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NUCLEAR ENGINEERING DEPARTMENT

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Docket Nos. 50-277 50-278

Mr. William V. Johnston, Acting Director Division of Reactor Safety Region I U. S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, DC 20555

Subject:

Special Safety Inspection Regarding IE Bulletin 80-11, Masonry Wall Design

References:

- (1) Combined Inspection Report Nos. 50-277/87-16; 50-278/87-16 dated August 6, 1987.
 - Response to Combined Inspection Report No. 50-277/87-16, 50-278/87-16, S. J. Kowalski (PECO) to W. V. Johnston (NRC) dated September 3, 1987.
- (3) Letter from S. L. Daltroff (PECO) toB. H. Grier (NRC) dated July 2, 1980.
- (4) Letter from S. L. Daltroff (PECO) to
 - B. H. Grier (NRC) dated May 4, 1981.

Dear Mr. Johnston:

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Your letter of August 6, 1987 (Reference 1) provided the results of the special safety inspection conducted June 16-19, 1987. The inspection reviewed Philadelphia Electric Company (PECO) responses and subsequent analysis and modifications of masonry walls related to IE Bulletin 80-11, Masonry Wall Design. One violation and one unresolved item were identified.

In our response to the Combined Inspection Reports (Reference 2), the corrective actions that would be taken in order to assure compliance with 10 CFR 50, Appendix B, Criterion V as it applies to IE Bulletin 80-11 were described, and a commitment was made to submit the results of the actions taken upon their completion.

This letter provides information regarding the corrective actions taken, the results of these actions, and the status of actions not yet completed. This letter also provides supplemental information regarding unresolved item 50-277/87-16-02 and 50-278/87-16-02.

In order to confirm that all masonry walls whose failure could affect safety related equipment were identified, an Engineering Division procedure was prepared, reviewed, approved and issued. The procedure provides the scope and criteria for the identification, survey, and classification of masonry walls at Peach Bottom, Units 2 & 3. A copy of the procedure (ME 3.5) is included as Attachment 1.

A complete plant survey in Units 2 & 3 and common areas has been performed in accordance with the requirements of the procedure. As a result of the plant survey, a total of 478 masonry walls have been identified and 95 of the 478 masonry walls have been classified as safety related. Also, as a result of the plant survey, a total of 158 masonry-filled blockouts have been identified in concrete walls. Twenty-nine (29) of the 158 have been classified as safety related.

During the course of the plant survey, procedure Exhibit ME 3.5-I was completed as each room/area of the plant was inspected. As the identified masonry walls and blockouts were surveyed and classified, Exhibits ME 3.5-II and ME 3.5-III were completed to list safety related and non-safety related walls and blockouts. Copies of completed Exhibits ME 3.5-II & III are included as Attachments 2 and 3.

The information contained in Attachments 2 and 3 supersedes the lists of safety related and non-safety related walls that were provided in PECO's original response to item (1) of IE Bulletin 80-11 (References 3 and 4).

All of the safety related walls have been analyzed in accordance with the methodology and re-evaluation criteria originally established in response to IE Bulletin 80-11, item 2. All loads resulting from the resurvey of systems and equipment attached to the walls have been considered in the analysis.

Of the 95 safety related walls listed in Exhibit ME 3.5-II, nine (9) had not been classified as safety related in the original response (References 3 & 4). Based on the results of the analysis of these nine (9) walls, four (4) walls require modification in order to meet the re-evaluation criteria for masonry walls (Walls 19.1, 19.2, 56.3, and 413.1).

Modifications for walls 19.1, 19.2, and 413.1 have been designed and issued for implementation. Wall 56.3 will be removed. Wall modification work is in progress. Modification work in Unit 2 and common areas (19.1, 19.2 and 56.3) will be completed before the startup of Unit 2. Modification work in Unit 3 (413.1) will be completed before the startup of Unit 3.

All of the safety related blockouts have been analyzed in accordance with the methodology and re-evaluation criteria established for masonry walls in response to IE Bulletin 80-11. These blockouts were not identified in previous submittals in response to the IE Bulletin. Exploratory core boring of some blockouts was performed in order to confirm the type of masonry that was used to fill the blockout.

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Of the 29 safety related blockouts listed in Exhibit ME 3.5-II, 10 require modification in order to meet the re-evaluation criteria for masonry walls.

A separate modification for each blockout had to be designed due to the size of each blockout and the unique quantity and location of equipment that penetrated each blockout. All modifications have been issued and installation is in progress. Work will be completed on blockouts in Unit 2 and common areas prior to the startup of Unit 2. Work will be completed on blockouts in Unit 3 prior to the startup of Unit 3.

In order to address the unresolved item (87-16-02) identified in the Combined Inspection Reports (Reference 1), we committed to chip out the mortar joint at three (3) of the walls inspected by the NRC and confirm that the anchor bolts exist. The mortar joints at three (3) walls were chipped out; one in the Unit 2 reactor building, one in the Unit 3 reactor building, and one in the emergency cooling tower. Anchor bolts at the interface with a reinforced concrete wall were confirmed at the Unit 2 reactor building wall only.

As a result of the inconsistency in anchor bolt placement, every location where a masonry wall adjoins a concrete wall was identified. Each wall was reviewed in order to determine if the wall could be qualified assuming that anchor bolts did not exist. Every location could be qualified except at 21 walls where the analysis depends on the existence of anchor bolts in order to assure integrity of the wall under all loading conditions.

For each of the 21 walls, the existence of anchor bolts will be confirmed at the concrete/masonry interface or a modification will be installed that will assure end support for the walls. Typical details of the modification to be installed are included as Attachment 4. Work will be completed at Unit 2 and common area walls prior to the startup of Unit 2. Work will be completed at Unit 3 walls prior to the startup of Unit 3.

The implementation of procedure ME 3.5 assures that all safety related masonry walls at Peach Bottom, Units 2 & 3 have been identified, field surveyed and classified as required by IE Bulletin 80-11, item 1. To assure continued compliance with IE Bulletin 80-11, a specification for control of modifications and attachments to masonry walls (M-701) was prepared and issued in December, 1987. The specification provides the criteria to be followed by all personnel involved in the design and installation of plant modifications and routine plant maintenance work. Adherence to the criteria contained in the specification Will assure continued compliance with IE Bulletin 80-11. Specification M-701 supersedes the interim control of attachments and modifications, which had been in effect.

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In conclusion, we believe that we have taken the necessary corrective actions to assure compliance with 10 CFR 50, Appendix B, Criterion V as it applies to IE Bulletin 80-11. We believe that actions have been undertaken which will also ensure continued compliance with Appendix B and IE Bulletin 80-11. Open items identified in the PECo response to the Inspection Report (Reference 2) have been completed. If you have any questions or require additional information, please do not hesitate to call us.

Very truly, yours,

Vice President

Nuclear Engineering

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Attachments

- cc: Addressee
 - W. T. Russell, Administrator, Region I, USNRC
 - R. E. Martin, Project Manager, NRR, US NRC
 - T. P. Johnson, Resident Site Inspector
 - T. E. Magette, State of Maryland