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

Report No. 50-302/79-41

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

Facility Name: Crystal River 3

Docket No. 50-302

License No. DPR-72

Inspected at Crystal River Site near Crystal River, Florida

Inspected by: R. C. Sauer — Date Signed

Approved by: P. T. Burnett, Acting Section Chief, RONS Branch — Date Signed

SUMMARY

Inspected on September 10-15, 1979

Areas Inspected

This routine, unannounced inspection involved 57 inspector-hours onsite in the areas of boron chemistry analysis, containment inspection, review of reactor operating logs, and witnessing reactor startup of unit 3 after maintenance and troubleshooting of reactor plant systems following the shutdown on August 17, 1979.

Results

Of the four areas inspected, no items of noncompliance or deviations were identified in three areas; one apparent item of noncompliance was found in one area (deficiency - failure to initial and date data and calculation sheets - paragraph 7).

1864 270

8002040 138

DETAILS

1. Persons Contacted

Licensee Employees

*G. P. Beatty, Jr., Nuclear Plant Manager
P. D. Breedlove, Office Manager
M. E. Collins, Plant Engineer
*J. Cooper, Compliance Engineer
D. M. Farless, Technical Support Supervisor
*L. A. Hill, Compliance Auditor
*R. W. Kennedy, Nuclear Compliance Supervisor
*T. C. Lutkehaus, Technical Services Superintendent
*P. F. McKee, Operations Superintendent
*G. R. Westafer, Maintenance Superintendent
*J. R. Wright, Chem/Rad Protection Engineer (Exit Only)

Other licensee employees contacted included shift supervisors, technicans and reactor operators.

Other Organizations

*W. Peery, USNRC, Region II (Exit only)

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on September 14, 1979 with those persons indicated in Paragraph 1 above. The licensee acknowledged the identified item of noncompliance: failure to ensure data/calculational sheets contained within completed procedures had the initials of the appropriate performing individual(s) and the date of performance.

3. Licensee Action on Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve noncompliance or deviations. New unresolved items identified during this inspection are discussed in paragraph 7 (2).

5. Boron Analysis

The inspector observed a boron analysis of a reactor coolant system sample. The analysis was performed in accordance with CH-101L, "Determination of Boron, Mannitol Complex Titration Method." The inspector observed the analysis to gain an understanding of the Crystal River procedure and to see if precautionary steps, such as adequate purging of the sample line piping prior to actually drawing the sample, buffering of the pH meter, standardization of titrant and determination of boron recovery from the sample were being taken by licensee chemistry personnel.

No items of noncompliance or deviations were found in this area.

6. Containment Inspection

Housekeeping was judged to be adequate, and proper arrangements had been taken for radiation safety and contamination control during the shutdown.

During the containment inspection, the inspector noted the pressurizer bypass spray control valve RCV-149 to be in the locked throttle position. This is contrary to the reactor coolant system (RCS) flow diagram FD-302-651 rev 16 and operating procedure OP-202 "Plant Heatup" valve checklist. Both require the valve to be throttled only. The licensee's position is that locking the valve is more conservative than just positioning it and perfectly acceptable. However, since RCV-149 was set in its throttled position and locked during pre-operational testing the RCS flow diagram and OP-202 procedure should be updated to reflect the permanent status of the valve.

Other examples of valves found in-plant in the locked position vice being positioned only, were identified to the licensee during inspection 79-13 (paragraph 6.b). Resolution to these comments was to change the system operating procedure valve checklist to reflect the proper locked valve status in the plant. No licensee action was taken to upgrade the system flow diagrams to indicate the normal, non-changing, system operating valve status.

In general, the inspector's concern involves maintaining system flow diagrams as current as possible so that they may be used as an information tool to indicate normal operating valve status. Updating of drawings to reflect system status changes for maintenance, surveillance and other evolutions is not the intention of this concern.

The licensee representative indicated he would investigate updating system flow diagrams to reflect normal in-plant valve positions under normal operating conditions on a change-to-drawing-when-other-changes-are-to-be-made basis. This item is open pending licensee review (IFI 302/79-41-01).

A second concern involving the method to which valves are to be locked developed in review of system valve checklists and flow diagrams. Valves CFV-5 and CFV-6 are required to be verified in the locked open position as specified by SP-301, "Locked Valve List" prior to ascending into modes 1

and 2. The normal method to lock these valves is by de-energization of the motor operator versus mechanical locking. This method was not identified in the procedure. The licensee representative agreed to incorporate this identification into the procedure and to ensure similar statements are made to procedures which lock valves in a similar manner (IFI 302/79-41-02).

7. Review of Operating Logs

The inspector reviewed shift supervisor and reactor operator logs for the time period September 5 through September 10, 1979. On September 10, 1979 the shift supervisor's log indicated a problem was discovered in the limit switch assembly to main feedwater block valve FWV-29. Subsequent investigation of the troubleshooting identified the opening sequence limit switches to FWV-29 and FWV-30 were not set in accordance with Bailey Meter Company drawing D556473 D in the Babcock & Wilcox Integrated Control System (ICS) Manual, Volume 2. Additionally, the closing sequence limit switch assembly to FWV-29 was found reverse wired.

Since previous high pressure reactor trips were experienced on August 16 and 17, 1979 (for details see Preliminary Notifications PNO 79-341, PNO 79-341A, and PNO 79-341B) due to feedwater oscillations, the inspector considered the limit switch problem related. Dynamic checking of feedwater valve sequence operability was not part of the licensee's surveillance program. The licensee committed at the exit interview to develop a surveillance program to check:

a. the main feedwater block valve pulse/ramping limit switch actuation to FWV-29 and FWV-30,

b. the operability of the main feedwater block valve flow error comparator circuit and

c. the low load block valve operating interlock when the startup block valve reaches the greater than 80% full open position during future refueling operations (IFI 302/79-41-03).

In addition to investigating the troubleshooting of the main feedwater block valve limit switch assemblies, the inspector reviewed the valve closing times of the respective feedwater valves in relation to feedwater response time. This review involved the inspection of surveillance procedure SP-135, "ES Actuation System Response Time." The review identified two items of concern with SP-135:

(1) Completed data sheet reviewed May 3, 1979 were not dated as to when performed. The Crystal River Plant Operating Quality Assurance Manual Control document A1-400 requires all data or calculation sheets which are portions of a procedure to be completed while the task is being performed. Each data sheet is to be initialed and dated by the person or people taking the data.

In addition to SP-135, other completed procedures were found to contain a similar problem:

SP-102 "Control Rod Drop Time Test", reviewed July 31, 1979 did not have Data Sheet II initialed or dated as to its performance.

SP-103 "Moderator Temperature Coefficient Determination at Startup after Refueling", reviewed July 30, 1979 had a calculational worksheet enclosed without the performing individual initialing or dating his work.

SP-317 "RCS Water Inventory Balance", reviewed August 8, 1979 compiled data and calculated identified and unidentified leakage rates without the compiler(s) initialing and dating the work.

This is an item of noncompliance (302/79-41-04).

(2) Selected procedural steps of SP-135 were being performed at various intervals during the previous Cycle 2 refueling period. Overall the procedure was completed over a six month period (March 10, 1979 through September 11, 1979). The inspector questioned the licensee as to when the time of next performance clock begins for SP-135: 18 months (as required by applicable portions of the Crystal River Technical Specifications) from procedure step performance or from procedure completion. No provisions are provided in the "Master Surveillance Plan" SP-443 for procedure step performance. The licensee intends to investigate this item further.

Unresolved item: This matter of rescheduling surveillance procedure performance based on the entire procedure rather than by procedural step if the procedure had been portioned out is considered an unresolved item pending licensee review (URI 302/79-41-05).

8. Startup of Unit 3

On 9/14/79 a startup was commenced and the Unit 3 reactor taken critical after shutdown on August 17 occurred following a series of reactor trips on high pressure due to feedwater oscillations. No significant problems occurred during the approach to critical and subsequent plant heatup. While the reactor was operating at approximately 10 percent of rated full power with the turbine generator on line, a PX fitting on the crosstie between governor valves GV-1 and GV-4 broke creating a non-isolable turbine steam leak. The turbine was secured with steam being bypassed to the condensor. Subsequently, repairs were made and the turbine brought back on line without further incident. The inspector departed the site when the 72 percent of rated full power plateau was reached.

No items of noncompliance or deviation were identified in this area.