

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 050-352/83-09

Docket No. 050-352

License No. CPPR-106 Priority -- Category A

Licensee: Philadelphia Electric Company

2301 Market Street

Philadelphia, Pennsylvania 19101

Facility Name: Limerick Generating Station, Unit 1

Inspection At: Limerick, Pennsylvania

Inspection Conducted: June 28, 29 and July 1, 1983

Inspectors: R. J. Paolino
R. J. Paolino, Lead Reactor Inspector

7-20-83
date

Approved by: C. J. Anderson
C. J. Anderson, Chief, Plant Systems
Section - EPB

7-20-83
date

Inspection Summary: Inspection on June 28, 29 and July 1, 1983 (Report No. 50-352/83-09)

Areas Inspected: Routine unannounced inspection by one region-based inspector of work observation and quality record review of activities related to the installation of electrical cables, information notices and status of previously identified outstanding items.

The inspection involved 20 inspection-hours on-site by one region-based inspector.

Results: No violations were identified.

DETAILS

1. Persons Contacted

Philadelphia Electric Company

- Wm. Boyer, Senior Electrical Engineer - EQB (via phone)
- J. Corcoran, Branch Head - Quality Assurance
- * P. Coyle, Quality Assurance Engineer
- * E. Gibson, Quality Assurance Engineer
- C. Harmon, Quality Assurance Engineer
- * P. Naugle, Construction Engineer
- * G. Lauderbach, Quality Assurance Engineer

Bechtel Power Corporation

- G. Danielson, Assistant Lead Quality Control Engineer
- * D. Holmberg, Assistant Project Field Engineer
- * G. Kelly, Lead Site Quality Assurance Engineer
- * C. Klossin, Project Quality Assurance Engineer
- * K. Quinter, Assistant Project Quality Assurance Engineer
- * D. Schleger, Electrical Engineer
- * M. Sondgroth, Field Quality Engineer
- * D. Thompson, Assistant PFQCE
- J. Waddington, Lead Electrical Quality Control Engineer

U. S. Nuclear Regulatory Commission

- * J. Grant, Resident Inspector

*denotes personnel present at exit meeting.

2. Facility Tour

The inspector observed work performance in progress, completed work and plant status in several areas of the facility during a general inspection of Unit 1. The inspector examined work items for defects or noncompliance with NRC requirements or licensee commitments. Particular note was taken regarding the presence of quality control inspectors and indications of quality control activities through visual evidence such as inspection records, material certifications, nonconformance and acceptance tags. Specific work activities and completed work observed by the inspectors included storage and maintenance surveillance of electrical equipment in the reactor building and the control building.

No violations were identified.

3. Electrical (Cables/Terminations) -- Work Observations

The inspector examined work performance, partially completed work and completed work pertaining to the installation of safety-related control

cables to ascertain whether the requirements of applicable specifications, work procedures, drawings and instructions have been met in areas relating to procurement, receipt inspection, storage and maintenance, cable pulling, routing, terminations and inspections.

Items examined for this determination include:

- Battery Cable Nos. 1BD101BB-1, 1BD101BB-2, 1BD101AA-1, 1BD101AA-2, 1BD101CC-1 and 1BD101CC-2
- Cable Nos. 1AA115E-1, 1BG501AB-1, 1BD20306A-1, and 1BQE2A03A-1
- Cable Reel No. H17AA
- Connection Diagram Nos. 2514, 2545, 2417 and 2659
- Cable Scheme No. E-92
- Job Rule No. JR-E-10 on Permanent Plant Cable Installation and Termination.
- Job Rule No. JR-G-27 (Calculation E-169S) (Cable Tension Calculations)
- Drawing No. E-964 for Cable Code Index
- Quality Control Inspection Reports (QCIR) for Cable Nos. 1AG501AA, 1AG001N, 1AB21119A, 1BD20306A, 1BD20306C and 1CA11706A.
- Quality Control Instruction (QCI) No. E4.0 on Cable Installation
- Material Receiving Report (MRR) Nos. E29-MRR-69206 and E29-MRR-7261
- Wire and Cable Notes and Details, Drawing No. E-1412.

No violations were identified.

4. Electrical (Cables/Terminations) -- Quality Record Review

The inspector reviewed pertinent work and quality records for safety-related cables to determine whether the records reflect work accomplishments consistent with NRC requirements and licensee commitments in the area of receipt inspection, material qualifications, cable issue controls, installation and inspection.

Documents examined for this determination include:

- Material Receiving Report Nos. 69206 and 72621
- Cable Pull cards for Cable Nos. 1AA115E, 1BG501, 1AG501, 1AB21119A, 1BD20302B, 1BD20306C, 1CA11706A and 1AA11506A.

-- Material Certification for Cable Reel Nos. C02BB and H17AA.

No violations were identified.

5. Electrical (Components/Systems) -- Quality Record Review

The inspector reviewed pertinent work and quality records for safety-related dc batteries and distribution panels to ascertain whether the records reflect work accomplishments consistent with NRC requirements and licensee commitments in the area of procurement, receipt inspection, storage/maintenance and installation.

Documents examined for this determination include:

- Statement of Conformance for (60) LC-21 cells dated December 6, 1982 and (120) LC-21 Cells dated January 7, 1983
- Material Receiving Report Nos. 113979, 76908 and 74679.
- Purchase Order Nos. E-13ac and E-16ac
- Specification Nos. E-13 revision 5 and E-16 revision 5.
- Test and Final Report dated June 4, 1980
- Drawing No. 20908-C10

No violations were identified.

6. Information Notices

Information Notices are provided by the NRC to the licensee as a means of early notification of possible significant matters. Licensees are requested to review the information for possible applicability to their facility. No specific action or response is required.

During the facility tour, the inspector observed that the licensee has installed ASCO solenoid operated air valves to control safety-related RHR and Recirculation system valves in the drywell. This item has been identified in an NRC Information Notice No. 80-11, issued to all licensees, with details of Generic Problems with ASCO valves. The inspector requested the licensee to provide the documented results of the licensee review of the Information Notice and the recommended action taken.

The inspector reviewed the Bechtel Document Nos. 080029 and BLP-26819 dated August 24, 1982, noting that only the valve failures due to oil/dust contaminated air had been addressed. The Information Notice indicates that 18% of the failures were reported as being caused by high temperature and humidity resulting in electrical failure of the solenoid.

Discussions with the licensee indicate the ASCO valve problems have been identified through the licensee Equipment Qualification Program and that these valves would be replaced.

This item is unresolved pending NRC verification of licensee action.
(83-16-01)

7. Status of Previously Identified Open Items

(Open) Construction Deficiency Report No. 80-00-05 licensee Site Deficiency Report No. 14 pertaining to defective crimps on Power Generation Control Console. Vendor has issued Field Design Instructions/Field Design Disposition Report with instructions for rework and repair. Work is still in progress.

This item remains open pending completion of rework/repair and NRC verification.

(Open) Design Change Request No. 80-00-06 licensee SDR No. 13 pertaining to corrections/changes to SBM switches.
Licensee action is incomplete.
This item remains open.

(Closed) Infraction No. 80-17-03 and 82-05-01 licensee finding report No. N-312 pertaining to use of cable tray edge softener.
Licensee engineering has revised "notes and details" drawing E-1412, section 1.20 specifying new criteria for use of cable tray edge softener based on cable tray design. The inspector examined the installed cable trays noting that the raceway design for tray side rail flange and rungs incorporate rounded edges, thus eliminating the need for cable protection along those surfaces.
In addition, personnel applying the tray edge softener and quality control personnel received additional instructions clarifying tray edge softener requirements.
This item is closed.

(Closed) CDR No. 81-00-11 licensee SDR No. 47 pertaining to Rockbestos Cable failures. Licensee's final report to the NRC states that the subject cable has been returned to the vendor and is not used at the Limerick site.
This item is closed.

(Open) Unresolved Item 81-05-02 pertaining to incorrect vendor data sheets for components received.
The manufacturer is in the process of revising vendor supplied operating and maintenance instructions for the installed instrument components.
This item remains open pending NRC verification of the revised documentation.

(Closed) Infraction No. 83-05-01 licensee finding No. N-347 pertaining to the inspection of raceway separation per Quality Control Instructions

E-2.0. Licensee has revised Item 10 of QCI E-2.0 to indicate that raceway separation will be inspected in accordance with Project QCI E-3.0 during the final inspection. This item is closed.

(Open) Infraction No. 83-05-01 licensee finding No. N-346 pertaining to conduit bends exceeding total bend requirement specified in Drawing E-1406.

The infraction was based on exceeding the total bend allowance of 360° and the inadequacy of a visual inspection to determine the total bend value, as evidenced by having four individuals (including the Resident Engineer) visually inspect the subject conduit. The total bend value as determined by the four individuals ranged from 270° to 400°, an indication that visual inspection to determine compliance with the E-1406 specification for maximum bend allowance of 360° is inadequate. The inspector determined the licensee response and revision to Design Change Notice 189 specifying a visual inspection to insure that the bend criteria is met is unacceptable. This item remains open.

8. 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. Unresolved item(s) identified during this inspection is discussed in Details, paragraph 6.

9. Exit Meeting

The inspector met with licensee and construction personnel (denoted in Details, paragraph 1) at the conclusion of the inspection on July 1, 1983. The inspector summarized the purpose and scope of the inspection and the inspection findings.