



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

Report No. 50-335/82-17

Licensee: Florida Power and Light Company
 9250 West Flagler Street
 Miami, FL 33152

Facility Name: St. Lucie

Docket No. 50-335

License No. CR-67

Inspection at St. Lucie site near Ft. Pierce, Florida

Inspector: E. H. Girard
 E. H. Girard

6/10/82
 Date Signed

Approved by: N. Economos
 N. Economos, Acting Section Chief
 Engineering Inspection Branch
 Division of Engineering and Technical Programs

6/11/82
 Date Signed

SUMMARY

Inspection on May 11-14, 1982

Areas Inspected

This routine, unannounced inspection involved 32 inspector-hours on site in the areas of licensee event report on steam generator tube defects, inservice inspection procedures, inservice inspection work, inservice inspection records and inspector follow-up items.

Results

Of the five areas inspected, no violations were identified in four areas; one violation was found in one area (Violation - Steam generator and other ISI Reports not submitted in specified time - paragraph 8.c). No deviations were found.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *C. M. Wethy, Plant Manager
- *N. G. Roos, QC Supervisor
- *J. E. Bowers, Maintenance Superintendent
- *A. W. Bailey, QA Operations Supervisor
- *R. L. Miller, QC Senior Plant Technicians
- *D. A. Sager, Operations Supervisor
- *R. R. Jennings, Technical Staff Supervisor
- *G. Gotch, Section Supervisor, Nuclear Energy Services
- *S. Collard, Senior Engineer, Nuclear Energy Services

Other Organizations

J. P. O'Leary, Eddy Current Test Program Coordinator, Combustion Engineering

NRC Resident Inspector

- *S. Elrod
- *H. Bibb

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on May 14, 1982, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and the inspection findings listed below: No dissenting comments were received from the licensee.

- a. (Open) Violation (335/82-17-01): Steam generator and other ISI Reports not submitted in specified time, paragraph 8.c.
- b. (Open) Inspector Followup Item (335/82-17-02): Identification of portion of weld examined, paragraph 8.b.
- c. (Open) License Event Report (LER 81-046): Steam Generator Tubes Eddy Current Testing, paragraph 5.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Licensee Event Report (LER)

(Open) LER 81-046: Steam Generator Tubes Eddy Current Testing.

This item documents the licensee's report of excessive steam generator tube defects. The licensee initially reported this item to NRC Region II on October 23, 1981. Subsequent information was provided to the NRC by the licensee at a meeting held at NRC offices in Bethesda, Maryland, on November 9, 1981; and in a letter to NRC Region II dated November 13, 1981. Based on the number of tubes found defective, the licensee's technical specifications required eddy current inspection of all steam generator tubes. In the November 9 meeting and November 13 letter, the licensee presented data indicating that the extent of tube degradation had been identified. The licensee proposed that it be allowed to return to operation (after plugging all defective and degraded tubes) without inspecting all tubes, on the condition that it would perform additional tube examinations in May 1982 to assure that the degradation process was not more extensive and that it was not proceeding at an undesirable rate. Amendment 47 to the technical specifications was submitted to permit the requirement change.

In the period covered by this inspection report, the NRC inspector observed selected portions of the May 1982 steam generator examinations, reviewed examination procedures and data and discussed the examinations with cognizant licensee personnel. The details of the inspector's observations and reviews are described in paragraphs 6.a, 7 and 8 below.

The licensee's preliminary review of the tube examination data for the May 1982 examinations indicated no significant progression of tube degradation and identified no new areas of concern. However, in its re-examination of tubes checked in the 1981 outage inspection, the licensee did find that one degraded and one defective tube had been missed due to an oversight. The indications appeared in both the 1981 and 1982 data. The licensee informed the inspector that the defective tube was being plugged as required by the technical specifications. The licensee stated that both the degraded and defective tube were within the bounds previously identified for the condition steam generator tube rows 8 through 12. Licensee personnel also informed the inspector that a buildup of boric acid crystals had been observed on a tube plug installed in the previous outage, possibly indicating a leaking plug.

The licensee has not identified either the exact nature or the cause of the tube degradation addressed in this item. This item will remain open pending the licensee's completion of its investigation of the degradation and Region II's review of the findings. The licensee informed the inspector that a tube sheet drawing indicating the status of the tube inspections would be sent to Region II after the outage.

6. Inservice Inspection - Review of Procedures

The inspector reviewed selected licensee inservice inspection (ISI) examination procedures for compliance with regulatory requirements and licensee commitments. For steam generator tube eddy current examinations the Technical Specification 4.4.5 provides examination and acceptance criteria and identifies the applicable code for the examination as ASME Section XI (74S76). For other ISI examinations Technical Specification 4.4.10 identifies the applicable code as ASME Section XI (71W72). A letter submittal of July 1, 1977, to the Director of Nuclear Reactor Regulation, committed the licensee to ASME Section XI (74S75) for the other (i.e., other than steam generator tube) examinations but this was not reflected in a change to the technical specifications. The procedural review performed by the inspector is described in the following paragraphs:

- a. Procedure 00000-ISI-005, Revision 01, "Procedure for Multifrequency Eddy Current Examination of Non-Ferromagnetic Steam Generator Tubing."

The above procedure was reviewed by the inspector for proper:

- (1) Approval by authorized personnel and the Level III examiner
 - (2) Examiner qualification requirements
 - (3) Procedure technical content as required by ASME Section XI (74S76), Article IV
 - (4) Records requirements.
- b. "St. Lucie 1 First 10-Year Interval Inservice Examination Plan, Revision 3"

The inspector selectively reviewed the subject plan for requirements applicable to the fourth and fifth outages to ascertain that it specified proper examination categories, methods of examination and extent of examination in accordance with ASME Section XI; and that it reflected commitments for ISI specified in the technical specifications and the FSAR. The inspector specifically checked the requirements specified for the following examination areas:

- (1) Pressure retaining welds in vessels (Category B-B) as applicable to reactor vessel closure head welds RPV-CH-209-03B and RPV-CH-209-03E.
- (2) Pressure retaining bolting, two inches and larger in diameter (Category B-G-1) as applicable to reactor vessel bolting.
- (3) Vessel to flange welds (Category B-C) as applicable to closure head to flange weld RPV-CH-209-02.

7. Inservice Inspection - Observation of Work and Work Activities

The inspector observed selected work and work activities for steam generator (SG) ISI eddy current tube examinations to verify compliance with regulatory requirements and licensee commitments, including code and technical specifications requirements. The code for steam generator tube eddy current examinations is identified in paragraph 6 above. Work and work activities observed by the inspector included examinations of SG 1B tubes L150-R12, L150-R14 and L149-R13; SG 1A tube L119-R7; a calibration for SG 1B examinations; and the Level IIa examiner's evaluation of tape and chart data for SG 1A tubes L135-R5, L135-R7, L134-R10, L133-R7, L133-R5, L132-R8, L130-R8, L123-R9 and L119-R9. The inspector observed the work and work activities to verify:

- a. Use of approved procedure and equipment
- b. Use of knowledgeable examination personnel with proper qualification levels
- c. Proper recording of examination data
- d. Proper frequencies
- e. Calibration standard adequacy
- f. Performance of calibration at proper intervals
- g. Proper acceptance criteria.

No violations or deviations were identified.

8. Inservice Inspection - Data Review and Evaluation

The inspector reviewed ISI records from the 1981 outage to verify compliance with regulatory requirements and licensee commitments, including technical specifications and code requirements. The code for ISI is identified in paragraph 6. The records reviewed and the inspector's findings are described below:

a. Reactor Pressure Vessel Weld Examination Records

The inspector reviewed the ultrasonic examination records for reactor vessel welds RPV-CH-209-02, RPV-CH-209-03B and RPV-CH-209-03E to verify the following:

- (1) Proper method, extent and technique of examination
- (2) Examination data complies with code and procedural requirements
- (3) Method used was adequate to determine acceptance.

- (2) Examination data complies with code and procedural requirements
- (3) Method used was adequate to determine acceptance.

The inspector found that for welds RPV-209-03B and RPV-209-03E the location of the portion of the weld examined was not identified or referenced on the data sheets. Such location data may be needed to facilitate comparison with results obtained in future examinations and this was designated an inspector followup item, identified 335/82-17-02, "Identification of portion of weld examined".

b. Steam Generator Tube Eddy Current and Visual Examination Reports

- (1) "Report of Eddy Current Examination of St. Lucie Unit No. 1 Steam Generators 1A and 1B", October 1981

The inspector reviewed the subject report to verify the proper recording of data on the tube examination reports contained therein and for other information given in the report that might be relevant to the cause of the tube degradation detected during the 1981 outage. The inspector did not note any significant information in the report relative to the SG tube degradation that had not already been considered.

- (2) "St. Lucie Nuclear Power Plant Steam Generator Secondary Side Visual Inspection Report", September 1981.

The inspector reviewed the subject report for information relative to the overall condition of the SG internals and to the cause of the tube degradation detected in the 1981 outage. The report indicated no evidence of significant deterioration of SG internals and offered no apparent evidence as to the cause of the SG tube degradation.

c. Code Inservice Inspection Reports

The inspector asked the licensee whether the ISI report for the previous 1981 outage had been prepared and submitted to NRC Region II as required by ASME Section XI. ASME Section XI requires submittal of the report within 90 days after completion of ISI. Licensee personnel stated that the report had not been completed or furnished and indicated that they understood that the report needed only to be furnished with the plant's annual report, which they expected to send to Region II in late May 1982. In further review, the inspector found that Technical Specification 6.9.1.4 required an annual report of steam generator tube inservice inspections and that this was required to be submitted for the previous year by March 1. The licensee's failure to provide either the code required ISI report or the annual report of the steam generator tube inservice inspection within the specified times is considered a violation and is identified as item 335/82-17-01, "Steam Generator and Other ISI Reports Not Provided in Specified Time". From

discussions with licensee personnel, it appeared that ISI reports from other outages (pre-1981) may not have been provided to NRC Region II.

Within the areas inspected, one violation was identified, as described in 8.c above. No deviations were identified.

9. Inspector Follow-up Item (IFI)

(Closed) IFI (335/81-23-01): Procedure for Evaluation of Spring Hanger Settings.

The inspector discussed this item with responsible licensee personnel and verified that the licensee's ISI procedure for inspection of spring hanger settings, QI-10-PR/PSL-4, Revision 2, now specifies that setting values obtained in the inspection are to be provided to engineering for evaluation. This item is closed. A related item dealing with snubber settings, unresolved item 335/80-12-02, is to be addressed in IE Report 335/82-18.