



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30303

Report No.: 50-302/84-02

Licensee: Florida Power Corporation
 3201 34th Street, South
 St. Petersburg, FL 33733

Docket No.: 50-302

License No.: DPR-72

Facility Name: Crystal River 3

Inspection at Crystal River site near Crystal River, Florida

Inspector: V. W. Panciera
 I. F. Stetka, Senior Resident Inspector

2/15/84
 Date Signed

Approved by: V. W. Panciera
 V. W. Panciera, Section Chief
 Division of Project and Resident Programs

2/15/84
 Date Signed

SUMMARY

Inspection on January 3-30, 1984

Areas Inspected

This routine inspection involved 128 inspector-hours on site by one resident inspector in the areas of plant operations, security, radiological controls, Plant Review Committee activities, Licensee Event Reports and Nonconforming Operations Reports, and licensee action on previous inspection items. This inspection also documents utility compliance with the licensed operator staffing rule 10 CFR 50.54 (TMI Item I.A.1.3). Numerous facility tours were conducted and facility operations observed. Some of these tours and observations were conducted on back shifts.

Results

Two violations were identified (Failure to follow radiation protection procedures, paragraphs 5.b(5) and 5.b(10); and failure to maintain calibration of instrumentation, paragraph 5.b(1)).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- B. Bandhauer, Nuclear Reliability Supervisor
- *G. Boldt, Operations Manager
- R. Clarke, Plant Health Physicist
- E. Howard, Director, Site Nuclear Operations
- W. Johnson, Acting Maintenance Superintendent
- B. Komara, Nuclear Quality Control Supervisor
- J. Kraiker, Operations Superintendent
- *S. Mansfield, Compliance Supervisor
- R. Mathews, Calibration Laboratory Supervisor
- P. McKee, Plant Manager
- J. Roberts, Nuclear Chemistry Manager
- S. Robinson, Nuclear Waste Manager
- *V. Roppel, Assistant Engineering and Technical Services Manager
- *B. Rossfeld, Compliance Manager
- K. Wilson, Site Nuclear Licensing Supervisor

Other personnel contacted included office, operations, engineering, maintenance, chem/rad and corporate personnel.

*Attended exit interview

2. Exit Interview

The inspector met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on January 30, 1984. During this meeting, the inspector summarized the scope and findings of the inspection as they are detailed in this report. During this meeting the violations, unresolved item, and inspector followup items were discussed.

3. Licensee Action on Previous Enforcement Matters

(Closed) Violation (302/83-26-01): The inadequate procedure, OP-703, was revised to prohibit bypassing of the Reactor Coolant Pump Power Monitors (RCPPM's) during bus transfers. Discussion with licensee representatives indicates that Technical Specification (TS) amendments are being reviewed by a Qualified Reviewer as stated for the long term corrective action. This additional level of review should prevent recurrence.

(Closed) Inspector Followup Item (302/83-18-07): Containment isolation valves CAV-6 and CAV-7 were modified by installing stronger closing springs to insure proper closure against system pressure. Review of the modification package (MAR T83-10-06-01) and subsequent test data indicate the modification resolved the valve failure problem.

(Closed) Violation (302/83-23-01): Short term instruction 83-83 was issued on August 29 to direct operations personnel to conduct an independent verification on switches and breakers. The inspector verified, through the review of equipment clearance forms, that this practice was implemented. In addition the inspector verified that procedure CP-115 was revised as stated in the response and that personnel were complying with the procedure.

(Closed) Inspector Followup Item (302/80-28-03): The licensee's investigation of the discolored oil in the nuclear services closed cycle cooling pumps (SWP's) has been identified as copper and iron from normal bearing wear. The maintenance history on these pumps indicates no abnormal bearing problems. The licensee employs a maintenance consultant service that constantly monitors pump maintenance history through the use of oil sampling and vibration measurements to insure detection of abnormal operating trends.

(Closed) Inspector Followup Item (302/83-29-03): The licensee has been unable to determine the reason for the incorrectly set governor on the emergency feedwater pump. To prevent recurrence of this event the licensee checks the setting of this governor each shift and has revised surveillance procedure SP-300, Operating Daily Surveillance Log, to require this check. In addition the licensee is considering a modification to the governor to insure the setting is not inadvertently changed.

(Open) Violation (302/83-09-01): The licensee is revising and updating the existing calibration program and has a number of new calibration procedures approved and implemented. The inspector submitted, to the licensee, a list of 68 selected instruments and requested the calibration records for this list. The licensee was able to locate 50 of the requested records and is attempting to locate the remaining 18. Of the 50 records reviewed the inspector noted that 13 instruments were found to be out of calibration. This item remains open pending review of the remaining instrument records and review of the licensee's determination of the effect of the out of calibration instrumentation on plant operation.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph 5.b(8)a.

5. Review of Plant Operations

The plant continued power operation (Mode 1) until 4:57 p.m. on January 27 when the plant was shutdown to hot standby (Mode 3) to add oil to a reactor coolant pump motor and replace two control rod position indicator tubes. The plant returned to power operation at 10:00 p.m. on January 28 and continued in power operation for the remainder of the inspection period.

a. Shift Logs and Facility Records

The inspector reviewed records and discussed various entries with operations personnel to verify compliance to Technical Specifications (TS) and the licensee's administrative procedures.

The following records were reviewed:

Shift Supervisor's Log; Reactor Operator's Log; Equipment Out-of-Service Log; Shift Relief Checklist; Auxiliary Building Operator's Log; Active Clearance Log; Daily Operating Surveillance Log; Work Request Log; Short Term Instructions (STI's); and selected Chemistry/Radiation Protection Logs.

In addition to these record reviews, the inspector independently verified clearance order tagouts.

No violations or deviations were identified.

b. Facility Tours and Observations

Throughout the inspection period, facility tours were conducted to observe operations and maintenance activities in progress. Some operations and maintenance activity observations were conducted during backshifts. Also, during this inspection period, licensee meetings were attended by the inspector to observe planning and management activities.

The facility tours and observations encompassed the following areas: Security Perimeter Fence; Control Room; Emergency Diesel Generator Room; Auxiliary Building; Intermediate Building; Battery Rooms; and, Electrical Switchgear Rooms.

During these tours, the following observations were made:

- (1) Monitoring Instrumentation - The following instrumentation was observed to verify that indicated parameters were in accordance with the TS for the current operational mode:

Equipment operating status; Area, atmospheric and liquid radiation monitors; Electrical system lineup; Reactor operating parameters; and Auxiliary equipment operating parameters.

While observing the monitoring instrumentation on January 25, the inspector noted that the temperature instrument (TI-398) used to determine the control room air temperature as required by TS 4.7.7.1, did not have a calibration sticker affixed to it. A check with the calibration lab by the inspector indicated that the instrument had exceeded its calibration due date of January 13 and was therefore considered to be uncalibrated. In addition, the inspector noted that the calibration lab did not know where the

instrument was located since the person that removed the instrument from the lab did not complete the Test Equipment Sign-Out Log.

Procedure NCL-01, Test Equipment, Standards, and Calibration Control, requires that all instruments removed from the calibration lab be logged in the Test Equipment Sign-Out Log and that all calibrated instruments have a calibration sticker affixed. Failure to adhere to procedure NCL-01 is contrary to the requirements of 10 CFR 50, Appendix B, Criterion V as implemented by the licensee's Quality Assurance Program and is considered to be a violation.

Violation (302/84-02-01): Failure to maintain calibration of test instrumentation as required by 10 CFR 50 Appendix B, Criterion V.

- (2) Safety Systems Walkdown - The inspector conducted a walkdown of the Emergency Feedwater system to verify that the lineup was in accordance with license requirements for system operability and that the system drawing and procedure correctly reflect "as-built" plant conditions.

During the preparation for this walkdown, the inspector noted that one of the cooling water valves (EFV-49) to the turbine driven emergency feedwater pump (EFP-2) which was designated as a locked open valve on the system valve lineup (OP-605) was not included in surveillance procedure SP-381, Lock Valve List, that is performed quarterly. The inspector also noted during the walkdown that the valve was locked open. The licensee is reviewing this discrepancy and will provide a resolution.

Inspector Followup Item (302/84-02-02): Review licensee resolution to the discrepancy between OP-605 and SP-381 with respect to valve EFV-49.

- (3) Shift Staffing - The inspector verified that operating shift staffing was in accordance with TS and 10 CFR 50.54 (TMI Item I.A.1.3) requirements and that control room operations were being conducted in an orderly and professional manner. In addition, the inspector observed shift turnovers on various occasions to verify the continuity of plant status, operational problems, and other pertinent plant information during these turnovers.

On July 11, 1983, a change was issued to 10 CFR 50.54 which requires that, effective January 1, 1984, a Senior Reactor Operator be present at all times in the control room while the plant is in an operating mode. As a result of this new regulation, NRC Region II issued a directive to Resident Inspectors to verify compliance.

The licensee established the Assistant Nuclear Shift Supervisor (ANSS) position approximately three years ago. The intent of this position was to ensure that one Senior Reactor Operator be present in the control room at all times.

No violations or deviations were identified.

- (4) Plant Housekeeping Conditions - Storage of material and components and cleanliness conditions of various areas throughout the facility were observed to determine whether safety and/or fire hazards exist.

No violations or deviations were identified.

- (5) Radiation Areas - Radiation Control Areas (RCA's) were observed to verify proper identification and implementation. These observations included selected licensee conducted surveys, review of step-off pad conditions, disposal of contaminated clothing, and area posting. Area postings were independently verified for accuracy through the use of the inspector's own monitoring instrument. The inspector also reviewed selected radiation work permits and observed personnel use of protective clothing, respirators, and personnel monitoring devices to assure that the licensee's radiation monitoring policies were being followed.

- (a) The licensee controls the radiation protection program in accordance with procedure RP-101, Radiation Protection Manual. During the course of this inspection the inspector noted four instances where the requirements of this procedure were not adhered to as follows:

- 1) On January 8 while reviewing the Health Physics (HP) log the inspector noted an event that occurred on the previous day that resulted in personnel contamination. An individual was moving contaminated equipment from one contaminated area to another and in the course of movement the protective bag broke causing the contaminated device to touch an individual causing the contamination spread. Review of this event indicates that the individual performing the move did not adhere to the requirement of the Radiation Work Permit (RWP) which required a survey of equipment prior to removal from a contaminated area. Such a survey may have prevented this incident through the use of proper bagging. Failure to adhere to the RWP is contrary to the requirements of RP-101.
- 2) On January 13 while touring the Auxiliary Building, the inspector observed an individual within a posted high radiation area without a dose rate monitoring instrument. Procedure RP-101 requires such an instrument

whenever entering a posted high radiation area. Subsequent surveys by licensee personnel indicated that the maximum general area radiation dose was 60 MR/HR (a high radiation area is an area where the general area radiation dose is 100 MR/HR or greater); however, the licensee maintains this area as a high radiation area since changing plant conditions can result in general dose rates exceeding 100 MR/HR.

- 3) On January 20 while observing leak rate testing in the Auxiliary Building, the inspector noted that the test required draining of a potentially contaminated system. When the inspector questioned test personnel about the radiological controls for this testing, these personnel stated that the controls were covered by a Standing Radiation Work Request (SRWP). Procedure RP-101 only allows usage of an SRWP for routine work and requires a RWP for all evolutions that involve breaking into a potentially contaminated system.
- 4) On January 27 while exiting the Radiation Control Area (RCA), the inspector observed an individual exiting the RCA without performing a whole body frisk. Procedure RP-101 requires a whole body frisk prior to exiting the RCA.

Failure to adhere to the requirements of procedure RP-101 are contrary to the requirements of TS 6.11 and is considered to be a violation.

Violation (302/84-02-03): Failure to adhere to the requirements of radiation protection procedures as required by TS 6.11.

- (b) During Auxiliary Building (AB) tours the inspector noted two instances where building ventilation was not providing a negative pressure. The AB is maintained at a negative pressure to assure that air flow is into the building and not out into the environment thus preventing an unmonitored release path. In each of these instances the licensee immediately took air samples and verified that an unmonitored release did not occur.

The cause of these events appears to be due to a lack of coordination between operations personnel and health physics personnel to assure that as building conditions change, the appropriate ventilation fans are started or secured. A memorandum has been issued to health physics personnel to provide direction for maintaining the negative pressure. In addition, the licensee is considering other actions to prevent recurrence of these events.

Inspector Followup Item (302/84-02-04): Review licensee actions to insure AB negative ventilation is being maintained.

- (6) Security Control - Security controls were observed to verify that security barriers are intact, guard forces are on duty, and access to Protected Area (PA) is controlled in accordance with the facility security plan. Personnel within the PA were observed to insure proper display of badges and that personnel requiring escort were properly escorted. Personnel within vital areas were observed to insure proper authorization for the area.

No violations or deviations were identified.

- (7) Fire Protection - Fire protection activities, staffing and equipment was observed to verify that fire brigade staffing was appropriate and that fire alarms, extinguishing equipment, actuating controls, fire fighting equipment, emergency equipment, and fire barriers are operable.

No violations or deviations were identified.

- (8) Surveillance testing was observed to verify that approved procedures were being used; qualified personnel were conducting the tests; testing was adequate to verify equipment operability; calibrated equipment, as required, were utilized; and TS requirements were followed.

The following tests were observed and/or data reviewed:

- SP-179, Containment Leakage Test - Types "B" and "C" (for the Type C test on valve CFV-42);
- SP-317, Reactor Coolant System Water Inventory Balance;
- SP-332, Monthly Feedwater Isolation Functional Tests;
- SP-335, Radiation Monitoring Instrumentation Functional Test;
- SP-334, Nuclear Services Cooling System Operability;
- SP-349, Emergency Feedwater System Operability Demonstration;
- SP-370, Quarterly Cycling of Valves;
- SP-701, Radiation Monitoring System Surveillance Program;
- SP-702, Reactor Coolant and Decay Heat Daily Surveillance Program;
- SP-715, Containment Building Spray Semiannual Surveillance Program; and,

- SP-726, Secondary Coolant Semiannual Surveillance Program.

Based upon these observations and reviews the following items were identified.

- (a) Due to problems with operations personnel being unable to take pump vibration readings correctly, the licensee now has their vibration consultant, PMA, take these readings. While observations and discussions with the licensee by the inspector indicate that these personnel are qualified to take these readings, the licensee has been unable to supply documentation for these qualifications. The licensee has requested and is waiting to receive this certifying documentation from PMA.

Unresolved Item (302/84-02-05): Obtain documentation to certify the qualifications of the vibration monitoring consultant personnel.

- (b) While observing the performance of SP-344, the inspector noted that the differential pressure measured across the "A" Nuclear Services Closed Cycle Cooling Pump (SWP-A) and the flow rate to the containment coolers did not meet the acceptance criteria. Discussions with licensee personnel indicate that during cold weather conditions these readings may not meet acceptance criteria due to colder than normal water temperatures and must be reviewed by plant engineering for acceptability. To insure acceptability on a more timely basis, the licensee will revise SP-344 to specify different acceptance criteria depending upon ambient temperature conditions.

Inspector Followup Item (302/84-02-06): Review the revision to procedure SP-344 to provide temperature compensated acceptance criteria.

- (9) Maintenance Activities - The inspector observed maintenance activities to verify that correct equipment clearances were in effect; Work Requests and Fire Prevention Work Permits, as required, were issued and being followed; Quality Control personnel were available for inspection activities as required; and TS requirements were being followed.

Maintenance was observed and work packages were reviewed for the following maintenance activities:

- Replacement of the vacuum pump on radiation monitor RM-A2;
- Preventive maintenance (PM) on the "C" Make-up Pump electrical protective relays in accordance with PM-102;

- Electrical checks of the control rod drive power train in accordance with PM-126; and,
- Preventive maintenance and qualification of AC and DC reactor trip breakers in accordance with PM-118.

The licensee contracted for the vendor of their reactor trip breakers (General Electric) to have a representative observe the preventive maintenance on their breakers to assure that procedure PM-118 was effective to prevent breaker failure. The inspector observed the PM and noted the comments made by the vendor representative. As a result of these observations the licensee is revising PM-118 to include the following information:

- As found timing and undervoltage coil data prior to breaker disassembly;
- Lubrication instruction for all three bearings (the procedure presently covers only two bearings); and,
- Provide a sign-off at the end of the procedure to assure that all test devices installed on the breaker are removed.

Inspector Followup Item (302/84-02-07): Review revision to PM-118 to incorporate as found readings, bearing lubrication, and return to normal sign-off.

- (10) Radioactive Waste Controls - Selected liquid and gaseous releases were observed to verify that approved procedures were utilized, that appropriate release approvals were obtained, and that required surveys were taken.

While observing the return to normal following the "C" waste gas decay tank release on January 24, the inspector noted that the purging operation of the release path monitor (RM-A11) was not conducted in accordance with the requirements of radiation protection procedure CH-338, Sampling the Waste Decay Tanks, in that the initial valve lineup was not performed and the stated purging pressures were exceeded. As the result of this action, the monitor was damaged.

Failure to adhere to the requirements of a radiation procedure is contrary to the requirements of TS 6.11 and is considered to be a violation. This violation is considered to be another example of violation (302/84-02-03) discussed in paragraph 5.b.(5).

- (11) Pipe Hangers and Seismic Restraints - Several pipe hangers and seismic restrains (snubbers) on safety-related systems were observed to insure that fluid levels were adequate and no leakage was evident, that restraint settings were appropriate, and that anchoring points were not binding.

No violations or deviations were identified.

6. Review of Licensee Event Reports and Nonconforming Operations Reports

- a. Licensee Event Reports (LER) were reviewed for potential generic impact, to detect trends, and to determine whether corrected actions appeared appropriate. Events, which were reported immediately, were reviewed as they occurred to determine if the TS were satisfied.

LER's 83-50, 83-52, and 83-54 through 83-64 were reviewed in accordance with current NRC enforcement policy. LER's 83-52, 83-54, 83-55, 83-56, 83-58, 83-59, 83-60, 83-61, and 83-63 are closed. LER's 80-50, 83-57, 83-62, and 83-64 remain open for the following reasons:

- (1) LER 83-50 reported the failure to complete surveillance testing of the Low Pressure Injection System and Engineering Safeguards Actuation prior to changing operational modes. The licensee is reviewing this event to determine what procedure changes or TS changes may be required to prevent recurrence. This LER remains open pending completion of this review.
 - (2) LER 83-57 reported the failure of the turbine driven emergency feedwater pump (EFP-2) steam admission valve (ASV-5) due to the valve motor starter contact failure. The licensee is performing an engineering evaluation to determine the cause of the contact failure. This LER remains open pending completion of this evaluation.
 - (3) LER 83-62 reported the inoperability of the reactor building pressure recorder due to an inadequate modification which left the recorder unconnected. To insure that inoperable recorders are identified in a timely manner, those recorders not presently listed will be added to the operations daily surveillance log (SP-300). This LER remains open pending revision of SP-300.
 - (4) LER 83-64 reported the failure of radiation monitor RM-A6 due to a blown fuse. An engineering investigation of this event is underway to prevent recurrence. This LER remains open pending the results of this investigation.
- b. The inspector reviewed Nonconforming Operations Reports (NCOR) to verify the following: compliance with the TS, corrective actions as identified in the reports or during subsequent reviews have been accomplished or are being pursued for completion, generic items are identified and reported as required by 10 CFR Part 21, and items are reported as required by the TS.

All NCOR's were reviewed in accordance with the current NRC enforcement policy.

As a result of these reviews the following item was identified.

NCOR 84-21 reported an insulation failure in a 480 volt AC, 600 Amp frame size, ITE Imperial Type K Breaker used to start a safety-related pump. The insulation failure was confined to the coils surrounding the overcurrent trip devices (one per phase) in which the plastic-like material cracked. The failure did not render the breaker inoperable. The failure was identified during a routine preventive maintenance check of the breaker. The licensee has identified eleven of these breakers used in safety-related applications. The licensee plans to inspect the additional breakers, perform an engineering evaluation as to the cause of failure and a method of repair, and to issue an operational notice to require a breaker inspection if an overcurrent condition occurs on the breaker.

Inspector Followup Item (302/84-02-08): Review licensee activities to resolve and repair failed insulation on ITE 480 volt, 600 Amp breakers.

7. Review of Plant Review Committee (PRC) Activities

The activities of the PRC, the licensee's onsite review committee, were reviewed to verify that the review and audit requirements of the Technical Specifications (TS) are accomplished.

To accomplish this review the inspector attended three PRC meetings, two routine and one special, conducted during this inspection period. The inspector verified member and alternate requirements were met and that the required quorum was present.

As a result of these reviews and observations the inspector noted that the PRC reviews Nonconforming Operating Reports (NCOR's) as the primary means of meeting the TS required facility operations review. The inspector also noted during meeting 84-03 held on January 18, that NCOR 82-308 dated November 10, 1982, and NCOR 83-149 dated May 20, 1983, were being reviewed.

The inspector discussed this untimely review of operational events with licensee personnel and stated that use of NCOR's as a monitor of plant operations is only effective if conducted in a timely manner. The licensee acknowledged the inspector's remarks and stated that the PRC has a backlog of NCOR's to review and has made significant progress in reducing this backlog. This progress is continuing and, in addition the PRC will initiate a plan to have Operations Technical Advisor's (OTA's) attend the meetings to brief the PRC on operations activities.

Inspector Followup Item (302/84-02-09): Review PRC activities to reduce NCOR backlog and initiate additional review method for plant operations.