



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION SUPPORTING
AMENDMENTS NOS. 99 AND 101 TO FACILITY OPERATING LICENSES 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, UNITS NOS. 2 AND 3

DOCKETS NOS. 50-277 AND 50-278

Introduction and Summary

Our concerns regarding the deficiencies in the existing design of Reactor Protection System (RPS) power monitoring in BWRs was transmitted to Philadelphia Electric Company (the licensee) by NRC generic letter dated September 24, 1980. In response to this, by letters dated November 26, 1980, March 9, 1981, December 23, 1981, November 8, 1982, March 30, 1983, June 2, 1983 and September 29, 1983, the licensee proposed design modifications and changes to the Technical Specifications. A detailed review and technical evaluation of these proposed modifications and changes to the Technical Specifications were performed by Lawrence Livermore Laboratory (LLL) under contract to the NRC, and with general supervision by NRC staff. This work is reported in LLL report UCID-19720, "Technical Evaluation Report on the Monitoring of Electric Power to the Reactor Protection System," dated September 1983 (attached). We have reviewed this Technical Evaluation Report and concur in its conclusion that the proposed design modifications and Technical Specification changes are acceptable.

Proposed Changes and Evaluation Criteria

The following design modifications and Technical Specification changes were proposed by the licensee for Peach Bottom Atomic Power Station, Units 2 and 3:

1. Installation of two Class 1E detection and isolation assemblies, similar to the General Electric (GE) designed protection assemblies, in each of the three sources of power to the RPS (RPS M-G sets A and B and the one alternate source). Each assembly includes a circuit breaker and a monitoring module consisting of an undervoltage, an overvoltage and an underfrequency sensing relay. In conjunction with the underfrequency relay, there is an auxiliary relay to provide the proposed time delay for an underfrequency trip.
2. The licensee also proposed the addition of trip setpoints, limiting condition for operation and surveillance requirements in the Technical Specifications associated with the design modifications cited above.

By letter dated September 29, 1983, the licensee, as a result of discussions with the NRC staff, proposed changes to its December 23, 1981, application for amendment concerning surveillance setpoints for the RPS system. These changes were in direct response to the staff's concerns expressed in previous telephone conversations and result in maintaining the RPS equipment voltages within design limits. We have reviewed these changes and find that they do not affect the substance of the licensee's December 23, 1981, amendment request.

The criteria used by LLL in its technical evaluation of the proposed changes include GDC-2, "Design Bases for Protection Against Natural Phenomena," and GDC-21, "Protection System Reliability and Testability," of Appendix A to 10 CFR 50; IEEE-279-1971, "Criteria for Protection Systems for Nuclear Power Generating Stations;" and NRC memorandum from F. Rosa to J. Stolz, T. Ippolito and G. Lainas dated February 19, 1979.

We have reviewed the LLL Technical Evaluation Report which includes the proposed surveillance setpoints documented in the licensee's letter of September 29, 1983, and concur in its findings that (1) the proposed modifications will provide automatic protection to the RPS components from sustained abnormal power supply and (2) the proposed changes to the Technical Specifications include acceptable limiting conditions for operation and periodic testing in accordance with the Standard Technical Specifications for BWRs. Therefore, we conclude that the licensee's proposed design modifications and changes to Technical Specifications are acceptable.

Environmental Considerations

The amendments involve a change in the installation or use of a facility component located within the restricted area. We have determined that the amendments involve no significant increase in the amounts of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupation 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.

Conclusion

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: June 21, 1984

The following NRC personnel have contributed to this Safety Evaluation:
I. Ahmed.