UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

EMERGENCY DIESEL GENERATORS QUALIFICATION REPORT

BALTIMORE GAS AND ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 2

DOCKET NO. 50-318

1.0 INTRODUCTION

On July 21, 1988, Part 50 of Title 10 of the Code of Federal Regulations was amended to include a new Section 50.63, entitled, "Loss of All Alternating Current Power," referred to as the station blackout (SBO) rule. The SBO rule requires that each light-water cooled nuclear power plant be able to withstand and recover from an SBO of specified duration. The SBO rule also requires that information defined in the rule be provided to the staff for review.

BG&E responded to the requirements of the rule and the staff approved its response by letter dated February 12, 1992. The staff's approval included the addition of two new safety-related Class-1E emergency diesel generators (EDGs).

BG&E submitted a revised response to the SBO Rule on July 7, 1993. One of the initial commitments approved by the NRC staff in its safety evaluation (SE) was to install two safety-related EDGs, as noted above, which would have resulted in a total of five safety-related EDGs at the site. The revised response changed that commitment to add one safety-related and one nonsafety-related EDG. The nonsafety-related EDG will be utilized as an alternate ac power source during SBO conditions. The final configuration will include two dedicated safety-related EDGs per unit. The revised response was approved by SE dated September 22, 1993.

The three existing safety-related EDGs are being modified to increase their rated capacity from 2500 KW to 3000 KW which will enhance the overall reliability of the onsite electrical power distribution system.

By letter dated December 17, 1993, as supplemented on February 4, 1994, BG&E requested a temporary exemption to GDC-2 to perform the initial upgrading on the Unit 1 EDG No. 11. The exemption is necessary because a steel missile door will have to be periodically removed in order for the work to be performed at various stages of the upgrade. During the periods of time when the missile protection door is removed, portions of support systems for the remaining EDGs (Nos. 12 and 21) will be exposed to postulated missiles which could be generated by natural phenomena. The EDGs are required to be operable to support the operation of Unit 2. The requested exemption is for the duration of the Unit 1 refueling outage (RFO-11) which is scheduled from

February 8, 1994, to early May 1994. Unit 1 will be defueled and will not require an operable EDG during the outage.

2.0 EVALUATION

While producing some increase in missile interaction risk during Unit No. 2 operation, it will be minimal due to the short periods of time that the missile door will be removed. The steel missile door will be required to be removed about four times during the outage. The licensee estimates that each of the removals will last for about 24 hours, which will result in a total removal time of about 100 hours during the scheduled 89 day RFO-11. Thus, the likelihood of tornado-generated or other high wind-generated missile damage which could affect the exposed portions of the support systems for the operable EDGs is low.

Even though the added risk is small, BG&E is providing compensatory action to assure the safe operation of Unit No. 2 during the short periods of time when the missile door will be removed. A concerted effort will be made to reinstall the missile door if a tornado watch or hurricane watch is issued or if sustained winds are predicted to be greater than 35 miles/hour at the site in accordance with the plant site Emergency Response Implementation Procedure 3.0, Attachment 18. This will not only encompass tornado conditions, but other severe weather conditions. The only factor which would impede the reinstallation of the missile door would be to ensure the safety of the individuals performing the reinstallation. However, based on previous responses to severe weather conditions, the NRC staff has noted that BG&E has performed the necessary preparatory actions for the impending weather prior to conditions which could compromise personnel safety.

The staff has reviewed the licensee's proposed exemption to GDC-2, including the compensatory measure, and concluded that the likelihood of missile damage to the Unit No. 2 EDG portions of the support systems which would not be protected during short periods of time is small during the period for which the requested exemption would apply.

3.0 CONCLUSION

Based on the its review, the staff has concluded that the licensee's proposed temporary exemption to GDC-2 should be granted. This conclusion is based on the low probability of missile generation during the short period of time for which the exemption would apply and the compensatory measures that will be in place.

Principal Contributor: D. McDonald

Date: February 23, 1994

A safety evaluation supporting the above exemption is also enclosed. Also, a copy of the exemption is being forwarded to the Office of Federal Register for publication.

Sincerely,

Original signed by:

Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosure:
1. Exemption
2. Safety Evaluation

cc w/enclosures:
See next page

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