U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION IV

Report No. 50-382/78-16

Docket No. 50-382 Category A2

Licensee: Louisiana Power and Light Company
142 Delaronde Street
New Orleans, Louisiana 70174

Facility Name: Waterford Steam Electric Station, Unit No. 3

Inspection at: Waterford Site, Taft, Louisiana

Inspection conducted: December 11-14, 1978

Inspectors: _____ 1/3/79
R. C. Stewart, Reactor Inspector, Projects Section (Paragraphs 1, 3, 4 & 6) Date

_____ 1-3-79
J. I. Tapia, Reactor Inspector, Engineering Support Section (Paragraphs 2 & 5) Date

Approved: _____ 1/3/79
W. A. Crossman, Chief, Projects Section Date

_____ 1-3-79
R. E. Hall, Chief, Engineering Support Section Date

Inspection Summary:

Inspection on December 11-14, 1978 (Report No. 50-382/78-16)
Areas Inspected: Routine, unannounced inspection of construction activities related to a follow-on review of QA/QC records and observation of handling, rigging, and installation of the reactor vessel; a review and observation of work activities involved in the installation of primary coolant pumps; and the review of corrective action initiated by the licensee regarding an item of noncompliance. The inspection involved fifty-six inspector-hours by two NRC inspectors.
Results: No items of noncompliance or deviation were identified.

DETAILS

1. Persons Contacted

Principal Licensee Employees

*C. Decareaux, Project Engineer
*T. Gerrets, Project QA Engineer
B. Toups, QA Engineer
*J. Woods, QA Engineer
*B. Brown, QA Engineer

Other Personnel

*R. Hartnett, QA Site Supervisor, Ebasco
*J. Moskwa, Field QA/QC Manager, NISCO
J. Stungis, Field Lead Engineer, NISCO
*P. Fisher, QA Engineer, American Bridge Company
*J. Lavering, Project Engineer, Rigging International
L. Jones, Project Superintendent, Rigging International
P. Smith, Site QA Officer, American Bridge
P. Yard, Contracts Administrator, Civil Engineer, Ebasco
S. Kalat, QA Liaison Engineer (Civil), Ebasco
*J. Arnold, QA Engineer, Rigging International
D. Hasian, QA Engineer (Mech.), Ebasco

The IE inspectors also interviewed other licensee and contractor personnel including members of engineering and QA/QC staffs.

*denotes those attending the exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Infraction (50-382/78-12): Failure to Properly Inspect Structural Steel Welds. One full penetration weld and two fillet welds at elevation (-)4 in the containment building, were found to have approximately 0.06 inches of undercut and overlap and slag in excess of the acceptance criteria specified in American Bridge Procedure No. 6 and the AWS Structural Welding Code D1.1. These welds had been visually inspected and accepted by American Bridge. As a result of this infraction, Ebasco issued Nonconformance Report (NCR) No. W3-1072 which identified all welds in the structural steel at elevation (-)4 in the containment building as being suspect.

A reinspection of the welds was performed by American Bridge to assure that the welds met the specified acceptance criteria. Of the total length of groove welds inspected (462 inches), 29 inches had some slag remaining, 23 inches had rejectable undercut, and 6 inches had overlap in excess of that permitted. Of the total length of fillet welds inspected (992 inches), 180 inches had slag remaining and 55 inches displayed rejectable overlap.

All nonconforming welds are in the process of being reworked by American Bridge. The IE inspector observed rework in progress and subsequently reviewed the Qualification Test Record and supporting Radiographic Report for the welder involved.

Personnel performing weld inspections received additional training from the corporate Quality Assurance Officer. The training was on the subject of visual acceptance criteria for completed welds and was documented in a Record of Training form which was reviewed by the IE inspector. American Bridge foremen and welders were also given additional training as to the criteria to be met on completed welds. This training was documented on a QA Contact Record Sheet which was also reviewed.

Based on the results of this inspection of the corrective steps taken to address the infraction, this matter is considered closed.

(Closed) Unresolved Item (50-382/78-12): Reactor Coolant Pump Supports. The item requiring resolution involved the inability to identify a documented instruction relative to the tightening of the Reactor Coolant Pump (RCP) support anchor bolts. Specifically, appropriate qualitative acceptance criteria for their tightening could not be defined. Field Change Request (FCR) No. FCR-A/S-1100 to Drawing No. G-696-S01 was issued to address the matter. The disposition of the FCR provides a specification for the proper tensioning of the ASTM A-540 anchor bolts to be added to the drawing. The incorporated specification was reviewed by the IE inspector and is considered to resolve the item.

3. Plant Tour

The IE inspectors walked through various construction areas to observe construction activities in progress and to inspect the general state of housekeeping and equipment storage.

No items of noncompliance or deviations were identified.

4. Reactor Vessel Handling, Rigging and Installation

During the inspection, the IE inspector conducted a follow-on review and observation of construction activities involved in the final movement of the reactor vessel into the containment building and uprighting for final positioning in the reactor cavity support structure.

In conjuction with observations of the work activities, the IE inspector reviewed Rigging International's Procedure 775-S5, "Heavy Equipment Handling and Related Work Transportation & Installation of Reactor Vessel Into Containment Building," Revision 2, dated December 12, 1978, and the Nuclear Installation Service Company (NISCO) Procedure ES-No. 159, "Reactor Vessel Final Setting Procedure," Revision A, dated December 5, 1978. In addition, the IE inspector reviewed the NISCO Progress Control Sheet No. PCS 3015-150, Revision A, dated December 7, 1978, "Reactor Vessel Support."

On December 14, 1978, the reactor vessel was suspended upright from the containment building polar crane rigging in preparation for application of the reactor vessel insulation.

The IE inspector observed that reactor vessel installation activities and QA/QC monitoring were being conducted in accordance with the prescribed procedures.

No items of noncompliance or deviations were observed.

5. Reactor Coolant Pumps

a. Cross-bracing Gusset Plates

Two cross-bracing gusset plates on each of four Reactor Coolant Pump (RCP) supports were fabricated such that only three of the four one-inch diameter ASTM A-490 high-strength bolts could be used at the connection. The deficiency was identified by the Nuclear Installation Services Company (NISCO) Quality Assurance Department and documented by Ebasco in Nonconformance Report (NCR) No. W3-1091. The NCR and its evaluation were reviewed by the IE inspector. The disposition of the NCR calls for the placement of fillet welds between the cross-bracing member and the gusset plate. Ongoing welding activities which, in combination with the high-strength bolts that are intended to assure the strength required by the design specification, were observed by the IE inspector.

b. Material Test Reports

The certified Material Test Reports for one RCP volute and sixteen clevis supports were reviewed by the IE inspector. The reports state the results of chemical analyses and mechanical property tests which were performed to verify compliance with the ASME B&PV Code, Section II, Part A, "Material Specifications for Ferrous Materials." The data contained in the reports was found to be in agreement with that required by Specification SA-351, "Ferritic and Austenitic Steel Castings for High-Temperature Service," for the volute and Specification SA-540, "Alloy Steel Bolting Materials for Special Applications," for the clevis supports.

c. Volute Handling Procedure

NISCO Engineering Specification 157, Revision C, "Reactor Coolant Pump Volute Handling and Rigging," was reviewed by the NRC inspector. This document gives the procedure used for moving the four RCP volutes from storage to their assigned locations in the containment building. The procedure was found to be in agreement with the Reactor Coolant Pump Technical Manual, Section 3, "Installation."

No items of noncompliance or deviations were identified.

6. Exit Interview

The IE inspectors met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on December 14, 1978. The inspectors summarized the scope and findings of the inspection.