

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

Region I

Report No. 50-352/81-10
50-353/81-08
Docket No. 50-352
50-353
License No. CPPR-106 Priority - Category A
CPPR-107

Licensee: Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Facility Name: Limerick Generating Station, Unit Nos. 1 and 2

Inspection at: Limerick, Pennsylvania

Inspection conducted: June 15-30, 1981

Inspectors: J. P. Durr, Senior Resident Inspector

7/6/81
date signed

date signed

date signed

Approved by: E. C. McCabe, Jr.
E. C. McCabe, Chief, Reactor
Projects Section 2B

7/14/81
date signed

Inspection Summary: (Unit No. 1) Inspection on June 15-30, 1981 (Report No. 50-352/81-10)

Areas Inspected: A routine inspection by the resident inspector of pipe welding, electrical equipment, concrete practices, plant tours, and licensee's action on previous inspection findings. The inspection involved 42.5 inspector-hours on site.

Results: One item of noncompliance was identified in five areas inspected (attachment of seismic category I equipment to nonseismic structures).

(Unit No. 2) Inspection on June 15-30, 1981 (Report No. 50-353/81-08)

Areas Inspected: A routine inspection by the resident inspector of pipe welding, concrete practices, plant tours and licensee's action on previous inspection findings. The inspection involved 15.5 inspector-hours on site.

Results: No items of noncompliance were identified.

DETAILS

1. Persons Contacted

Philadelphia Electric Company

J. M. Corcoran, Field QA Branch Head
D.A. Marascio, QA Engineer
R.T. Scott, Senior Engineer

Bechtel Power Corporation

G.E. Fissel, Lead Field Civil Engineer
H.D. Foster, Project Field Quality Control Engineer (QCE)
M. Jan, Lead Field Mechanical Engineer
J.L. Martin, Lead Site QA Engineer
T. Molinaro, Project Superintendent
K.L. Quinter, Assistant Project Field QCE
D. Shaw, Assistant Project Field Engineer
D. Smolinsky, Mechanical Staff Engineer
R. Weaver, Lead Site Mechanical Engineer
A.G. Weedman, Project Field Engineer

The above listed personnel attended the exit interview held on June 30, 1981. Other engineers, craftsmen, quality control technicians, and supervisors were contacted as the inspection interfaced with their work.

2. Plant Tours (Unit Nos. 1 and 2)

Periodically during the inspection, tours were made of the Unit Nos. 1 and 2 primary reactor containment, the reactor buildings, the control structure, and surrounding yards and shops. The inspector 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 work was being performed in accordance with requirements.

No items of noncompliance were identified.

3. Licensee's Actions on Previous Inspection Findings

(Closed) Unresolved Item (352/78-03-04)

The inspector identified a lack of implementing procedures for 10 CFR 21 requirements as an unresolved item. The first procedure identified was for posting of 10 CFR 21 requirements. The licensee stated that the regulation does not require procedures for posting and that compliance was all that is required. The inspector reviewed 10 CFR 21 and concurred

with the licensee's position. He verified that the licensee is complying with regulatory posting requirements.

The second procedure identified was for specifying the provisions of 10 CFR 21 in procurement documents. The licensee presented the "Procedure for Procurement of Equipment, Materials, Services or Combination thereof," as satisfying Part 21 for procurement. However, the ERDP Index page does not indicate applicability to the Limerick Project, only to the Peach Bottom facility.

Further inspection disclosed that procurements by the Philadelphia Electric Company for the Limerick Station are processed separately from other procurements. The major portion of items procured for Limerick Station are processed by the architect-engineer and nuclear steam system supplier. Only selected items such as the RPV safe end modification, the high density spent fuel storage racks, and the emergency response facility are being purchased directly by PECO. These procurements are described in Section 2 of the Quality Assurance Plan.

A review of the procurement documents for the RPV safe end modification disclosed that 10 CFR 21 requirements were not invoked in the procurement procedure, "QA Program and Procedures for Removal and Replacement of RPV Safe Ends and Feedwater Closure Welds to RPV Safe Ends," or the "Requisition on Purchasing Division". However, a letter of intent, dated August 31, 1979, did invoke Part 21.

The contracts for the remaining procurements are not available at the site for review. This item is unresolved pending verification of Part 21 requirements in the remainder of PECO contracts and the establishment of procedures to assure implementation of Part 21 for procurement. (352/81-10-01)

(Closed) Unresolved Item (352/78-10-01)

ASME Code Nameplates may interfere with preservice and inservice ultrasonic inspection. The inspector examined pipe spools HBB-140-1-2 and GBB-119-1-3 and measured the free distance between the center line of the weld and the ASME Code Nameplate. The distances measured were approximately 1" for the HBB pipe and between 1 3/4" and 2" for the GBB pipe. Discussions with the responsible subcontracts engineer for preservice inspection disclosed that the HBB pipe is not scheduled for preservice testing and the GBB pipe welds have been satisfactorily tested ultrasonically.

Furthermore, specification M-246A, "Preservice and Inservice Inspection Services for Nuclear Piping Systems", has provisions in paragraph 4.2.2 requiring compliance with accessibility limits per the ASME XI Code. The licensee presented a Nonconformance Report that identified several pipe spools that had been reworked because ASME Code Nameplates interfered with Preservice testing.

This matter is closed.

(Closed) Unresolved Item (352/78-10-03)

The magnetic particle test (MT) procedure, 80A1563, for preservice testing did not have adequate acceptance criteria for all possible uses. The licensee stated that the vendor does not have any MT equipment on site, he has not performed any MT on site, and he does not intend to employ MT during the preservice program.

This matter is closed.

(Closed) Unresolved Item (352/78-10-04)

The use of longer than specified studs for shell type expansion anchors presented programmatic concerns for anchor bolt thread engagement. The inspector re-examined pipe support GBC-104-H2 and its associated drawing. The shell type expansion anchors have been replaced by grouted in threaded rods. The entire anchor bolt program has been reviewed by the licensee and the NRC under Bulletin 79-02 (see IE Reports 352/81-01, 04 and 06).

This matter is closed.

(Closed) Unresolved Item (352/78-10-05)

Pipe support HBC-182-H1 was installed with improper clearances. The inspector re-examined the pipe support clearances and other selected details on drawing HBC-182-H1, Revision 3. He verified that clearances appear to satisfy drawing requirements. However, during the examination it was noted that item 7, a stiffener plate, was welded to a ledge angle for the concrete decking. The ledge angle and decking are considered construction aids and are not Q-listed (safety-related) items.

The pipe support is installed as it appears on the design drawing. The problem appears to be one of design interfaces, in that the pipe support design group attached a seismic category I support to the building structural steel without adequate review by the civil group.

The attachment of Q-listed, seismic category I pipe support elements to non-Q-listed, non-seismic structural elements is an item of non-compliance. (352/81-10-02)

(Closed) Unresolved Item (352/79-01-03)

Workmen observed walking on Power Generation Control Complex (PGCC) cables. The licensee issued Finding Report N-147 which directed the placement of signs in the work area to prohibit walking on the cables. In addition, he revised the Project Quality Control Instruction 8031-E-6.0 (F1) to provide for surveillance checks for damage to the PGCC cables. Inspection of the PGCC area verified that the signs have been posted and that the cables are protected by wooden walkways.

This item is closed.

(Closed) Unresolved Item (352/79-02-01)

The licensee and the NRC inspector concurrently identified undersized weld on pipe supports. The licensee had documented the conditions on NCR 3449 which discussed undersizes ranging from 1/32" to 1/8". The major cause appears to have been skewed angle "T" joint fillet welds which do not present the normal inspection configuration. The inspectors were not properly equipped with gages to measure these welds.

The licensee analyzed the undersized welds and dispositioned the NCR to "use-as-is". He also provided additional training to the quality control inspectors as documented on Quality Action Request F121. The inspector verified that skewed "T" fillet weld gages are available to the inspectors.

This matter is closed.

(Closed) Unresolved Item (352/79-02-03 and 353/79-02-01)

Unconsumed tack welds on the reactor building columns have welding defects. The licensee issued Finding Report N-149 and NCR 3508. The NCR directed that additional columns be inspected and all nonconforming welds be removed or repaired. Eight more welds were identified that required rework to make them acceptable. The NRC inspector visually examined the accessible areas on columns E-17, 20, 26, and 29 on elevations 177', 201', and 217'. No nonconforming welds were identified.

This matter is closed.

(Closed) Deficiency (352/80-03-01)

Failure to maintain preheat while welding. The licensee's response to the noncompliance was to:

- Issue a stop-work order for the affected pipe restraint and other welding supervised by the foreman.
- Provide refresher training to foremen on general welding requirements.
- Perform nondestructive tests on the weld to verify its acceptability.

In addition, the licensee issued Nonconformance Report No. 4045. The inspector reviewed the NCR and the associated Quality Control Inspection Record No. C-932-W-19 and verified that nondestructive tests were performed and the weld found acceptable. He also verified that training classes were held on March 6, 1980, for the foremen to discuss preheat welding requirements.

This matter is closed.

4. Electrical Components

The following equipment was selected for examination of storage and maintenance conditions and review of quality documentation:

<u>Equipment</u>	<u>Storage</u>	<u>Maintenance</u>	<u>Quality Records</u>
10B204 Reactor Area 480VMCC	X		X
10B211 " " Load Center	X	X	X
10B223 " " 480VMCC	X	X	X
10B225 " " " "	X		
10B226 " " " "	X		
10C023 Cleanup Filter Demin.	X		
10C221 Fuel Pool Pump Panel	X		
10S292 Reactor Bldg. & RWCU Sample	X		

The storage examination verified that the equipment was covered and protected from construction hazards and that heaters were energized. The maintenance records review verified that periodic visual examinations are made and that equipment heaters are energized. The quality records review verified that selected test records were supplied by the manufacturer.

The inspector toured the offsite storage and test facility for the electrical protective relay devices. He verified that the relays are properly stored and that procedures have been implemented for the acceptance testing and control of protective relay devices.

No items of noncompliance were identified.

5. 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>SYSTEM</u>	<u>STATUS</u>
GBB-102-4-FW57	II	RHR	Root & intermediate passes
GBB-102-4-FW58	II	RHR	" "
GBC-201-14-FW56	III	MS	Fitup
GBC-201-14-FW57	III	MS	"

No items of noncompliance were identified.

6. Concrete Records

The inspector reviewed specification C-61, "Specification for Furnishing and Delivery of On-Site Concrete", to familiarize himself with the applicable requirements for concrete at the Limerick Station. He noted that paragraph 4.3.5 defined a flat particle as having a width to thickness ratio greater than 4. Also, an elongated particle is defined as having a length to width ratio greater than 4.

The specification and the FSAR reference USACE CRD-C119-53 which defines both elongation and flatness as ratios greater than 3. This item is unresolved pending review by the NRC. (352/81-10-03)

7. Unresolved Items

Unresolved items are matters about which more information is needed to determine if they are noncompliances, deviations, or acceptable. Unresolved items are discussed in paragraphs 3 and 6.

8. Exit Interview

On June 30, 1981, an exit interview was held with members of the licensee's staff, denoted in paragraph 1, to discuss the inspection findings.