



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

February 9, 1990

Docket Nos. 50-277
and 50-278

Mr. George A. Hunger, Jr.
Director-Licensing, MC 5-2A-5
Philadelphia Electric Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, Pennsylvania 19087-0195

Dear Mr. Hunger:

SUBJECT: REVIEW OF PEACH BOTTOM, UNITS 2 AND 3 ARI SYSTEM FUNCTION TIME
(TAC NOS. 75769 AND 75766)

- REFERENCES: (1) Letter from J. W. Gallagher, PECO, to USNRC, dated
April 21, 1989.
- (2) Letter from R. E. Martin, NRC, to G. A. Hunger, Jr., PECO,
dated December 21, 1988.

In Reference 1, Philadelphia Electric Company submitted a plant specific analysis to support a 35.4 second Alternate Rod Injection (ARI) system function time. The staff has completed its review of the April 1989 submittal. The results of our evaluation follow.

In December 1988, the staff issued a safety evaluation report on compliance with the ATWS rule, 10 CFR 50.62, for the Peach Bottom facility (Reference 2). The staff evaluation was based, in part, on a licensee conclusion that the control rods will be fully inserted within 24 seconds after ARI initiation. In addition, the staff required that the licensee perform a pre-operational test at Peach Bottom to verify that the ARI system satisfied this design basis. As discussed in its April 1989 letter, the licensee effected a plant specific analysis to justify a longer ARI system function time because it was aware that similar ARI systems at other nuclear power plants did not meet their function time design criterion when tested.

The licensee's analysis used plant specific data to reassess the requirements for the control rod start-of-motion time and the control rod full-insertion time for the ARI of the control rod drive (CRD) system. The results of this analysis, with a reevaluated Scram Discharge Volume (SDV) fill time, showed that 30.4 seconds to control rod start-of-motion and 35.4 seconds to control rod full insertion were adequate requirements for the ARI function time. This analysis was based on the assumption of a bounding leak rate of 5 gpm for each CRD after the rod starts to insert and 5 seconds for the CRD to fully insert following the opening of the scram valves. The 35.4 second full-insertion time limit was not directly based on the total available SDV volume, but was based instead on the maximum pressure within the SDV which will not adversely affect the CRD scram performance. The staff has reviewed the major assumptions of this analysis and compared test data with similar plants and finds them acceptable.

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Mr. George Hunger, Jr.

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As stated in Reference 1, the licensee has performed a pre-operational test on Unit 2 in March 1989 which confirmed that the ARI function time was less than 35.4 seconds. In a January 25, 1990 telecon, a licensee representative stated that a pre-operational test was also performed for Unit 3 in November 1989 which verified a function time of less than 35.4 seconds. Per our December 1988 safety evaluation, the test results should be made available for staff audit.

Should you have any questions concerning the above, please do not hesitate to contact us.

Sincerely,



Gene Y. Suh, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

cc:
See next page

Mr. George A. Hunger, Jr.
Philadelphia Electric Company

Peach Bottom Atomic Power Station,
Units 2 and 3

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/s/

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