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

ENCLOSURE 1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATING TO TECHNICAL SPECIFICATION CHANGES
BALTIMORE GAS AND ELECTRIC COMPANY
CLAVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2
DOCKET NOS. 50-317 AND 50-318

1.0 INTRODUCTION

By letter dated January 20, 1989, the Baltimore Gas and Electric Company (the licensee) proposed to amend the Technical Specifications (TS) of the Calvert Cliffs Nuclear Power Plant, Units 1 and 2. The proposed change would increase the response time, upon an initiating signal, of the steam and motor driven auxiliary feedwater (AFW) pumps. The licensee, by letter dated June 30, 1989, provided a response to our request for additional information.

We have reviewed the proposed TS changes and the supporting analyses submitted by the licensee and our evaluation follows.

2.0 EVALUATION

At present, items 10a and b in TS Table 3.3-5 have a response time of 54.5 seconds for the steam-driven and motor-driven AFW pumps. The TS value is based upon the response of the steam-driven pump to an initiation signal(see FSAR, Chapter 14, Revision 3): 50 seconds is required to open the steam admission valves, and 4.5 seconds is required for the pump to accelerate to full speed. The travel time, 3.5 seconds, of water through the piping to the steam generators is not included in the TS.

The licensee has stated that an increase in the response time for the steam-driven AFW pump would allow modifications to prevent or minimize dynamic damage to the governor linkages. Also, the present emergency diesel generator (EDG)

load is approaching the machine capacity limit and an increase in the response time for the motor-driven AFW pump would provide greater flexibility with regard to the loading of the EDG.

The major concern associated with the proposed TS change is that the steam generators could go dry, thereby causing their loss as a heat sink. This could occur during a loss of feedwater event. Combustion Engineering (CE), the NSSS vendor, reanalyzed the event for the licensee using the NRC-approved CESEC computer code. Major assumptions were introduced such as a new low steam generator level trip setpoint and an increased delay (218.5 seconds) time or the delivery of AFW flow. The results demonstrated that a steam generator inventory was maintained without loss of the steam generators as a heat sink.

The licensee proposes to change the TS AFW response time to 180 seconds, which is much lower than that used in the CE analysis. As no change in level setpoint has been requested, the licensee's proposal is more conservative than the CE analysis. The proposed TS response time, however, is based on Table 2 in the January 20, 1989 submittal and includes the 3.5 second water travel time. Thus, the proposed TS change and Table 2 are inconsistent. However, due to large margin demonstrated by the CE analysis, the staff finds the proposed TS value acceptable. The licensee should revise the TS bases and updated FSAR to reflect consistency in the application of the water travel time.

3.0 CONCLUSION

We have reviewed the results of the supporting analyses for the proposed TS changes and have concluded that the changes are acceptable. However, other changes are required: The TS bases and the FSAR should be updated to reflect consistency with TS Table 3.3-5 in the application of water travel time.

ENCLOSURE 2

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

FACILITY NAME Calvert Cliff Units 1 and 2

SUMMARY OF REVIEW

The Reactor Systems Branch, DST, reviewed the proposed Technical Specification (TS) change to the auxiliary feedwater response time for Calvert Cliff Units 1 and 2. The review was performed in April and September 1989. Based on our review of the submittal and the FSAR, we find the reasons for the changes acceptable. We note, however, that the TS bases and the FSAR must be revised to eliminate the inconsistency associated with feedwater travel time used in the proposed change.

NARRATIVE DISCUSSION OF LICENSEE PERFORMANCE - SAFETY ASSESSMENT/QUALITY VERIFICATION

Review of the submittal indicated that the licensee did not adequately address the technical aspects of the issue. This is shown by a failure to incorporate the feedwater travel time, discussed in the FSAR, on a consistent basis with the proposed changes and the original TS. We do note, however, that they presented timely responses to the staff's questions and concerns.

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