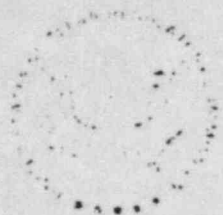


APPL. EX. 90

REF: 44

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20542
400 PENNSYLVANIA AVENUE
NORTH OF CAPITOL BUILDING, WASHINGTON, D.C. 20542



Docket Nos. 50-352
50-353

DEC 14 1977

Philadelphia Electric Company
Attn: Mr. V. S. Boyer
Vice President
Engineering and Research
2301 Market Street
Philadelphia, Pennsylvania 19101

Gentlemen:

Subject: Combined Inspection 50-352/77-14 and 50-353/77-14

This refers to the inspection conducted by Mr. A. Toth of this office on November 21-23, 1977, at the Limerick Generating Station Units 1 and 2 of activities authorized by NRC License Nos. COPR-106 and CPOP-107 and to the discussions of our findings held by Mr. Toth with Mr. J. Condran of your staff at the conclusion of the inspection.

Areas examined during this inspection are described in the Office of Inspection and Enforcement Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

Based on the results of this inspection, it appears that one of your activities was not conducted in full compliance with NRC requirements, as set forth in the Notice of Violation, enclosed herewith as Appendix A. This item of noncompliance has been categorized into the level as described in our correspondence to you dated December 31, 1974. This notice is sent to you pursuant to the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Section 2.201 requires you to submit to this office, within thirty (30) days of your receipt of this notice, a written statement or explanation in reply including: (1) corrective steps which have been taken by you and the results achieved; (2) corrective steps which will be taken to avoid further items of noncompliance; and (3) the date when full compliance will be achieved.

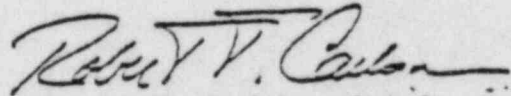
In accordance with Section 2.741 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosure will be placed in the Public Reading Room. If you

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report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must be accompanied by an affidavit executed by the owner of the information, which identifies the document or part sought to be withheld, and which contains a statement of reasons which addresses with specificity the items which will be considered by the Commission as listed in subparagraph (b)(4) of Section 2.790. The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,



Robert T. Carlson, Chief
Reactor Construction and Engineering
Support Branch

Enclosures:

1. Appendix A, Notice of Violation
2. Office of Inspection and Enforcement Combined Inspection
Report Numbers 50-352/77-14 and 50-353/77-14

APPENDIX A

NOTICE OF VIOLATION

Based on the results of the NRC inspection conducted on November 21-23, 1977, it appears that one of your activities was not conducted in full compliance with conditions of your NRC Facility License No. CPPR-107 as indicated below. This item is a deficiency.

Criterion V of 10 CFR 50, Appendix B, requires in part that, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings."

The quality assurance program implementation described in the Limerick Generating Station PSAR Appendix D requires in Paragraph D.6.4 that, "Bechtel Construction Department...is responsible for construction of the plant to approved engineering specifications, drawings and procedures...."

Bechtel Field Inspection Manual Procedure G-3, Revision 6, Part 5.0 requires that, "Nonconforming items may be conditionally released for installation in permanent plant construction only when it is a considered decision by the Project Field Engineer, Project Field Quality Control Engineer, and the Project Quality Assurance Engineer. Specific written approval from each of the above persons must be obtained and documented on the NCR along with the basis for the decision to permit installation of the nonconforming item...Approval to install nonconforming material or equipment shall be given only when...5.4. If the item is nonconforming for reason of missing or incomplete supplier documentation, evidence as specified below must be available at the job site...b) for non Bechtel shop inspected items. The suppliers notification by TWX or written report that the item and prescribed documentation are in full conformance with the requirements of the procurement documents and that all prescribed documentation required to be at the job site follows by mail."

Contrary to the above, on September 29, 1977, the Unit #2 reactor pressure vessel was installed in the containment drywell without a conditional release having been issued and without the required supplier written notifications on site. The vessel was installed although an unresolved nonconformance existed and on site documentation prescribed in procurement documents was missing and incomplete and there were indications that the supplier did not plan to forward the documents.

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

Region I

NOTICE
14 DEC 1977
AS OF
REGION I HAS NOT OBTAINED PROPRIETARY
CLEARANCE IN ACCORDANCE WITH 10 CFR 2.760

Report No. 50-352/77-14
50-352/77-14

Docket No. 50-352
50-352

License No. CPPR-106
0000107

Priority -

Category A

Licensee: Philadelphia Electric Company

2301 Market Street

Philadelphia, Pennsylvania 19101

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

Inspection at: Limerick, Philadelphia, and Eddystone, Pennsylvania

Inspection conducted: November 21-23, 1977

Inspectors: [Signature]

12/14/77
date signed

for K. D. Toth, Reactor Inspector

[Signature]

12/14/77
date signed

J. C. Mattia, Reactor Inspector

[Signature]

12/14/77
date signed

J. P. Durr, Reactor Inspector

Approved by: [Signature]

12/14/77
date signed

R. W. McGaughey, Chief, Projects Section
Reactor Construction and Engineering Support

Inspection Summary:

Unit #1 Inspection on November 21-23, 1977 (Report No. 50-352/77-14)

Areas Inspected: Routine, unannounced inspection of work activities for reactor coolant pressure boundary piping, and welding of safety related piping; quality verification records for licensee follow up action on NRC bulletins and circulars, contractor disposition of nonconforming conditions, implementation of concrete testing requirements, and pipe spool shop fabrication. The inspectors also performed a plant tour-inspection, (including the ADWIN warehouse) reviewed licensee action on previous inspection findings, and performed follow-up action as necessary to resolve questions which arose during the course of inspection of the above areas. The Unit #1 inspection involved 30 inspector-hours on-site, 3 NRC inspectors.

Results: No items of noncompliance were identified.

Unit #2 Inspection on November 21-23, 1977 (Report No. 50-353/77-14)

Areas Inspected: Routine, unannounced inspection of general work activities, and quality verification records for licensee follow up action on NRC bulletins and circulars, contractor disposition of nonconforming conditions, and implementation of concrete testing requirements. The inspectors also performed a plant tour-inspection, (including the ADWIN warehouse), and reviewed licensee action on previous inspection findings. The Unit #2 inspection involved 19 inspector-hours on-site by 3 NRC inspectors.

Results: Of the four areas inspected, no items of noncompliance were identified in three areas; one item of noncompliance was identified in one area. (Deficiency - failure to implement conditional-release procedure prior to reactor vessel installation, Paragraph 4)

DETAILS

1. Persons Contacted

Philadelphia Electric Company

*W. T. Baxter	QA Engineer
*J. J. Clarey	Resident Construction Engineer
*J. M. Corcoran	Field QA Branch Head
J. Cotton	QA Engineer
*J. P. Evans	QA Engineer
D. Groves	Engineer
*D. A. Marascio	QA Engineer
J. Mollick	Senior Engineer
R. Roehm	Technical Assistant, Projects
R. Shiebley	Construction Engineer
H. Walters	QA Manager

Bechtel Power Corporation

*M. H. Brown	Project Field QC Engineer
S. Gearhart	Materials Supervisor (ADWIN)
*E. R. Klossin	Lead Site QA Engineer
J. Quinlan	Q.C. Level II
*J. Reiney	Project Construction Manager
J. Reynolds	Assistant Materials Supervisor (ADWIN)
*R. E. Sevo	QA Engineer
*N. H. Shanbhag	QA Engineer
F. Thesing	Lead Piping Mechanical Superintendent Unit 1
T. Waters	Q.C. Level II
*A. G. Weedman	Project Field Engineer

*denotes persons present at management meeting.

The inspector also contacted various craft and quality control personnel during the course of the inspection.

Mr. W. Laudon, Construction Inspection Specialist from the NRC Inspection and Enforcement, Bethesda, Maryland headquarters office accompanied the regional inspectors as an observer.

2. Plant Tour

The inspectors observed work activities in-progress, completed work, and plant status in several areas during general inspection of the plant. The inspector examined work items for any obvious defects or noncompliance with regulatory requirements or license conditions. Particular note was taken of presence of quality control inspectors and quality control evidence such as inspection records, material identification, nonconforming material identification, and equipment calibration tags. The inspector interviewed craft personnel, supervision, and quality inspection personnel as such personnel were available in the work areas. Where more detailed inspection of an area was conducted, the inspection scope and findings are described in other paragraphs of the report.

No items of noncompliance were identified during the plant tour.

3. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (353/76-06-01): Failure to weld and inspect structural steel per AWS D1.1. The inspector examined a nonconformance report No. NCR-2710 and associated documentation which showed that this item has been resolved. All welds inspected by the welding inspector in question had been identified and re-inspected. Where welds were wholly or partly inaccessible, an engineering analysis of each such weld was made to ascertain the consequences and acceptability of each weld. In each case, the ability of the welded joint to perform its function was considered. All such joints were found acceptable. For partially inaccessible, welds in many cases, it was found that the accessible portion of the weld alone was capable of meeting the design function. The inspector examined the following records relative to the above; other related records previously examined relative to this item, are identified in IE Inspection Reports Nos. 353/76-06, 353/77-01 and 353/77-06):

-- NCR-2710 sheets 1 thru 29 (w/engineering disposition November 17, 1977).

-- Inspection Reports (QCGI-1) Nos. C63-30, 31, and 32

Nos. C954-6

Nos. C-41A-493

4. Records of Disposition of Nonconforming Conditions Units #1 and #2

During the plant tour the inspector noted more than one quality control "conditional release" tag on items of equipment which were identified as having missing documentation. The inspector subsequently examined eight recent nonconformance reports which involved missing documentation, to ascertain compliance with Criterion VIII of 10CFR50. The inspector examined the following NCR reports: NCR-2874, 2882, 2929, 2931, 2939, 2941, 2942, 2944.

Reports Nos. 2929 and 2942 were recorded as properly dispositioned with required missing documentation having been received. This is acceptable.

Reports Nos. 2874, 2939 and 2941 included properly approved conditional release forms, for movement and storage of equipment in the containment building, but not installation. Missing documentation included various GE drawings and specifications which GE apparently is reluctant to release. The installation status at this time is acceptable.

Report No. 2931 has not been issued a conditional release and the equipment not installed and apparently has not been released from storage. This is acceptable.

Report No. 2944 indicates that certain GE drawings, ASME Code Data Sheets, and Certificate of Compliance are missing for main steam pipe spool #M1-321-G001. It includes a properly approved conditional release for storage in the containment building. It also mentions anticipated welding in a few weeks, although it is not clear that such welding would be allowable under the conditional release without a supplement. The current status is acceptable.

Report No. 2882 indicates that certain GE drawings and specifications were not available as required by inspection plan QCIR-M1-33332 (Final Receiving Inspection for Reactor Pressure Vessel). There were no records available to indicate that the required documents were received or that the conditions for issuance of a conditional release were satisfied and such a conditional release issued prior to installation of the Unit #2 reactor pressure vessel. The conditions for issuance of a conditional release are defined in Field Inspection Manual Procedure G-3, Revision 6, which requires in part that a supplier's notification be at the jobsite, including notification that all prescribed documentation required to be at the jobsite follows by mail. The licensee could produce no record of such notification and stated that the subject of GE documents was not resolved with GE.

N-111

6
The prescribed documentation which was missing for the RPV listed in QCIR-MI-33332. It includes the following GE documents which were identified by the Bechtel QC inspector:

761E959 RS (B11-A001-L-51-5)

21A1426 RS (B11-A001-H-1.2)

21A9825 RS (B21-F023-H-2.1)

21A9242 RS (B11-A001-H-2.1)

15888310 R.A

105A4610 R.B

The September 29, 1977 installation of the U. S. RPV, without the resolution of NCR-2862 or other alternative compliance with FIM-G-3 is an item of noncompliance (353/77-14-01).

5. Safety Related Pipe Welding Work Activities (Unit #2)

The inspector observed the welding of the root and intermediate passes of the 8" diameter, schedule 10, pipe joint HCC-101-2/4-FW5 located in the Fuel Pool Cooling System. He verified that the welding met the requirements of the ASME Code, sections III and IX and the welding procedure PB-T-Ag. revision 2, by examining the internal and external weld surfaces and by reviewing the welder's qualification and the quality assurance documentation.

He also observed the welding of the intermediate layers of the 4" diameter, schedule 40, pipe to valve joint G33-119-8/6-FW2 located in the Residual Heat Removal System. He verified that the proper weld procedure was specified and its requirements were being implemented, the welder was qualified, the proper filler material was being deposited, the appearance of the weld was acceptable, and that the quality control was being performed.

The inspector examined the weld material storage and issue facilities and practices for Bechtel work (including piping). He also observed pipe fabrication shop and pipe cleaning area activities, pipe storage and handling and general appearance of completed field welds during plant tour activities.

No items of noncompliance were identified.

6. Review of Shop Fabricated Pipe Spool Documentation (Unit #1)

Vendor fabricated pipe spool G88-119-8-1 was selected for review of the quality assurance documentation. This spool is located in the Residual Heat Removal System and forms one side of the field weld G88-119-8/6-FW-2 described in paragraph 5. The following documents were examined:

- Drawing No. M-214, revision 36, Piping and Mechanical Material Receiving Instruction.
- Southwest Fabricating & Welding Co. Drawing No. G88-119-8-1.
- Material Certifications for the pipe, elbows and welding rods.
- Radiographs for shop weld W-1, W-2, W-3.

The inspector noted that in views 4-5, 5-5, and 6-1 of the radiographs for shop weld G88-119-8-1, W-1, there were linear indications aligned with the longitudinal axis of the weld which do not appear to meet the requirements of the ASME Code, section III, paragraph NB 5321. Comparison of the radiograph to the weld surface did not disclose any surface irregularity which would account for the indications in the radiograph. The licensee stated that additional examinations would be made to determine the acceptability of the weld. The examination will be completed in approximately 60 days.

F.R.
N-112

This item is considered unresolved pending completion of the evaluation and review by the NRC. (352/77-14-01)

7. Reactor Coolant Pressure Boundary Piping Work Activities

The inspector observed the rigging and placement in containment of main steam isolation valve B21-F022B, serial number 7-683. He also examined the following quality assurance documentation for the valve:

- Quality Control Inspection Record, file No. 147.
- Nonconformance Report 2974 for Main Steam Isolation Valve B21-F022B.
- Nonconformance Material Installation Release (NCR 2674)
- Deviation Disposition Report #5583.

-- Chemical and Physical Material Test Reports for the valve body and welding rod.

-- Heat treatment records.

The inspector verified that the handling activities and quality assurance documentation met the requirements of the ASME Code, Section III; the Limerick PSAR, appendix D.4.9.2; and the applicable site job rules.

No items of noncompliance were identified.

8. Offsite Warehouse General Activities (ADWIN Facility) (Units #1 and #2)

The inspectors interviewed maintenance and quality control personnel, examined typical storage-maintenance in-process records, and inspected in-door storage of material/equipment in the off site ADWIN warehouse at Eddystone, Pennsylvania. It was raining the day of this inspection (November 22, 1977, p.m.) and the inspectors observed no roof leaks. Nearly all equipment was covered with tarpaulins. Except for certain items being worked on and valves hung in heated storage, all components observed had caps or covers on all openings. The inspectors checked temperature and humidity recorders in the controlled environment room; these appeared functional and within acceptable levels.

The inspectors observed many humidity indicators on various valves/penetrations in unheated storage which were totally white, indicating that a 60% or greater humidity level existed inside the items. Personnel at ADWIN indicated that when an item was required by the maintenance schedule to be checked, at that time new desiccant is installed if the 60% humidity level blue indicator appears to be turning or has turned white. However, there is no written criteria regarding this item, and no similar instruction regarding action to be taken if Bechtel responsible personnel incidentally observe "white" indicator during routine walk-by or other activities.

On November 23, 1977 site quality control engineer showed the inspector a handwritten instruction dated November 22, 1977 regarding this matter, but it was not a controlled document and was not available at ADWIN during the November 22, 1977 inspection. A controlled instruction appears warranted for this subject, and the licensee stated that he would review the matter. This is unresolved. (352/77-14-02; 353/77-14-02)

F.R.
N-113

9. Licensee Followup Action on NRC Issued Bulletins and Circulars
(Units #1 and #2)

The inspector reviewed licensee's records of followup activities regarding certain NRC issued bulletins and circulars. In each case, the bulletin or circular had been distributed to interested personnel within the licensee organization, and a responsible individual had been assigned for followup action. The records showed that a determination of applicability had been made for the following items and acceptable followup action taken.

Bulletins

- 74-04A Engineer statements support the April 16, 1974 licensee letter to NRC to the effect that a new two-stage top-works will be provided for target rock pressure relief valves for this plant.
- 74-10B GE change notice #N-58931 shows that the 4-inch bypass line around the recirculating system isolation valve has been deleted from the design of this plant.
- 74-14 This bulletin was provided for information to the engineers engaged in the overall pool-swell-phenomenon analysis.
- 74-16 Licensee audit reports #AR-138 and #AR-151, plus supporting checklists/ finding sheets/resolution reports, show that diesel generator vendor quality program implementation has been audited as a measure to assure proper machining of pistons and similar fabrication items.
- 75-03 The licensee stated that the program for examination of ASCO solenoid valves has not yet been approved or implemented, although some specification changes have been made. The program is expected to be approved by March 1, 1978.
- 76-06 Licensee resolution relative to bulletin 74-04A encompasses this item; also target-rock valve air operators will not be insulated.
- 77-02 Licensee followup data show that the architect-engineer had been requested to review the design to assure that the questionable relays are not specified or allowed for this plant.

Circulars

- 77-13 This circular was distributed, responsibility was assigned, a determination of applicability was made, and followup action was taken, in accordance with the recently revised Appendix X of the licensee QA manual.
- 77-11 These two circulars were distributed, responsibility assigned, and a response received from the responsible contractor in accordance with Appendix X. A close-out has not yet been issued to the project manager in accordance with Appendix X.
- 77-12
- 77-03 These circulars were handled in accordance with the thru 77-10 previous issue of Appendix X, where distribution and assignment of responsibility were made, but where there was no requirement for followup response to the project manager. The inspector stated that followup of these, and circulars 77-11 and 12, will be examined at a future inspection.

10. Concrete Compressive Strength Tests (Units #1 and #2)

The inspector examined records of recent tests of concrete compressive strength to determine if 28-day tests are being performed as required by a August 5, 1977 NRC letter to the licensee. The inspector examined the compressive strength and in-process test records attached to the following inspection records (OCIR's):

- C-141-R5-P-4-3
- C-134-RW-LM-21-3
- C-137-RS-L-C15-3
- C-143-RW-PS-23-3

No items of noncompliance were identified.

11. Unresolved Items

Unresolved Items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in Paragraphs 6 and 8.

12. Management Interview

At the conclusion of the inspection on November 23, 1977 a meeting was held at the Limerick Generating Station site with representatives of the licensee and contractor organizations. Attendees at this meeting included personnel whose names are indicated by notation (*) in paragraph 1. The inspectors summarized the results of the inspection as described in this report.