



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 78

FACILITY OPERATING LICENSE NO. DPR-53

BALTIMORE GAS AND ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 1

DOCKET NO. 50-317

Introduction

By application for license amendment dated August 6, 1982, Baltimore Gas and Electric Company (BG&E) requested a change to the Technical Specifications (TS) for Calvert Cliffs Unit 1. The proposed change to TS 3/4.7.1.2, "Auxiliary Feedwater System", would provide for a revised auxiliary feedwater flow requirement under automatic start conditions. The proposed TS would also provide an administrative change to the implementation of the flow requirement.

Discussion

On February 8, 1982, the NRC issued License Amendments 67 and 49 for Calvert Cliffs Units 1 and 2, respectively. The license amendments incorporated an auxiliary feedwater flow requirement (TS Figure 3.7-1) for automatic start conditions. This requirement provided for verification that the auxiliary feedwater system could provide between 88 and 142 gpm to each steam generator at 900 psia. The lower flow limit (88gpm) would provide 20 minutes following automatic start for the operator to increase flow should the auxiliary feedwater system be actually required to ensure maintenance of an adequate heat sink. The upper flow limit (142 gpm) would provide 20 minutes, following automatic start, for the operator to terminate auxiliary feedwater flow if this flow is not required to prevent overcooling of the primary system.

The proposed change to TS Figure 3.7-1, the auxiliary feedwater flow requirement, would provide a pressure dependent range of flows from 115 gpm at 900 psia to 170 gpm at 740 psia. Since steam generator pressure decreases at increasing power levels, the proposed change would allow BG&E to verify adequate auxiliary feedwater flow without returning the steam generator to 900 psia which corresponds to approximately zero power conditions.

A second change to TS 3/4.7.1.2 would modify the administrative implementation of TS Figure 3.7-1. The present TS.3.7.1.2 requires, in part, that the auxiliary feedwater system be "...capable of automatically initiating

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flow, within the area of acceptable operation of Figure 3.7-1, to each steam generator." In their August 6, 1982 application, BG&E indicated that the phrase "...area of acceptable operation" implies a two-dimensional "area" shown on Figure 3.7-1. In fact, Figure 3.7-1 contains a one-dimensional relationship; auxiliary feedwater flow is confirmed between the limits on this line. Accordingly, BG&E has proposed that the word "area" be replaced with the word "limits". We concur with BG&E that the proposed change more closely reflects the meaning of the TS.3.7.1.2 requirements. The change is administrative in nature and has no effect on the safety of the facility.

Evaluation

During the recent refueling outage at Calvert Cliffs Unit 1, BG&E conducted a test to determine the relationship between steam generator pressure and auxiliary feedwater flow*. The results of the test indicated that for a flow of 115 gpm at 900 psia, the flow increased in a very nearly linear fashion to 170 gpm at 740 psia. This experimentally determined relationship between auxiliary feedwater flow and steam generator pressure is the basis for BG&E's proposed change to TS.3.7.1.2. BG&E has shown, analytically, that a flow of 115 gpm (at 900 psia) and a flow of 170 gpm (at 740 psia) are each within a region of values which would allow the reactor operator 20 minutes to either terminate auxiliary feedwater flow or to increase the flow, as needed. The acceptability of this conclusion was the basis for License Amendments 67 and 49. Since there are no additional safety considerations associated with this TS change, we find this change to be within the bounds of previously reviewed safety considerations and therefore, acceptable.

Environmental Consideration

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 §51.5(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.

*This test will be repeated during the upcoming refueling outage for Unit 2 and will represent the basis for a future request to change the Unit 2 TS.

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.

Date: September 27, 1982

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