



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30323

Report Nos.: 50-335/91-02 and 50-389/91-02

Licensee: Florida Power and Light Company
 9250 West Flagler Street
 Miami, FL 33102

Docket Nos.: 50-335 and 50-389

License Nos.: DPR-67 and NPF-16

Facility Name: St. Lucie 1 and 2

Inspection Conducted: January 14-18, 1991

Inspector: Rich C. Chou 2/4/91
 Rich C. Chou Date Signed

Approved by: J. J. Blake 2/6/91
 J. J. Blake, Chief Date Signed
 Materials and Processes Section
 Engineering Branch
 Division of Reactor Safety

SUMMARY

Scope:

This routine, announced inspection was conducted in the areas of previous open items concerning safety-related piping systems.

Results:

In the areas inspected, violations or deviations were not identified.

Seven open items were closed. The licensee was very cooperative during the inspection.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *G. Boissy, Plant Manager
- *J. Brady, Mechanical Maintenance Supervisor
- *J. Breen, Licensing
- *J. Chapman, Nuclear Engineer
- *D. Culpepper, Engineering Supervisor
- *R. Dawson, Maintenance Superintendent
- W. Dean, Technical Support Supervisor - Electrical Maintenance
- *J. Dyer, Quality Control (QC) Supervisor
- *R. Englmeier, Site Quality Manager
- *R. Gil, Nuclear Engineer - Juno Beach
- W. Haines, Production Supervisor - Mechanical
- *L. McLaughlin, Licensing Supervisor
- *B. Parks, QC Superintendent
- L. Rogers, Electrical Maintenance Supervisor
- P. Sarno, Planning Supervisor - Maintenance
- *R. Toscano, Mechanical Maintenance

Other licensee employees contacted during this inspection included craftsmen, engineers, operators, mechanics, security force members, technicians, and administrative personnel.

NRC Resident Inspectors

- *M. Scott, Resident Inspector

*Attended exit interview

2. Action on Previous Inspection Findings (92701, 92702)

- a. (Closed) Inspector Follow-up Item (IFI) 50-335,389/88-09-01, Clarification of Requirements for Post-Maintenance Test and In-service Test

This IFI concerned inconsistencies between the front sheet of Plant Work Order (PWO) and the forms of Appendix B of procedure QI-11-PR/PSL-2 for Post-Maintenance Tests (PMT) and In-service Tests (IST). The inspector discussed this matter with the licensee's engineers and reviewed five PWOs and the revised procedure QI-11-PR/PSL-2, Rev. 19. During review of the five PWOs, the inspector found similar inconsistencies, indicating that the licensee did not clear the confusion or inconsistencies with the revised procedure implemented in the PWO forms. The inspector discovered three problems in the PWO forms and procedure and discussed them with the licensee's engineers.



The first problem is a confusion between PMT and IST. The confusion exists because the test required marked "yes" for IST in the front sheet of PWO, but the actual tests performed were marked in the non-IST (or non-ASME test) in the forms of Appendix B of the procedure which was attached to the PWO. This meant that the tests were performed under PMT. The current definition for PMT and IST are:

- PMT - Test required for all components under the Technical Specification or ASME Code after the maintenance and modifications were performed.
- IST - Test required for all components under the ASME Code after the maintenance or modifications were performed.

Therefore, the ASME Code components are required to have PMT and IST, but actually they are same test and only one test. PMT is also IST in this case. To separate PMT and IST and to eliminate this problem, the licensee will revise Appendix B of procedure QI-11-PR/ PSL-2 to clearly indicate that IST is for ASME Code components only and PMT is for all non-ASME Code components but required by the Technical Specification or other special test requirements.

The second problem is a title clarification in the front sheet of a PWO. The title in the front sheet of PWO is an ASME Code component and the actual test is in the associated component which is not ASME Code component. The computer automatically printed "yes" in the IST required block since this is an ASME Code component. But the actual test is in the non-ASME Code component and PMT for non-ASME Code component is marked. For example, on the Work Request No. XA-901227111021, Unit 2, the title of CHG PP 2A was written and was a charging pump which is required to have IST per ASME Code. The actual work or test was on the vent valve. The IST required block in the front sheet of the PWO was marked "yes" by the computer, since this is an ASME Code component which is required to have IST. The actual test sheet, the Appendix B form of procedure QI-11-PR/PSL-2, was marked on blocks shown "Other Valve Cycle" and "Other Valve External Leakage Bonnet and Packing" which were PMT, not IST since the actual work was performed on the vent valve, not the pump itself. Therefore, IST required was marked in the front sheet of PWO, due to the charging pump, but the actual tests or work performed on the vent valve were not IST. To eliminate this problem, the licensee will revise procedure and require the originator of the PWO to clearly indicate the identification of the component, such as vent valve in this case, actually involved for the test in the title block and use the nearby main component, such as charging pump, for reference only, not for title. IF there is no identification for the component to be tested, the title block will be left as blank for PMT only.

The third problem is the incorrect information contained in the Total Equipment Data Base (TEDB) which is used by the planners to identify the required tests and automatically print out "yes" or "no" in the IST required block in the front page of PWO. For example, Work Request No. XA901209070559, Unit 2 indicated the component tag number HCV-09-1A (valve) in the title block and printed "yes" on the IST required block. Actually, this valve is not an ASME Code component. Therefore, "no" should be printed out for this block instead of "yes." This is an information problem on TEDB.

The licensee agreed to review and revise the procedure QI-11-PR/PSL-2, TEDB and PWO to clear the above three problems discovered by the inspector. This item is considered closed based on the licensee's commitments to solve the problems.

- b. (Closed) Unresolved Item (UNR) 50-335,389/88-28-01, Discrepancies for Base Plates, Anchor Bolts, and Pipe Supports Between Field Conditions and As-built Drawings

This matter concerned deficiencies found in the pipe supports such as the wrong orientation, edge distance, quantity of material, base plate dimension, etc. The inspector held discussions with the licensee's engineers and reviewed the information provided - Evaluation of Pipe Support and Expansion Anchor Nonconformance, Ebasco Report No. 132-63.50, Rev. 2 dated January 14, 1991. The solution contained in the Ebasco Report included the revisions of calculations and drawings. The revised support calculations were reviewed by the inspector and determined to be acceptable. The drawings which were required to be revised were contained in Plant Change/Modification PCM 229-188 and 230-288; and were reviewed by the inspector and determined to be acceptable. However, the PCM is only a process or method to provide for revisions to the original drawings to agree with the as-built condition. Actually, the revisions of the original drawings stated in the PCM 229-188 and 230-288 are not completed since all of the work contained in these PCM are not completed. The licensee agreed to expedite the completion of the revisions of the original drawings in the next couple weeks. This item is considered closed based on the licensee's completion of the revisions to the support calculations and agreement to expedite the revisions of the original drawings.

- c. (Closed) IFI 50-335,389/88-28-02, Plant Maintenance for Corrosion on Piping Systems and Structures

This matter concerned the fact that Supports No. CW-16-3, CW-15-3, and CW-15-4, in the open area, had corrosion on the base plates, bolts, and nuts. In addition, other civil structures were also found to have similar corrosion problems. The inspector discussed this matter with the licensee's engineer and reviewed the information provided. The licensee's engineer indicated that none of the

supports exhibited corrosion to the extent that structural integrity was adversely affected. The Plant Maintenance Department is responsible for routinely maintaining protective coatings for all structures and components as necessary. A new plant maintenance coating specification (CN-2.27) has been established to enhance the overall plant maintenance coating program. Appendix A of General Maintenance Procedure No. I-M-0018, Revision 13, for Unit 1 and 2-M-0018, Revision 20, for Unit 2 have been designated especially for Intake Cooling Water (ICW) and Component Cooling Water (CCW) structures which are required to have surveillance quarterly. The inspector also walked down the intake structure and CCW structure areas and found that the problem with the rusty components and structures had been taken care of. Based on the above licensee's effort to resolve the problem, this item is considered closed.

- d. (Closed) IFI 50-335,389/88-28-03, Establishment of Standard Procedures in Tolerances for Installation, Inspection, Evaluation, and Incorporation

There was no procedure providing standard tolerances for QC inspectors or engineers to follow for non-conformance evaluation or incorporation of drawings and calculations. If a QC inspector found a difference in a dimension, clearance, member size, weld size, etc., between the field conditions and as-built drawings, he would write a defect report. The engineers would review it and approve the defect if it meets the design requirements. But the defect or difference would not be corrected in the drawings or calculations, since it was acceptable. Therefore, the defect or difference were not reflected in the drawings or calculations. To correct this problem, the licensee was required to establish a standard procedure for tolerances. The inspector discussed the Standard No. MN-3.12, "Nuclear Engineering Department Discipline Standard", Revision 0, dated January 11, 1991. The discipline standard abstracted information from the nuclear industry, Nuclear Construction Industry Group NCIG-01 and 05, Welding Research Council (WRC) Bulletin No. 31-3, and other established organizations. Based on the licensee's above effort, this item is considered closed.

- e. (Closed) IFI 50-335/88-28-04, Anchor Bolt Problems at South Steel Missile Protection Shield

The anchor bolts were found to have been pulled out or loose at two columns of South Steel Missile Protection Shield on North Side of Unit 1 Auxiliary Water Pump due to pump foundation vibration. The inspector discussed this problem with the licensee's engineers and reviewed the information provided. The licensee had implemented PCM 061-189D to install the new grouted anchor bolts which will resist the vibration during pump running. The inspector also performed a walkdown reinspection to check the as-built condition against the construction drawing attached to the PCM. This item is considered closed based on the new installation of anchor bolts.

- f. (Closed) IFI 50-389/88-28-04, Follow-up on Bergen - Paterson Large Bore Calculations

This matter concerned the fact that the factors of safety for two large bore supports, SI-4205-6440B and CC-2061-91, were between 2 and 4, after Ebasco re-evaluated 69 supports which were originally analyzed by Bergen-Paterson using the improper safety factor of 1.33 and 2.0. The factor of safety for a long term design should be 4 or greater; the factor of safety greater than 2 is allowed for interim operation. The inspector reviewed the calculations for supports SI-4205-6440B and CC-2061-191 and found them to be acceptable with the factors of safety greater than 4.0. However, the support CC-2061-191 required a modification due to the load change which will be implemented in the near future. This item is considered closed based on the calculation completion.

- g. (Closed) IFI 50-335,389/88-28-05, Final Summary Report Review for IEB 79-02

The licensee submitted Letter No. L-79-183 for Unit 1, dated July 5, 1979, to NRC to close out the requirements stated in the IEB 79-02 and incorporated the requirements to IEB 79-02 into Appendix 3.9B, Concrete Expansion Anchor Design, Final Safety Analysis Report (FSAR) before the Operating License for Unit 2 was issued. The Letter No. L-79-183 stated that the anchor bolt reinspection was completed in 1977 to verify bolt size, embed length, thread engagement length, etc., the factors of safety were used as 4 or 5; the seismic loads and cyclic loads had been considered in design. The licensee agreed to submit a brief summary report to NRC for review for each unit after the completion of the revisions of original drawings contained in the PCM 229-188 and 230-288, discussed in paragraph 2.a. This item is considered closed.

- h. (Closed) Violation 50-335,389/89-29-01, Inadequate Limitorque Preventative Maintenance Procedure and Failure to Follow Procedures for Material Control for Limitorque Maintenance

Florida Power and Light Company's (FP&L) letter of response, L-90-71, dated February 22, 1990, has been reviewed and determined to be acceptable by Region II. The inspector discussed the violation with the licensee's engineers and reviewed the information provided. Section 9.42 of Maintenance Procedure No. 0940072, Rev. 4 has provided the detail maintenance for the entire valve stem lubrication to prevent the recurrence of the valve stem failure which was the first part of the violation. The Sections 9.27 "Side Mounted Handwheel Reassembly" and 9.33 "Handwheel Housing Gasket Thickness Determination" of Maintenance Procedure No. 0960067, Rev. 1 have provided the detail procedures to maintain and measure the handwheel gasket thickness which was the second part of violation. The above detail maintenance procedures are based on the industry standards and



the latest vendor catalog. In addition, the licensee has shifted the responsibility of the Limitorque Maintenance from Mechanical Maintenance Department to Electrical Maintenance Department per Inter-Office Correspondence MM/PSL Letter BK No. 295, "Departmental Jurisdiction Policy", dated November 7, 1989. The licensee also limits the awards of the Limitorque Maintenance to contractors to reduce inadequate maintenance, the in-house maintenances increases the quality, with help from Technical Support Group. The licensee has completed the overhaul maintenances for 20 limitorque valves for Unit 1 and 14 limitorque valves for Unit 2.

Last year, the licensee hired a consultant to study the comparison of inventory and operation requirements. Based on the suggestion from this consultant, the licensee purchased more spare parts for valve actuators and stored them separately to accomplish the maintenance operations. In addition, the QC department tightened the inspection on materials issued for modifications, maintenance, or repair.

Based on examination of corrective actions as stated in the letter of response and discussed with responsible licensee's engineers, the inspector concluded that FP&L had determined the full extent of the subject violations, performed the necessary survey and follow-up actions to correct the present conditions and developed the necessary corrective actions to preclude recurrence of similar circumstances. The corrective actions identified in the letter of response have been implemented. Therefore, this item is considered closed.

3. Exit Interview

The inspection scope and results were summarized on January 18, 1991, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results listed below. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

(Closed) IFI 50-335,389/88-09-01
 (Closed) UNR 50-335,389/88-28-01
 (Closed) IFI 50-335,389/88-28-02
 (Closed) IFI 50-335,389/88-28-03
 (Closed) IFI 50-335,389/88-28-04
 (Closed) IFI 50-335,389/88-28-05
 (Closed) VIO 50-335,389/89-29-01

