



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
101 MARIETTA STREET, N.W.  
ATLANTA, GEORGIA 30303

OCT 05 1982

Report No. 50-302/82-18

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

Facility Name: Crystal River Unit 3

Docket No. 50-302

License No. DPR-72

Inspection at Crystal River site near Crystal River, Florida

Inspectors: John F. Rogge, for 10/11/82  
V. F. Stetka Date Signed

John F. Rogge, for 10/11/82  
B. W. Smith Date Signed

John F. Rogge, for 10/11/82  
R. F. Rogers Date Signed

Approved by: Vergith Brownlee 10/1/82  
V. L. Brownlee, Section Chief, Division of Date Signed  
Projects and Resident Programs

SUMMARY

Inspection on July 27 - August 27, 1982

Areas Inspected

This routine inspection involved 166 hours on site by two resident inspectors in the areas of plant operations, security, radiological controls, procurement and storage of equipment, Licensee Event Reports and Nonconforming Operations Reports (NCOR's), reactor trips, licensee action on IE Bulletin 82-02, and licensee action on previous inspection items. 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 maintenance procedures during safety-related maintenance, paragraph 5.b(8); Failure to respond to an NRC Notice of Violation within the time specified, paragraph 9).

## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*G. Boldt, Technical Services Superintendent
- J. Brandely, Security and Special Services Superintendent
- \*C. Brown, Nuclear Compliance Supervisor
- \*D. Brock, Acting Maintenance Superintendent
- \*J. Bufo, Compliance Auditor
- R. Cauffman, Stores Supervisor
- J. Colby, Assistant Manager, Nuclear Engineering
- J. Cooper, QA/QC Compliance Manager
- M. Culver, Reactor Specialist
- E. Ford, Licensing Consultant
- Q. Dubois, Assistant Nuclear Plant Manager
- \*W. Howard, Director, Site Nuclear Operations
- \*L. Hill, Acting Manager, Site Nuclear Services
- S. Johnson, Nuclear Technical Support Engineer
- W. Johnson, Operations Engineer
- C. Long, Quality Assurance Auditor
- \*T. Lutkehaus, Nuclear Plant Manager
- D. Mardis, Acting Manager, Nuclear Licensing
- \*P. McKee, Operations Superintendent
- D. Mills, Assistant Storekeeper
- \*G. Perkins, Plant Health Physicist
- \*S. Robinson, Chemistry and Waste Manager
- D. Todd, Quality Control Inspector
- \*K. Lancaster, Senior Quality Auditor
- K. Wilson, Licensing Specialist
- D. Wohlfahrt, Quality Control Inspector

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

\*Present at the exit interview

### 2. Exit Interview

The inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on August 27, 1982. During this meeting, the inspectors summarized the scope and findings of the inspection as they are detailed in this report. During this meeting, the violations, and inspector followup items were discussed.

### 3. Licensee Action on Previous Enforcement Matters

(Closed) Violation (302/79-46-01): A review of facility records indicates that the corrective actions as stated in the licensee's response letter were

completed. Current review of the licensee's activities indicate that independent verification of applicable systems are being accomplished. The licensee's action on this item is complete.

(Closed) Unresolved Item (302/79-46-03): The interlock between the screen wash system and the traveling screens has been repaired such that the traveling screens will not run unless there is sufficient water pressure in the screen wash system. To insure that the screen wash nozzles remain clear, procedure SP-300, Operating Daily Surveillance Log, has been revised to require a check of the screen wash nozzles on a daily basis. Action on this item is complete.

(Closed) Inspector Followup Item (302/81-02-11): Sampling isolation valves CAV-1, 3, 4, 5 and 126 were relocated in accordance with Modification No. 81-5-28 to raise the valves above the maximum reactor building flood level. This modification was completed by 12/81. The inspectors reviewed this modification and its associated paperwork and verified proper installation by independent measurement. Action on this item is complete.

(Closed) Inspector Followup Item (302/81-01-06): On July 23, the licensee ceased continuous reactor building purging and conducted tests to determine the amount of purging required for personnel access (see paragraph 10 of this report for details). The licensee has not yet decided whether a reactor building purge system modification is necessary. Since continuous purging has been stopped, this item is considered to be closed.

(Closed) Inspector Followup Item (302/82-11-06): The licensee has revised procedures OP-203, Plant Startup and OP-210, Reactor Startup to include a step to reset the computer, thus assuring that the computer "Post Trip Review Summary" is available.

(Closed) Inspector Followup Item (302/82-11-05): Procedure SP-300, Operating Daily Surveillance Log, has been revised to require the Auxiliary Building operators to check the levels in the loop seals each shift.

(Closed) Inspector Followup Item (302/82-10-02): Procedure CP-113, Procedure For Handling and Controlling Work Requests, was revised on July 30 to require the Nuclear Shift Supervisor to verify adequacy of post-maintenance testing for all Technical Specification related equipment.

(Open) Violation (302/82-10-01): The inspectors reviewed the licensee's response to this violation dated August 2, 1982. The licensee has requested additional time to evaluate this violation prior to addressing any improvements to Management Controls, therefore this violation will remain open pending the inspectors' review of the additional response to this violation.

(Closed) Inspector Followup Item (302/81-19-07): The licensee modified radiation monitor RMA-5 in accordance with Modification Approval Record (MAR) 80-2-7 on September 21, 1981. Functional testing of the modification was unsuccessful and investigation of the test failure revealed that system

drawings were incorrect. The modification was subsequently removed and the system returned to the original configuration. On November 24, 1981 Amendment 44 to the Technical Specifications (TS) was issued which clarified the operability intent of TS 3.7.7.1 and allowed manual initiation of the recirculation mode of the control room ventilation system upon failure to RMA-5. Action on this item is complete.

(Open) Unresolved Item (302/82-09-01): The nuclear operations procedures have not yet been revised to outline a method for handling of emergency Technical Specification change requests. It is expected that these procedures will be revised and implemented by October 15, 1982.

#### 4. Unresolved Items

There were no unresolved items identified during this inspection.

#### 5. Review of Plant Operations

This inspection period commenced with the plant in Mode I, Power Operations. With the exception of one reactor trip (see section 11 of this report for details) the plant continued in Mode I for the duration of the inspection period.

##### a. Shift Logs and Facility Records

The inspectors reviewed the records listed below and discussed various entries with operations personnel to verify compliance with TS and the licensee's administrative procedures.

Shift Supervisor's Log; Reactor Operator's Log; Equipment Out-of-Service Log; Shift Relief Checklist; Control Center Status Board; Auxiliary Building Operator's Log; Chemistry/Radiation Log; Daily Operating Surveillance Log; Work Request Status Log; and Short Term Instructions (STI's).

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

No discrepancies were noted in this area.

##### 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 the inspection period, licensee meetings were attended by the inspectors to observe planning and management activities.

The facility tours and observations encompassed the following areas:

Security Perimeter Fence - Control Room; Emergency Diesel Generator Rooms; 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 Technical Specifications 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.

No discrepancies were noted in this area.

- (2) Safety Systems Walkdown - The inspectors conducted a walkdown of the Building Spray System to verify lineups were in accordance with license requirements for system operability.

No discrepancies were noted in this area.

- (3) Shift Staffing - The inspectors verified by numerous checks that operating shift staffing was in accordance with Technical Specification requirements. In addition, the inspectors observed shift turnovers on different occasions to verify the continuity of plant status, operational problems, and other pertinent plant information was being accomplished.

No discrepancies were noted in this area.

- (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 discrepancies were noted in this area.

- (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 inspectors 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.

No discrepancies were noted in this area.

- (6) Security controls - Security controls were observed to verify that security barriers are intact, guard forces are on duty and access to the 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 discrepancies were noted in this area.

- (7) Surveillance Testing - 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 Technical Specification requirements were followed.

The following tests were observed: SP-317, Reactor Coolant System Leak Rate Determination; SP-439, Maximum Circulating Water Discharge Temperature; SP-324, Containment Inspection; SP-712, Core Flood Tank "B" Monthly Surveillance; SP-130, Monthly Engineering Safeguards Functional Test; SP-113, Power Range Nuclear Instrumentation Calibration; and SP-323, Site Alarm Test.

On August 3, the licensee noted that the results of their Reactor Coolant System (RCS) leakrate determination appeared to be giving erroneous data. It was suspected that in-leakage into the Reactor Coolant Drain Tank (RCDT) from the Service Water (SW) system was causing the negative leakrate results.

During the period of August 3 through August 16, a series of RCS leakrate determinations were conducted in accordance with SP-317. During these tests, SW to the RCDT was secured at various times to provide a comparison of the leakrates with and without SW. These tests proved that there was SW leakage into the RCDT and from these test results a correction factor was developed to compensate for this leakage.

The inspectors observed these tests and the licensee's results and have no further questions on this item at this time.

- (8) Maintenance Activities - The inspector observed maintenance activities to verify that: corrective equipment clearances were in effect; Work Requests (WR's), Radiation Work Permits (RWP's), and Fire Prevention Work Permits, as required, were issued and being followed; Quality Control personnel were available for inspection activities as required; and Technical Specification requirements were being followed.



The following maintenance activities were observed: MP-111, Valve Packing Procedure and Specifications; SP-650, Main Steam Code Safety Valves Test; Repair of RC outlet temperature recorder; and Replacment of photo-multiplier tube on liquid radiation monitor (RML-2) in accordance with SP-701, Radiation Monitoring System Surveillance Program and CH-233, Liquid Radiation Monitoring System Calibration Procedure.

As a result of these observations, the following violation was identified:

While observing the resetting of main steam relief valves MSV-33 and MSV-36 in accordance with procedure SP-650, on August 9, the inspector noted that the mechanics were not using the procedure check-off list. Procedure SP-650 requires in step 6.3.1 that "The man in charge of performing this activity shall initial the check-off list after each step identified by an "X" in the margin is performed." The check-off list assures completion of each step and provides continuity should the job be interrupted.

The inspector questioned the mechanics in their use of the check-off list and was told that the list would be initialed after job completion. This approach is contrary to the requirements of procedure step 6.3.1.

Failure to use the procedure check-off list during maintenance activities has been a recurring problem and has resulted in several NRC violations. The licensee has provided personnel training in procedure adherence but this does not appear to have been effective.

Failure to adhere to the requirements of procedure SP-650 is contrary to the requirements of Technical Specification 6.8.1 and is considered to be a recurrent, uncorrected violation.

Violation (302/82-18-01): Failure to follow procedure SP-650 during the performance of safety-related maintenance.

- (9) Operating Procedure OP-210, Reactor Startup and Surveillance Procedure, SP -422 RC System Heatup and Cooldown Surveillance, was observed during the plant startup to verify that: Approved procedures were being used; qualified personnel were performing the operation; and Technical Specification requirements were being followed.

No discrepancies were noted in this area.

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

that required samples were taken, and that appropriate release control instrumentation was operable.

No discrepancies were noted in this area.

- (11) Pipe Hangers and Seismic Restraints- Several pipe hangers and seismic restraints (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 discrepancies were noted in this area.

## 6. Procurement

The inspector reviewed the licensee's procedures for procurement, storage, and handling of quality materials. The areas examined included: Receipt inspections, personnel training, material storage conditions, disposition of nonconforming items, preventative maintenance on stored items, housekeeping and environmental conditions, traceability of quality certification and the licensee's shelf-life program. The inspector compared the implementation of the licensee's program described in its Quality Operating Procedures (QOPS) and Nuclear Procurement and Storage Manual (NP & SM) against the guidance of ANSI N45.2.2.

The inspector witnessed the receipt inspections and subsequent processing of three safety-related spare parts. These were a Limitorque clutch tripper assembly, two boxes of bare welding rod, and approximately 5000 Ft of 1/4 inch and 1/2 inch 304 stainless steel tubing. The inspector discussed various aspects of the licensee's program with licensee stores and QC personnel and reviewed various logs and records required to be maintained. The inspector also toured the facilities.

Within the areas inspected, no items of noncompliance or deviation were identified.

## 7. Review of Licensee Event Reports (LER's) and Nonconforming Operations Reports (NCOR's)

- a. The inspector reviewed Licensee Event Reports (LERs) to verify that: The reports accurately describe the events; the safety significance is as reported; the report satisfies requirements with respect to information provided and timing of submittal; corrective action is appropriate; and, action has been taken.

LER's 82-46, 82-47, 82-48, 82-49, and 82-50 were reviewed. This review identified the following items:

- (1) LER 82-50 was issued as a 14 day followup report for the prompt reportable event of August 2 involving the seismic qualifications of motor control centers supplying Emergency Feedwater valves



(EFVs) 3, 4, 7, and 8. The licensee has lifted power leads to the motors for these valves and has established administrative controls for manual valve operation. Operation of these valves is not necessary during emergency conditions. The licensee is reviewing this issue to determine necessary system modifications.

Inspector Followup Item (302/82-18-02): Review the activities concerning seismic qualifications of MCC's for EFV's 3, 4, 7, and 8.

- (2) LER 82-47 reported a radioactive discharge with the flow rate recorder inoperable. The licensee is planning to replace the power supply to the flow rate recorder with a more reliable one to reduce the number of power failures. Procedure changes have been initiated to require the flowrate to be checked at the start of a release with instructions to terminate the release if flow is not indicated.

Inspector Followup Item (302/82-18-03): Review activities associated with replacement of the power supply to WD-101-FR with a more reliable power supply.

- b. The inspector reviewed NCORs to verify the following: Compliance with the Technical Specifications; 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; items are reported as required by the Technical Specifications.

The following NCOR's were reviewed:

82-117	82-195	82-207	82-218
82-118	82-196	82-208	82-219
82-158	82-197	82-210	82-221
82-173	82-198	82-212	
82-180	82-200	82-213	
82-188	82-202	82-214	
82-192	82-203	82-216	
82-193	82-205	82-217	

As a result of this review, the following items were identified.

- (1) NCOR 82-218 reported contamination of the Waste Gas System by spent resin during a transfer of spent resin from the spent resin

storage tank to the waste processing facility. A review of this event by the inspector, including discussions with licensee personnel involved, indicated that some corrective measures could be taken to preclude a recurrence of this event. A major factor in this event appears to be the inability of the spent resin tank level indicating system to indicate level in the tank. Procedure changes are being initiated to OP-407-L, Operation of the Spent Resin Tank and OP-413, Waste Drumming System, to change the method of level determination, to improve the continuity of the procedures and to require a briefing prior to performing resin transfer operations. In addition, long term corrective actions to install a reliable level indicating system and to evaluate measures to physically prevent the resin from getting into the waste gas system are being considered.

Inspector Followup Item (302/82-18-04): Verify procedure changes to OP-407-L and OP-413 are issued to improve spent resin transfer operations.

Inspector Followup Item (302/82-18-05): Review licensee's action to replace level indicating system on the spent resin tank.

Inspector Followup Item (302/82-18-06): Review licensee's evaluation as to measures that can be taken to prevent the physical transfer of resin from the resin storage tank to the waste gas system.

8. Review of IE Bulletin 82-02, Degradation of Threaded Fasteners in the Reactor Coolant Pressure Boundary of PWR Plants

The licensee responded to Action Item 3 on August 2 as requested by the Bulletin. In this response the licensee identified their leakage experience with bolted enclosures and their use of fastener lubricants and injection sealants.

Though the remaining Action Items for this Bulletin are due following completion of the next refueling outage scheduled for Spring, 1983, the licensee has reviewed and has begun revising maintenance procedures and has written a new maintenance procedure to meet the Action Item requirements. As of the end of this reporting period, the licensee has revised the following procedures:

MP-115, RC Pump Inspection and Replacement, and  
MP-108, Control Rod Drive Handling.

In addition, the licensee has written a new procedure, MP-161, CFV-1, 2, 3, 4 and DHV-1, 2 Check Valve Maintenance, and is in process of revising one additional procedure, MP-107, Pressurizer Heater Bundle Removal and Replacement.

The inspector reviewed the licensee's activities and finds the licensee's progress on this Bulletin to be very acceptable. This Bulletin will remain open pending completion of procedure revisions/approvals and the issuance of the necessary reports following the refuel outage.

#### 9. Response to Previous NRC Violation

On July 30, 1982, the inspector questioned licensee personnel to determine the status of their response to an NRC Violation identified in NRC Inspection Report 50-302/82-10 dated June 18, 1982. The inspector was informed that a response to this Violation had not been issued due to an apparent breakdown in the licensee's administrative controls. At this time, the response was twelve days overdue.

A similar occurrence of this type occurred on May 12, 1982. The licensee was questioned as to the status of their response to an NRC Violation identified in NRC Inspection Report 50-302/81-23 dated January 29, 1982. The licensee determined that a response had not been issued and in their response dated May 27, 1982, stated that the late response was an "unique case" and that "improved administrative controls" were initiated to prevent recurrence.

Failure to respond to an NRC Notice of Violation within thirty days of the date of the Notice is contrary to the requirements of 10 CFR 2.201 and is a Violation.

Violation (302/82-18-07): Failure to respond to an NRC Notice of Violation within thirty days as required by 10 CFR 2.201.

#### 10. Reactor Building Purging

On July 15, 1982, a meeting attended by NRC and Florida Power Corporation personnel was held at NRC headquarters in Bethesda, Maryland to discuss the licensee's practice of continuous purging of Reactor Building (RB) atmosphere. As a result of this meeting, the licensee ceased continuous purging on July 23 and conducted a test to determine the amount of limited purging that would be required to conduct reactor operations.

The test consisted of securing the RB purge for approximately three weeks (July 23 to August 13) to allow equilibrium RB atmosphere conditions to be established and then resuming the purge to determine the time required to reduce the atmosphere sufficiently to allow RB access without respiratory equipment. The test was completed at 0335 on August 15 at which time the purge was secured.

As a result of this testing, it was determined that less than 48 hours of purging would be required to enable RB activities to be performed without respiratory equipment. These results are being formulated into a commitment for limited purge times that will be submitted to NRC for approval.

Inspector Followup Item (302/82-18-08): Review the licensee's limited RB purge commitment to the NRC.

11. Reactor Trip

On August 8 at 10:26 a.m., the plant experienced a reactor trip from 94% rated thermal power. The cause of the trip was due to a failure of a reactor coolant loop "A" flow transmitter to a zero flow condition which caused the Integrated Control System (ICS) to runback reactor power and to reratio feedwater flow between the steam generators. The feedwater reratio transient reduced the heat removal rate to the primary loop resulting in a rapid increase in primary pressure resulting in a reactor trip on high pressure. The faulty transmitter was replaced and the plant was returned to service at 10:04 a.m. on August 9.

The inspectors reviewed this trip to ensure that safety systems operated as required, plant performance anomalies were identified, and corrective actions initiated. The inspectors reviewed the draft version of the Unusual Operating Event Report (UOER) for this trip and will review the final report when issued.

Inspector Followup Item (302/82-18-09): Review UOER for reactor trip of August 8, 1982.