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

Report No. 50-302/80-26

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

Facility Name: Crystal River

Docket No. 50-302

License No. DPR-72

Inspection at Crystal River Site near Crystal River, Florida

Inspector: J. J. Lenahan — 11/7/80 Date Signed

Approved by: T. E. Conlon Section Chief, RCES — 11/7/80 Date Signed

SUMMARY

Inspection on September 29 - October 1, 1980

Areas Inspected

This special, announced inspection involved 14 inspector-hours onsite in the areas of follow up on IE Bulletin 80-11, containment building dome surveillance program, and containment building tendon surveillance program.

Results

Of the three areas inspected, no items of noncompliance or deviations were identified in one area; two items of noncompliance was found in two areas (Infraction - Failure to perform dome surveillance in accordance with the surveillance procedure - paragraph 5.a, and Infraction - failure to perform the tendon surveillance procedure in accordance with the surveillance procedure - paragraph 5.b).

DETAILS

1. Persons Contacted

   Licensee Employees

   F. Fuisck, Mechanical Engineer
   R. Webb, Nuclear Engineer
   L. Tittle, Performance Engineering Supervisor
   J. Brown, Performance Engineer
   *T. C. Lutkehaus, Technical Services Superintendent
   *J. Cooper, Nuclear QA/QC Compliance Manager
   *S. Johnson, Maintenance Staff Engineer
   D. Poole, Plant Manager (Telephone Conversation)

   NRC Resident Inspector

   *T. Stetka
   *B. Smith

   *Attended exit interview.

2. Exit Interview

   The inspection scope and findings were summarized on October 1, 1980 with those persons indicated in Paragraph 1 above. The noncompliances described in Paragraph 5 were discussed. In addition, the inspection findings were discussed with the plant manager in a telephone conversation on October 8, 1980.

3. Licensee Action on Previous 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 5.

5. Independent Inspection Effort

   a. Reactor Building Dome Surveillance Inspection Program. The inspector examined Surveillance Procedure SP-180 "Reactor Building Dome Surveillance" to determine if the surveillance procedure complied with the requirements of Crystal River Technical Specification 4.6.1.6.4.

The inspector reviewed quality records relating to the dome surveillance and discussed the results with licensee engineers. Records examined were those obtained in dome surveillance inspections performed in November, 1977, May, 1978, May, 1979 and July, 1980. The next dome surveillance is scheduled for late 1981, or early 1982.

Review of these records disclosed the following noncompliance:

Procedure SP-180 requires that worksheets with the survey information for the dome survey locations be filed with the data sheets for this procedure for each inspection. Procedure SP-180 also requires that any change in dome elevation which exceeds the acceptance limit listed in Table 1 of SP-180 be reported to the Technical Support Engineer for evaluation and resolution. Contrary to these requirements, the survey worksheets were not filed with the data sheets. Licensee engineers indicated these records may have been maintained by the surveyors who performed the surveillance inspection. Records of the survey worksheets need to be maintained as quality records to assure that precise surveying methods were employed in performance of the dome surveillance inspections. In addition, the change in elevation of point 1 (the dome apex) measured in the July, 1980 surveillance exceeded the acceptance limit listed in Table 1 of SP-180. This was not reported to and was not evaluated by the Technical Support Engineer. These examples of failure to follow procedures were identified to the licenee as Infraction Item 302/80-36-01 "Failure to perform dome surveillance in accordance with the surveillance procedure."

b. The inspector examined Surveillance Procedure SP-182" Reactor Building Structural Integrity Tendon Surveillance Program" to determine if the surveillance procedure complied with the requirements of Crystal River Technical Specification 4.6.1.6 and NRC Regulatory Guide 1.35. This procedure specifies the requirements for inspection, testing, analysis and data reporting of the containment building post-tensioning system.

The inspector reviewed VSL report "Reactor Building Tendon Inspection - Three Year Surveillance" dated July, 1980. This report summarizes the results of second tendon surveillance inspection.

Review of the above procedure and report disclosed the following noncompliance:

Paragraphs 6.2.2.8, 6.2.2.9, and 6.3.1.d of SP-182 requires that, when the average value of the wire force to achieve tendon lift-off is less than the lower limit or greater than the upper limit predicted for the time of the test and shown on figures 1 through 3 of SP-182, adjacent tendons on each side of the tendons in question be checked to determine their lift off force. Contrary to this requirement, the tendons adjacent to those with liftoff forces higher than predicted and shown on Figure 1 through 3 were not checked to determine their average lift-off force per wire. Fifteen of twenty-two tendons tested had liftoff forces at the time of the surveillance inspection greater than

shown on Figures 1 through 3. None had lift off forces lower than predicted. This failure to follow the surveillance procedure was identified to the licensee as Infraction Item 302/80-36-02, "Failure to perform tendon surveillance in accordance with the surveillance procedure."

Review of Surveillance Procedure SP-182 and discussions with licensee engineers disclosed that the procedure may not meet the requirements of 10 CFR 50, Appendix B. The following shortcomings in the procedural requirements were noted by the inspector:

(1) No requirements contained in the procedure which specify the requirements for the frequency of or acceptance criteria for calibration of test and measuring equipment.

(2) No requirements which address training and qualifications of inspection and craft personnel performing the tendon surveillance inspection.

(3) No requirements to verify tendon lift-off force measurements are accurate.

(4) Apparent failure to include the recommendations of the Architect-Engineer to reduce the tension in tendon 12 V 20 to below the limit of 1721 kips specified in the Technical Specification. This tendon was found to be stressed above 1721 kips during the first tendon inspection. In addition, there are no instructions in the surveillance procedure to reduce the lift-off force in any tendons found to have a greater average force per wire than the 10.56 kips specified in the technical specification. (The Technical Specification upper limit of 1721 kips per tendon divided by 163 wires per tendon equals 10.67 kips per wire.)

(5) No requirements in the procedure to inspect additional tendons if visual defects (e.g. broken wires, defective buttonheads, lack of grease in the tendon sheaths, etc.) are found during the surveillance inspection.

There was insufficient time during this inspection to determine if the above requirements had been covered in the tendon surveillance contractor's QC procedures. This was identified to the licensee as Unresolved Item 302/80-36-03 "Tendon Surveillance Procedure Acceptance Criteria". This item will be reviewed in detail by NRC in a subsequent inspection.

No deviations were identified.

6. (Open) IE Bulletin 80-11 Masonry Wall Design

a. Summary of Licensee's Response to IE Bulletin 80-11

Florida Power Corporation submitted its 60 day response to IE Bulletin 80-11 for Crystal River Unit 3 in a letter dated July 7, 1980. The

data in the response was based upon a review of drawings. Only two masonry walls were identified in the proximity of safety related equipment from the drawing review. The response stated that a field survey would be made to verify the accuracy of the data obtained from the drawing review.

b. Field Walkdown in Safety Related Areas to Identify Masonry Walls

The inspector discussed the inspection method to identify masonry walls and equipment in their proxity with the licensee engineer responsible for making the field survey of the walls. The inspector, accompanied by the licensee engineer, walked down the following areas to verify that all masonry walls in the proximity of safety related equipment had been identified for design re-analysis in accordance with IEB 80-11 requirements and the licensee's 60 day response (letter of July 7, 1980):

(1) Control Complex
(2) Auxiliary Building
(3) Turbine Building - Air shaft which supplies ventilation to the control complex
(4) Diesel Generator Rooms in (Auxiliary Building)

No additional masonry walls were identified by the inspector during the walkdown. The field survey performed by the licensee appears to have been adequate to identify all masonry walls in the proximity of safety related equipment.

c. Review of Quality Records Related to IE Bulletin 80-11

The inspector examined Gilbert drawing numbers L-001-011, L-001-012, L-001-021 through L-001-024, L-001-031, L-001-032, and L-001-041, "Crystal Unit 3 Layout Drawings." These drawing shows the arrangement of equipment, type of walls, etc. in plant structure.

The inspector also examined Florida Power interoffice memo dated September 24, 1980, Subject: "Crystal River Unit 3 Concrete Masonry Walls - Field Survey - NRC IE Bulletin 80-11." This memo contains a description of all equipment (both safety and non-safety related) in the proximity of all masonry walls in the plant. This memo was reviewed by the inspector during the field walkdown (discussed in Paragraph 6.b) to verify that the information contained in it relating to the identification of equipment in the proximity of all walls was accurately recorded. During the licensee's field survey, color coded identification tags were used to determine the safety related status of the equipment. Items whose safety related status could not be ascertained by color coded ID tags will be determined after further review by the licensee or Architect-Engineer. As built drawings for use in design re-analysis of the masonry walls requiring re-analysis (those in proximity of safety related equipment) had not been prepared as of this inspection date.

This bulletin remains open pending licensee completion of IE Bulletin 80-11 requirements.

No deviations or items of noncompliance were identified.