



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 225 AND 229 TO FACILITY OPERATING

LICENSE NOS. DPR-44 and DPR-56

PECO ENERGY 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 March 20, 1998, as supplemented by letters dated June 28, August 11, and September 14, 1998, the PECO Energy Company (the licensee) submitted a request for changes to the Peach Bottom Atomic Power Station (PBAPS), Unit Nos. 2 and 3, Technical Specifications (TSs). The proposed changes would revise the TSs to support incorporation of the end-of-cycle reactor pump trip (EOC-RPT) modifications. The August 11, and September 14, 1998, letters provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

PECO Energy Company proposes to install an EOC-RPT System at PBAPS, Unit 2, during the upcoming 2R12 refueling outage currently scheduled to begin in October 1998 and at PBAPS, Unit 3, during the 3R13 refueling outage currently scheduled to occur in October 1999. As part of these modifications, a new TS Section 3.3.4.2, EOP-RPT instrumentation and associated Bases will be added to the current TSs of each Unit. Additionally, the Table of Contents for the TSs and Bases are being revised, and a new definition of the EOC-RPT System response time is added to the definitions section. The new TSs section and Bases are based on the EOC-RPT System TSs contained in NUREG-1433, "Standard Technical Specifications [STS], General Electric Plants, BWR/4, Revision 1, April 1995 (PBAPS TS were converted into STS). The STS were modified for PBAPS based on the plant design and the current licensing basis.

The RPT provides automatic trip of both recirculation pumps after a turbine trip or generator load rejection if reactor power is above approximately 30 percent of rated full power. The purpose of this trip is to reduce the peak reactor pressure and peak heat flux resulting from transients in which it is postulated that there is a coincident failure of the turbine bypass system. The RPT signal results from either turbine control valve fast closure or turbine stop valve closure. Reactor scram is also initiated by these signals. The very rapid reduction in core flow following an RPT early in these transients reduces the severity of these events because the immediate resultant increase in core voids provides negative reactivity which supplements the negative reactivity

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from control rod scram. The EOC-RPT System will improve the thermal response to plant pressurization transients, particularly during the latter portion of a typical fuel cycle when slower negative scram reactivity insertion rates are encountered.

The coast down time of the recirculation pumps is changed due to the installation of the EOC-RPT. The coast down time of the recirculation pumps is assumed for the loss-of-coolant accident (LOCA) analysis of BP/P 8 x 8 fuel. The faster coast down of the recirculation pumps during a LOCA due to the removal of the Motor-Generator set inertia results in an increase in the calculated peak cladding temperature. However, presently at PBAPS there is no BP/P 8 x 8 fuel in the core. If in the future, PECO decides to load the 8 X 8 fuel, the new revised flow coast down values will be used by the licensee for the LOCA analysis. For GE 11 fuel (9 X 9) and later designs GE 12 and GE 13, no credit is taken for recirculation pump coast down in the LOCA analysis, therefore the installation of the EOC-RPT will not affect the Peak Cladding Temperature Licensing basis.

There will be no direct interface between the EOC-RPT System and the main turbine control system. Thus the new system is not expected to initiate a turbine trip or generator load rejection event.

If the EOC-RPT is inoperable, the TS limiting condition for operation (LCO) requires the licensee to follow the minimum critical power ratio (MCPR) and average planar linear heat generation rate (APLHGR) restrictions given in the core operating limits report (COLR). In the letter dated August 11, 1998, PECO clarified the need for incorporation of APLHGR in the proposed TS. The staff finds the LCO requirement acceptable.

The EOC-RPT system logic consists of two electrically and physically separated trip systems; one will be used to trip one EOC-RPT system breaker, and the other will be used to trip the second EOC-RPT system breaker for each recirculation pump. No software is used in the EOC-RPT system. The system uses the existing spare contacts from the Reactor Protection System (RPS) relays. Because the existing relays are used, the modification will not result in the new system becoming susceptible to electromagnetic emissions. The EOC-RPT system uses the existing RPS cables. The licensee stated that the separation of the existing cables has been verified for the EOC-RPT system.

The EOC-RPT system setpoints given in the proposed Surveillance Requirement 3.3.4.2.2 are based on values found in Section 3.3.1.1, "RPS Instrumentation," Table 3.3.1.1-1, Items 8 and 9, "Turbine Stop Valve — Closure" and "Turbine Control Valve Fast Closure, Trip Oil Pressure — Low," respectively. The respective allowable values are $\leq 10\%$ closed and ≥ 500.0 psig. The frequency for performing the EOC-RPT system TS surveillance requirements has been extended from the STS frequency of 18 months to 24 months based on the 24-month refueling outage frequency for PBAPS, Units 2 and 3, and the current surveillance frequencies as stated in Section 3.3.1.1, "RPS Instrumentation." The staff considers this change acceptable as it is consistent with the surveillance frequency for other PBAPS safety-related instrumentation.

Based on the above evaluation, the staff has determined that the proposed PBAPS TS changes are based on the EOC-RPT TSs contained in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4," Revision 1, April 1995, which was previously approved by the staff and other TS requirements for safety-related instrumentation; or they are editorial changes and are, therefore, acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change the surveillance requirements. The NRC staff has determined that the 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 (63 FR 40558). 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 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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Date: October 5, 1998