintenance. During the work, an unexpected RCS loop B low flow alarm was received in the main control room when the low side isolation valve was opened to pressurize the transmitter. The inspectors verified that operators completed the actions specified in the annunciator response procedure and that there was no adverse effect on the plant.

The inspectors reviewed operator response to an inadvertent deluge of the main step-up transformers on May 13, 2001. The response included a power reduction and multiple entries into the fire protection plan (PC-01-1195, PC-01-1194). No safety systems were involved in the transient or its mitigation and all safety systems remained available throughout the transient. Plant power was reduced to 65% because of increasing temperatures in the step-up transformers. The inspectors also reviewed the FPC

Radiological Emergency Response Plan and the Fire Protection Plan to verify that actions taken were in accordance with these plans.

The inspectors observed control room activities during a backshift plant shutdown for corrective maintenance on main feedwater valve, FWV-46. Because of the possibility of problems with control of normal feedwater, the evolution was considered non-routine by FPC. The inspectors verified that adequate preparations were made for the evolution. Various feedwater transient scenarios were practiced by the involved operating crews using the plant specific simulator prior to the shutdown. Operator briefings were completed prior to the shutdown and an extra crew of operators was available to assist in the transition.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed Modification Approval Record MAR 01-01-03-01, Replacement of Makeup Pump MUP-1B Gearbox and Associated Tubing. MUP-1B was the normally operated makeup pump and had experienced increased vibrations. Subsequent to the modification, MUP-1B was used for normal makeup as well as being available for accident mitigation. The inspectors reviewed the work package associated with this modification (work request WR 362243) to assure that there was no degradation of performance capability for the pump. Also, the inspectors monitored availability of the redundant makeup trains while the work was done. The inspectors confirmed that the modification did not require a change to the Final Safety Analysis Report.

On May 13, 2001, FPC determined that the check valve serving containment penetration 108 was degraded and likely could not adequately isolate containment. The condition was documented in the licensee corrective action program as precursor cards PC-01-1196 and PC-01-1203. An Operations Night Order was issued reflecting the condition and Condition Resolution Safety Analysis 01-013, addressing blockage in the line served by FWV-46, Containment Penetration 108, was completed. Using the 10 CFR 50.59 process, FPC revised the Final Safety Analysis Report, (FSAR), Section 5.3, Table 5-4, and Table 5.9, by moving the containment isolation function to feedwater block valves FWV-29, FWV-32, and FWV-33. The inspectors reviewed the FPC evaluation to assure that adequate safety margins were retained. Subsequently, the plant was shutdown and the feedwater check valve was repaired. FPC later completed a second safety evaluation that returned the containment isolation function to FWV-46.

The inspectors reviewed MAR 00-08-03-01, Decay Heat Valve DHV-3 Canopy Seal Enclosure. Valve DHV-3 is an isolation valve between the high pressure reactor coolant system and the low pressure decay heat removal system. This modification welded a canopy seal enclosure to the top of the valve body and to the bonnet neck of DHV-3 to encapsulate any leakage from the seal ring area. The modification extended the pressure boundary of the valve and stopped leakage from the seal ring. The inspectors

reviewed the modification to assure that the performance capability of the boundary valve was not degraded and that the modification was implemented safely. The modification did not require a revision to the Final Safety Analysis Report.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors observed/reviewed the following post-maintenance test activities for risk significant systems to assess 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. During reviews of the corrective action program, the inspectors observed that FPC had documented alert level vibration for the 1A decay heat pump in non-conformance report number 41281. The inspectors also noted that a minor drawing discrepancy for decay heat suction check valve DHV-33, identified during maintenance, had been entered into the corrective action system. Testing documents reviewed included:

- Work documents NU 357359, 357361 for testing of service water valves SWV-35 and SWV-41, following a preventive maintenance rebuild of valve operators.

- Surveillance Procedure SP-348A for testing of feedwater pump FWP-7, following replacement of the outboard thrust bearing.

- Surveillance Procedure SP-340B for testing of the 1A decay heat pump on June 28, following a preventive maintenance check of supply check valve DHV-33.

- Work documents NU 366146, 364920, and 364938 for testing of decay heat valves DHV-8, DHV-34, and DHV-39, following various maintenance activities.

- Periodic Test PT-320, Atmospheric Dump Valve/Turbine Bypass Valve Response Time Test, for turbine bypass valve MSV-10 following actuator replacement.

- Surveillance Procedure SP-435 for testing valves during cold shutdown, Maintenance Procedure MP-402C for working on Limitorque valve actuators, and MP-402E for motor operated valve testing.

b. Findings

No findings of significance were identified.

1R20 Outage Activities

a. Inspection Scope

The inspectors observed licensee planning for shutdown operations to repair shutdown cooling valve DHV-3. The inspectors observed the licensee place the plant in cold shutdown (Mode 5) and drain the reactor coolant loops to facilitate the repair. During the evolution, the inspectors verified compliance with FPC Administrative Instruction AI-504, Guidelines for Cold Shutdown. The inspectors also verified that the instruction established equipment redundancy in decay heat removal capability, inventory control, reactivity control, containment, instrumentation, and electrical power distribution.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed surveillance testing (SPs) or reviewed test data of risk-significant systems or components listed below, to assess compliance with Technical Specifications, Final Safety Analysis Report, and FPC procedure requirements. The inspectors verified that the testing effectively demonstrated that the systems were ready to perform their intended safety functions. During the inspections, the inspectors verified that FPC personnel were documenting surveillance problems in the corrective action program. As noted below, inservice test (IST) activities were reviewed to ensure testing methods, acceptance criteria, and required corrective actions were in accordance with the ASME Code, Section XI.

During deep backshift hours on June 18, the inspectors observed the Infrequently Performed Test or Evolution (IPTE) briefing for the moderator temperature coefficient test (SP-101) and noted that FPC personnel discussed problems identified in the testing in previous performances as well as industry information. Problems identified in the 1999 performance of the test were documented in precursor card PC-99-1926, and corrective actions were verified complete by the inspectors. Test results were verified to be consistent with the Crystal River 3, Cycle 12 Reload Report, B&W Document 2354, dated August 1999.

- SP-101; Moderator Temperature Coefficient Determination at 300 ppm Boron
- Inservice test, SP-340B; DHP-1A, BSP-1A, and Valve Surveillance
- SP-190J, Operability Test of Cable Spreading Room Fire Detection Instrumentation
- SP-341; Monthly Containment Isolation Valve Operability Check
- SP-603; Decay Heat/Core Flood Check Valve Testing

b. Findings

No findings of significance were identified.

1EP2 Alert and Notification System Testing

a. Inspection Scope

The inspector evaluated the alert and notification system (ANS) design and the testing program. The system consisted of 40 Whelan electronic sirens located in the 10-mile emergency planning zones of Levy and Citrus counties. Siren testing consisted of an annual full-cycle test, two weekly silent tests, and a weekly 15-sec complete cycle test.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation

a. Inspection Scope

The inspector reviewed the design of the emergency response organization augmentation system and the maintenance of the licensee's capability to staff emergency response facilities within stated timeliness goals.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspector reviewed changes to the Emergency Plan and the emergency action levels (EALs) to determine whether any of the changes decreased the effectiveness of the Emergency Plan. The current Crystal River Radiological Emergency Plan was Revision 21, dated March 27, 2001. The review was performed against 10CFR50.54(q).

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 and the corrective actions identified. There had been no actual implementations of the Emergency Plan since the last inspection.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed conduct of a May 15, 2001, emergency preparedness drill in the plant specific simulator and the technical support center. Items observed included staffing and implementation of the emergency plan with emphasis on event classifications and notifications. Conduct of emergency operations such as performance of abnormal and emergency procedures and communications were also observed. The drill included the simulated declaration of an Alert and Site Area Emergency following a significant steam generator tube rupture and an offsite release. No protective action recommendations were required. There had been no actual implementations of the Emergency Plan since the last inspection.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety (PS)

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

.1 Effluent Release Processing Observations and Quality Control Activities

a. Inspection Scope

During the week of May 21, 2001, chemistry and operations staff were observed and evaluated in the conduct of pre-release processing, sampling, and gamma spectroscopy analysis tasks in preparation for a Reactor Building (RB) purge. The pre-release tasks were observed directly, applicable procedure details were examined and discussed, and procedural compliance verified for evaluation of sample representativeness, radionuclide concentration lower limits of detection (LLD) and achieved analyses capabilities, pre-release dose calculation estimates, and the atmospheric radiation monitor (RM-A)-1 set-point determination accuracy. The atmospheric radiation monitor (RM-A)-1 piping, valves, and associated detector and particulate and iodine samplers were walked-down and observed for material condition and configuration control. The inspectors observed and discussed with the responsible personnel, local radioactive waste control panel and main control room activities, and verified release pathway alignments, and resultant

sample and main effluent flow pathways. Pre-release dose calculations were reviewed and evaluated for accuracy.

In addition, release permit data and gamma spectroscopy results for the following Waste Gas Decay Tank (WGDT) batch releases were reviewed and evaluated:

- Permit Number (No.), 10030.021.004G for release of WGDT 1A on May 14, 2001
- Permit No. 10031.023.011G for release of WGDT 1C on May 16, 2001

Both licensee in-house and vendor laboratories quality control (QC) program activities for liquid and airborne sample radionuclide analyses were evaluated. The inspectors discussed and reviewed, as applicable, current gamma spectroscopy and liquid scintillation detection equipment calibrations and daily system performance results; preparation, processing and storage of composite samples; radionuclide concentration LLD capabilities and achieved accuracies; and results of the calendar year 2000 quarterly cross-check spiked radionuclide samples.

The in-place gaseous effluent release and sampling equipment, observed task evolutions, and offsite dose calculation results were evaluated against 10 CFR Part 20 requirements, Appendix I to 10 CFR Part 50 design criteria; Technical Specifications (TS); Updated Final Safety Analysis Report (UFSAR); Design Base Document (DBD), and drawing details; and the Offsite Dose Calculation Manual (ODCM), Revision (Rev.) 24. Radioanalytical laboratory QC activities were evaluated against Regulatory Guide (RG) 1.21, Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials In Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plant, June 1974; and RG 4.15, Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment, December 1977. The following effluent processing and monitoring procedures were reviewed for adequacy and implementation, where applicable, during the onsite inspection:

- Surveillance Procedure (SP)-731B, Reactor Building Purge Batch Release and Batch to Continuous Release, Effective 10/12/00
- SP-731F, Waste Decay Tank (WDT)-1A Release, Effective 07/07/00
- SP-731H, WDT-1C Release, Effective 07/07/00

b. Findings

No findings of significance were identified.

.2 Process Radiation Monitor Calibrations

a. Inspection Scope

The inspectors reviewed and evaluated current calibration records for the following process atmospheric radiation monitoring (RM-A) and liquid radiation monitoring (RM-L) detector and sampling systems as applicable:

- RM-A2, Auxiliary Building & Fuel Handling Area Exhaust Duct Monitor
- RM-A11, Waste Gas Decay Tank Monitor
- RM-L2, Auxiliary Building Liquid Radwaste Effluent Line Monitor
- RM-L7, Secondary Drain Tank Liquid Monitor

The following procedures were reviewed and discussed during inspection of this program area:

- Preventative Maintenance (PM) Procedure -267, Calibration of Victoreen Liquid Radiation Monitor, Effective Date, 11/17/98.
- Chemistry and Radiation Protection (CH) Procedure-220R, RM-L2 Calibration, Effective Date 07/27/99
- CH-220V, RM-L7 Calibration, Effective Date 06/11/99
- CH-232, Atmospheric Radiation Monitoring System Calibration Procedure, Effective Date 12/31/97
- Performance Test (PT)-168, Calibration of RM-L2 and RM-L7, Effective Date 12/07/99
- PT-168A, Calibration and Channel Check of RM-A1 and RM-A2, Effective Date 12/06/99
- PT-168B, Calibration and Channel Check of WD-19 (RM-A11), Effective Date 12/07/99
- Surveillance Procedure (SP)-701L, RM-A11 Calibration, 07/27/00
- SP-701E, RM-A2, Gas Calibration, Low Range, Effective Date 09/23/98

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring and Radioactive Material Control Program

.1 Radiological Environmental Monitoring Program (REMP) Implementation

a. Inspection Scope

During the week of May 21 2001, REMP QC activities for selected sample types listed in the 2000 Annual Radiological Environmental Monitoring Report were reviewed and evaluated. Evaluated QC activities included assessment for trends for reported inter-laboratory comparison results; confirmation of LLD capabilities for selected gamma emitting radionuclides in fish, gross beta analyses for particulate sample filters, and tritium analyses for surface water analyses; collection and preservation of surface water samples; and verification of pump flow calibrations and airflow determinations for selected particulate and charcoal airborne sampling systems.

On May 22, 2001, the inspectors toured and verified sampling locations, required sample types, and collection frequencies for REMP implementation. Monitoring equipment material condition, or sampling processes implemented at selected ODCM REMP sampling locations were discussed. Change-out activities for particulate and charcoal filters were observed, and flow rate determinations verified for airborne

sampling equipment located at sampling stations C-40, C-41, C-46, and C-47. Thermoluminescent dosimeter placements were verified for 14 offsite locations.

The REMP QC activities were reviewed against RG 4.1, Programs for Monitoring Radioactivity in the Environs of Nuclear Power Plants, Rev 1, April 1975, and RG 1.21, Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials In Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plant, June 1974. Program implementation and sample monitoring activities were verified against TS, ODCM Rev. 24, and the CY 2000 Annual Environmental Monitoring Report details.

b. Findings

No findings of significance were identified.

.2 Unrestricted Release of Material from the Radiologically Controlled Area (RCA)

a. Inspection Scope

Licensee guidance and program implementation for monitoring potentially contaminated material for unconditional release from the Radiologically Controlled Area (RCA) were reviewed and evaluated. Availability and accuracy of survey instruments used for release, e.g., friskers, proportional counters, small article monitors were verified for RCA entry/exit control points. In-service Instrumentation calibration records and alarm set-points were reviewed and discussed. The inspectors observed conduct of routine release survey activities for RCA exit control points. Detection capabilities of survey instrumentation at each of the control points was verified using a National Institute of Science and Technology traceable source.

Licensee activities were evaluated against 10 CFR Part 20 requirements and UFSAR details. Established detection limits were reviewed against guidance provided in NRC Circular 81-07 and Information Notice 85-92, and American National Standards Institute Radiation - N323-1978, Radiation Protection Instrumentation Test and Calibration. The following procedures were reviewed and discussed during the inspection:

- Health Physics Procedure (HPP)-202A, Radiological Surveys and Inspections, Effective Date 08/24/00
- HPP-438, Calibration and Operation of the NE Technology Model SAM-9, Effective Date, 05/06/98.
- HPP-418, Tool Contamination Monitor Calibration and Operation, Effective Date, 03/15/00.
- HPP-441, Calibration and Operation of the NNC Model Integral Tool Monitor-4T, Effective Date 12/17/98.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed and discussed audit scope and results of Audit No. 00-15, Offsite Dose Calculation Manual, Process Control Program, and Environmental Monitoring, dated December 12, 2000. Precursor Cards (PCs) associated with items identified during the audit, and with additional REMP and material release program activities were reviewed and discussed with licensee representatives. The inspectors evaluated the licensee's prioritization, documentation, and resolution of problems for the following identified issues:

- PC 00-3408, Lack of Benchmarking Trips Related to ODCM and REMP program activities
- PC 00-3411, Lack of Vendor Environmental Laboratory QC Data Trending
- PC 00-3432, Calendar Year 2000, First Quarter Cross Check Sample Discrepancy for Radioactive Gas
- PC 00-3408, Lack of Oversight of Vendor Laboratory
- PC 01-0693, Calendar Year 2000 Fourth Quarter Cross Check Sample Discrepancy for Sr-89
- PC 01-0799, No Chemistry Procedure Guidance for Unconditional Release of Bulk Material
- PC 01-1075, Radioactive Contaminated Material Found on Unconditionally Released Motor and Mounting Skid

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification

Emergency Preparedness Cornerstone

On May 7 - 10, 2001, licensee records were reviewed to determine whether the submitted Performance indicator statistics (through the first quarter of 2001) were calculated in accordance with the guidance contained in Section 2.4 (Emergency Preparedness Cornerstone) of NEI 99-02, Revision 0, "Regulatory Assessment Performance Indicator Guideline."

1. Emergency Response Organization (ERO) Drill/Exercise Performance

a. Inspection Scope

The inspector assessed the accuracy of the performance indicator for ERO drill and exercise performance (DEP) through review of documentation. In addition, the inspectors reviewed and discussed the licensee's methodology for calculating the DEP

Performance indicator. The inspector verified the 95.5% reporting for the previous eight quarters ending March 2001.

b. Findings

No findings of significance were identified.

2. ERO Drill Participation

a. Inspection Scope

The inspector assessed the accuracy of the Performance indicator for ERO drill participation through review of source records for selected individuals. The inspector verified the 93.3% reported for the previous eight quarters ending March 2001.

b. Findings

No findings of significance were identified.

3. Alert and Notification System Reliability

a. Inspection Scope

The inspector assessed the accuracy of the Performance indicator for the alert and notification system reliability through review of the licensee's records of the siren tests for the previous 12 months.

b. Findings

No findings of significance were identified.

4. Safety System Unavailability: Emergency Alternating Current (AC) Power

a. Inspection Scope

The inspectors assessed the accuracy of the performance indicator for safety system unavailability emergency AC power through review of control room logs from July 2000 through March 2001.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. D. Young and other members of FPC management at the conclusion of the inspection on July 2, 2001. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Other Meetings

The NRC Senior Resident Inspector and the Division of Reactor Projects Branch Chief assigned to Crystal River met on June 11 with Florida Power Company to discuss the NRC's Reactor Oversight Process (ROP) annual assessment of safety performance for Crystal River 3 for the period of April 2, 2000 - March 31, 2001. The major topics addressed were: the NRC's assessment program, the results of the Crystal River assessment, and the NRC's Agency Action Matrix. Attendees included FPC site management, members of plant staff, several local officials, and news media personnel.

Following the annual assessment meeting, a brief meeting was held with local officials to discuss the ROP and NRC activities involving Crystal River 3. The FPC Emergency Preparedness Manager also attended portions of the meeting.

Both of the meetings were open to the public. Information used for the discussions of the ROP is available from the NRC's document system (ADAMS) as accession number ML 011980088. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room). Copies of the slides presented by FPC at the annual assessment meeting are attached to this inspection report.

PARTIAL LIST OF PERSONS CONTACTED

Florida Power Company
M. Annacone, Manager, Operations
S. Bernhoft, Manager, Regulatory Affairs*
G. Chick, Manager, Outages and Scheduling
R. Davis, Manager Training*
C. Gurganus, Manager, Maintenance
J. Holden, Director Site Operations*
S. Johnson, Supervisor, Self-Evaluation
F. Marcussen, Superintendent, Security
S. Powell, Supervisor, Licensing*
D. Roderick, Plant General Manager*
J. Stephenson, Supervisor, Emergency Preparedness*
J. Terry, Manager Engineering*
R. Warden, Manager Nuclear Assessment
D. Young, Vice President, Crystal River Nuclear Plant*

NRC
L. Wert, Chief, Reactor Projects Branch 3*
R. Hannah, Region II Office of Public Affairs*

*Attended the June 11 Annual Assessment Meeting