U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Docket/Report: 50-352/82-13

License: CPPR-106,

Licensee: Philadelphia Electric Company

Facility: Limerick Generating Station, Unit Nos. 1 & 2
Limerick, Pennsylvania

Dates: October 4 - November 14, 1982

Inspectors: S. Chaudhary 11/15/82
Suresh K. Chaudhary, Senior Resident Inspector — Date Signed

E. H. Gray for 11/17/82
E. H. Gray, Reactor Inspector — Date Signed

Approved: E. C. McCabe 11/17/82
E. C. McCabe, Chief, Reactor Project Section 2B — Date Signed

Summary: Inspection on October 4 - November 14, 1982 (Report 50-352/82-13)
Routine resident inspection (105 hrs) and routine unannounced region-based inspection (27 hrs) of: (1) installation of reactor internals; (2) welding; (3) installation of pipe supports; (4) design and document control; and (5) general housekeeping and construction. One document control violation was identified (Detail 4.a).

DETAILS

1.0 Persons Contacted

PECO

D. T. Clohecy, QA Engineer
J. M. Corcoran, Field QA Branch Head
D. A. Marascio, QA Engineer
G. J. Moffitt, Construction Engineer

BECHTEL POWER CORPORATION

T. Altum, Assistant PFE
R. J. Bulchis, Resident Project Engineer
M. G. Held, Assistant PFQCE
E. R. Klossin, Project QA Engineer
J. L. Martin, Lead SQAE
T. Molinaro, Project Superintendent
P. Nederostek, Lead S/C Engineer
E. D. Patel, Assistant PFE
J. Powers, Project Field Engineer
K. L. Quinter, Assistant PFQCE
K. G. Stout, Project Field QC Engineer

In addition to the above, other managers, supervisors, engineers, technicians, and craftsmen were contacted and interviewed throughout this inspection period as the inspector interfaced with their work.

2. Plant Tour and Walk-Through Inspections

Periodically during the inspection, the inspector made plant tours of Unit No. 1 and the common facilities of this unit with Unit No. 2 and examined completed work, work in-progress, quality control activities, and equipment storage, handling, and maintenance. He discussed the technical aspects of the work with craftsmen, supervisors, and engineers to assure that work was being performed in accordance with project requirements. Specific activities observed during these inspections include cable pulling, pipe handling, pump and equipment installations for HVAC, valve and motor-operator assembly, and welding activities. The examination of these activities covered the entire plant site, however, the inspector placed special emphasis on the work in the primary containment, reactor building, reactor control structure, and the ultimate heat-sink cooling pond.

No violations were identified.

3. Pipe Supports and Restraints

The inspector randomly selected five pipe supports, four in the reactor building and one inside the containment, for visual examination of the finished work and the review of documentation associated with the installation of these supports. The following supports were selected for examination to determine their conformance to specified requirements and project procedures:

GBB-102-H1; GBB-112-H1; HBC-84-H14; HBC-84-H15;
DCA-105-H14;

Based on the visual examination of the supports, review of associated documentation, and discussions with cognizant license and A-E personnel, the inspector determined the following:

1) The installation of the above supports conformed to the requirements applicable at the time of erection.

2) Specified inspections had been conducted to verify the conformance to the erection materials and workmanship requirements.

3) The inspections had been properly documented and maintained by QC and were available for review.

No violations were identified.

4. Control of Design and Design Changes

a. The inspector examined the implementation of design change control procedures on the project. This examination was conducted in conjunction with the inspection of pipe supports described in the previous section of this report. The inspector reviewed the approved design drawings and the authorized changes for the selected supports, and determined as follows:

The project procedure EDP1-4.47.0; Revision 4, issued on September 4, 1982, required that any DCN/FCR/FCN received fifteen (15) days prior to issue date of the drawing be incorporated in the next drawing revision. However, the drawing No. GBB-102-H1, was revised on 9/30/82 without incorporating FCR's M-11.559F (FDCN#2) received in Bechtel SFHO about 6/1/82 and M-11.939F (FDCN#3) received in Bechtel SFHO about 6/25/82. These FCR's (FDCN) were more than ninety (90) days old at the time of drawing revision. (352/82-13-01)

This is a violation of 10CFR50, Appendix B, Criterion V.

b. On November 5, 1982 the inspector further observed that FCR's/ FDCN's which were not incorporated in the drawing HBB-102-H1 were cancelled on November 3, 1982. However, the controlled copy of the same drawing located in the QC welding area did not have the FDCN reference deleted from the drawing although the Document Control print room had issued cancellation notices on November 3, 1982. The same drawing in field engineering hanger group indicated that the reference to these FDCN's were simply crossed out from the controlled copy of the drawing without any indication of the date and/or the identity of the person deleting the information. On further review the inspector noted that the record copy of the drawing in document control had been similarly modified by erasing the pencilled notation on the master copy without any date and identity of the person making such a correction. The inspector expressed concern to the licensee as to the propriety of such changes made in an approved and controlled design document without any indication of the date and identity/ authority of persons making such changes; the susceptibility of the system to confusion as to the validity of information shown or not shown on a controlled design document; and also either the potential of unauthorized changes possible or an authorized change not properly executed on the drawing. The licensee committed to review and evaluate the procedure and make necessary changes if required. This item is unresolved pending licensee's evaluation of the procedure. (352/82-13-02)

c. The inspector also identified that Hanger drawing HBC-84-H15 contained an error in the approved bill of material indicated on the drawing. Apparently, the drawing was modified by an FCR M-9014F to add a beam, and to delete another one. Revision 2 of the drawing was issued to incorporate the change, however, it did add a new beam but did not delete the other beam. Although a minor error, the inspector expressed concern over the checking and approval process which allowed the error to be undetected through out the approval cycle. The inspector observed that the drawing indicated at least four levels of review and/or approval in addition to a formal checking. This item is unresolved pending further review by the inspector to assess the extent of the problem. (352/82-13-03)

5. Reactor Vessel Internals (RVI)

The welding and related work such as installation, joint preparation and dimensional measurement of RVI components including the core spray sparger and control rod drive mechanisms was observed. The inspector examined the weld procedures in use, welder qualifications, weld materials and the general conditions of the internal and external reactor vessel working areas. Welding materials were under proper control and were verified on the automatic gas tungsten arc weld machines as being the required material type. Records of installation, welding, non-destructive testing, and inspection were available and found to be acceptable.

No violations were identified.

6. 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:

Weld No.	Class	Type*	Description
Recirc.Piping WA4	I	D.R.	Pump/Elbow
12 DCA-104-FW50	I	D.R.	RHR Line
GBC-116-H901 to IT.1	3	W.O.	MSRV Discharge Line - PWHT in progress

Weld No.	Class	Type *	Description
DCA-317-J1-PC7	I	W.O.	RWCU,3/4" Dia. Sch 160, Field Change
GBC-101-10&8	III	D.R.	14"OD. FW#3, FW#51
GBC-108-2-1	II	D.R.	18"OD. at 217' elv.
GBC-116-5-6	III	W.O.	13"OD. x 7" S.S. stub piece
GBC-116-9-6	III	W.O.	Stanchion to Quencher Support

* D.R. = Document Review
W.O. = Work Observation

No violations were identified.

7. Other Inspection Activities

The inspector observed and examined the following areas for conformance to the applicable requirements:

-- Component storage

-- PECO QA audits of materials in storage

-- Sample of AWS hanger welding

-- Pipe internal cleanliness as maintained by pipe caps

-- Availability of instructions to craft workers

-- Welder qualification area

-- Welder qualification records

-- Weld materials control

-- Weld joint records system

No violations were identified in these areas.

8. Unresolved Items

Unresolved items are matters about which more information is needed to determine if they are acceptable, deviations, or violations. Unresolved items are discussed in paragraphs 4b and 4c.

9. Exit Interview

The inspector held an exit interview with the licensee representatives listed in paragraph 1 on November 12, 1982, to discuss the scope and findings of the inspection.