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

REGION IV

Report No. 50-382/80-28

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: October 21-24, 1980

Inspectors: _____ 11/20/80
A. R. Johnson, Reactor Inspector, Engineering Support Section Date

_____ 11/21/80
L. E. Martin, Reactor Inspector, Projects Section Date

Reviewed: _____ 11/21/80
for R. C. Stewart, Reactor Inspector, Projects Section Date

Approved: _____ 11/21/80
W. A. Crossman, Chief, Projects Section Date

_____ 11/20/80
R. E. Hall, Chief, Engineering Support Section Date

Inspection Summary:

Inspection on October 21-24, 1980 (Report No. 50-382/80-28)
Areas Inspected: Routine, announced inspection of safety-related construction activities pertaining to installation, inspection and documentation of safety-related electrical cables. The inspection involved fifty-two inspector-hours by two NRC inspectors.
Results: No items of noncompliance were identified.

DETAILS

1. Persons Contacted

Principal Licensee Employees

*L. L. Bass, Project QA Manager
*B. P. Brown, Project QA Engineer
*R. G. Pittman, Project QA Engineer
*R. G. Bennett, Project QA Engineer
J. Woods, Operations, QC Engineer
*T. F. Gerrets, QA Manager
*T. P. Brennan, Electrical Maintenance Engineer
*D. L. Ricca, Associated Engineer
*P. A. Janks, Project Coordinator

Other Personnel

*E. J. Ritzmann, Project QC Manager, Fischbach and Moore (F&M)
*E. T. Thompson, QC Inspector, F&M
*F. M. Avery, Assistant Project Manager, F&M
*J. Crnich, Site Manager, Ebasco
*L. A. Stinson, Site QA Program Manager, Ebasco
J. Gutierrez, Site QA Engineer, Ebasco
R. Esnes, Engineering, Ebasco
M. Walsh, Engineering, Ebasco

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

*Denotes those attending the exit interview.

2. Safety-Related Electrical Cables and Terminations

a. Observation of Completed and In-Process Work

The IE inspectors traced out the total route of twenty-five safety-related power and control cables to ensure that the cables had been installed in accordance with FSAR, Ebasco specifications, LP&L procedures, F&M procedures, and industry standards. The cables were checked for routing, color coding, raceway installation, identification, separation and correct size.

The following cables were inspected:

32359B-SB	30538D-SB
32560E-SA	30189G-SMB
32397B-SA	30188G-SMA

32480B-SA	30538E-SB
32397D-SB	30337B-SB
30500A-SA	30504C-SA
30500B-SA	30526A-SB
30535B-SB	30541B-SA
30535A-SB	31041B-SA
31645D-SA	30170S-SB
31005E-SA	31041D-SA
31005D-SA	31645E-SA
31510B-SA	

No items of noncompliance were identified.

b. Inspection of Reactor Turbine Generator Control Boards

The IE inspectors also inspected the Reactor Turbine Generator Control Boards (CP-8/18) in the main control room. During this inspection, a conflict between the "as-built" drawings of control board CP-8 (Reliance Drawing No. 1564-9338R2, Revision 5, October 2, 1980, entitled, "Wire Trough Details - CP-8") and the physical clearance and separation of wireways and troughs was discovered. The IE inspectors cited two places where wiring troughs did not maintain the required separation of 1 inch, and one place where 6 inch separation between division cabling was not maintained. Ebasco engineers were briefed by the IE inspectors regarding these concerns and will investigate the requirements in the Ebasco Procurement Specification LOU 1564.415, and reasons why Reliance did not build accordingly. To date, Specification LOU 1564.415 cites compliance to industry standards IEEE 323-1971, 344-1975, 383-1974, 384-1974, and 420-1973. These industry standards are identified in the LP&L FSAR, Sections 8.3, 7.1, 7.2 and 7.3. However, IEEE 420-1973 is not a requirement of the FSAR, but only a requirement of LOU 1564.415 specification. Reactor Turbine Generator Control Board CP-8 operates safety-related systems such as: steam line isolation valves, emergency F.W. pump turbine steam S.O. valves, emergency F.W. pumps and discharge valves, component cooling water pumps and isolation valves, containment spray pumps, HPSI and LPSI pumps, and RCS shutdown cooling isolation valves.

This matter is considered as an unresolved item pending clarification of applicable requirements and commitments.

3. Follow Up on Reactor Deficiency 10 CFR 50.55(e) Anaconda Flexible Liquid Tight Wiring Conduit Covering Failure

The IE inspectors discussed, with a licensee representative, the status of the cover failure on the Anaconda flexible liquid tight wiring conduit reported to the NRC on August 1, 1980. The IE inspectors reviewed the final report (Significant Construction Deficiency No. 18) as submitted by the licensee. The IE inspectors also considered the Anaconda report dated August 29, 1980, along with Anaconda Technical Data Report 3727 and attachments.

The IE inspectors had, on previous inspection visits, observed cracked coverings on the conduit in the plant which were similar to those discussed in the Anaconda report and had observed coverings that were cracked in the shipping boxes that the conduit was originally shipped in.

Anaconda flexible liquid tight metal conduit was purchased to Specification LOU 1564.249B. This specification imposed minimum bending radius for the various size conduits. In May of 1979, Anaconda revised their technical information and increased the minmum bending radius. Ebasco purchased the flexible conduit prior to this date and obtained a Certificate of Compliance from Anaconda to this specification. The flexible conduit was not installed using the newly imposed minimum bending radius requirements defined by Anaconda.

The evaluation of the problem in the final Construction Deficiency Report concludes that the problem does not present a safety hazard. Corrective action on the nonconforming condition will be implemented as follows:

a. Anaconda ½ inch and under flexible metal conduit which has not been installed will be returned to Anaconda for replacement.

b. In the Reactor Containment Building, all Anaconda flexible metal conduit presently installed will be taped with two half-lapped layers of Okonite T-35 tape. In certain cases, the conduit will be replaced where it is more practicable or economically advantageous.

c. Anaconda flexible conduit in all other buildings, except the RCB, will be accepted as is, to be taped, stripped or replaced, by LP&L at their discretion.

d. Anaconda flexible conduit presently installed in the outside area will be taped as necessary or replaced if economically practical.

e. The installation drawings will be revised to reflect the new bending radius requirements.

4. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items or items of noncompliance. An unresolved item relating to control board wiring is discussed in paragraph 2.b.

5. Exit Interview

The IE inspectors met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on October 24, 1980. The IE inspectors summarized the purpose, scope and findings of the inspection.