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

Report Nos.: 50-335/84-20 and 50-389/84-21

Licensee: Florida Power and Light Company
9250 West Flagler Street
Miami, FL 33101

Docket Nos.: 50-335 and 50-389

License Nos.: DPR-67 and NPF-16

Facility Name: St. Lucie Units 1 and 2

Inspection Dates: June 4-7, 1984

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

Inspector: _____ 6/21/84
for B. R. Crowley Date Signed

Approved by: _____ 6/21/84
J. J. Blake, Section Chief Date Signed
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope: This routine unannounced inspection entailed 26 inspector-hours on site in the areas of licensee action on previous enforcement matters (Units 1 and 2); inservice inspection (Unit 1); licensee identified (50.55(e) and LER) items (Units 1 and 2); IE Bulletins (Units 1 and 2); and inspection followup items (Units 1 and 2).

Results: No violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

C. M. Wethy, Plant Manager
*J. H. Barrow, Operations Superintendent
*N. T. Weems, Superintendent of QA-St. Lucie Projects
N. G. Roos, QC Supervisor
*P. W. Heycock, ISI Coordinator
R. R. Jennings, Technical Supervisor
R. J. Young, Technical Supervisor
B. M. Parks, Lead Engineer
P. Pace, Nuclear Energy Engineer
J. J. Walls, QC Engineer

Other Organization

J. C. Orlowski, Licensing, Combustion Engineering, Inc.
*D. D. Miller, Licensing, Combustion Engineering, Inc.

NRC Resident Inspectors

*C. D. Feierabend, Senior Resident Inspector
P. Bibb, Resident Inspector

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on June 7, 1984, with those persons indicated in paragraph 1 above. Relative to unresolved item* 389/82-52-01, the licensee stated that high priority would be placed on location of the unavailable installation records and resolution of the problem. The licensee further stated that the inspector would be notified by phone as progress is made in retrieval and resolution of the records in question.

3. Licensee Action on Previous Enforcement Matters (92702) (Units 1 and 2)

a. (Closed Unresolved Item 335/83-22-01, Vibration Measurement Instrument Accuracy. During a previous inspection, the inspector questioned whether the licensee's pump vibration measurement meter (Instrument E 328) was capable of meeting the ASME Code requirement for nominal maximum instrument error. During the current inspection, the inspector reviewed the manuals for instruments E-328 (Unit 1) and E-SU-67 (Unit 2), which indicated instrument accuracy of ±5% for both instruments. This is within the ASME Code requirement of ±10%.

*Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations.

b. (Closed) Unresolved Item 335/83-22-02, Valve Position Indicator Checks. During a previous inspection, the inspector questioned the licensee as to what procedure implemented the the valve position indicator checks required by the ASME Code. Since the last inspection, the licensee has issued Data Sheet #33 to Administrative Procedure No. 1-001-0125, Revision 58, "Schedule of Periodic Tests, Checks, and Calibration," which implements the valve position indicator checks. This procedure was performed for Unit 1 during the last outage and will be performed at each refueling outage. Data Sheet #33 is being written for Unit 2.

c. (Open) Unresolved Item 389/82-52-01, Installation Records. This item pertained to problems with installation records for the Reactor Vessel, 2A2 and 2B2 RC Pumps, and 2A and 2B Steam Generators. During a previous inspection, the inspector attempted to review the records in question and the licensee indicated that the records were being microfilmed. During the current inspection, the records could not be located for review. The licensee agreed to pursue location and resolution of the records problem on a high priority basis and inform the inspector by telephone as progress is made in retrieval and resolution of the records problem.

4. Inservice Inspection - Review of Procedures (73052B) (Unit 1)

The inspector reviewed the ISI procedures indicated below to determine whether procedures were consistent with regulatory requirements and licensee commitments. In accordance with the provisions of Florida Power and Light Company (FP&L) submittal L-77-203 dated July 1, 1977, to the Director of Nuclear Reactor Regulations, ISI is being performed in accordance with the 1974 Edition, including addenda through the Summer of 1975, of Section XI of the ASME Boiler and Pressure Vessel Code. For eddy current inspection (ET), the applicable code is ASME Section XI, Appendix IV, 1980 Edition, W80 Addenda. The recent ISI completed the second period inspections and started the third period inspections. Except for ET inspections, the ISI was performed by Southwest Research Institute (SWRI) using a SWRI program and SWRI personnel under FP&L direction. The ET inspections were performed by FP&L.

a. The governing procedures and inspection plan for the four areas listed below were reviewed to determine whether the procedures specified reexamination category, methods of examination, and extent of examination as required by ASME Code Section XI and whether Tech Spec requirements are reflected in NDE procedures, as applicable.

- Reactor Coolant Pipe Welds
- Small Diameter Class 1 Pipe Welds
- Steam Generator Primary Head Welds
- Main Steam Pipe Welds

b. FP&L procedure NDE 6.2, Revision 0, "Eddy Current Examination of Nonferromagnetic Tubing by Multifrequency Techniques," was reviewed for technical content in the areas of:

- Specification of a two channel examination unit and indication equipment such as indicator, meter, tube, strip-recorder or tape.
- Maximum Sensitivity
- Material Permeability
- Description of Method of Examination
- Calibration
- Acceptance Criteria

In this area of inspection, no violations were identified.

5. Inservice Inspection - Data Review and Evaluation (73755) (Unit 1)

The inspector reviewed the ISI records described below to determine whether the records were consistent with regulatory requirements and applicable procedures. See paragraph 4 above for the applicable code.

a. During the recent extended outage to remove the thermal shield and repair the core barrel, the second 40-month period inspections were completed and the third 40-month period inspections started. To determine if extent and frequency of examinations met requirements, the inspector reviewed a sample of the second period data and compared the data with the requirements of the "St. Lucie Unit 1 Long-Term Inservice Examination Plan Class 1, 2, and 3 Components and Systems," relative to extent and frequency of examination. The sample consisted of:

- Reactor Pressure Vessel Welds
- Pressurizer Welds
- Reactor Coolant Loop Pipe Welds
- Reactor Coolant Small Diameter Pipe Welds

The data reviewed are included in the following records:

- "1981 Program Plan and Schedule"
- "1981 Inservice Inspection Report"
- "1983 ISI Status Report" and Inspection Data

b. NDE records for the following pressure retaining pipe welds for the first outage of the third period were reviewed:

42"-RC-14-4
-4 LU-I
-4 LU-O
30"-RC-124-4
36"-MS-52-1
34"-MS-28-1
12"-SI-814-9
12"-SI-475-6
4"-RC-103-7
2"-RC-122-1
2"-RC-122-6
10-SI-422-7

The records were reviewed to determine whether the following requirements were met:

- The examination unit calibration data sheets show no major deviations between initial and final calibrations.
- Collected examination data and any recordable indications are properly recorded to permit accurate evaluation and documentation.
- Evaluation of examination data performed by a Level II or Level III examiner
- Evaluation of examination data complies with the procedure.
- Evaluation of indications (if applicable) comply with the criteria of the NDE procedures and ASME Section XI.
- Incomplete examinations and results were reported to permit full evaluation (if applicable).

In this area of inspection, no violations were identified.

6. IE Bulletins (92703) (Units 1 and 2)

a. (Closed) IEB 335, 389/83-BU-05, ASME Nuclear Code Pumps and Spare Parts Manufactured by the Hayward Tyler Pump Company. This IEB was issued for information only to those plants who had not used or did not plan to use Hayward Tyler Pump Company pumps or spare parts. The inspector reviewed FP&L memo QAP-38-886 dated September 8, 1983, which stated that Hayward Tyler pumps and spare parts had not been used and removed the Hayward Tyler pump company from the approval vendor's list.

b. (Open) IEB 335, 389/83-BU-06, Nonconforming Materials Supplied by Tube Line Corporation Facilities at Long Island City, New York; Houston, Texas, and Carol Stream, Illinois. Florida Power and Light Company letters of response L-84-17 dated January 23, 1984, and L-83-577 dated December 6, 1983, have been reviewed by Region II. Letter L-82-17 indicates that the only Tube-Line material identified at the St. Lucie plants were two 4" elbows in the Unit 2 shield building ventilation system. The letter further states that the elbows will be replaced at the first refueling outage. The inspection reviewed Plant Work Order No. 3550 which had been issued to replace the elbows.

Based on a previous inspection at Turkey Point (see RII Report 50-250/84-12), the inspector questioned the licensee relative to whether the problem with Gulf Alloy (a supplier of Tube-Line material) applied to St. Lucie as well as Turkey Point. The licensee stated that the Gulf Alloy problem required further work, and the Bulletin response would be amended to cover this problem. This Bulletin remains open pending receipt and review of the amended response.

c. (Closed) IEB 335, 389/83-BU-07, Apparently Fraudulent Products Sold By Ray Miller, Inc. Florida Power and Light Company letters of response, L-84-78 dated April 4, 1984, and L-84-147 dated June 1, 1984, have been reviewed and are considered acceptable. Based on extensive investigation, FP&L concluded that there is little chance of any Ray Miller products being installed at St. Lucie.

7. Licensee Identified Items (92700B) (Units 1 and 2)

a. (Closed) 389/CDR 83-03, Premature Indication of Valve Closure. On February 23, 1983, Florida Power and Light Company notified Region II of a potential 50.55.e item concerning Westinghouse gate valves. The final construction deficiency report (L-83-282) was issued on May 11, 1983. The report concludes that the condition is not reportable. The final report has been reviewed and determined to be acceptable. (Note - this CDR was discussed with Division of Reactor Projects personnel).

b. (Open) 389/LER 83-71, Cracked Weld on 2B Charging Pump Discharge Line. While at 100% power, two "Pinhole" leaks were noted on a downstream weld on the 2B charging pump discharge valve. This was the second socket weld failure. The section of line was replaced. The failure was evaluated by an FP&L Metallurgist and determined to be caused by fatigue. Vibration problems with the St. Lucie charging pump discharge line has been an ongoing problem. A REA (Request for Engineering Assistance) has been issued to help solve the problem.

c. (Open) 335/LER 84-02, Incomplete Surveillance. Subsequent to completion of the steam generator eddy current (ET) inspection, FP&L decided to conduct a complete overview of the inspection results to determine the actual conditions of the generators. The review revealed:

SGIA - 12 tubes were missed
3 tubes were partially missed

SGIB - 6 tubes were missed
5 tubes were partially missed

Based on the number of tubes inspected (8430 for SGIA and 8459 for SGIB), the error was very small. The licensee attributed the error to the following:

The program was designed to inspect approximately 9% of the tubes in each steam generator. The initial program included several discrete areas within each generator to address FP&L and industry concerns. During the course of the inspection, the program was expanded to include 100% of the tubes in both generators from both ends of the tubes. Increasing the inspection to full tube length required going back into many of the previously inspected tubes to inspect the opposite leg. The combination of events significantly increased the overall magnitude of data management of the inspection. The programmatic aspects of this increase, as well as the expansion of the data acquisition and analysis, increased both the complexity and difficulty of the effort. The data management was done manually using more people than anticipated to cope with the increased volume of work. The data analysis was conducted for the first time using the new DDA4 digital data analysis system. The recorded data results and format were unfamiliar to the FP&L data controller.

For future inspections, FP&L will be prepared in all cases to address the probability of program expansion by:

(1) use of computerized data control, if deemed necessary

(2) require more frequent surveillance and overview of the data package and program as an ongoing function.

Subsequent to discovery of missed inspections, the following numbers of tubes were inspected during the May 8-10, 1984 inspection:

SGIA - 71
SGIA - 46

The additional tubes were re-inspected to bound the conditions and verify that inspections had been conducted consistent with correct tube identity and location.

The inspector reviewed the above problem with the licensee and discussed the results of the inspection. The following summarizes the results of the inspections:

	SGIA	SGIB
Total Tubes Inspected	8430	8459
Total Tubes Plugged	262	243

- All tubes with degradation exceeding 20% were plugged.
- The tubes plugged included all row 8-12 tubes due to the large number of defective tubes in these rows.
- Defects identified included:

  Wastage at U-ben Apex (rows 8-12), fretting at egg crates, indications at drilled supports, random indications between supports, and top of tube sheet indications. No denting that precluded passage of the probe was identified.

8. Inspector Followup Items (92701B) (Units 1 and 2)

   a. (Closed) Inspector Followup Item 335/83-14-01, Document Errors. This item pertains to errors in the SWRI project plan for the mechanized reactor vessel inspection. The inspector reviewed the SWRI Final Report 5/79, "1983 Mechanized Inservice Examination of St. Lucie Plant, Unit 1, Reactor Pressure Vessel," including Change 1. The errors were corrected in these documents.

   b. (Closed) Inspector Followup Item 389/82-13-08, Under Sensitive Inspections Using Roll-bond Clad Calibration Blocks. This item pertained to a Part 21 item received from an FP&L contractor concerning a potential deficiency in the PSI examinations of PPV nozzle to pipe welds from the I.D. surface for San Onofre, Units 2 and 3 and Palo Verde, Units 1, 2, and 3. The problem was identified during PSI of St. Lucie, Unit 2 and has been resolved for St. Lucie.