

U. S. NUCLEAR REGULATORY COMMISSION

Region I

Report Nos. 50-352/82-08  
50-353/82-06  
50-352  
Docket Nos. 50-353  
CPPR-106  
License Nos. CPPR-107 Priority -- Category A  
Licensee: Philadelphia Electric Company  
2301 Market Street  
Philadelphia, Pennsylvania 19101

Facility Name: Limerick Generating Station, Units 1 and 2

Inspection At: Limerick, Pennsylvania

Inspection Conducted: April 26 - May 13, 1982

Inspectors: J. P. Dunn  
J. P. Dunn, Senior Resident Inspector

5/26/82  
date signed

A. A. Varela  
A. A. Varela, Reactor Inspector

5/26/82  
date signed

J. P. Dunn  
J. P. Dunn, Reactor Inspector

5/26/82  
date signed

Approved By: E. C. McCabe  
E. C. McCabe, Chief, Reactor Project Section 2B

5/26/82  
date signed

Inspection Summary:

Inspection on April 26 - May 13, 1982 (Report 50-352/82-08 and 50-353/82-06)

Areas Inspected: A routine, unannounced inspection by two regional based inspectors and the senior resident inspector of open inspection findings, pipe welding, and spray pond civil activities. The inspection involved 109 hours at Unit 1 and 2 hours at Unit 2.

Results: No violations were identified.

## DETAILS

### 1. Persons Contacted

#### Philadelphia Electric Company

W. T. Clohecy, Quality Assurance Engineer (QAE)  
N. K. Cody, Construction Engineer  
J. M. Corcoran, Field QA Branch Head  
J. J. Fedick, Construction Engineer  
A. C. McLean, Construction Engineer

#### Bechtel Power Corporation

T. Altum, Assistant Project Field Engineer (PFE)  
R. M. Bethard, Resident Geologist  
D. DiPrinzio, Subcontracts Engineer  
T. Gettle, Assistant PFE  
M. Jan, Assistant PFE  
E. R. Klossin, Project QAE  
J. L. Martin, Lead Site QAE  
K. L. Quinter, Assistant Project Field QAE  
D. C. Thompson, Assistant Project Field QAE  
J. O. Wanzeck, Resident Soils Engineer  
S. A. Wybranski, Senior Lead Subcontracts Engineer

Other craftsmen, supervisors, engineers, and quality control technicians were contacted as the inspection interfaced with their work.

### 2. Previous Inspection Findings

(Closed) Unresolved Item (80-02-10) Circular 79-10 identified tube turn fittings with high carbon contents as a potential source of welding defects. Inspection Report 50-352/82-02 verified that the licensee and his contractors had not used the suspect fittings, except for the General Electric Company. There was no documentation available to indicate that General Electric had not used the fittings. The licensee presented Document Control Form, File No. GOVT 1-1, dated February 25, 1980, from the General Electric Company verifying that they had not used the fittings.

Further, one pipe spool, HBC-260-2-3, that had not been shipped from the fabricator appeared to have one of the suspect fittings. The inspector reviewed a letter from the Texas Pipe Bending Company, dated February 22, 1980, which stated that the pipe spool had been tested and found acceptable.

This item is closed.

(Closed) Violation (80-12-13) Reference: Report 50-352/81-02. Unauthorized welding to the containment liner. A previous attempt to close this item identified that the licensee failed to document the visual inspection committed to in the response to the violation. Interviews with the

inspectors involved verified that the inspection took place but was not recorded. The inspection has been documented.

The inspector questioned the need to perform vacuum box testing of temporary attachments to the containment liner. The welds cited were in the diaphragm floor plates which are not part of the containment pressure boundary, thus, they do not require vacuum box testing.

This item is closed.

(Closed) Unresolved Item (82-04-02) The Heating, Ventilation, and Air Conditioning (HVAC) Contractors Quality Assurance Manual prescribed the use of a "Shop Standard Book." The HVAC contractor deleted the requirement from his shop manual but not his field manual. The shop standard was replaced by controlled drawings. The Quality Assurance Manual was revised to delete the requirement for a "Shop Standard Book." This item is closed.

(Closed) Violation (82-04-01) Failure to control design changes. The HVAC contractor was transferring design information to uncontrolled, unreviewed "pick off" sheets. The contractor revised Project Procedure 2.5 to include a description of the "pick off" sheets and their control. He performed a random sample of 70 "pick off" sheets and verified that the design information was accurately transferred.

The inspector reviewed the corrective actions and verified that work was being performed according to the new procedural requirements. This item is closed.

### 3. Observation of Welding Activities

Reactor coolant pressure boundary (ASME III, Class I) and other safety related pipe welds (ASME III, Class II and III) were selected for document review and observation of welding activities. The document reviews verified the welder's qualifications, proper welding procedures were employed, required nondestructive tests specified, appropriate quality control inspection points specified and signed off, and proper preheat and postweld heat treatments were required. The observation of welding consists of, where applicable, examination of the cleanliness, fitup, and alignment of the parts, proper welding equipment; purge and cover gas flow rates; electrodes and filler materials; appearance of the weld deposit; evidence of quality control activities; and proper documentation. The following welds were examined:

<u>Weld No.</u>	<u>Class</u>	<u>Type</u>	<u>Description</u>	<u>Material</u>
BWR PD-IREC-WA9	I	D.R.	28"φ Recirc Piping	SS-P8
BWR PD-IREC-WB6	I	D.R.	28"φ Recirc Piping	SS-P8
BWR PD-IMSI-WA4	I	D.R.	26"φ Recirc Piping	SS-P8
FSK-GBB-115-1-FW54	II	W.O.	10"φ Core Spray	CS-P1

Type Inspection - D.R. = Document Review, W.O. = Weld Observation

No violations were identified.

#### 4. Site Tour/Spray Pond Activities

The inspector observed these activities being performed and noted QC verification of the following:

- Control surveys for embankment grading.
- Soil embankment grading, compaction, and in-place testing.
- Soil screening, stockpiling, and gradation testing.
- Rock anchor installation, grouting, tensioning, and testing.
- Bentonite QC receipt inspection/laboratory testing.
- Reinforcing steel and base plate installation for spray net columns.
- Preparation for concrete placement of the pumphouse intake slab.

The inspector observed the first four activities which were performed by subcontractors. He also observed QC verification of conformance to engineering specifications and drawings. The inspector conferred with craft personnel, supervision and quality inspection personnel in the above activities. Evidence of QC activities was observed and evaluated.

No violations were observed.

#### 5. Spray Pond Activities

##### a. Record Review

The inspector reviewed the following records for conformance to FSAR commitments, established codes and standards, and requirements of specifications and drawings:

- Concrete Preplacement Inspection; Mixing-Delivery-Placement; Postplacement Control and Testing for spray pond columns and footings, in spray net "C" area.
- Rock Bolt Installation and Testing, including a Field Change Request for grouting prior to tensioning.

The inspector also reviewed Bechtel audit reports pertaining to Civil In-Process Control of earthwork and testing, rock blasting, concrete backfill and testing.

##### b. Observation of Work

The inspector also observed the following activities and evaluated them for conformance to QC inspection criteria extracted from pertinent drawings and specifications:

- Rock bolt installation by subcontractor performed under direction and supervision of Bechtel geologist, including anchor grouting, tensioning, final grouting, tension testing and grout sampling.
- Earth slope machine grading and in-place density tests.
- Screening and gradation testing of excavated earth for reuse in blending with bentonite for pond lining.
- Receipt (colloids, mesh sizing, free swell of the granular bentonite and, permeability tests) laboratory testing for bentonite qualifications.
- Cleaning and preparation of rock surfaces for concrete placement of levelling course.
- Preparations, mixing, delivery, placing and testing concrete for Pump House reinforced intake slab, concrete Pour No. ZS-J-7-3.

The inspector observed QC verification documentation, and QC report sign-off for each of the above activities. The licensee's Civil Engineer from corporate office, in-charge of the spray pond, was present to observe approved field changes in rock bolt grouting.

No violations were identified.

6. Exit Interview

Exit interviews were held with members of the licensee's staff, listed in paragraph 1, on May 7 and 13, 1982, to discuss the scope and findings of the inspection.