



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 85 TO FACILITY OPERATING LICENSE NO. 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 NO. 3

DOCKET NO. 50-278

INTRODUCTION

By letters dated July 6 and 22, 1982 (Reference 1) the Philadelphia Electric Company (PECo or the licensee) made application to amend the Technical Specifications (TSs) for the Peach Bottom 3 Cycle 5 to reflect changes in analyses resulting from corrections to an ODYN computer code error. In support of this application PECo also submitted a revised Supplemental Reload Licensing Document (Reference 3). We have reviewed the following areas: (1) safety limit MCPR, (2) operating limit MCPR, (3) changes to Tables 3.5.K.2, 3.5.K.3 and Figures 3.5.K.1, 3.5.K.2 of the TSs (Reference 2), and (4) transient analysis.

EVALUATION

The objective of this review is to confirm that the thermal-hydraulic design aspects of the reload code provide an acceptable margin of safety from conditions which could lead to fuel damage during normal operation and anticipated operational transients.

Safety Limit MCPR

The safety limit MCPR has been established to assure that at least 99.9 percent of the fuel rods in the core do not experience a boiling transient during the worst anticipated operational occurrences. As stated in Reference 4, the safety limit MCPR is 1.07 and remains unchanged.

Operating Limit MCPR (OLMCPR)

The licensee submitted analytical results (Reference 3) for the pressurization transients using the corrected fuel length input data to the ODYN code. The OLMCPR for option A resulting from the limiting transient, the generator load rejection without bypass transient, is 1.45 for the fuel at end of Cycle 5 (EOC 5) as compared to the original OLMCPR of 1.42 for EOC 5. The difference of 0.03 in CPR reflects the changes in analytical results because of corrections to the ODYN code.

The pressurization transients were also analyzed for the fuel at EOC 5-1000 MWD/t; this represents an increased burnup from the EOC 5-2000 MWD/t given in the original TSs. Section 11 of Reference 3 presents the CPR for both non-pressurization and pressurization transients. The maximum calculated MCPRs in Section 11 are specified as the OLMCPRs and are incorporated in the TSs.

We have reviewed the results of the OLMCPRs discussed above and find the results acceptable. Peach Bottom Unit 3 Reload 4 (Cycle 5) pressurization transients were analyzed using ODYN, the original analyses were submitted by letter dated March 30, 1981, and our Safety Evaluation was issued on September 16, 1981 (Reference 6). Due to a recently discovered fuel length input error in the original analysis, the licensee has reanalyzed the affected transients utilizing corrected values. The results of these reanalyses are presented in Reference 3. The most limiting transient using ODYN option B is the generator load rejection without bypass event, which results in an OLMCPR of 1.32 for the fuel at the end of the current Cycle 5 (EOC 5) as compared to an original OLMCPR of 1.30 for EOC 5. The difference of 0.02 in CPR reflects the changes in analytical results due to the error correction. The licensee also reanalyzed the pressurization transients at an additional exposure point (EOC 5-1000 MWD/t) using the corrected version of ODYN. REDY-analyzed transients are not affected.

#### Summary of Conclusions on Error Correction

We have reviewed the licensee's proposed changes to the TSs related to the OLMCPR (pages 133d, 133e, 142, 142a) resulting from corrections to the ODYN computer code. We conclude that these changes are acceptable.

#### ENVIRONMENTAL CONSIDERATIONS

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §1.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

#### CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, the amendment does not involve a

significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: July 29, 1982

The following NRC personnel have contributed to this Safety Evaluation:  
Morton Fairtile, George Thomas and Summer Sun.

References

1. E. J. Bradley (PECo) letters to H. R. Denton (NRC) dated July 6 and 22, 1982.
2. Enclosure to Reference 1-Application for Amendment of Facility Operating License, DPR-56.
3. "Supplemental Reload Licensing Submittal for Peach Bottom Atomic Power Station Unit 3, Reload No. 4, Revision 1," General Electrical Company Report Y1003J01A20, June 1982.
4. "General Electric Boiling Water Reactor Generic Reload Fuel Application," General Electric Company Report NEDE-24011-P-A-2, July 1981.
5. General Electric Company Generic Reload Fuel Application, NEDE 24011-P-A-1.
6. NRC License Amendment No. 79 to Facility Operating License No. DPR-56, September 16, 1981.