



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 53 AND 36 TO

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

BALTIMORE GAS AND ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NOS. 1 & 2

DOCKET NOS. 50-317 AND 50-318

INTRODUCTION:

By letter dated November 10, 1980 as supplemented by your letters of November 25, 1980 and January 23, 1981, Baltimore Gas and Electric Company (BG&E) proposed changes to the Technical Specifications (TS) appended to Facility Operating License Nos. DPR-53 and DPR-69 for Calvert Cliffs Unit Nos. 1 and 2. The changes involve the incorporation of certain of the TMI-2 Lessons Learned Category "A" requirements. The licensee's request is in direct response to the NRC staff's letter dated July 2, 1980.

BACKGROUND INFORMATION:

By our letter dated September 13, 1979, we issued to all operating nuclear power plants requirements established as a result of our review of the TMI-2 accident. Certain of these requirements, designated Lessons Learned Category "A" requirements, were to have been completed by the licensee prior to any operation subsequent to January 1, 1980. Our evaluation of the licensee's compliance with these Category "A" items was attached to our letter to BG&E dated April 7, 1980.

In order to provide reasonable assurance that operating reactor facilities are maintained within the limits determined acceptable following the implementation of the TMI-2 Lessons Learned Category "A" items, we requested that licensees amend their TS to incorporate additional Limiting Conditions of Operation and Surveillance Requirements, as appropriate. This request was transmitted to all licensees on July 2, 1980. Included therein were model specifications that we had determined to be acceptable. The licensee's application is in direct response to our request. Each of the issues identified by the NRC staff and the licensee's response is discussed in the Evaluation below.

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EVALUATION:

2.1.1 Emergency Power Supply Requirements

The pressurizer water level indicators, pressurizer relief and block valves, and pressurizer heaters are important in post-accident functioning of these components.

The pressurizer level instruments were originally designed to be powered from a vital instrument bus, their power sources are assured by the existing TS 3.8.2.1 and 3.8.2.2. The "functional test" for PORV's in the model specifications was deleted since the initiating channel is part of the Reactor Protective System and is tested under existing TS Table 4.3-1 item 4. The submitted specifications for pressurizer heaters and pressurizer relief and block valves include provisions for the operability and testing of emergency power supplies.

We have reviewed these proposed TS and find that the emergency power supplies are reasonably ensured for post-accident functioning of the subject components. However the surveillance requirement of PORV block valve in the submitted TS 4.4.3.2 of "once per cold shutdown" is not adequate; the standard TS requires "once per 92 days". BG&E has agreed to change their proposal to meet our requirements.

2.1.3.a Direct Indication of PORV and SV Flow

BG&E has provided an acoustic monitoring system downstream of the pressurizer power-operated relief valves (PORVs) and safety valves (SVs) to provide direct indication of flow through any of these valves in the control room. These indications are a diagnostic aid for the operator and provide no automatic action. This system was previously reviewed and accepted as documented in our April 7, 1970 safety evaluation. BG&E has proposed TS consistent with our requirements. These TS are, therefore, acceptable.

2.1.3.b Instrumentation for Inadequate Core Cooling

BG&E has installed an instrument system to detect the effect of inadequate core cooling. This instrument system, a subcooling meter, receives and processes data from existing plant instrumentation. We previously reviewed this system in our Safety Evaluation dated April 7, 1980. The licensee submitted TS with a 31-day channel check and an 18-month channel calibration requirement and actions to be taken in the event of component inoperability. We conclude the TS are acceptable as they meet our July 2, 1980 model TS criteria.

2.1.4 Diverse Containment Isolation

The licensee has reviewed the containment isolation system to ensure that diverse parameters will be sensed to ensure automatic isolation of non-essential systems under postulated accident conditions. These parameters are pressurizer pressure low and containment pressure high. We have previously reviewed this system in our Lessons Learned Category "A" Safety Evaluation dated April 7, 1980. BG&E has made modification such that reset does not result in the automatic loss of containment isolation after the containment isolation signal is removed. Reopening of containment isolation would require deliberate operator action.

The existing TS 3.6.4.1 and Tables 3.3-3, 3.3-4, 4.3-2 and 3.6-1 list actuation parameters, instrumentation channels, appropriate surveillance and actions in the event of component inoperability. By letter dated January 23, 1981, BG&E proposed to add footnotes to TS Tables 3.3-3, 3.3-4 and 4.3-2 for clarification of how the safety injection actuations signal effects containment isolations. We find the existing TS as clarified by the January 23, 1981 proposal acceptable.

2.1.4 Integrity of Systems Outside Containment

Our request indicated that all licensees should propose a license condition to require a periodic system integrity measurement program to prevent the release of significant amounts of radioactivity to the environment via leakage from engineered safety systems and auxiliary systems which are located outside the reactor containment. BG&E's present program includes provisions for a preventive maintenance program and periodic visual inspections. The program also includes system leak test measurements at frequencies not to exceed refueling cycle intervals.

In lieu of a license condition, BG&E has agreed to place such a requirement in TS Section 6. Based on our review, we find that inclusion of this requirement in the Administrative Controls Section of the TS satisfies our requirement and is, therefore, acceptable.

2.1.7.1 Auto Initiation of Auxiliary Feedwater System

BG&E first installed a control grade circuit to automatically initiate the auxiliary feedwater system (AFWS) flow. This circuitry has now been upgraded to safety grade per our long-term requirement. Our Safety Evaluation of this modification will be issued under separate cover.

2.1.7.b Auxiliary Feedwater Flow Indication

The licensee has an installed auxiliary feedwater flow indication that meets our vital power requirement. We reviewed this system in our Safety Evaluation dated April 7, 1980 and found it acceptable. The licensee has proposed an 18-month channel calibration requirement. We find this TS acceptable as it meets the criteria of our July 2, 1980 model TS criteria.

2.1.9.c Iodine Monitoring

Our request indicated that the licensee should implement a program which will ensure the capability to determine the airborne iodine concentration in areas requiring personnel access under accident conditions. BG&E's present program includes training of personnel, procedures for monitoring and provisions for maintenance of sampling and analysis equipment.

BG&E has agreed to place the requirement in TS Section 6 instead of the license. Based on our review, we find that inclusion of this requirement in the Administrative Controls Section of the TS satisfies our requirement and is, therefore, acceptable.

2.2.1.b Shift Technical Advisor

Our request indicated that the TS related to minimum shift manning should be revised to reflect the augmentation of a Shift Technical Advisor (STA). The licensee's application would add one STA to each shift to perform the function of accident assessment during reactor operation. We require that the individual performing this function have at least a bachelor's degree or equivalent in a scientific or engineering discipline with special training in plant design, and response and analysis of the plant for transients and accidents. BG&E expressed concern about the definition of "equivalent" in the above requirement. We have determined that the definition of equivalent may, on an interim basis until our review is completed, be as defined in the BG&E submittals dated November 9, 20 and 23 and December 14, 1979. The licensee should be made aware that this definition may need to be revised pending our review of their total STA program.

Based on our review, we find the STA proposed TS satisfy our requirements and are, therefore, 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.

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.

Date: April 21, 1981