

DMB 016

Dockets Nos. 50-277
and 50-278

October 30, 1984

Mr. Edward G. Bauer, Jr.
Vice President and General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Bauer:

SUBJECT: MASONRY WALL DESIGN, IE BULLETIN 80-11

Re: Peach Bottom Atomic Power Station, Units 2 and 3

We have reviewed your responses of July 2, 1980, November 3, 1980, May 4, 1981, May 26, 1982 and March 21, 1984 to IE Bulletin 80-11 ("Masonry Wall Design", May 8, 1980) with respect to compliance with the Nuclear Regulatory Commission (NRC) masonry wall criteria. We have concluded that, with the exception of five walls requiring implementation of the NRC staff's position on the use of the energy balance technique, the Items 2(b) and 3 of IE Bulletin 80-11 have been fully implemented at Peach Bottom Atomic Power Station, Units 2 and 3 and that there is reasonable assurance that the safety-related masonry walls at Peach Bottom will withstand the specified design load conditions without impairment of (a) wall integrity or (b) the performance of the required safety functions. Our Safety Evaluation Report (SER) and supporting technical review (Attachment 1) by our consultant (Franklin Research Center) are provided in the enclosure.

Where the energy balance technique has been used in qualifying masonry walls, further action on the part of the Philadelphia Electric Company will be required in order to demonstrate the acceptability of the walls to the NRC staff. The staff's position on the use of the energy balance technique to qualify reinforced masonry walls is contained in Attachment 2. Accordingly, pursuant to 10 CFR 50.54(f), you are requested to furnish, under oath and affirmation, no later than January 11, 1985, the actions planned and the schedule for completion of wall modification needed to demonstrate conformance with the staff's masonry wall design criteria (Appendix A to the enclosed Franklin Research's Technical Evaluation Report).

This information will enable the Commission to determine whether or not further action should be taken to modify, suspend or revoke your licenses.

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If you have any questions concerning this request, please contact the NRC Project Manager (Gerry Gears). The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Darrell G. Eisenhut

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

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If you have any questions concerning this request, please contact the NRC Project Manager (Gerry Gears). The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Gus C. Lainas, Assistant Director
for Operating Reactors
Division of Licensing

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Gus C. Lainas, Assistant Director
for Operating Reactors
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Philadelphia Electric Company

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ENCLOSURE

SAFETY EVALUATION REPORT
MASONRY WALL DESIGN, IE BULLETIN 80-11
PEACH BOTTOM ATOMIC POWER STATION UNITS 2 AND 3
DOCKETS NOS. 50-277 AND 50-278

1.0 INTRODUCTION

In the course of conducting inspections at the Trojan Nuclear Plant, Portland General Electric Company determined that some concrete masonry walls did not have adequate structural strength. Further investigation indicated that the problem resulted from errors in engineering judgement, a lack of established procedures and procedural details, and inadequate design criteria. Because of the implication of similar deficiencies at other operating plants, the NRC issued IE Bulletin 80-11 on May 8, 1980.

IE Bulletin 80-11 required licensees to identify plant masonry walls and their intended functions. Licensees were also required to present reevaluation criteria for the masonry walls within the analyses to justify those criteria. If modifications were proposed, licensees were to state the methods and schedules for the modifications.

2.0 DISCUSSION AND EVALUATION

The findings reported in this Safety Evaluation Report (SER) are based on the attached Technical Report (TER), Attachment 1, prepared by Franklin Research Center (FRC) as a contractor to NRC. This TER contains the details of construction techniques used, technical information reviewed, acceptance criteria, and technical findings with respect to masonry wall construction at Peach Bottom Units. The staff has reviewed this TER and concurs with its technical findings. The following is our summary of the major technical findings:

1. As indicated in Section 3.1 of the TER, the licensee's criteria, as used in the re-evaluation of the masonry walls at Peach Bottom either comply with or meet the intent of the staff acceptance criteria except for one such significant deviation. The deviation pertains to the licensee's use of the energy balance technique to qualify five walls. This deviation is further discussed in detail in Item (2) below.
2. Five of the masonry walls have been qualified by the licensee via the use of the energy balance technique to resist the out-of-plane forces. The staff's position on the use of the energy balance technique to qualify reinforced masonry walls is attached as Attachment 2. The implementation of the staff position is required to render the above walls acceptable to the staff.

3. The licensee has modified four of the safety walls (other than five walls discussed in Item (2) above) by connecting two wythes at the top of the walls by bolts. In addition, vents have been installed in the computer room to relieve the effects of tornado depressurization on four block walls in this area.

The licensee's approach is found adequate as the modified walls have been shown to have met the staff acceptance criteria.

3.0 Conclusion

Based on the above findings, the staff concludes that, with the exception of the five walls requiring implementation of the staff position on the use of the energy balance technique, the Items 2(b) and 3 of the IE Bulletin 80-11 have been fully implemented at Peach Bottom and that there is a reasonable assurance that the safety-related masonry walls at Peach Bottom Units will withstand the specified design load conditions without impairment of (a) wall integrity or (b) the performance of the required safety functions.

Dated: OCT 30 1984

Principal Contributor: N. Chokshi

ENCLOSURE 1