



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

BALTIMORE GAS AND ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2

DOCKET NOS. 50-317 AND 50-318

1.0 INTRODUCTION

Inspection Report Nos. 50-317/90-80 and 50-318/90-80, dated April 4, 1990, for Calvert Cliffs Nuclear Power Station, Units 1 and 2, identified an unresolved item concerning the adequacy of the battery charger surveillance test procedure (STP) used to assure compliance with Technical Specification 4.8.2.3.2.e. The inspector noted the following:

"During the review of present and past MO's, the inspector did not concur with the licensee's method of demonstrating the 18-month battery charger test for compliance with Technical Specification paragraph 4.8.2.3.2.e. The TS states, 'At least once per 18 months, the battery charger shall be demonstrated capable of recharging the battery at a rate of less than or equal to 400 amperes while supplying normal dc loads or equivalent or greater dummy load.'

After a return from a system blackout the battery charger would pick up the bus load, approximately 180 amperes, as an instant load. The present test procedure is written to apply the bus load in a step profile which is not the same loading the charger would see under actual conditions of return from a blackout. This is an unresolved item pending licensee demonstration to the NRC, Office of Nuclear Reactor Regulation, that the present testing method meets the intent of the Technical Specification (TS) (50-317/90-80-04 and 50-318/90-80-03)."

2.0 EVALUATION

By letter dated July 27, 1990, the licensee provided a submittal in response to the unresolved item regarding the STP for the battery charger identified in the subject Inspection Report. In addition, the licensee provided additional information relating to the STP and the load profile used during a telephone conference with the NRC staff on September 28, 1990.

As noted above, TS 4.8.2.3.2.e states: "At least once per 18 months, the battery charger shall be demonstrated capable of recharging at a rate of less than or equal to 400 amperes while supplying normal DC loads or equivalent or greater dummy load." The licensee indicated that the intent of this TS requirement is to verify the capability to recharge a battery while supplying normal DC loads, not emergency loads following a station blackout (SBO), which

was identified as a concern in the referenced inspection report. The licensee further noted that the STP used to comply with TS 4.8.2.3.2.e complements the STP used for the battery service test required by TS 4.8.2.3.2.d. The battery service test is required to demonstrate the battery's capability to supply emergency loads for two hours and further requires that the battery chargers to be capable of recharging the battery to 95% capacity within 24 hours.

The licensee's response also noted that the concern relates to recovery from a SBO which is not currently a design basis event for the Calvert Cliffs facility and that the battery charger STP used assures compliance with the facility TS 4.8.2.3.2.e requirements identified above. The adequacy of the batteries and the battery chargers for SBO events is being addressed in the staff's evaluation of the licensee's response to the SBO rule, which is currently being reviewed.

Based on the above, the staff finds that the requirement for TS 4.8.2.3.2.e is to demonstrate that the battery chargers are capable of recharging a battery at a rate up to 400 amperes while supplying normal loads, not the emergency loads which would be expected during the recovery from a SBO event. The staff's evaluation addressed only the specific concern relating to the STP used to comply with TS 4.8.2.3.2.e. Furthermore, the staff did not evaluate the adequacy of the other STPs used or the DC systems response to transients. As noted, the staff is currently evaluating the licensee's response to a SBO as a separate action. The adequacy of the DC system, including testing, will be evaluated during the staff's review of the proposed design modifications deemed necessary to cope with a SBO transient.

### 3.0 Conclusion

The staff has concluded that the existing STP meets the requirements of TS 4.8.2.3.2.e as detailed above.

Dated: November 21, 1990

#### Principal Contributors:

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