UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

April 27, 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 INSPECTION REPORT 50-302/00-05

Dear Mr. Young:

On March 31, 2001, the NRC completed an inspection at your Crystal River Unit 3 facility. The enclosed report documents the inspection findings which were discussed on April 16, 2001, with Mr. J. Holden 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 issue of very low safety significance (Green). The issue also involved a violation of NRC requirements. However, because of the very low safety significance and because it was entered into your corrective action program, the NRC is treating the issue as a Non-cited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny any Non-cited violation in this report, you should provide a response with the basis of your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; 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 the Crystal River 3 facility.

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,

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

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

Enclosure: Inspection Report 50-302/00-05
w/attachment: NRC's Revised Reactor Oversight Process

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No:	50-302
License No.	DPR-72
Report No:	50-302/00-05
Licensee:	Florida Power Corporation (FPC)
Facility:	Crystal River Unit 3
Location:	15760 West Power Line Road Crystal River, FL 34428-6708
Dates:	December 31, 2000 - March 31, 2001
Inspectors:	S. Stewart, Senior Resident Inspector S. Sanchez, Resident Inspector J. Kreh, Emergency Preparedness Inspector (Section 1EP4) G. Kuzo, Senior Radiation Protection Specialist (Sections 2OS1, 2OS2, 2OS3, 2PS2, 2PS3) A. Neilson, Radiation Protection Specialist S. Vias, Senior Reactor Inspector (Section 1R12) J. H. Wallo, Physical Security Inspector, DRS (Sections 3PP1, 3PP2) K. Davis, Physical Security Inspector, DRS D. Thompson, Safeguards Inspector, DRS (Section 3PP3) W. Rogers, Senior Reactor Analyst, DRS (Section 4OA5)
Approved by:	Leonard Wert, Chief Reactor Projects Branch 3 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000302-00-05, on 12/31/2000 - 3/31/2001, Florida Power Corporation, Crystal River Unit 3, Integrated Inspection Report. One NRC identified finding in physical protection.

This inspection was conducted by the resident inspectors and inspectors from the Region II office; an emergency preparedness inspector, two physical security inspectors, a senior reactor inspector, a senior radiation protection specialist, and a senior reactor analyst. NRC inspectors identified one green finding which was a non-cited violation. The significance of the finding was indicated by its color (green) which was determined by the Significance Determination Process (see Attachment; NRC's Revised Reactor Oversight Process).

A. Inspector Identified Findings

Cornerstone: Physical Protection

- Green. A Non-cited violation of a license condition and procedural requirements was identified when two NRC inspectors were granted unescorted access to Crystal River 3 without being required to produce a valid picture identification. Provisions in the Crystal River Physical Security Plan and the requirements of Security Procedure SEC-NGGC-2101 for obtaining identification information prior to granting access were not met.

  The finding was of very low safety significance because, although the identification information was not verified as required prior to access, the individuals granted access met all requirements for authorization for unescorted access. (Section 3PP2)

B. Licensee Identified Violations

Cornerstone: Mitigating Systems

One violation of very low significance which was identified by the licensee was reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. This violation is listed in section 4OA7 of this report.

Report Details

Summary of Plant Status:

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

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 inoperable or out of service. The walkdowns included reviews of the Final Safety Analysis Report, verification of control room switch positions to identify any discrepancies which could affect reliability of the redundant train during maintenance, and verification of electrical power to critical components.

- Emergency Diesel Generator Train B
- Emergency Feedwater Pump Train A
- Emergency Diesel Generator Train A

The inspectors conducted a complete walkdown of the emergency feedwater pumps EFP-2 and EFP-3, and associated piping located outside the reactor building. Documents used in the walkdown included; emergency feedwater drawings FD-302-081, sheet 1; and FD-302-082, sheets 1, 2, 3. Both field and control room valve positions were verified using operating procedure, OP-450, Emergency Feedwater System. Precursor cards (PCs) 99-1710 concerning the potential for overheating the emergency feedwater tank during pump recirculation, 00-2571 concerning the potential for exceeding design parameters for the emergency feedwater pump (EFP-2) turbine exhaust stack, and 00-3045 concerning spurious stroking of emergency feedwater valve EFV-57 were reviewed to verify that issues were being appropriately addressed in the corrective action program. Open maintenance items for the emergency feedwater system were reviewed and no risk significant deficiencies were identified. The inspector observed that much of the scheduled maintenance was preventive in nature. Surveillance test, SP-370, “Quarterly Cycling of Valves” was observed for crossover motor-operated valve EFV-12 and the valve was stroked satisfactorily. The valve stroke for condensate valve CDV-103, Condensate tank to emergency feed suction was verified by review of records. The hanger walkdown included piping from emergency feedwater valve EFV-12 through EFV-13 using emergency feedwater drawing 305-906, sheet 1.

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; Surveillance Procedure SP-607, Fire Damper Inspection; SP-800, Monthly Fire Extinguisher Inspection; and SP-802, Fire Hose Hydro Test and Hose Reel Inspection, were reviewed during these inspections. Precursor cards reviewed included PC 00-3470 for a drawing deficiency, PC 01-0440 regarding periodic checks of fire extinguishers, and PC 00-3481 for a fire penetration seal issue identified during a surveillance test. In the last case, the inspector verified that a work request (WR368610) was processed to repair the seal and that fire watch activities were documented in breach report number 00-0142.

- Control Room/Cable Spreading Room
- A and B Emergency Diesel Generator Rooms
- Emergency Feedwater Initiation and Control Instrumentation Rooms
- Emergency Feedwater Pump 3 Building
- Seawater Room
- Fire Pump House

On February 15, the inspectors observed the fire brigade respond to a simulated fire in the 4160/6900 Unit Switchgear Room. The simulated fire started in the B reactor coolant pump breaker. The fire brigade responded to the scene within four minutes from the start of the drill and extinguished the fire using water in 10 minutes. The inspector observed brigade response including proper use of protective clothing and self-contained breathing apparatus, that fire fighting equipment was staged and used properly, and that communications were clear and effective. The inspector verified that the FPC drill acceptance criteria were met. Minor deficiencies were documented in the corrective action system.

b. Findings

No findings of significance were identified by the NRC inspectors. A licensee identified non-cited violation is addressed in Section 4OA7.

1R07 Heat Sink Performance

a. Inspection Scope

The inspector observed the routine inspection of the 1B service water heat exchanger (SWHE) on March 12, 2001. When opened, the heat exchanger was found to be 95 percent clogged with debris. In accordance with operating procedure OP-103B, Plant Operating Curves, Curve 15, Service Water System Heat Transfer Capability, operators immediately picked and cleaned the 1B heat exchanger, returned it to service, and within 72 hours (12 hours actual), a second heat exchanger (1D) was opened and found

11 percent blocked. The blockage was documented in the corrective action program as PC 01-0643 and Request for Engineering Assistance (REA) 010112 was initiated. The engineering assessment used the observed inspection results and a number of reasonable engineering assumptions to determine that the heat removal capability of the service water system remained within design limits. Also, because the remaining heat exchangers had minimal blockage, (SWHE-1A clean on March 7 and SWHE-1C, 9.2 percent blocked on March 7) no evidence of common cause failure was identified in the engineering review. The inspector noted that FPC routinely opened heat exchangers for inspection, had opened all of the heat exchangers during the month of March, and each time had evaluated the results in accordance with the system operating curves. The inspector also reviewed Final Safety Analysis Report Chapter 9.5, Cooling Water Systems.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed operator performance in the plant simulator on February 20 and on February 28. The operating crews practiced the conduct of abnormal and emergency operations, including emergency procedure EOP-2, (Vital System Status Verification), abnormal procedures AP-510 (Rapid Power Reduction), AP-770, (Emergency Diesel Generator Actuation), and AP-430, (Loss of Control Room Alarms). The inspectors observed emergency declarations. In one instance, a senior reactor operator declared a site area emergency when the conditions for an alert were established during a training simulator scenario. The inspectors verified that the operating crew was remediated following the session and that the mis-classification was captured in the licensee's performance indicator data. The inspectors observed the crew's ability to perform actions prescribed by emergency 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 control facility.

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; Maintenance Rule Scoping Report for Crystal River 3, dated March 2, 2000, and the Fourth Quarter, Year 2000 System Health Reports.

The inspectors observed that, while completing a preventive inspection of raw water check valves, RWV-34 and 35, maintenance identified that an anti-rotation pin on a new check valve disc had separated from the disc. The issue was entered into the corrective action program as PC 01-0675. Also, FPC had identified bypass flow in service water heat exchangers 1C and 1D. The problem was documented in the corrective action system as precursor card 01-0266 and an engineering evaluation (EEM 01-006) was completed to support operability pending repair.

- Industrial Cooling
- Service Water/Raw Water
- Main Feedwater
- Decay Heat Removal Pump 1A
- Core Flood
- Reactor Coolant System

b. Findings

No findings of significance were identified.

.2 Review of Maintenance Rule Periodic Assessment

a. Inspection Scope

The inspector reviewed the FPC 10 CFR 50.65, Maintenance rule periodic assessment, dated June 22, 2000 and revised January 18, 2001. The assessment report was issued to satisfy paragraph (a)(3) of 10 CFR 50.65. The inspector verified that the assessment was issued in accordance with the time requirements of the rule and included evaluation of: balancing reliability and unavailability, Maintenance rule (a)(1) and (a)(2) activities, and use of industry operating experience. To verify compliance with 10 CFR 50.65, the inspector reviewed selected Maintenance rule activities covered by the assessment period from the following risk significant systems: Emergency Feedwater (EF), Service Water (SW) and Decay Heat Removal (DH) systems. Additionally, the inspector reviewed FPC actions associated with corrective actions and reclassification of two systems (condensate and raw water) currently classified as Maintenance rule (a)(1), paying close attention to feedwater pump (FWP-7) bearing failure which has been on the (a)(1) list twice. The procedures and documents reviewed during this inspection included:

- CP-153A, Rev 3, Maintenance Rule Implementation Procedure.
- CP-153B, Rev 5, Monitoring the Performance of Systems Structures and Components under the Maintenance Rule Procedure.
- CP-253, Rev 0, Compliance Procedure, having to do with on-line maintenance.
- Maintenance rule System Health Reports for the 2nd, 3rd, and 4th Quarter 2000.
- Training Records for Maintenance rule for the last few years.
- Precursor Cards for September 2000.
- Expert Panel minutes for 9/28/00, 5/17/00, 7/27/00, and 11/16/00.
- Nuclear Shift Managers Log (7/1/00-9/30/00.)
- Assessments:
  - Maintenance Rule 2/28/00
  - Maintenance Rule Periodic Assessment (SSA2K-49) 6/27/00
  - Maintenance Rule (SSA2K-63) 12/1/00
  - Quality & Effectiveness of Corrective Action Programs (2K-33) 9/28/00)

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

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 tracked 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 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. 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 applicable precursor cards) were specifically evaluated:

- PC 01-0608, High Differential Pressure on Emergency Feedwater Pump 3 Filter
- PC 01-0248, Engineered Safeguards Relay Failure During Surveillance Test

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the technical adequacy of the following operability evaluations to verify that operability was justified following surveillance test problems and that changes in risk were recognized by plant operators. The inspectors also monitored activities to verify that operability evaluation issues were being identified at an appropriate threshold, that risk was assessed, and that issues were entered into the corrective actions program. The following documents were reviewed: precursor card PC 01-0266 for increased pump discharge pressure when a clean service water heat exchanger (SWHE) was placed in service and another SWHE was removed from service; PC 01-0608 for receipt of a high differential pressure across emergency feedwater pump (EFP-3) air intake filter during performance of a surveillance test.

- Operability Concerns Resolution 01-0001, performance and condition of service water heat exchangers
- Operability Concerns Resolution 01-0002, emergency feed pump EFP-3 air filter differential pressure alarm

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors 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. Documents reviewed included precursor card 00-3096 for an inadequate post-maintenance test identified and corrected prior to returning the 1A emergency diesel governor to service following work request NU366120.

- Surveillance Procedure SP-146A following repair to Emergency Feedwater Initiation and Control channel C per work request NU362805
- Surveillance Procedure SP-340C, (MUP-1A, MUP-1B, and Valve Surveillance) Section 4.19 for Makeup Valve MUV-73 following a preventive maintenance inspection per work request NU363379
- Surveillance Procedure SP-340F (MUP-1C and Valve Surveillance) following a preventive maintenance inspection per work request NU363483
- Surveillance Procedure SP-130 (ES Monthly Functional Test) following replacement of an ES relay per work request NU368013
- Surveillance Procedure SP-344A (RWP-2A, SWP-1A, and Valve Surveillance) following replacement of SWP-1A pump bearings per work request NU365008

- Surveillance Procedure SP-340F (MUP-1C and Valve Surveillance), Section 4.2 for MUV-58 (makeup valve from borated water storage tank to high pressure injection pumps) following Limitorque actuator inspection and lubrication per work request NU363384
- Surveillance Procedure SP-340D (RWP-3B, DCP-1B, and Valve Surveillance) and SP-344A/B (RWP-2A/B, SWP-1A/B, and Valve Surveillance) following raw water valves RWV-34/35 inspection and maintenance per work requests NU365585 and NU368678.

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 whether they met Technical Specifications, Final Safety Analysis Report, and procedure requirements. The inspectors verified that the testing effectively demonstrated that the systems were operationally ready and capable of performing their intended safety functions. The inspectors verified that personnel were documenting surveillance problems in the corrective action program.

- Surveillance Procedure SP-110A, A Channel Reactor Protection System Functional Test
- SP-146A, Emergency Feedwater Initiation and Control Monthly Functional Test
- SP-347, Emergency Core Cooling System and Boration Flow Paths
- SP-340B, DHP-1A, BSP-1A, and Valve Surveillance
- SP-340E, DHP-1B, BSP-1B, and Valve Surveillance
- SP-130, Engineered Safeguards Monthly Functional Test

b. Findings

No findings of significance were identified.

1R23 Temporary Modifications

a. Inspection Scope

The inspectors reviewed the temporary plant modifications (TMs) listed below and evaluated the modification and associated 10 CFR 50.59 screening against the system design basis documentation, and verified that the modifications did not affect system operability or availability. Additionally, the inspectors verified that the installation was consistent with the modification documents and was conducted with adequate configuration control.

- TM 01-00-00-02, Replace Damaged Tubing to Restore Reactor Coolant System Pressure Transmitter (RC-3B-PT3) to Operable Status
- TM 01-00-00-05, Install Differential Pressure Gauge for EFP-3 Air Intake Filters

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

a. Inspection Scope

The inspector conducted an in-office review of changes to the Emergency Plan, as contained in Revisions 19 and 20, against the requirements of 10 CFR 50.54(q) to determine whether any of the changes decreased Plan effectiveness. Both revisions included significant changes to the EALs which had been submitted to the NRC for approval prior to implementation. Revision 20 incorporated a major change to the scheme for event classification based on NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels", Revision 2. The inspector reviewed whether the EAL modifications in Revisions 19 and 20 were discussed with, and agreed upon by, State and local officials prior to implementation, as required by Section IV.B of Appendix E to 10 CFR Part 50.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed two operational emergency drills during the period - an operator requalification simulator scenario on January 30 and a quarterly emergency planning drill on February 28. The inspectors observed and evaluated the performance as well as selected activities related to the conduct and self-assessment of the drills. The activities inspected during the drills included those occurring in the Control Room Simulator, and the Technical Support Center. The inspector's evaluation focused on the risk-significant activities of event classification, notification of governmental authorities, onsite protective actions, offsite protective action recommendations, and accident mitigation. The inspectors also evaluated command and control, the transfer of emergency responsibilities between facilities, communications, adherence to procedures, and the overall implementation of the emergency plan.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety (OS) and Public Radiation Safety (PS)

2OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

The inspectors reviewed radiological access controls and verified their implementation for reactor building maintenance work conducted on January 16, 2001, and on-going spent fuel pool (SFP) re-rack activities conducted throughout the week of January 15, 2001. The subject work activities were controlled by the following Radiation Work Permits (RWPs):

- RWP 010026, Non-routine Reactor Building Entries, Revision (Rev.) 0,
- RWP 010038, All Re-Rack Activities, Rev. 0,.

Administrative and engineering controls for high radiation and locked-high radiation areas and health physics technician job coverage proficiency were evaluated. Personnel dosimetry results and exposure investigation reports were reviewed and discussed in detail.

Licensee activities were reviewed against Updated Final Safety Analysis Report (UFSAR), technical specification, and 10 CFR Part 20 requirements.

b. Findings

No findings of significance were identified.

2OS2 "As Low As Reasonably Achievable" Program Planning and Controls

a. Inspection Scope

Licensee "As Low As Reasonably Achievable" (ALARA) Calendar Year (CY) 2000 collective exposure trends, Dose Reduction Steering Committee meeting minutes, and worker performance were reviewed and discussed. In addition, ALARA work plans and estimated dose expenditures for the ongoing spent fuel pool re-rack activities and the January 16, 2001, reactor building "at power" entry were reviewed and discussed. Implementation of recent revisions to Radiation Safety Procedure -600, ALARA Program, Rev. 4, were evaluated.

Program guidance and implementation were reviewed against the FPC Year 2000 ALARA goals, updated final safety analysis report, technical specifications, and 10 CFR Part 20 requirements.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation

a. Inspection Scope

Operability and availability of area gamma radiation monitor (RM-G) systems, and portable radiation monitoring and air sampling instruments were evaluated. The inspectors reviewed equipment installation and material condition for selected RM-G systems, where accessible; compared local, remote, and control room indicator readouts; evaluated current calibration methodology and results; and verified selected system warning and alarm set-points. Calibration, functional checks, and set-point data were evaluated against applicable sections of the updated final safety analysis report, technical specifications, NUREG 0737 Action Item II.F.1, and the following procedures:

- Health Physics Procedure (HPP)-404, Area Radiation Monitoring System Calibration, Revision (Rev.) 13
- Surveillance Procedure (SP)-166, Calibration of RM-G29 & RM-G30
- SP-335A, Radiation Monitoring Instrumentation Functional Test, Rev. 13

The following RM-G systems were included in the review:

- RM-G 12, Decant Slurry Pump Room,
- RM-G-14, Fuel Storage Pool, Auxiliary Building 143 foot elevation.
- RM-G-16, Reactor Building Fuel Handling Bridge
- RM-G-18, Reactor Building In-Core Instrument Removal Area, 135 Foot Elevation
- RM-G-30, Containment High Radiation Monitor,

Availability and operability of portable radiation monitoring instruments used to monitor high dose rate and neutron radiation fields during selected RB “at power” entries conducted between January 1, 2000, and January 16, 2001, were evaluated. Calibration data were reviewed for selected portable radiation monitoring instruments including neutron detectors (PNR-4); ion chambers, models RO2 and RO20; and telescoping instrumentation (Extender Model 2000W). In addition, current operation and calibration data for the “fast-scan” whole-body counting equipment was reviewed. The review included the following procedures:

- HPP-332, Whole Body Counter Calibration, Rev. 6
- HPP-427, AMS-2/AMS-3 Calibration, Rev. 7,
- HPP-431 Calibration of Telescoping Type Instruments, Rev. 6,

Implementation of respiratory protection program activities for operations and health physics staff potentially required to use Self-Contained Breathing Apparatus (SCBA) equipment were evaluated. The inspectors directly observed SCBA charging station facilities and equipment, and verified availability of equipment and replacement bottles within established storage locations. Records of supplied-air quality, equipment, operability checks, and maintenance/refurbishment activities were reviewed. Training, fit testing, and medical qualifications for ten staff members selected from on-shift operations and health physics departments were reviewed. Program guidance and implementation were reviewed against 10 CFR Part 20 requirements; Regulatory

Guide 8.15, Acceptable Programs for Respiratory Protection, Rev. 1; American Nuclear Standard Institute (ANSI) Z88.2-1992, American National Standard, Practices for Respiratory Protection, dated May 19, 1992; and HPP- 502, Respirator Inspection and Maintenance, Rev. 10.

Precursor cards documented issues associated with area radiation monitoring systems, portable instrumentation, and respiratory protection program activities. For each area approximately ten reports issued since January 2000, were reviewed.

Operability and availability of the Post Accident Sampling System (PASS) equipment was evaluated. The inspectors observed equipment installation and material condition. Completion of selected instrumentation calibrations were verified.

Program activities were evaluated against applicable sections of the UFSAR, technical specifications, Regulatory Guide 1.97, Instrumentation for Light-Water-Cooled Nuclear Power Plants To Assess Plant and Environs Conditions During and Following an Accident, and Performance Test Procedure - 160A, Post Accident Sampling System Standby Operation Testing, Rev. 3.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation

.1 Radioactive Material Processing

a. Inspection Scope

During the week of February 12, 2001, radiation protection program activities for characterization, temporary storage, and preparation of radioactive waste (radwaste) for subsequent transport to licensed processing or burial facilities were evaluated. Representativeness of radioactive waste stream samples used for waste classification was verified. The adequacy and accuracy of licensee and vendor radiochemical sample analysis results used to determine scaling factors and calculations to account for difficult-to-measure (DTM) radionuclides for selected calender year 1999-2000 dry active waste, process charcoal, reactor coolant system filter, and resin waste streams were reviewed and discussed. During tours of the solid radioactive waste processing and on-site storage facilities, the inspectors observed and evaluated material condition and housekeeping; reviewed and verified radwaste inventories and radiation surveys; and evaluated controls for selected radioactive waste containers and storage areas. In addition, walk-downs of the miscellaneous waste equipment and associated valve systems abandoned in place were conducted.

The current status of solid radioactive waste processing equipment and storage areas were verified against UFSAR and Process Control Program (PCP), Rev. 5 details. Program guidance and implementation were evaluated against 10 CFR Parts 20 and 61; TS, and the following Chemistry (CH), Health Physics Procedure (HPP), and Nuclear Waste Procedure (WP) and nuclear waste system technician (NWST) guidance:

- CH-230, Gamma Spectroscopy and Operating Instructions for the Chemistry Computer System
- HPP-213A, Area and Equipment Postings, Revision (Rev.) 10
- NWST-702, CR-3 Waste Stream Composite Collection for 10 CFR 61 Analyses, Rev. 1
- WP-204A, Dewatering of High Integrity Containers for Direct Burial, Rev. 1.
- WP-210, Sluicing Out, Loading, and Venting the Process Tanks of the Radwaste Demineralizer System, Revision (Rev. 2)

b. Findings

No findings of significance were identified.

.2 Transportation Activities

a. Inspection Scope

Radiation protection program activities associated with transportation of radioactive waste/materials were evaluated. Shipping paper details and supporting documentation were examined for accuracy and completeness. Quality assurance program activities and selected quality control records associated with use of Type B containers as required by 10 CFR 71, Subpart H, were evaluated. Training guidance and records for selected personnel involved in preparation and shipping of radioactive waste during calender years 1999 and 2000 were reviewed. Records of the following radioactive waste or radioactive material shipments were reviewed and discussed:

- 9-069, Radioactive Material, Not Otherwise Specified (n.o.s)., 7, UN2982, Fissile Excepted, Reportable Quantity (RQ) - Radionuclides, Specimen Capsules,10/31/99.
- 99-091, Radioactive material, Low Specific Activity (LSA) n.o.s., 7, UN2912, Fissile Excepted, RQ-Radionuclides, De-watered Primary Bead Resin in a High Integrity Container (HIC), 12/01/99.
- 00-023, Radioactive material, Low Specific Activity (LSA) n.o.s., 7, UN2912, Fissile Excepted, RQ-Radionuclides, De-watered Primary Filters in a HIC, 06/13/00.
- 00-058, Radioactive Material, Special Form, n.o.s., 7, UN2974, Fissile Excepted, RQ- Radionuclides, Solid Sealed-Source, 12/13/00.

Transportation program guidance and implementation of activities were reviewed against 10 CFR Parts 20 and 71, and 49 CFR Parts 170 -189 requirements; applicable Certificates of Compliance (CoC); and the following licensee Waste Procedure (WP) guidance:

- Transport Cask Model CNS8-120B, CoC No. 9168, Rev. 10
- Transport Cask Model CNS1-13G, CoC No. 9216, Rev. 6
- WP-101, Packaging, Storing, and Shipping of Class 7 (Radioactive) Materials, Rev. 33

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program

.1 Meteorological Monitoring

a. Inspection Scope

Meteorological monitoring program guidance and operations were evaluated. Meteorological tower equipment material condition, and functionality were verified. Operability of local and control room data readouts, and control room recording instruments were verified. Control room operators knowledge of emergency procedure details regarding primary and backup meteorological data in the event of a radiological emergency were inspected. Selected meteorological monitoring system records for semiannual calibrations and monthly preventative maintenance activities conducted between January 1, 2000, through February 1, 2001, were reviewed and discussed.

Program implementation was reviewed against technical specifications; UFSAR descriptions; guidance provided in Safety Guide 23, Onsite Meteorological Programs, dated 02/17/72, and Regulatory Guide 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 Plants, Rev. 1; and details in the following licensee Surveillance Procedure (SP) and Preventative Maintenance (PM) guidance::

- SP-153, Primary System Meteorological Monitoring Instrumentation calibration, Rev. 8,
- SP-158, Back-up System Meteorological Monitoring Instrument Calibration, Rev. 22.
- PM-157B, Primary Meteorological System (Monthly), Rev. 1.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

Cornerstone: Physical Protection (PP)

3PP1 Access Authorization (Behavior Observation Program)

a. Inspection Scope

The inspector evaluated licensee procedures, Fitness For Duty (FFD) reports, and licensee audits. Additionally, the inspector interviewed five representatives of licensee management and five escort personnel concerning their understanding of the behavior observation portion of the personnel screening and FFD program. In interviewing these personnel, the inspector evaluated the effectiveness of their training and abilities to recognize aberrant behavioral traits, physiological indications of narcotic and alcohol use, and work call-out reporting procedures. Licensee compliance was evaluated against requirements in the Crystal River Nuclear Plant Physical Security Plan and associated procedures, and 10 CFR Part 26, Fitness For Duty Programs.

b. Findings

No findings of significance were identified.

3PP2 Access Control

a. Inspection Scope

The inspector observed access control activities on March 26 - 27, 2001. Search and access control equipment testing was also observed on March 27, 2001. In observing the access control activities, the inspector assessed whether officers could detect contraband prior to it being introduced into the protected area. The protective barriers for the Final Access Control facility were inspected to ensure compliance with protection standards in the Physical Security Plan. Additionally, the inspector assessed whether the officers were conducting access control equipment testing in accordance with regulatory requirements through observation, review of procedures and log entries. Preventative and post maintenance procedures were evaluated and observed as performed. Lock, combination, and key control procedures were evaluated, as well as, aspects of the site access authorization program. Licensee compliance was evaluated against requirements in the Crystal River Nuclear Plant Physical Security Plan and associated procedures, and 10 CFR Part 73.55, Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors Against Radiological Sabotage, and Part 73.56, Personnel Access Authorization Requirements for Nuclear Power Plants.

b. Findings

One finding of very low safety significance (Green) was identified. A Non-cited violation of a license condition and procedural requirements was identified when two NRC inspectors were granted unescorted access to Crystal River 3 without being required to produce a valid picture identification.

On March 26, 2001, two NRC inspectors were badged, enrolled into the hand geometry system, and granted unescorted access to Crystal River 3 Nuclear Plant without being required to produce a valid picture identification. Access levels for each badge included vital area doors. Shortly after the inspectors accessed the protected area, during the initial portion of their inspection, the inspectors identified the deficiency. The issue was immediately reported to licensee management and corrective actions, including verification of the inspectors' identification information, were promptly completed.

This issue was identified as more than a minor finding because granting site access to individuals who have not been properly identified has a credible impact on safety since unauthorized personnel could gain access to vital areas. Additionally, the granting of access to improperly identified individuals can be viewed as a precursor to a significant event. Using the Physical Protection Significance Determination Process and identifying this finding as a vulnerability in Access Control, without a malevolent act, and with fewer than 2 similar findings in 4 quarters, the issue was determined to be a Green finding. The issue was determined to be of very low safety significance in accordance with the Significance Determination Process and because the inspectors otherwise met all requirements to be authorized unescorted access.

Crystal River Physical Security Plan Revision 7-6, Paragraph 4.2.1 states prior to entering the protected area, persons are searched, identified, and their authorization for unescorted access verified. Paragraph 4.1.2 of the same document states NRC employees are authorized unescorted access to Crystal River 3 upon receipt of an appropriate request, identification data, and certificate of appropriate screening from NRC. Additionally, Crystal River 3 Security procedure SEC-NGGC-2101, Paragraph 9.1.3, states that each person requesting unescorted access must produce a valid picture identification prior to being issued a badge.

This finding constitutes a violation of Crystal River Unit 3 Operating License Condition 2.D which requires, in part, that the licensee fully implement all provisions of the Physical Security Plan. Because the violation is of very low safety significance and has been entered into the licensee's corrective action program (Precursor Card Report 3-C-01-0769), this finding is treated as a Non-Cited Violation in accordance with Section VI.A.1 of the NRC enforcement policy. The finding is identified as NCV 50-302/00005-01.

3PP3 Response to Contingency Events

.1 Intrusion and Detection

a. Inspection Scope

The protected area intrusion detection system and assessment system required by the FPC Physical Security Plan were evaluated to determine if vulnerabilities could be identified. Seventeen identified potential vulnerabilities were tested to determine if they were exploitable.

b. Findings

No findings of significance were identified.

.2 Assessment Aids

a. Inspection Scope

The inspection team conducted an evaluation of the FPC assessment capability. The quality of the assessment aids was evaluated against the Physical Security Plan to determine if the alarm station operators could clearly recognize a threat in the intrusion detection zones. The team assessed 17 areas to determine whether the camera assessment system was capable of automated call-up of fixed closed circuit television cameras to assess alarms emanating from the protected area perimeter. The capability to assess alarms by a video capture system was evaluated.

b. Findings

No findings of significance were identified.

.3 Weapons Demonstration

a. Inspection Scope

Using the Tactical Response Plan, the inspection team evaluated the firearms proficiency by observing a range demonstration by individuals selected by the inspection team. The inspectors observed the weapons demonstration to determine whether each of the selected individuals was capable of effectively engaging the targets using appropriate weapons from each type plant defensive position used as part of the defensive strategy. The inspectors observed the individuals firing from elevated positions, from behind barricades, barrels, and at fixed and moving targets.

b. Findings

No findings of significance were identified.

.4 Table-Top Exercises

a. Inspection Scope

The inspection team conducted four table-top exercises which focused on evaluating the response strategy to protect against an armed attack as defined in the Tactical Response Plan. The inspectors conducted table-top exercises to determine whether the armed response force defensive strategy demonstrated the ability to quickly focus responders on the adversaries' location, interdict the adversaries, provide defense-in-depth, and protect target sets against attack from the locations used during the table-top drills.

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors also randomly selected and screened records for drills and exercises for the period of December 2000 through January 2001, maintenance work requests, and problem evaluation reports to determine if the licensee was identifying problems in these areas, and entering them into the corrective action program.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification

.1 Initiating Events Cornerstone

a. Inspection Scope

The inspectors verified the accuracy of the licensee's report to the NRC that there were no occurrences in this cornerstone in the last year. Also, monthly operating reports were reviewed to determine the number of reactor critical hours.

b. Findings

No findings of significance were identified.

.2 Mitigating Systems Cornerstone

Heat Removal System (AFW) Unavailability

a. Inspection Scope

The inspectors reviewed data gathering worksheets, control room logs, and data evaluation worksheets for the heat removal system (auxiliary feedwater) unavailability reported to the NRC as the fourth quarter 2000 performance indicator. Data for the second and third quarters 2000 were also checked for consistency. The inspectors also reviewed precursor cards written by FPC regarding minor performance indicator problems identified in the licensee's internal reviews and corrected.

b. Findings

No findings of significance were identified.

Residual Heat Removal System Unavailability

a. Inspection Scope

The inspectors verified the accuracy of the performance indicator (PI) for residual (decay heat) removal system unavailability which was reported to the NRC. The inspectors reviewed data applicable to four quarters of operation beginning with the first quarter of 2000 and ending with the fourth quarter of 2000. The inspectors compared data contained in the nuclear shift manager logs to the values utilized to generate the PI data to ensure the values reported were consistent. The inspectors also reviewed the corrective action program for relevant issues related to the collection of PI data.

b. Findings

No findings of significance were identified.

.3 Occupational Radiation Safety Cornerstone

a. Inspection Scope

The inspectors verified the Occupational Exposure Control Effectiveness performance indicator for the Occupational Radiation Safety Cornerstone from January 1, 2000, through January 15, 2001. The inspectors reviewed data reported to the NRC, and sampled and evaluated applicable precursor card and selected health physics program records. Reviewed radiation protection program records included personnel contamination index, skin and internal contamination evaluations, health physics surveys, and dosimetry device incident forms.

b. Findings

No findings of significance were identified.

.4 Public Radiation Safety Cornerstone

a. Inspection Scope

The inspectors verified the Radiological Control Effluent Release Occurrences performance indicator for the Public Radiation Safety Cornerstone January 1, 2000, through December 31, 2000. The inspectors reviewed data reported to the NRC and evaluated applicable precursor cards; process radiation monitor operational data and abnormal effluent release results; and monthly Effluent Monitoring System Data Base records associated with routine liquid and gaseous effluent releases,.

b. Findings

No findings of significance were identified.

.5 Physical Protection Cornerstone

a. Inspection Scope

The inspector evaluated Progress Energy, Florida Power, and Crystal River Nuclear Plant programs for gathering and submitting data for the Fitness-for-Duty, Personnel Screening, and Protected Area Security Equipment Performance Indicators. The evaluation included Crystal River's tracking and trending reports and security event reports for the Performance Indicator data submitted from the first quarter to the fourth quarter of 2000. Licensee performance was evaluated against requirements in NEI 99-02, Revision 0, Regulatory Assessment Performance Indicator Guideline. Documents reviewed included inventory logs for keys and locks and fitness for duty semi-annual reports, January through December, 2000.

b. Findings

No findings of significance were identified.

4OA5 Other

(Closed) Inspection Followup Item (IFI) 50-302/98-05-01: Linking Performance Criteria to Probabilistic Safety Assessment (PSA) Assumptions

Following the Maintenance Rule baseline inspection, PC 3-C97-6179 was initiated. Corrective actions included re-evaluating the performance criteria for all risk significant systems, selecting a different methodology for developing the performance criteria, and changing a large number of the performance criteria availability and reliability limits. Sensitivity studies were performed showing the overall increase in core damage frequency (CDF) as unavailability of the risk significant systems was increased from the baseline value by 0.5 up to 2.5. The licensee selected an unavailability increase of 0.5. This increased the baseline CDF of 8E-6 by 5.5E-7. Reliability was determined by integrating demand, operating and test failures into a failure distribution. The allowable number of failures limit was determined as the point where the 90% probability of failure threshold was crossed. The inspector reviewed the licensee's calculations, as contained in Precursor Card Report 3-C97-6179, and confirmed that the established Maintenance Rule performance criteria was consistent with these results. Using these methodologies for reliability and availability linked the performance criteria to the PSA. Therefore, this item is closed.

4OA6 Meetings

Exit Meeting Summary

The resident inspectors presented the inspection results to Mr. J. Holden and other members of management at the conclusion of the inspection on April 16, 2001. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee Identified Violations

The following finding of very low significance was identified by the licensee and was a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG 1600, for being dispositioned as a Non-Cited Violation (NCV).

NCV Tracking Number	Requirement Licensee Failed to Meet
NCV 50-302/00-05-02	Crystal River 3 Operating License Requirement 2.C.(9) requires that FPC shall implement and maintain in effect all provisions of the approved fire protection program. Table 6.7a of the Fire Protection Plan, requires that when a fire barrier penetration is not functional, either establish a continuous fire watch on at least one side of the barrier, or verify the operability of fire detectors on one side of the barrier and establish an hourly fire watch patrol. Contrary to the above, for various times prior to January 3, 2001, the air return fire barrier damper for the B engineered safeguards 4160 volt switchgear room was not functional and neither fire watch provision was met. This issue was described in the licensee corrective action program as PC 01-0012 and is being treated as a Non-cited violation.

PARTIAL LIST OF PERSONS CONTACTED

Florida Power Corporation
M. Annacone, Manager, Operations
L. Brenner-David, Supervisor, Access Authorization
R. Champion, Progress Energy Access Authorization Manager
G. Chick, Manager, Outages and Scheduling
R. Davis, Manager Training
R. Gill, Progress Energy, Director of Corporate Security
C. Gurganus, Manager, Maintenance
J. Holden, Director Site Operations
S. Johnson, Supervisor, Self-Evaluation
F. Marcussen, Superintendent, Security
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

ITEMS OPENED AND CLOSED

Opened and Closed

50-302/00-05-01	NCV	Failure to ensure that individuals granted unescorted access to the protected area produce a picture identification prior to receiving access. (Section 3PP2)
50-302/00-05-02	NCV	Failure to Implement Fire Protection Plan Requirements When a Fire Damper was Not Operable. (Section 4OA7)

Items Closed

50-302/98-05-01	IFI	Linking Performance Criteria to Probabilistic Safety Assessment (PSA) Assumptions (Section 4OA5)

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at *http://www.nrc.gov/NRR/OVERSIGHT/index.html*.

Attachment