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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION SUPPORTING

AMENDMENT NOS. 151 AND 153 TO FACILITY OPERATING

LICENSE NOS. DPR-44 and DPR-56

PHILADELPHIA ELECTRIC COMPANY
PUBLIC SERVICE ELECTRIC AND GAS COMPANY
DELMARVA POWER AND LIGHT COMPANY
ATLANTIC CITY ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3

DOCKET NOS. 50-277 AND 50-278

1.0 INTRODUCTION

By letter dated July 19, 1989, and supplemented on November 14, 1989, Philadelphia Electric Company (PECo, the licensee) requested amendments to Facility Operating License Nos. DPR-44 and DPR-56 for Peach Bottom Atomic Power Station, Units 2 and 3, respectively. The amendments would change the Technical Specifications (TS) to permit removal of the rod sequence control system (RSCS) and reduce the rod worth minimizer (RWM) low power setpoint.

2.0 DISCUSSION

The rod sequence control system restricts rod movement to minimize the individual worth of control rods to lessen the consequences of a rod drop accident (RDA). Control rod movement is restricted through the use of rod select, insert, and withdraw blocks. The rod sequence control system is a hardwired, redundant backup to the rod worth minimizer. The RSCS is independent of the RWM in terms of inputs and outputs, but the two systems are compatible. The RSCS is designed to monitor and block, when necessary, operator-initiated selection, withdrawal and insertion action. The RSCS thereby assists in preventing significant control rod pattern errors that could lead to dropping a control rod having a high reactivity worth.

A significant rod pattern error is one of several abnormal events, all of which must occur coincidentally to have an RDA that might exceed fuel energy density limits. The RSCS was designed only for mitigation of an RDA and is active only during low power operation (currently less than 21 percent power), when an RDA could be significant. A similar pattern control function also is performed by the RWM, which is a computer controlled system. All BWRs that have an RSCS also have an RWM.

In response to a topical report submitted by the BWR Owner's Group on December 27, 1987 the NRC staff issued a letter and a supporting safety evaluation approving 1) elimination of the RSCS, while retaining the RWM to provide backup to the operator for control rod pattern control and 2) reducing the RWM low power setpoint to 10% of rated power from its current 25% setpoint. (Letter; A. C. Thadani, NRC to J. S. Charnley, GE. Subject: Acceptance for Referencing of Licensing Topical Report NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," Revision 8, Amendment 17).

3.0 EVALUATION

The staff's letter of December 27, 1987 and supporting safety evaluation approving the topical report concluded that the modifications proposed by PECo were acceptable, provided:

1) The Technical Specifications include provisions for minimizing reactor operations with the RWM system inoperable.

2) The use of a second operator as a back-up to an inoperable RWM should be strengthened by a utility review of relevant procedures, related forms and quality assurance to ensure that the second operator provides an effective and truly independent monitoring process. A discussion of this review should accompany the request for RSCS removal.

3) Rod patterns used should be at least equivalent to banked position withdrawal sequence (BPWS) patterns.

With respect to item 1) above, the proposed TS submitted with this amendment application allows only one reactor startup per calendar year with the RWM unavailable prior to or during the withdrawal of the first 12 control rods. We conclude that item 1) is adequately satisfied.

With regard to item 2) above, PECo has described the programs and procedures that would be provided during instances when the RWM is not available to independently verify the correctness of an operator's actions during rod movements. Procedure AO 62A.1, Rod Worth Minimizer System Manual Bypass, has been revised to allow a technically qualified member of the station technical staff to back up the Reactor Operator when the RWM is inoperable. The procedure provides acceptable controls when used by the backup operator or technically qualified member of the station technical staff, as described in the licensee's November 14, 1989 submittal.

The RWM at Peach Bottom Units 2 and 3 uses the BPWS patterns recommended in the staff's December 27, 1987 letter. This satisfies item 3) above.

PECo's proposal to remove the RSCS and lower the RWM low power setpoint from 25 to 10 percent at Peach Bottom Units 2 and 3 meets the requirements detailed in the staff's letter of December 27, 1987.

Accordingly, the modifications proposed in PECo's letters of July 19, 1989 and November 14, 1989 are found to be acceptable and are hereby approved. We also have reviewed the proposed changes to the TS and find them to be consistent with the intent of the staff's safety evaluation approving the topical report and find the changes acceptable.

The revised Technical Specification pages approved and issued by the staff in these amendments differ from the proposed pages in the licensee's July 19, 1989 application to allow for appropriate pagination. Specifically, portions of TS 3.3.A.2.a and TS 4.3.A.2.a were moved from page 99 to page 100; and portions of TS 3.3.B.3.b and TS 4.3.B.3.b were moved from page 102a to page 102. The staff made no changes to the wording in the licensee's proposed TS pages.

4.0 ENVIRONMENTAL CONSIDERATIONS

These amendments involve both a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20, and changes to the surveillance requirements. The staff has determined that these amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration, which was published in the Federal Register (54 FR 35108) on August 23, 1989, and consulted with the Commonwealth of Pennsylvania. No public comments were received and the Commonwealth of Pennsylvania had no comments. The licensee's November 14, 1989 letter discussed procedural controls governing the use of a technically qualified member of the station staff when bypassing the rod worth minimizer. The staff has determined that this additional information does not affect the proposed determination that the amendments involve no significant hazards consideration.

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: December 4, 1989