



SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 66 AND 48 TO

FACILITY OPERATING LICENSE NOS. DPR-53 AND DPR-69

BALTIMORE GAS AND ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-317 AND 50-318

Introduction

By application dated July 27, 1977, Baltimore Gas and Electric Company (BG&E) requested changes to the Technical Specifications (TS) for Calvert Cliffs Units 1 and 2. The proposed change to TS 3.1.3.3 would allow startup and power operation with one inoperable reed switch position indicator channel per control element assembly (CEA) group, provided that the associated CEAs can be moved to the full out position, and confirmed to be in this position.

Discussion and Evaluation

Each control rod drive mechanism at Calvert Cliffs Units 1 and 2 is provided with a reed switch system which provides positive indication of control rod insertion status. The reed switch CEA position indication system utilizes a series of magnetically actuated reed switches, spaced at 2-inch intervals along the CEA housing and arranged with precision resistors in a voltage divider network, to provide voltage signals proportional to CEA position. These signals are displayed in bar chart form by a cathode ray tube (CRT) on the main control board. A logic package associated with the CRT provides redundant alarm functions. A backup readout is provided which can be utilized to read the output of any reed switch voltage divider. The collection of position indicating reed switches for CEA are referred to as a reed switch position indicating channel. In addition to the position indicating reed switches placed at 2-inch intervals, additional reed switches are located at the "full out" and "full in" CEA positions. These reed switches provide verification of full-out/full-in status on a core mimic which is located on the main control panel. At the present time, TS 3.1.3.3 allows "credit" for the full-out or full-in reed switches. Upon failure of up to one position indicating reed switch channel per CEA group, TS 3.1.3.3 allows power operation to continue provided that the positions of the associated CEAs are periodically verified via the full-out or full-in reed switches. The Basis for TS 3.1.3.3 states, in part,

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"The CEA "Full In" and "Full Out" limits provide an additional independent means for determining the CEA positions when the CEAs are at either their fully inserted or fully withdrawn positions. Therefore, the ACTION statements applicable to inoperable CEA position indicators permit continued operations when the positions of CEAs with inoperable position indicators can be verified by the "Full In" or "Full Out" limits."

Startup of the reactor with inoperable reed switch position indicating channel(s) is prohibited, however, since the requirements of TS 3.0.4\* are applicable to TS 3.1.3.3.

By application dated July 27, 1977, BG&E requested a change to TS 3.1.3.3 which would allow startup of the reactor with inoperable position indication reed switch channel(s) by specifying that TS 3.0.4 is not applicable to TS 3.1.3.3. Our review of BG&E's request indicates that the startup of the reactor with inoperable reed switch position indicating channel(s) is not a greater concern than full power operation with these inoperable channel(s), which is presently permitted under TS 3.1.3.3. A reasonable period of time, however, should be specified to achieve verification of the full out status of the CEAs. Accordingly, the following requirement should be incorporated into TS 3.1.3.3:

"If the failure of the position indicator channel(s) is during STARTUP, the CEA group(s) with the inoperable position indicator channel must be moved to the "Full Out" position, and verified to be fully withdrawn via a "Full Out" indicator, within 4 hours. The provisions of Specification 3.0.4 are not applicable."

The licensee has agreed to the above requirement. Since the above requirement is fully within the original Basis of TS 3.1.3.3, no additional safety concerns have been introduced and the proposed change, as amended by the NRC staff, is acceptable.

#### Environmental Consideration

We have determined that the amendments do 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 amendments involve 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 these amendments.

\*TS 3.0.4 is a general requirement which prohibits changing operational Modes (i.e. startup to power operation) if the remedial measures of a TS action statement (i.e. equipment inoperable) are implemented.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

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