UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report No. 50-302/82-09

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

Facility Name: Crystal River Unit 3 Nuclear Generating Plant

Docket No. 50-302

License No. DPR-72

Inspection at Crystal River site near Crystal River, Florida

Inspectors: John F. Rogge, for — 5/11/82
J. F. Stetka — Date Signed

John F. Rogge, for — 5/11/82
B. W. Smith — Date Signed

Approved by: Virgil L. Brownlee — 5/17/82
V. L. Brownlee, Section Chief, Division of Project and Resident Programs — Date Signed

SUMMARY

Inspection on March 27 - April 26, 1982

Areas Inspected

This routine inspection involved 145 hours onsite by two resident inspectors in the areas of plant operations, security, radiological controls, Licensee Event Report (LER's) and Non - conforming Operations Reports (NCOR's), and plant trips and safety system challenges. 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 obtain prior NRC approval for a Technical Specification change, paragraph 7.a; Failure to review and approve vendors seismic monitoring calibration procedure prior to implementation; paragraph 5.b.(7)).

DETAILS

1. Persons Contacted

Licensee Employees

*G. Boldt, Technical Services Superintendent
*C. Brown, Nuclear Compliance Supervisor
J. Cooper, QA/QC Compliance Manager
*Q. Dubois, Technical Assistant to the Nuclear Plant Manager
*S. Ford, Licensing Consultant
W. Herbert, Technical Specification Coordinator
*J. Jendro, Public Information Officer
J. Kraiker, Nuclear Shift Supervisor
T. Lutkehaus, Nuclear Plant Manager
*P. McKee, Operations Superintendent
J. Lander, Maintenance Superintendent
*K. Lancaster, Senior Quality Auditor

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

*Attended exit interview

2. Exit Interview

The inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on April 26, 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 unresolved item, and inspector followup items were discussed.

3. Licensee Action on Previous Inspection Findings

This area was not inspected in this report.

4. Unresolved Items

Unresolved items are matters which more information is required to determine whether they are acceptable or may result in violations.

New unresolved items identified during this inspection are discussed in paragraph 5.

5. Review of Plant Operations

This inspection period commenced with the plant in Mode I, Power Operations, At approximately 7:46 p.m., on March 27, the plant experienced a runback from 94% to 73% full power due to a loss of "C" reactor coolant pump (RCP) (see section 7.b of this report for details). The plant continued power

operation until 5:56 p.m. on March 30, at which time a reactor trip occurred due to a spurious reactor coolant pumping power monitor (RCPPM) trip (see section 7.a of this report for details). On April 1, the USNRC granted the licensee permission to bypass the RCPPM's and proceed with Mode I, Power Operations, at a reduced power level of 75% full power. The plant entered Mode I at 6:31 a.m. on April 2, and continued in that mode until April 6. On this date, the USNRC approved plant operation up to 90% full power with the RCPPM's bypassed at which time the licensee increased to 90% and continued to operate at this power level for the remainder of this inspection period.

The authorization that the licensee received on April 1 to allow plant operation up to 75% full power was forwarded to the NRC as a "Request for Interim Emergency Authorization" and involved a change to the facility Technical Specifications (TS). Review of the onsite review committee (Plant Review Committee [PRC]) meeting minutes for PRC meetings conducted the week of March 29 to April 2 do not provide evidence that the proposed change was reviewed by the PRC as required by TS 6.5.1.6.c. Discussions with licensee personnel indicate that the issue was reviewed by the PRC members but that the issue was not documented. These discussions also indicate that while the licensee appears to have an effective system to assure that proposed TS changes are reviewed by the PRC, they do not have a system to assure that emergency TS or license changes, which may occur at any time of the day or night, are forwarded to the PRC. A similar problem exists with the licensee's offsite review committee, the Nuclear General Review Committee (NGRC). The NGRC is required by TS 6.5.2.8.d to also review proposed TS and license changes but the licensee's system does not provide for review of the emergency changes.

The licensee committed to review their methods of providing emergency TS and licensee change proposals to both the PRC and NGRC and develop a system for accomplishing same. In addition the licensee committed to determine if a TS change will be requested to clairfy the proposed change requirements.

Unresolved Item (302/82-09-01): Development a method to assure that emergency TS and licensee changes are forwarded to the PRC and NGRC for review.

a. Shift Logs and Facility Records

The inspector 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;
- Daily Operating Surveillance Log;

- Work Request; and
- Short Term Instructions.

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

During a review of the Shift Supervisor's Log on April 20 and 21, the inspector noted that four Engineered Safeguards (ES) train "B" pumps (RWP-3B, BSP-1B, DHP-1B, and DCP-1B) were taken out of service for preventative maintenance at 6:30 a.m. on April 20, and returned to service between 4:05 a.m. to 6:41 a.m. on April 21. A review of the clearance order for this maintenance indicated that the last tag was removed from these pump at 3:10 p.m. on April 20. The inspector queried the licensee as to why the pumps were not started for the purpose of declaring the pumps operable as soon as possible subsequent to the maintenance even though Technical Specifications allow a maximum time of 72 hours for the equipment to be out of service. The licensee stated it is their normal operating philosophy to return equipment to service as soon as possible subsequent to maintenance, but due to a communication error between shifts, the pump remained technically out-of-service awaiting the performance of additional pump inspections. The inspectors will continue to monitor this issue during subsequent inspections.

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.

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 observation 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 walkdowns of the following safety systems to verify lineups were in accordance with license requirements for system operability:

- Emergency Diesel Generator Control Switch Lineup verification;
- Emergency Diesel Generator Air and Fuel Oil Systems;
- 480V and 4160V Engineered Safeguards switchgear breaker lineup; and
- High Pressure Injection

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 identified 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 exists.

No discrepancies 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. The inspectors also reviewed selected radiation work permits and observed personnel use of protective clothing and personnel monitoring devices to assure that the licensee's radiation monitoring policies were being followed.

No discrepancies were identified 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 authorization for the area.

No discrepancies were identified 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-130, Engineered Safeguards Monthly Functional Test (section 6.2 for post maintenance testing);
- SP-113, Power Range Nuclear Instrumentation Calibration (Channel B);
- SP-312, Heat Balance Calculation;
- SP-110, Reactor Protective System Functional Testing (Section 6.14);
- SP-216, Sample Line Leak Rate Test (procedure review only);
- PT-302, Main Steam Rupture Matrix Time Delay Relay Test (completed test results); and
- SP-154, Functional Testing and Calibration of the Triaxial Time-History Accelographs and Triaxial Seismic Switch.

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

During observation of SP-154, the inspector noted that this procedure was only a general procedure which directed the actual functional testing and calibration to be performed by the vendor by use of the vendor's procedure. SP-154 only provided for verification and documentation of this action. A review of the vendor procedure and discussion with the plant review committed (PRC) chairman indicated that the vendor's procedure had not been reviewed by the PRC and approved by the Nuclear Plant Manager prior to implementation.

Technical Specification (TS) 6.8.2 requires each procedure required by TS 6.8.1 and Regulatory Guide 1.33 to be reviewed by the PRC and approved by the Nuclear Plant Manager prior to implementation. Regulatory Guide 1.33 requires procedure for each surveillance test and calibration listed in the TS. TS 4.3.3.3.1 requires functional testing and channel calibration of the triaxial time-history accelographs and the triaxial seismic switch. Contrary to the above, the vendor procedure used to perform the calibration of the time-history accelographs and triaxial seismic switch was not reviewed by the PRC and approved by the Nuclear Plant Manager prior to implementation. This is a violation.

Violation (302/82-09-02): Failure of PRC to review and Nuclear Plant Manager to approve vendor calibration procedure prior to implementation.

(8) Maintenance Activities - The inspector observed maintenance activities to verify that:

- Correct equipment clearance 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:

- Replacement of failed relay in ES actuation channel 2A;
- Inspection and Lubrication of decay heat closed cycle cooling water pump (DC)-1B in accordance with PM-117 and PM-133;
- Repair and calibration of waste disposal (WD) pressure indicators WDS-17-PI, WD-18-PI and WD-19-PI; and
- MP-149, Check Valve Cap Removal and Reinstallation and associated work package review on repair of core flood valve (CFV)-1.

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

During a review of the work package associated with CFV-1 repair, the inspector identified several questionable areas that need to be addressed.

(a) A Crane Valve information book that was not under document control was used to support a procedure change to MP-149 to allow a torque limit of 650 ft-lbs on the hinge pin nut. Discussions with licensee personnel indicate that a Crane Valve representative would neither verify the applicability of the information book to CFV-1 or advise exceeding and upper torque limit of 545 ft-lbs.

(b) As a result of the increased torque on the hing pin nut, the cotter keyway became misaligned preventing insertion of the cotter key. A Modification Approval Record (MAR) was prepared to drill a new hole but could not be accomplished. A decision was then made to "stake" the hinge pin as a substitute method of securing the hinge pin nut. this was accomplished by a procedure change to MP-149 in lieu of preparing a MAR as required by CP-114, Procedure for Preparation of Permanent and Temporary Modifications.

The inspector discussed these issues with the licensee and was informed that the licensee's Quality Programs Department was preparing a Quality Program Surveillance Report (QPSR) on this activity and included similar findings. The inspector reviewed QPSR 82-VAH-05 and concurs that these findings were essentially the same as the inspector's. A followup on QPSR 82-VAH-05 will be conducted to verify proper response and corrective actions on the noted deficiencies.

Inspector Followup Item (302/82-09-03): Review licensee's response and corrective actions on QPSR 82-VAH-05 findings.

6. Review of Licensee Event Report and Non-Conforming Operations Reports (NCOR's)

a. The inspector reviewed Licensee Event Reports (LER's) to verify that:

- The report 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 82-12, 82-13, 82-15, 82-16, 82-17, 82-20, 82-21, 82-22, 82-23, 82-24, 82-25, 82-26, and 82-27 were reviewed. The review identified the following items:

(1) LER 82-16 reported the failure to perform an adequate 10 CFR Part 50.59 review of a system modification prior to completing the modification. This issue is discussed in detail in paragraph 7.a of this report and was identified by the inspector as a violation.

(2) LER 82-27 reported the loss of the "C" Reactor Coolant Pump (RCP) and subsequent plant runback to approximately 72% of full power. This issue is discussed in detail in paragraph 7b of this report.

b. The inspector reviewed NCOR's to verify the following:

- Compliance with Technical Specification;
- Corrective actions as identified in the reports of 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 Technical Specifications.

The following NCOR's were reviewed:

| | | |
|---|---|---|
| 82-43 | 82-95 | 82-109 |
| 82-70 | 82-96 | 82-110 |
| 82-81 | 82-97 | 82-111 |
| 82-86 | 82-98F | 82-113 |
| 82-87 | 82-100 | 82-114 |
| 82-88 | 82-102 | 82-116 |
| 82-89 | 82-103 | |
| 82-91 | 82-105 | |
| 82-92 | 82-106 | |
| 82-94 | 82-107 | |

The inspectors have no further questions on these items at this time.

7. Plant Trips - Safety System Challenges

a. At 5:56 p.m. on March 30, a plant trip from approximately 75% full power occurred due to a trip in the reactor coolant pump power monitor (RCPPM) system. the RCPPM trip was caused by a peturbation on the 6900 volt reactor coolant pump power supply bus which was, in turn, caused by a perturbation on the 230 kilovolt (kV) grid. The 230 kV grid perturbation occurred when a downline power plant was connected to the grid.

The resident inspectors arrived in the control room after the plant trip and observed the plant shutdown. The inspectors ascertained the status of the reactor and safety systems by observation of control room indicators and discussions with licensee personnel concerning plant parameters, emergency system status and reactor coolant chemistry. A normal plant shutdown to Mode 3 (Hot Shutdown) occurred and all systems responded as expected.

This was the fourth inadvertant plant trip that has occured due to the RCPPM's. As discussed in NRC Inspection Report 50-302/82-02, Paragraph 9b, the licensee modified the RCPPM system by adding time delays in the belief that these relays would reduce the susceptability of RCPPM's grid perturbations. The design modification has apparently been ineffective as evidenced by this plant trip and the licensee subsequently requested and received Technical Specification (TS) relief to operate the plant at reduced power levels with the RCPPM's bypassed (or inoperable). Unresolved Item (302/82-02-11) was generated due to the inspector's finding that the time delay relay modification (MAR 82-1-16) appeared to exceed TS system time delay limits. During a followup inspection on this Unresolved Item in paragraph 3 of NRC Inspection Report 50-302/82-05, it was noted by the inspector that the time delay specified in MAR 82-1-16 was in excess of the TS limit and that the licensee will be taking additional actions to resolve the problems with the RCPPM's. These actions remain to be completed.

The RCPPM modification (MAR 82-1-16) was completed on March 3, 1982, while the plant was in mode 3 (Hot Standby). The MAR package contains a "Modification Safety Evaluation" that was prepared on March 2 and approved on March 3. This safety evaluation is conducted to meet the requirements of 10 CFR Part 50.59 to verify that the modification did not involve a change in the TS or an unreviewed safety question. The safety evaluation concluded that a TS change was not required nor that an unreviewed safety question existed. The inspector's review of this modification revealed that the new system time response exceeded the TS limits and that prior NRC approval had not been obtained prior to performing the modification. The RCPPM's are required for Mode 1 (Power Operation) and Mode 2 (Startup). The plant remained in Mode 3 until the NRC permitted operation at a reduced power level while the time response issue was reviewed (paragraph 5).

Failure to obtain prior NRC approval for a plant modification that changes the TS is contrary to the requirements of 10 CFR Part 50.59 and is a violation.

Violation (302/82-09-04): Failure to obtain prior NRC approval for a plant modification that changes TS requirements.

b. On March 27 at 746 p.m., the plant experienced a reactor coolant pump (RCP) runback from 94% to 73% full power. The cause of this event was a shorted surge capacitor on the "B" phase of "C" RCP, causing the RCP to trip. Plant response to the runback was normal. Reactor Protective System setpoints were reduced as required by TS to allow continued operation with 3 of 4 RCP in operation. The surge capacitor was replaced on April 2 and 4 RCP operation was reestablished. The inspector reviewed this event and the licensee's actions and has no further questions at this time.

8. Emergency Drill

On March 30 an emergency drill was conducted by the licensee to verify the effectiveness of the new Radiological Emergency Response Plan and the Emergency Plan Implementing Procedures. In addition to the licensee the participants in the drill included the State of Florida, Citrus and Levy Counties and the NRC. The drill was observed by a number of personnel that included the NRC. Details of this drill, including the results of the critiques held on March 31, are discussed in NRC Inspection Report 50-302-/82-08.

The inspectors have no questions in this area at this time.

9. Pipe hangers 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.