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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 60 TO FACILITY OPERATING LICENSE NO. DPR-70

AND AMENDMENT NO. 31 TO FACILITY OPERATING LICENSE NO. DPR-75

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

SALEM NUCLEAR GENERATION STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-272 AND 50-311

Introduction

By letter dated December 27, 1983, and supplemented February 25, 1985, Public Service Electric Gas Company (the licensee) requested amendments to the Technical Specifications in Appendix A of Facility Operating Licenses DPR-70 and DPR-75 for the Salem Generating Station, Units Nos. 1 and 2. The amendments request consisted of three (3) independent parts.

The first part (LCR 83-17) for Unit 1 is an administrative change which rewords two ACTION statements to agree with the corresponding statements for Unit 2. The second part (LCR 83-18) for Unit 2 is an administrative change which removes a typographical error. The final part (LCR 83-19) revises the response time requirement for the overtemperature delta T reactor trip for Units 1 and 2.

Evaluation and Summary

The licensee has requested the ACTION statement 1 in Table 3.3-1 and ACTION statement 13 in Table 3.3-3 for the Unit 1 Technical Specifications be revised to be consistent with the corresponding ACTION statements in the

Unit 2 Technical Specifications. The change would increase the time that one channel may be bypassed for surveillance testing from one hour to two hours. Since this change is consistent with the guidance provided in the Standard Technical Specification for Westinghouse Plants, NUREG-0452, we find that it is acceptable.

The licensee has requested that Section 4.8.1.1.2.c.7 of the Unit 2 Technical Specifications be revised to note the requirement to perform the surveillance required by Section 4.8.1.1.2.c.4 following the completion of the 24 hour test. The current technical specification references Section 4.8.1.1.2.c.7b, a non-existing section, referenced due to a typographical error. We find that the proposed change is consistent with the intended surveillance requirements and. therefore, acceptable.

The licensee has requested that the response time for the overtemperature delta T trip as specified in Table 3.3--2 of the Unit 1 and Unit 2 technical specifications be changed to reflect a value of "less than or equal to 5 seconds." The current bounded response time requirement is specified as 6 seconds for Unit 1 and 5 seconds for Unit 2. The licensee notes that the resistance temperature detectors (RTDs) used to monitor the hot and cold leg temperatures in the primary coolant loops are being replaced with detectors that meet environmental qualification requirements. The original RTDs had a response time of approximately 1.5 seconds, however, the replacement units have response times that have been determined to be about 3.4 seconds at the maximum. The licensee notes

that the proposed 5 second response time value is conservative with respect to the 6 second time delay assumed in the accident analysis as stated in Table 15.1-3 of Salem Unit 1 and 2 updated FSAR.

Since the safety analysis was performed by Westinghouse, the staff has discussed the generic aspects of the safety analysis assumptions used by Westinghouse with respect to the 6-second value noted for the overtemperature ΔT trip function time response. Herein, Westinghouse has indicated that the 6-second response time is derived based on three specific considerations. The first consideration was the allowance of a 2 second response time delay in the transport of primary coolant samples to the RTD bypass manifolds. The second was a 2-second response time for the resistance temperature detectors and the final consideration was a 2-second response for electronic equipment, reactor trip breakers and voltage decay for the control rod gripper coils. Hence, the overall response was taken as sum of these three considerations, i.e., 6 seconds.

The technical specifications further defines the Reactor Trip System Response Time as the time interval from when the monitored parameter exceeds its trip value at the channel sensor (emphasis added) until loss of stationary gripper coil voltage. This definition excludes the primary coolant transport delays as a consideration which is to be included in surveillance tests to verify the reactor trip system response time for this safety function. Therefore, the portion of the 6-second response time used in the safety analysis which is applicable to the surveillance testing requirement is only 4 seconds. Further, Westinghouse has indicated that the 2-second response time allowance for electronic equipment, reactor trip breakers and gripper voltage decay is very conservative and that the response time of these components is only of the

order of a few hundred milliseconds. Therefore, RTD response times approaching the 4 second limit could exist without exceeding the specified technical specification limit.

Thus, the staff advised the licensee that the proposed technical specification limit should not exceed 4 seconds in that a time delay of about 2 seconds, associated with transport delays, should be deducted from the 6-second response stated in the safety analysis assumptions. In response, the licensee indicated by telecon on February 20, 1985, that subsequent to the original license change request, Westinghouse had reanalyzed various accident cases involving the overtemperature ΔT trip and had confirmed that a 9 second response time assumption did not result in consequences which would violate the minimum DNBR limit of 1.3. By letter dated February 25, 1985, the licensee submitted the results of the reanalysis which assumed a 9 second response time for overtemperature delta T trip. While this new information may justify increasing the technical specification surveillance requirement for the overtemperature delta T trip to a value of 7 seconds, we require additional time to complete our evaluation of the information. Therefore, at this time and with the concurrence of the licensee provided by telecon on March 7, 1985, the technical specifications for Salem Units 1 and 2 will be revised to specify the response time of the overtemperature delta T trip at a value of 4.0 seconds, consistent with the safety analysis of record and consistent with the information provided in licensee's original change request.

Environmental Consideration

These amendments involve a change in the installation or use of the facilities components located within the restricted areas as defined in 10 CFR 20. 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 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 Sec 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: March 8, 1985

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