NOV 09 1984

Docket No. 50-352

Philadelphia Electric Company
ATTN: Mr. S. L. Daltroff
Vice President, Electric Production
2301 Market Street
Philadelphia, PA 19101

Gentlemen:

Subject: Inspection No. 50-352/84-27

This refers to your letter dated October 12, 1984, in response to our letter dated September 14, 1984.

Thank you for informing us of the corrective and preventive actions documented in your letter. These actions will be examined during a future inspection of your licensed program.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By:
Stewart D. Ebneter

for Thomas T. Martin, Director
Division of Engineering and
Technical Programs

cc w/encl:
V. S. Boyer, Senior Vice President, Nuclear Power
John S. Kemper, Vice President, Engineering and Research
G. Leitch, Station Superintendent
Troy B. Conner, Jr., Esquire
Eugene J. Bradley, Esquire, Assistant General Counsel
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1/1

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10/31/84

bcc w/encl:
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L. Briggs

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11/ /84

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10/31/84

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1881 - 1981

JOHN S. KEMPER
VICE-PRESIDENT
ENGINEERING AND RESEARCH

OCT 12 1984

Dr. Thomas E. Murley, Director
United States Nuclear Regulatory Commission
Office of Inspection and Enforcement, Region I
531 Park Avenue
King of Prussia, PA 19406

Subject: USNRC IE Region Letter dated September 14, 1984
RE: Site Inspection of June 11-12, 1984
Inspection Report No. 50-352/84-27
Limerick Generating Station - Unit 1

File: QUAL 1-2-2 (352/84-27)

Dear Dr. Murley:

In response to the subject letter regarding items identified during the subject inspection of construction activities authorized by NRC License No. CPPR-106, we transmit herewith the following:

Attachment I - Response to Appendix A

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

Sincerely,

J. W. Gallagher
for
J. S. Kemper

JPE/drd10118401
Attachment
Copy to: Director of Inspection and Enforcement
United States Nuclear Regulatory Commission
Washington, D.C. 20555

S. J. Chaudhary, USNRC Resident Inspector

~~SHLD2024~~

Mr. Richard W. Starostecki
Director, Division of Projects
and Resident Programs, Region I
United States Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Subject: NRC Open Item 84-27
Sealing of Instrument Conduits in
High Humidity Areas
Limerick Generating Station, Unit 1
Docket Number 50-352

Ref: Letter from J. S. Kemper to R. W. Starostecki
dated August 29, 1984

File: GOVT 1-1 (NRC)

Dear Mr. Starostecki:

In the referenced letter, P.E.Co. stated that it is our program that all electrical devices located in areas subjected to a harsh environment of high humidity coincident with elevated pressure have their electrical conduits sealed at the device. It has recently come to our attention that a number of conduits to electrical devices inside primary containment have not as yet been sealed. This is contrary to the requirements outlined in Section 4.6 of our drawing 8031-E-1406.

All electrical devices within primary containment which are required to operate either during or after an accident are provided with qualified conduit seals. All Class 1E electrical devices which have not been sealed are being tracked and evaluated on Non-Conformance Report Number 10378. If our evaluation shows that any of these devices must be sealed to maintain their qualification, their conduits will be sealed prior to fuel load.

8410100682

Sealing of the conduits to the other electrical devices inside primary containment will be deferred to the first refueling outage as these seals are only needed to satisfy our own requirement for maximized reliability.

Sincerely,

John S. Kemper

GB 9-7-82 SAS. 9/14/82

EFS/JSK:tws
tx97841836
Copy to: S. Chaudry, Resident NRC Inspector - LGS

bcc: R. A. Mulford
G. T. Brecht, Jr.
J. S. Kemper
V. S. Boyer
J. W. Gallagher
P. N. Pavlides
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J. J. Clarey
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W. J. Boyer
E. J. Bradley
G. R. Hutt
C. R. Endriss
DAC (NG-8)
Project File

AUG 29 1984

Mr. Richard W. Starostecki
Director, Division of Projects and
Resident Programs, Region I
United States Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

SUBJECT: Open Items Report for PECo Limerick Generating Station
Units 1 and 2

FILE: GOVT 1-1

Dear Mr. Starostecki:

In resolving Region I Open Items related to Limerick I, we have identified the following item which will not be fully resolved prior to fuel load.

We are providing information regarding this item. This information is based on the understanding gained at the Exit Meeting since the Inspection Report is not yet issued.

We are providing in this letter the rationale for why it is acceptable for this item to remain open for fuel loading. This information should be sufficient for your consideration prior to fuel load.

NRC Item No.	Remarks
84-27	Instrument conduit entrances not sealed in high humidity areas. The review of plant environmental conditions in all areas under all normal and abnormal operating modes has been completed. Those areas where relative humidity may reach 100% have been identified and are now listed in the conduit sealing requirements section of drawing E-1406. It has been our program that all electrical devices located in these areas which may be subjected to a harsh environment of high humidity coincident with elevated pressure, have had their electrical conduit sealed at

NRC Item No.		Remarks
84-27	(Continued)	the device. These seals vary in type and design depending on the environmental conditions that may be seen and the function of the device, i.e. Class IE or non-Class IE. These seals have been installed to meet environmental qualification requirements as well as to enhance device reliability. For these Class IE instruments installed in the 100% R. H. areas where no pressure transients will be experienced, no seals are needed to meet environmental qualification requirements. We have, however, revised E-1406 to require that top and side entry conduits to these devices be sealed to enhance device reliability over the life of the plant. Because initial testing of these devices is complete and their operability has been confirmed, we have issued a deferred Project Change Request to install these seals during the first refueling outage. Deferral of the addition of these seals is deemed acceptable because they are being added to satisfy our own requirement for maximized reliability.

Sincerely,

John S. Kemper

J. S. Kemper
Vice President

JMC/kkf/08288401
cc: S. Chaudhary, Resident NRC Inspector

bcc: R. A. Mulford
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J. S. Kemper
V. S. Boyer
J. W. Gallagher
J. Moskowitz
S. J. Kowalski
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C. Endriss
E. J. Bradley
J. J. Clarey
G. R. Hutt
Project File (DAC NG-8)

VIOLATION A

10 CFR 50, Appendix B, Criterion V requires that safety related components be installed in accordance with approved drawings. The Limerick PSAR, Paragraph 6.4, states in part, "Bechtel Construction Department...is responsible for construction of the plant to approved engineering specifications.

(1) Pipe support drawing HBB-108-H6, Revision 9, "Note", states, "Cut clamp here to avoid interference if necessary. Maintain minimum 2-bolt diameter distance from centerline bolt load to cut."

(2) Pipe support drawing HBB-129-H8A, Revision 10, requires two stiffener plates, 3/8" x 2 1/4" x 7 1/4" , item 7, to be welded into the recess formed by the flanges and web of the W8x17 beam, item 3.

(3) Specification SFPD-7902-5, Revision 3, paragraph 3.1.E, requires that pipe support base plate anchor bolts must be installed such that at least two threads remain below the surface of the plate.

(4) Pipe support drawing HBC-194-H901 depicts the pipe penetrating the embed anchor concentrically.

Contrary to the above, on or before June 11, 1984:

(1) Pipe support HBB-108-H6 was installed with the pipe clamp bolt to cut edge distance with less than 2 bolt diameters.

(2) Pipe support EBB-129-H8A was installed without the two, 3/8" x 2 1/4" x 7 1/4" stiffeners on beam item #3.

(3) Pipe support base plate HBB-138-H24 was installed such that less than two threads remained below the surface of the base plate on one bolt.

(4) Pipe support HBC-194-H901 was installed such that the pipe penetrated the embed anchor 1 1/2" eccentrically.

RESPONSE

(1 and 2) As a result of parts 1 and 2 of this Item of Noncompliance, Bechtel NCR's 10120 and 10119 were issued for hangers EBB-129-H8A and HBB-108-H6. Both NCR's were reviewed and evaluated by Project Engineering and the installations were found to be acceptable as is.

Bechtel Project Engineering reviewed data gathered during hanger reinspections to determine if similar nonconformances exist. As a result of reinspections noted below it was determined that the subject nonconformances were isolated cases:

1. NRC reviewed approximately 100 hangers as part of an As-Built survey and found only two nonconformances as defined above.

2. Another sample of 80 hangers was randomly selected out of a population of 594 hangers and found no such nonconformances.

3. About 150 previously QC accepted hangers were reinspected and found no such nonconformances.

4. Twenty-Four General Electric Hangers were inspected and no similar nonconformances were found.

It was, therefore, concluded that the types of nonconformances identified by the NRC were isolated.

(3) The expansion anchors on all Q-listed hangers for ESW System located on west wing of control building , Room #249 Area #7 Elevation 200', were reinspected. The inspection was to determine if a condition of nuts bottomed out on the unthreaded portion of the anchor or "shank out" exists in other installations. A total of 21 hangers which involved 127 expansion anchors were inspected. No such conditions were found. The inspection has been documented on Bechtel Quality Control Inspection Report QCGI #C-64-S1-1-34. There were 2 non "Q" hangers with expansion anchors for which a "shank out" condition was indeterminate. A B.O.P. condition report #M-1775 has been issued to document the condition. In addition, PECO QA checked 12 of the "Q" anchors reinspected above and found no such condition.

Hanger HBC-138-H24 identified by NRC as "shank out" condition has been documented on startup NCR S-689C which has been evaluated by Project Engineering and found to be acceptable for use as is.

Specification SFPD-7902-5, Revision 3 (issued for small pipe test program) was cancelled a short while later via letter dated June 11, 1981 from R. H. Elias of SFPD Engineering (EMF-6448), and thus is not applicable to the subject large pipe hanger. The specification governing concrete expansion bolt installation (C-64 Rev. 20) addresses verification that nuts do not bottom out on the unthreaded portion of the anchor. The subject specification (C-64) does not require that two threads remain below the surface of the plate.

(4) As a result of this NRC concern, NCR #10148 was issued. It was reviewed and evaluated by Project Engineering and found to be acceptable as is.

Specification 8031-P-300 provides penetration sleeve size for penetrating large pipe as 4" larger in diameter than the pipe diameter. Therefore, the maximum deviation of the pipe in the sleeve is limited to 2 inches. Also addition #2 to specification P-319, Rev. 16 was issued which defined 2" centerline deviation tolerance for sleeve anchor designs. Based on above, the identified nonconformance is within the tolerance. In addition, Bechtel Project Engineering randomly selected a sample of eight similar type of anchors for evaluation. The sample was more than 10% of similar type anchors. All were found to be acceptable for the 2"tolerance. Based on the above, it was determined to perform no further inspection.

VIOLATION B

Appendix B, Criterion III, states, in part that, "Measures shall also be established for the selection and review for suitablility of application of materials, parts, equipment and processes that are essential to the safety-related functions of the structures, systems and components".

Rosemount Installation Drawing #H39219-0602 Note 11, states in part that, "The terminal side of the electronics housing must be sealed from the external environment".

Specification Drawing No. E-1406, Sheet 4.6 defines conduit sealing requirements applicable to instrument located in specific humid areas.

Contrary to the above, on June 19, 1984, the inspectors identified instruments in areas identified by specification M-171 as humid areas that were not sealed. These humid areas were not addressed in Specification Drawing No. E-1406.

RESPONSE B

The Licensee has submitted the attached two letters to Mr. Richard W. Starostecki, Director, Division of Projects & Resident Programs Region I of the United States Nuclear Regulatory Commission, from Mr. John S. Kemper-Vice President Philadelphia Electric Company. These letters are dated August 29, 1984 and September 10, 1984 and were written in direct response to the subject violation.

Since the submission of the September 10, 1984 letter, Nonconformance Report No. 10378 has been closed and any conduits which required sealing in order to maintain the qualification of the devices, have been sealed.