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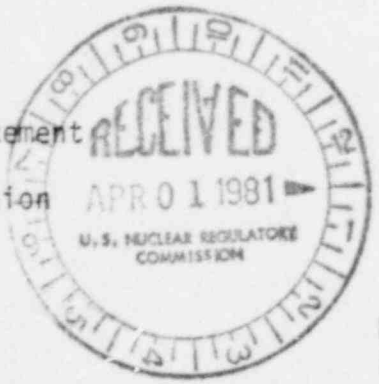
March 18, 1981

BECo. Ltr. #81-58

Mr. Boyce H. Grier
Office of Inspection and Enforcement
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA. 19406



License No. DPR-35
Docket No. 50-293

Response to Additional Questions
on IE Bulletin 80-11, "Masonry Wall Design"

Ref: (a) NRC IE Bulletin 80-11, "Masonry Wall Design", dated May 8, 1980

(b) Telephone Call from J. Fulton to J. Johnson, February 18, 1981

Dear Sir:

In our 180 day response to Reference (a), we provided a proposed schedule and sequencing of the masonry wall re-evaluation program for Pilgrim Station; however, due to the unusually large scope of this project (421 masonry walls) we were unable to complete the program and submit the final report at that time. Instead, we committed to submit the re-evaluation criteria in a final report after completion of the re-evaluation work, along with updates (upon NRC request) during the course of the analysis work.

In the Reference (b) telecon, Mr. J. Johnson of your staff requested additional information in 3 areas; the responses are presented as follows:

Request 1: Provide the re-evaluation criteria to be used in the analysis of the Pilgrim Unit I masonry walls.

Response: Attachment (1) contains the generic criteria for the re-evaluation of reinforced and unreinforced masonry walls. This document is intended to give the technical basis and explanation of the analytical approach. The assumptions and test data used to develop allowables (particularly in the case of extreme environment loads) are described and an extensive list of references is provided.

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The Pilgrim I specific re-evaluation criteria in Attachment (2), however, includes the plant specific details such as: loading combinations specified in the FSAR, amplified response spectra, tornado depressurization loading inputs, masonry specifications, assumptions, and Pipe Break Outside Containment (PBOC) loadings. An explanation of the different levels of analysis including the equations is also included. Note that some of the appendices have been temporarily omitted. This is due to pending analytical results or the completion of tables based on the field survey. The PBOC analysis referred to in Appendix F is complete and only requires documentation for the purposes of the masonry wall analysis. The tornado depressurization analysis is about 50% complete and will be added in Appendix J.

Request 2: Provide a current status of the re-evaluation program for each of the four wall groups.

Response: The current detail status and group summary are shown in Attachments (3) and (4) respectively. The groups are essentially the same as noted in the BECo. 180 day response with the exception of the intake structure, diesel bay, cable spreading room, and control room. These have each been moved back one group due to the need to develop analytical inputs such as tornado depressurization loads. The analyses to date have included seismic only. Tornado, PBOC, and thermal considerations are just starting in Group 1. Some walls in each group have been checked in the first level seismic analysis while waiting on the other load inp ts to allow work and progress to continue.

Request 3: Provide further details on the re-analysis schedule for each group of walls.

Response: A schedule is provided in Attachment (5). This is based on an estimated 200 walls requiring analysis. 130 walls have been identified to date. The percentages of safety-related walls in each building supports the final 200 wall estimate. The final number will be available about mid-April due to the amount of systems and difficulty in classifying the electrical conduits and components attached or surrounding to the walls. We are still on schedule for completion of the evaluation by August, 1981.

Should you have any additional questions or concerns as a result of your review of this information, we believe a meeting would be the best method to resolve any such concerns. Please do not hesitate to contact us in this regard.

Very truly yours,

cc: (See next page)

Attachments: (1) Generic criteria for Concrete Masonry Wall Evaluation, Rev. 1, Earthquake Engineering Systems, Inc., March 2, 1981.

(2) Pilgrim Nuclear Power Station Design Criteria for Re-Evaluation of Masonry Walls, Boston Edison Company, by Earthquake Engineering Systems, Inc., Rev. 0, February 27, 1981.

(3) Pilgrim I Masonry Wall Analysis Status, February 24, 1981.

(4) Pilgrim I Masonry Wall Analysis Status Summary, February 24, 1981.

(5) Pilgrim I Masonry Wall Analysis Schedule.

cc: Director,
Office of Inspection and Enforcement
Division of Safeguards Inspection
Washington, D. C. 20555