

REF: 78

MAR 23 1981

Mr. Boyce Grier, Director
United States Nuclear Regulatory Commission
Office of Inspection and Enforcement, Region I
631 Park Avenue
King of Prussia, PA 19406

SUBJECT: USNRC IE Region Letter dated February 27, 1981
RE: Site Inspection of January 5-30, 1981
Inspection Report No. 50-352/81-01 & 50-353/81-01
Limerick Generating Station - Units 1 and 2

→ FILE: QUAL 1-2-2 (352/81-01 & 353/81-01)

Dear Mr. Grier:

In response to the subject letter regarding items identified during the subject inspection of construction activities authorized by NRC License Nos. CPPR-106 and -107, we transmit herewith the following:

Attachment I - Response to Appendix A

Also enclosed as required by the Notice of Violation, is an affidavit relating to the response.

Should you have any questions concerning these items, we would be pleased to discuss them with you.

Sincerely,

*Law 3/23/81
Hill 3/23/81
JPD:dnt
3/23/81*

Attachment
Copy to: Director of Inspection and Enforcement
United States Nuclear Regulatory Commission
Washington, D.C. 20555

J. P. Durr, USNRC Resident Inspector

- bcc: R. H. Elias, Bechtel
- E. R. Klossin, Bechtel
- E. J. Bradley
- G. White
- E. C. Kistner
- G. H. Delowsky
- H. R. Walters/Local File
- J. J. Clarey
- A. A. Mulford (2)
- J. M. Concoran
- Project File (2)

COMMONWEALTH OF PENNSYLVANIA :

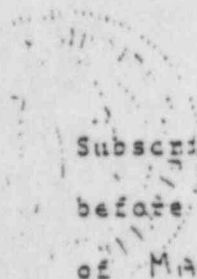
ss.

COUNTY OF PHILADELPHIA :

JOHN S. KEMPER, being first duly sworn, deposes
and says:

That he is Vice President of Philadelphia Electric
Company, the holder of Construction Permits CPPR-106 and
CPPR-107 for Limerick Generating Station Units 1 and 2; that
he has read the foregoing Response to Inspection Report
No. 50-352/81-01 and 50-353/81-01 and knows the contents thereof;
and that the statements and matters set forth therein are true
and correct to the best of his knowledge, information and belief.

John S. Kemper



Subscribed and sworn to
before me this 23rd day
of MARCH, 1981

Joseph J. Frankel
Notary Public

Notary Public - Philadelphia, Pennsylvania Co.
My Commission Expires July 22, 1983

ATTACHMENT I

RESPONSE TO APPENDIX A

Violation - A

10CFR50, Appendix B, Criterion XVI, states, "...conditions adverse to quality, such as...nonconformances, are promptly identified... that the cause of the conditions" is determined and corrective action taken to preclude repetition...and the corrective action taken shall be documented and reported to appropriate levels of management."

The Linnetick PSAR, Appendix D, paragraph D.4.12, states, in part, that: "...The program shall provide input for the initiation of corrective action and follow-up as appropriate."

Project Special Provisions Notice, SF/PSP G-3.1, Revision 3, paragraph 3.1.5, states, "If a deficiency to the code requirements are identified within the code boundary of an ASME item, it shall be controlled by the use of nonconformance reports."

Contrary to the foregoing, on January 15, 1981, the NRC inspector discovered through observation and document review that rejectable nondestructive testing indications were identified and dispositioned on In-process Rework Notices instead of Nonconformance Reports as required. Specifically, an ASME Nuclear Class I pipe weld, DLA-107-1/FW 11, was liquid penetrant tested and rejectable linear indications were identified, "outside the areas of interest," (the adjacent base material). The indications were dispositioned on In-process Rework Notice No. W655.

This is a Severity Level V Violation (Supplement II).

Response to Violation

Nondestructive testing indications, documented on In-process Rework Notice No. W655 was subsequently documented on a Nonconformance Report. In addition, a review of open Rework Notices was performed. Several additional instances where In-Process Rework Notices were employed in lieu of Nonconformance Reports were identified. These were then incorporated into Nonconformance Reports.

To prevent recurrence the following actions were taken:

1. Supervision and production personnel were instructed to perform no work on ASME boundary components without proper authorization. The instructions were reiterated by the superintendent in a subsequent memorandum to the responsible personnel.

2. The Q.C. department held a training class on January 23, 1981 for the responsible personnel on the requirements for the use of Nonconformance Reports.

Full compliance was achieved on or before March 17, 1981.

In addition, the valve described in In-Process Rework Notice No. W652 (noted in the "DETAILS" section of the NRC's Inspection Report,) was also subsequently documented on a Nonconformance Report. The valve in In-Process Rework Notice W652 and the pipe spool in In-Process Rework Notice W653 were both fabricated in accordance with the code and received and passed the required nondestructive examinations. The code does not require penetrant examinations during the fabrication/manufacture of these components. Any removal of liquid penetrant indications, outside the area of interest of the liquid penetrant test performed during installation is in excess of code requirements and, therefore, the valves were acceptable for installation as received from the manufacturer.

Violation - B

10CFR50, Appendix B, Criterion V, states, in part, that, "Activities affecting quality shall be...accomplished in accordance with these instructions, procedures, or drawings."

The Limerick PSAR, Appendix D, paragraph 6.4, states, in part, that, "Bechtel Construction Department...is responsible for construction of the plant to approved engineering specifications..."

Bechtel Specification for Forming, Placing, Finishing and Curing of Concrete, 8031-C-36, paragraph 14.0, states, in part, that, "Imperfections in formed concrete shall be repaired as soon as practicable but no later than 28 days after forms removal."

Contrary to the above, on January 13, 1981, a concrete imperfection was observed on approximate elevation 279', in Reactor Building No. 1, in the West slab construction joint RS-P-1-4, measuring approximately 2" deep by 1" high by 1' in length. The Quality Control Inspection Record No. C-110-RS-P-1-4, executed on October 10, 1977, did not record this condition.

This is a Severity Level V Violation (Supplement II).

Response to Violation

NCR 4551 was issued to identify that the concrete wall imperfection had not been repaired within 28 days after form removal. The NCR was dispositioned "use as is" because the structural integrity of the wall will not be adversely affected by failure to make repairs within 28 days.

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Bechtel QC implemented Quality Control Inspection Record #C-140-ES-P-1-4B for inspection of the subject area and issued In-Process Rework Notice C-2229 which identifies that repair is required at the location described by the Violation. The repair location has been chipped to sound concrete and dispositioned "minor" per the requirements of Section 14.0 of Specification C-36. The repair will be completed before March 31, 1981.

QC reinspected approximately 100 other concrete placements originally inspected by the personnel who inspected the placement in question. The reinspection documented on QC-C-1-C-36-SI-1-1, identified 5 minor defects which have been repaired.

Actions taken to prevent recurrence were 1) a class held on 2/17/81 after the Violation was identified; and 2) reissue of PCM-487, dated 6/16/80 (Project Construction Manager memo) to all responsible personnel to re-emphasize the requirement that concrete repairs are to be made within 28 days of form removal.

Violation - C

10CFR50, Appendix B, Criterion IX, states, in part, that, "...Welding... (is) controlled...in accordance with applicable codes, standards, specifications...".

The Limerick PSAR, Appendix D, paragraph D.6.4, states, in part, that, "Bechtel Construction Department...is responsible for construction of the plant to approved engineering specifications...".

Welding Procedure Specification P1-A-LH (Sheet), Revision 0, requires that welding be performed in accordance with the General Welding Standard, GWS-Structural. The GWS, in paragraph 3.1 and Table GSW - Structural - 1, requires that for E7018 electrodes and material thickness in excess of 1/4" through 2 1/4", the welding preheat be maintained at 150 F.

Contrary to the above, on January 21, 1981, the welding on the safety-related electrical supports, Weld No. R-431-4, consisting of a 5/8" plate welded to a structural beam flange greater than 1/4" thick, did not have preheat applied to a temperature of 150 F.

This is a Severity Level V Violation (Supplement II).

Response to Violation

We have determined that weld R-431-4 performed without preheating to 150° is acceptable based on tests performed for certain Welding Procedure Qualification Reports. The applicable PQR's are 606, 688, 689, 690, 691, 705, 706, and 707. These tests were performed using E6010 and E7018 weld electrodes and they demonstrate that

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satisfactory welds can be done on 1-1/2 to 2 inch base material using significantly less preheat than the 150°F required by the General Welding Specification. The preheat temperature for the above tests were either 50°F or 60°F, indicating that no preheat was performed and that the ambient temperature was recorded during the test. The 50° to 60°F ambient is approximately what exists throughout the heated plant, therefore, weld R-431-4 was performed under essentially the same conditions as the above PQR's.

Furthermore, codes other than AWS base preheat requirements on weld size, using the throat thickness of a fillet weld as measurement instead of thickness of the base metal. For example in regard to preheat, ANSI B 31.1 states, "The thickness of socket, fillet and seal welds is defined as throat thickness for pressure non-pressure welds". (See ANSI B 31.1 - 73/W74, table 131, note 4.) Similarly, where the ASME code offers guidelines for preheat of P1 steel, the code states that the guidelines do not apply to "...Fillet Welds 1/2 inch and under in size that are used to attach insulation clips and other parts not carrying loadings due to internal pressure." (See ASME III - Div. 1, 1974, Subsection NA, Appendix O, paragraph D-1210.2). The position that the fillet weld throat thickness should be used to determine preheat requirements instead of base metal thickness is supported by the PQR's noted above.

Our position is that minimum preheat requirements should be determined as outlined above, however, the actual work practice in the future will meet the preheat requirements in the General Welding Specifications which are more conservative.

To prevent a recurrence the following actions were taken:

- a) A training session was held on January 22, 1981 for all electrical welders, foremen, general foremen, and electrical superintendents to discuss preheat requirements in AWS codes.
- b) On the same date, a training session was held for Bachtel welding Quality Control Engineers on the same subject.
- c) The Job Rule for Welding, Job Rule G-16, was revised on March 20, 1981 to clarify and emphasize structural preheat requirements.

Full Compliance was achieved on or before 3/20/81. -----

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