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

Report Nos.: 50-250/90-44 and 50-251/90-44

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

Docket Nos.: 50-250 and 50-251 License Nos.: DPR-31 and DPR-41

Facility Name: Turkey Point 3 and 4

Inspection Conducted: December 17-21, 1990

Inspector: _____ 1/9/91
J. J. Lenahan Date Signed

Approved by: _____ 1/10/91
J. Blake, Chief Date Signed
Materials Process Section
Engineering Branch
Division of Reactor Safety

SUMMARY

Scope:

This routine, unannounced inspection was conducted in the areas of ISI procedures for inspection of pipe supports, installation of safety-related cable in the new EDG building, and follow-up on licensee action on previous inspection findings.

Results:

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

The licensee's ISI visual inspection procedures for pipe supports effectively implement Technical Specification and ASME Code criteria. Electrical Construction activities show evidence of prior planning, and were well controlled. The licensee's corrective action system promptly addressed any cable installation deficiencies. Cable installation procedures were strictly adhered to.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

M. Blew, ISI Supervisor
W. Donahue, Construction - Cable Pulling Supervisor
*T. Finn, Assistant Operations Superintendent
J. Marchese, EDG Electrical Engineering Supervisor
D. Osborne, QC Supervisor
*L. Pearce, Plant Manager
*D. Powell, Licensing Superintendent
*R. Turner, Staff ISI Specialist

Other Organizations

J. Giovas, Bechtel, Electrical Engineering Supervisor
J. Robertson, Bechtel, EDG Project Manager

NRC Resident Inspectors

*R. Butcher, Senior Resident Inspector
G. Schnebli, Resident Inspector
L. Trocine, Resident Inspector

*Attended exit interview

2. Inservice Inspector (ISI) of Pipe Supports and Restraints (73052)

The inspector examined the procedures listed below which control inspection of pipe supports in accordance with the licensee's ISI program. The applicable code for ISI is the American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME B&PV) Code, Section XI, 1980 edition with addenda through Winter 1981. Additional requirements for inspection and testing of snubbers are specified in Technical Specifications 3.13 and 4.14. Procedures examined were as follows:

a. NDE 4.1 Visual Examination VT-1 Welds/Bolting/Bushings/Washers

b. NDE 4.3 Visual Examination VT-3/VT-4

c. Administrative Procedure (AP) 0190.83, Mechanical Shock Arrestor Surveillance Program

d. AP 0190.85, Functional Testing of Mechanical Snubbers

e. Operating Procedure 0209.9, Visual Examination of Mechanical Shock Arrestors

The inspector verified that the procedures were consistent with regulatory requirements and licensee commitments. The inspector also verified that the procedures contained inspection prerequisites and precautions, appropriate instructions, acceptance criteria, requirements of qualifications of inspection personnel, and requirements for compilation of records.

Within the areas inspected, no violations or deviations were identified.

3. Electrical Power System Enhancement Project, Observation of Work Activities (51053)

The inspector witnessed installation of cable number 3AD06 BX00Q from the new diesel generator building to the Unit 3 switchgear room located in the Unit 3 turbine building. Acceptance criteria utilized by the inspector appear in Bechtel Specification 5610-E-756, Installation, Inspection, and Testing Details for Electrical Equipment and Cables, and FP&L Quality Control Procedure (Technique Sheet) 10.30-1, Electrical Cable and Wire Installation Inspection. The cable consists of three conductors, 750 KCMIL 8kV power cable which was installed in two operations. The first cable pull was from the cable reels into conduit number 3Z300 in the EDG building, through manhole MH711, which is located on the lower level of the EDG, through a buried conduit, number 4Z538 to MH705, and through buried conduit, number 4Z579, terminating in MH701. The second pull was from MH701 through buried conduit 4Z507, and conduit 3A1490 in the turbine building overhead, terminating in pull box PB7355. Prior to the cable pull, the inspector reviewed the calculations performed to determine the expected cable pulling tension, and reviewed the licensee's acceptance criteria for maximum permitted pulling tension. The calculations indicated that actual pulling tension would be slightly less than the permitted value.

During the pull, the inspector noted that licensee and Bechtel supervisory personnel continuously monitored cable pulling activities, that QC personnel were present throughout the pull, at all locations where the cables were exposed, to continuously inspect cable pulling activities, and that sufficient number of electrical craft personnel were available to perform cable pulling activities in accordance with specification requirements. The inspector verified that pulling tension was not exceeded (actual maximum pulling tension was approximately two-thirds of the permitted value), that cable bend radius was not exceeded, and that the proper pulling compound was used. The inspector verified that the partial pull was suitably coiled and protected from other construction work, and that cable was properly supported in manhole and other exposed locations.

The inspector noted that the cables were pulled in midruns using a "Mare's Tail." This resulted in application of pulling tension on the cable jacket and underlying lead sheath during portions of the cable pull. Subsequent to the inspection, on January 3, 1991, a telephone call was held between Region II personnel and licensee engineers to discuss the acceptability of the use of the "Mare's Tail", and pulling the cable in

midrun. The licensee submitted a copy of Calculation No. PTN-OFJE-90-0007 for review by Region II Electrical inspectors. This calculation documents the results of testing performed which demonstrated that use of the "Mare's Tail" on the cable does not result in damage to the cable. The calculation results state that the use of the "Mare's Tail" is acceptable for the cables tested, the particular cable configurations and "Mare's Tail" tested, and is limited to the pulling tensions in the test. Licensee engineers stated that the test results are not a generic approval for future pulling of cable in midrun. Based on the discussions in the telephone conference call and review of the test results documented in Calculation PTN-OFJE-90-0007, the inspector had no further questions on use of the "Mare's Tail" at this time.

During the cable installation, licensee QC inspectors identified a small cut, approximately one inch long in the cable jacket. This problem was noted on Deficiency Report D90-0833. The cable was repaired in accordance with procedures in the Bechtel Specification. One minor bend radius violation occurred at MH711 when one conductor (cable) slipped during installation. There was no visible damage to the cable, however, the licensee issued Nonconformance Report (NCR) N-90-0840 to document, evaluate, and disposition this problem. Subsequent to the completion of the cable pull, the inspector reviewed the cable and wire installation inspection report, IR Number E-90-6192, which documents the inspection activities related to the pull. The inspector also reviewed Receipt Inspection Report Number R-90-3169. This reports covers the power cable on reel numbers V1123, V1273, and V1604 which was installed during the above discussed work.

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

4. Action on Previous Inspection Findings (92702)

(Closed) Inspectors to Witness Cutting of Thimble Guide Tubes During Repair to Unit 3 Seal Table. The licensee's corrective actions for this violation are stated in their July 7, 1989, response to NRC. These corrective actions include revisions to Procedure ASP-34, Preparation of Process Sheets and Installation Lists, to clarify QC inspection activities and hold points. The inspector reviewed ASP-34, Revision 1, which incorporated revisions to clarify the definition of hold points, inspection activities, witnessing of work activities, and surveillance activities.

These changes clarify the activities that QC personnel need to inspect during backfit construction work. The licensee also held a training session to explain holdpoints and inspection requirements to backfit personnel. The inspector reviewed the training brief and roster of personnel present during the training session. The training covered

the revisions to ASP-34 and was presented to craft supervisory personnel, construction supervisors, and field engineers to assure that all personnel were cognizant of QC inspection requirements, and their responsibilities for notifying QC and not proceeding with work until required inspections are completed.

5. Exit Interview

The inspection scope and results were summarized on December 21, 1991, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection results. Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.