UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report No.: 50-302/85-29

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 Dates: June 26 - July 26, 1985

Inspection at Crystal River site near Crystal River, Florida

Inspector: R L Caudill for 8/13/85
T. F. Stetka, Senior Resident Inspector Date Signed

Accompanying Personnel: J. E. Tedrow, Resident Inspector

Approved by: V. W. Panciera 8/13/85
V. W. Panciera, Chief, Project Section 2B Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine inspection involved 153 inspector-hours on site by two resident inspectors in the areas of plant operations, security, radiological controls, Licensee Event Reports and Nonconforming Operations Reports, 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 backshifts.

Results: Three violations were identified: (Failure to adhere to the ODCM as required by TS 6.8.1.j, paragraph 5.a.(1); Failure to perform a functional test of each source range nuclear instrument as required by TS 4.9.2, paragraph 5.b.(8); failure to adhere to the requirements of procedures CP-113 and MP-108B as required by TS 6.8.1.a, paragraph 5.b.(9)).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. Alberdi, Site Nuclear Operations Technical Services
*G. Boldt, Nuclear Plant Operations Manager
*J. Bufe, Nuclear Compliance Specialist
*M. Collins, Nuclear Safety and Reliability Superintendent
M. Culver, Senior Nuclear Reactor Specialist
*H. Gelston, Nuclear Electrical/I&C Engineering Supervisor
*J. Gibson, Nuclear Shift Supervisor
*E. Howard, Director, Site Nuclear Operations
W. Johnson, Nuclear Plant Engineering Superintendent
L. Kelly, Nuclear Operations Training Manager
*J. Lander, Nuclear Outage and Modification Manager
*P. McKee, Nuclear Plant Manager
*E. Neuschaefer, Supervisor, Radiological Emergency Planning
V. Roppel, Nuclear Plant Engineering and Technical Service Manager
*D. Smith, Nuclear Maintenance Superintendent
*W. Rossfeld, Site Nuclear Compliance Manager
R. Wittman, Nuclear Operations Supervisor
*K. Wilson, Supervisor, Site Nuclear Licensing

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 July 26, 1985. During this meeting, the inspector summarized the scope and findings of the inspection as they are detailed in this report with particular emphasis on the violations, unresolved items and inspector followup items.

Also during this meeting, the inspectors discussed the observations from a walkdown conducted on the Reactor Coolant (RC) System.

The following items were identified:

- Vent valve RCV-140 is mislabeled RCV-182 in the field.

- Several valves in this system are missing identification tags.

The licensee acknowledged the inspection findings and did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

3. Licensee Action on Previous Inspection Items

(Closed) Inspector Followup Item (302/85-26-06): The licensee conducted an inspection of the Control Rod Drive Mechanisms (CRDMs) to examine the internal leaf springs. This inspection was conducted due to information supplied by IE Information Notice 85-38. The inspections did not identify any leaf spring failures but did identify that some springs were not latched. These springs were subsequently latched during the inspection process.

(Closed) Inspector Followup item (302/85-26-04): The licensee has investigated the corrosion potential due to incompatibility between snubber seal material and fluid for their big bore snubbers and has determined that a corrosion potential does not exist. The inspectors have reviewed this investigation and are satisfied with the licensee's resolution of the issue.

(Closed) Unresolved Item (302/85-08-06): The licensee has completed the safety classification determination for the Auxiliary Building Ventilation System filters and fans and have determined that these components are not required to mitigate the dose consequences of the letdown line break accident or the engineered safeguards leakage during the Maximum Hypothetical Accident (MHA). Therefore, these fans and filters are properly classified as non safety-related. The licensee will revise the Final Safety Analysis Report (FSAR) to remove the credit given to these components for accident mitigation.

During the inspector's review of this item, it was noted that additional components (e.g., the reactor building purge fans and filters) were not classified as safety-related even though accident mitigation credit was taken for these components in the FSAR. These additional findings were discussed with licensee personnel at which time the inspector stated that additional reviews of Safety Listing vs. the FSAR would be necessary to ensure that systems are properly classified. The licensee representatives acknowledged the inspector's comments and stated that a study of the Safety Listing was underway, however, this study may not encompass a comparison of the Safety Listing with the FSAR. The licensee will review their Safety Listing study to determine what activities are underway and what modifications to the program may be necessary to ensure that a comparison with the FSAR is included. The licensee will notify the NRC of the program status and supply a commitment date for completion of this study in a response to this report.

Unresolved Item (302/85-29-01): Review the licensee's study of the Safety Listing to ensure that the listing is consistent with the analyses described in the FSAR.

(Closed) Inspector Followup Item (302/85-26-07): The inspector reviewed an evaluation from the licensee's contractor, Babcock and Wilcox (B&W), that determined the acceptability of damaged fuel bundle NJ02YE. In addition, the inspector discussed the acceptability of damaged fuel bundle NJ03CV with licensee representatives. As a result of this review and the discussions, the inspector is satisfied with the licensee's resolution.

(Open) Unresolved Item (302/85-26-08): The licensee has provided the inspectors with an evaluation of the station battery to show that the battery can supply emergency loads for two hours and that the battery can meet Final Safety Analysis Report and Technical Specification requirements under the increased DC loads placed on the system. This evaluation identified two time periods (0-1, 60-61 minutes) during which the discharge rate on the battery could be greater than that tested for by procedure SP-523, Station Battery Service Test. Although these higher rates did not reduce the battery's capabilities, the licensee plans to revise procedure SP-523 to reflect these higher discharge rates. This item will remain open pending completion of the revision to SP-523.

(Closed) Inspector Followup Item (302/85-08-03): The licensee has corrected the Nuclear Service and Decay Heat Seawater System drawing FD-302-611 and changed the identification number of one of the valves to RWV-116. The licensee has also revised the valve checklist in procedure OP-408, Nuclear Services Cooling System, to include this new valve.

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. Unresolved items are identified in paragraphs 3 and 5.a.(2) of this report.

5. Review of Plant Operations

At the beginning of this inspection period, the plant was in the refueling mode (Mode 6). Following installation and torquing of the reactor vessel head, the plant entered cold shutdown (Mode 5) at 0810 on July 18, 1985, where it remained for the duration of this inspection period.

a. Shift Logs and Facility Records

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

The following records were reviewed:

Shift Supervisor's Log; Reactor Operator's Log; Shift Relief Checklist; Auxiliary Building Operator's Log; Active Clearance Log; Daily Operating Surveillance Log; Short Term Instructions (STIs); selected Chemistry/Radiation Protection Logs; and Outage Shift Manager's (OSM) Log.

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

As the result of these reviews, the following items were identified:

(1) On July 15, while reviewing the OSM log, the inspector noted that on July 13 the reactor building (RB) equipment hatch was removed at 9:15 a.m. and that the personnel hatch interlocks were defeated and both personnel hatches opened at 10:20 a.m. The inspector also noted that the RB purge valves were closed and, as a result of the valve closure, that the RB purge exhaust fans were secured. The RB purge valves had to be closed because the purge duct radiation monitor (RMA-1) had exceeded its calibration frequency limit.

Representative Sampling Method No. 3.1-5 of the Offsite Dose Calculation Manual (ODCM), revision 5, specifies the requirements to be met when both the RB Personnel and Equipment hatches are opened. This method requires, in part, that the RB purge exhaust fans are operating whenever these hatches are opened.

Failure to adhere to the requirements of the ODCM is contrary to the procedure adherence requirements of TS 6.8.1.j and is considered to be a violation.

Violation (302/85-29-02): Failure to adhere to the ODCM as required by TS 6.8.1.j during plant operations.

(2) During reviews of various logs, the Safety Listing, the FSAR, and during attendance at various training lectures, the inspectors have observed apparent confusion over the validity of having the Emergency Diesel Generator (EDG) room supply fans (AHF-22A through D) operational. These fans are listed in the Safety Listing as safety-related; however, there appears to be confusion within the plant staff as to whether these fans are required for the EDGs to be considered operational. Observation of plant activities by the inspectors indicates that some personnel believe the fans are necessary for EDG operation while other personnel do not. This has resulted in EDG operation with and without the fans operating.

These observations were discussed with licensee management personnel who acknowledged the inspector's comments. The licensee will review this issue and determine if the fans are necessary for EDG operation.

Unresolved Item (302/85-29-03): Review the necessity for having diesel room fans (AHF-22A through D) operational during EDG operation.

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; Electrical Switchgear Rooms; and, Reactor Building.

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 TSs 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 violations or deviations were identified.

(2) Safety Systems Walkdown - The inspector conducted a walkdown of the Reactor Coolant (RC) 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.

No violations or deviations were identified.

(3) Shift Staffing - The inspector verified that operating shift staffing was in accordance with TS 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.

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 existed.

No violations or deviations were identified.

(5) Radiation Areas - Radiation Control Areas (RCAs) 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 radiation 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.

No violations or deviations were identified.

(6) Security Control - 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 verify proper display of badges and that personnel requiring escort were properly escorted. Personnel within vital areas were observed to ensure proper authorization for the area.

No violations or deviations were identified.

(7) Fire Protection - Fire protection activities, staffing, and equipment were 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 were operable.

No violations or deviations were identified.

(8) Surveillance - Surveillance tests were observed to verify that approved procedures were being used; qualified personnel were conducting the tests; tests were 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";

- SP-183, Containment Spray System Spray Nozzle Flow Check;

- SP-220, Source Range Functional Tests During Refueling Operations;

- SP-301, Shutdown Daily Surveillance Log;

- SP-354B, Emergency Diesel Fuel Oil Quality and Diesel Generator Monthly Test; and

- SP-421, Reactivity Balance Calculations.

After observing the source range nuclear instruments functional test conducted in accordance with SP-220, on July 5, 1985, the inspector reviewed the Shift Supervisor's Log to determine the frequency of test performance. The inspector noted at 4:00 p.m. on July 4, 1985, the shift supervisor had logged that the surveillance interval was exceeded on source range nuclear instruments, NI-1 and NI-2. The inspector then further researched the history of SP-220 and found that the previous test had been done on June 20, 1985, 15 days previously. Failure to perform a functional test of each source range nuclear instrument once per 7 days is contrary to TS 4.9.2 and is considered to be a violation.

Violation (302/85-29-04): Failure to perform a functional test of each source range nuclear instrument once per 7 days as required by TS 4.9.2.

(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:

- Installation of control rod drive motor tubes in accordance with procedure MP-108B and work instructions;

- Control cable replacement for motor operated valves RCV-11 and RCV-13; and

- "B" emergency diesel generator room fan (AHF-22D) trouble-shooting.

As a result of these reviews, the following items were identified.

(a) During a review of the work package for troubleshooting AHF-22D, on July 12, the inspector noticed a note stuck to the work package which stated "Jumper in MCC". The note was initialled by the work supervisor and dated. The inspector noted that this method of documenting jumper installations was not in accordance with procedure CP-113, Handling and Controlling Work Requests and Work Packages, section 5.4, which requires electrical jumpers to be logged and independently verified on Enclosure 5, the Equipment Alteration Log. The inspector discussed this with the work supervisor who concurred that the jumper installation was not documented correctly. On further review of the work package, the inspector noticed that the jumper had been installed on July 11, but not removed after troubleshooting was completed. The inspector discussed this with the work supervisor who stated that he was directed by management to leave the jumper in place in the fan's control circuit to make the fan operational. The inspector noted that this method of altering the designed operation of the fan was not in accordance with CP-113 which requires the jumper be considered a modification and that a Modification Approval Record be completed and a safety evaluation performed.

(b) While reviewing records for the installation of control rod drive motor tubes on July 23, the inspector noted that step 8.10 of procedure MP-108B requires that the reactor vessel water level be verified to be between 2-6 inches below the reactor vessel flange. This verification was signed off as complete on July 20. The inspector noted that during this period, actual reactor vessel water level was approximately 4 feet below the flange.

Failure to adhere to the requirements of CP-113 and MP-108B is contrary to the requirements of Regulatory Guide 1.33 and TS 6.8.1.a and is considered to be a violation.

Violation (302/85-29-05): Failure to adhere to the requirements of procedures CP-113 and MP-108B.

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

No violations or deviations were identified.

(11) Pipe Hangers and Seismic Restraints - Several pipe hangers and seismic restraints (snubbers) on safety-related systems were observed to ensure 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 (LERs) 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.

LERs 85-05, 85-06, and 85-07 were reviewed in accordance with the current NRC enforcement policy and are considered to be closed.

b. The inspector reviewed Non-Conforming Operations Reports (NCORs) 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 TS.

All NCORs were reviewed in accordance with the current NRC enforcement policy.

- NCOR 85-102 reported that several discrepancies existed between the Modification and Outage Procedure Manual and one modification (MAR) work package. Five procedural discrepancies were identified in one MAR package by a contracted nuclear in-service inspector. The licensee is presently evaluating other MAR packages to determine if this problem is generic.

Inspector Followup Item (302/85-29-06): Review the licensee's evaluation of other MAR packages for procedure adherence to the Modification and Outage Procedural Manual.

- NCOR 85-103 reported that several pressure and temperature instruments were found out of tolerance during the performance of procedure PM-200, Instrument Calibration Recall Program. The licensee is presently performing an evaluation to determine the effect of these out of tolerance instruments on the operability of safety related systems.

Inspector Followup Item (302/85-29-07): Review the licensee's evaluation to determine the effects that the out of tolerance instruments had on safety system operation.

- NCOR 85-121 reported that the pressure of the "B" Once Through Steam Generator (OTSG) was in excess of that allowed by TS 3.7.2.1. While performing a condensate/feed system long cycle cleanup, the "B" OTSG Main Feed Block Valve (FWV-29) was not fully closed allowing the B OTSG to be pressurized to 341 psig at a feedwater temperature of 86°F. TS 3.7.2.1 limits OTSG pressure to less than 237 psig when secondary temperature is less than 110°F. Upon discovery of this condition, the licensee terminated the long cycle cleanup and depresurized the B OTSG within 30 minutes. The licensee has performed an engineering evaluation to determine the effect of overpressurization on the structural integrity of the steam generator. The inspectors have reviewed this engineering evaluation and are satisfied that the steam generator remains acceptable for continued operation. The licensee is evaluating this NCOR to determine what corrective actions are necessary to prevent recurrence of this event.

  Inspector Followup Item (302/85-29-08): Review the licensee's corrective action to prevent overpressurizing of the OTSGs during low temperature conditions.

- NCOR 85-128 reported the inadvertent water transfer between the Spent Fuel (SF) Pools and the Borated Water Storage Tank (BWST) which occurred on July 19, 1985. The licensee is presently performing an investigation into this incident and is determining corrective action which should prevent recurrence of this event.

  Inspector Followup Item (302/85-29-09): Review the licensee's investigation into the inadvertent water transfer between the SF pools and the BWST and corrective action to prevent recurrence of this event.

7. Design, Design Changes, and Modifications

Installation of new or modified system were reviewed to verify that the changes were reviewed and approved in accordance with 10 CFR 50.59, that the changes were performed in accordance with technically adequate and approved procedures, that subsequent testing and test results met acceptance criteria or deviations were resolved in an acceptable manner, and that appropriate drawings and facility procedures were revised as necessary. This review included selected observations of modifications and/or testing in progress.

The following modification approval records (MARs) were reviewed and/or associated testing observed:

- Installation of piping restraints on OTSG blowdown lines inside containment in accordance with MAR 79-07-04-02;

- Addition of bypass valve ASV-204 around valve ASV-5 (Steam Isolation to Emergency Feedwater pump EFP-2) and hydrostatic test in accordance with MAR 80-11-48-01; and,

- Replacement of ASV-5 and hydrostatic test performed in accordance with MAR 85-04-02-01.

No violations or deviations were identified.

8. Refueling Activities

At the completion of the fuel reload, the inspector observed the core verification conducted in accordance with refueling procedure FP-203, Defueling and Refueling Operations.

No violations or deviations were identified.

9. Nonroutine Operating Event Followup

At 12:50 a.m. on July 12, 1985, during a functional test on valve MUV-58 (an isolation valve from the BWST to the suction of the makeup pumps), borated water spilled out a downstream vent valve (MUV-286). A precautionary evacuation of the auxiliary building was performed by the licensee. After airborne reactivity samples were taken and analyzed to be within limits and the spill area was deconned, access was reestablished to the auxiliary building at 1:20 a.m.

Also on July 12, the Reactor Building Spray Tank (BST-1) was being lined up for recirculation in accordance with procedure OP-405, Reactor Building Spray System, when a sodium hydroxide (NaOH) spill occurred from an open vent valve. The cause of these events appears to be inadequate restoration of a system prior to operation. The licensee is presently performing investigations into these events to determine their cause and adequate corrective action needed to help prevent recurrence.

Inspector Followup Item (302/85-29-10): Review the licensee's investigation into spills from the BWST and BST-1 to determine their cause and corrective action needed to prevent recurrence.

10. Licensed Operator Modification Training

The inspectors attended various licensed operator training sessions and walkdowns to audit their effectiveness. These training sessions were held to train licensed operators in the new plant modifications that were added during this plant refueling and maintenance outage. The training sessions were composed of lectures followed by tests which each operator had to successfully complete. In addition, walkdowns of selected major modifications were conducted to ensure personnel understanding of the more complicated plant modifications. This audit indicates that the training appears to be effective in assuring that operators are familiar with the new plant modifications.

During the walkdown of the remote shutdown panel (RSP), the inspector noted that there were some errors on the mimic for the makeup and letdown system on the RSP. The licensee plans to correct these errors.

Inspector Followup Item (302/85-29-11): Review the licensee's activities to correct the errors in the makeup and letdown system mimic on the RSP.

11. Review of IE Bulletins (IEBs)

The inspector reviewed the following IEBs to verify that the actions requested by the Bulletins were accomplished:

- IEB 82-02, Degradation of Threaded Fasteners in the Reactor Coolant Pressure Boundary in PWR Plants; and

- IEB 84-02, Failure of GE Type HFA Relays in Use in Class 1E Safety Systems.

As a result of this review, the licensee's activities are considered to be complete and these Bulletins are closed.