



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION SUPPORTING
AMENDMENTS NOS. 104 AND 108 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

Philadelphia Electric Company, et al. (the licensee) made application by letter dated November 10, 1983, to modify the Technical Specifications (TSs) set forth in Appendix A to the licenses by changing the words "scram discharge volume" to "scram discharge instrument volume" and to delete obsolete notes referencing completed modifications and testing. No physical changes to the facility or equipment will be made as a result of these changes.

The licensee also proposed TS changes concerning the Reactor Water Cleanup System (RWCU) which consist of the following:

1. Upon receipt of a high temperature signal ($\geq 200^{\circ}\text{F}$) in the RWCU system downstream of the non-regenerative heat exchangers, only the filter-demineralizer units would be isolated. Currently, the Peach Bottom TSs require that the entire RWCU system be isolated on the high temperature signal.
2. Additionally, the isolation of the filter-demineralizer could be overridden for up to 48 hours with the high temperature trip inoperable, provided the water inlet temperature (to the filter-demineralizers) is monitored once per hour and confirmed to be below 180°F .

Evaluation and Discussion

A. Scram Discharge Volume

The licensee's current Technical Specifications for Peach Bottom Units Nos. 2 and 3 specify for the control rod drive system a scram setpoint of ≤ 50 gallons and a control rod withdrawal block of ≤ 25 gallons of water in the "scram discharge volume". These setpoints were established in the original licensing process to ensure adequate capacity for the water displaced by the motion of the control rod drive pistons during a reactor scram.

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The licensee has modified the scram discharge volume per the recommendations of Bulletin 80-17, "Failure of 76 of 185 Control Rods to Fully Insert During a Scram at a BWR". This modification included increasing the size of the scram discharge pipe between the scram valves and the scram discharge instrument volume. As a result of this piping change, the scram discharge volume was increased by approximately 170 gallons for Unit 2 and the Unit 3 volume by approximately 325 gallons. Less than 5 gallons of this additional volume is at an elevation below the scram setpoint of 50 gallons.

The licensee now requests revisions to pages 38, 39, 42, 44, 73 and 83 for the purpose of clarifying the high water level scram and control rod withdrawal block setpoint values as the quantity of water required to be present in the scram discharge instrument volume to initiate the trips. The clarification will change "scram discharge volume" to "scram discharge instrument volume" and refer the ≤ 50 gallon scram setpoint and the ≤ 25 gallon control rod withdrawal block setpoint to the "scram discharge instrument volume." This clarification is necessary because of the above addition of approximately 5 gallons in the "scram discharge volume" at an elevation below the scram setpoint.

In evaluating the proposed revision, the staff has reviewed (among other documents), the Standard Technical Specifications for BWR's. This document states that the scram discharge volume must contain sufficient volume above the high level scram setpoint to contain the water displaced by the motion of the control rod drive pistons during a reactor scram. Since the licensee's design prior to the Bulletin 80-17 modifications contained sufficient volume and since the 80-17 modifications increased the volume by much more than 5 gallons, the Standard Technical Specification basis is not violated.

Based on the above evaluation, the staff finds that the proposed change to clarify the scram discharge instrument volume, high level scram and control rod block withdrawal setpoints is acceptable.

B. Reactor Water Cleanup System (RWCU)

The licensee's position in support of the proposed TS changes involving the RWCU system is that the purpose of the temperature limit in the RWCU system is to protect the ion exchange resin in the filter-demineralizers from damage due to high temperature, and that this function will still be performed if the proposed changes are implemented. Also, these changes would permit limited use of the RWCU system for routing of reactor water to the main condenser or waste surge tank with the high temperature trip inoperable. This would allow more effective water level control during startup and shutdown operations. In the past, this operational flexibility has been limited due to the inoperability of the temperature sensor, which required the entire RWCU system to be isolated.

In an earlier Safety Evaluation, dated February 24, 1977, the staff agreed with the licensee that the purpose of the high temperature trip in the RWCU system was to protect the ion exchange resins in the filter-

demineralizers from damage due to overheating. The current design of the high temperature trip feature uses only a single, non-safety grade temperature sensor. Upon receipt of a high temperature signal, only the outboard containment isolation valve for the RWCU system is closed. Consequently, the high temperature signal on the RWCU system does not meet, nor is it required to meet, the requirements of redundancy and reliability specified by General Design Criteria 54 and 55 in Appendix A of 10 CFR 50 for containment isolation. Therefore, it is not considered to be a containment isolation signal by the staff. Containment isolation for the RWCU system is initiated due to low reactor water level or high flow in the system pump suction lines. These isolation signals would be unaffected by the licensee's proposed changes. Therefore, the staff finds that the containment isolation function would not be compromised by the proposed changes to the RWCU system at Peach Bottom, Units 2 and 3.

We have also evaluated the impact of the licensee's proposed changes from the perspective of filter-demineralizer resin integrity. We have determined that the proposed change in the limiting condition of operation action statement for the Reactor Water Cleanup system high temperature trip would provide equivalent protection for the resins and meets the acceptance criteria of Section 5.4.8 of the Standard Review Plan (NUREG-0800, July 1981). In addition, the TSs governing reactor coolant chemistry established an effective limit on the use of the RWCU system with the filter-demineralizers isolated.

Adequate compensatory measures are proposed by the licensee to permit temporary use of the demineralizers with the trip feature out of service. These measures involve frequent monitoring of temperature and a conservative temperature limit. The proposed changes would enhance reactor water level control during the startup and shutdown modes of operation with the trip feature inoperable.

On the basis of the above evaluation, the staff concludes that the proposed Technical Specification changes to the high temperature isolation of the Reactor Water Cleanup system at Peach Bottom Units 2 and 3 are acceptable.

C. Deletion of Obsolete Notes

The current Technical Specifications include obsolete notes on the bottom of pages 38, 42 and 44. These notes reference plant modifications and testing associated with Amendments Nos. 34 and 67. Since the modifications and testing authorized by these amendments have been completed, the notes are no longer applicable.

In addition, the licensee proposed to revise the Table of Contents to reflect previously approved license amendments as well as correcting certain typographical errors.

The staff finds that these proposed changes to delete the obsolete notes and revise the Table of Contents are acceptable.

Environmental Consideration

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have 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 these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these 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 these 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: February 7, 1985

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