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*A Member of the  
Constellation Energy Group*

February 18, 2000

U. S. Nuclear Regulatory Commission  
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant  
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318  
License Amendment Request: Unreviewed Safety Question – Diesel  
Generator 1A Light Load

Pursuant to 10 CFR 50.90, Baltimore Gas & Electric Company (BGE) hereby requests amendment to Operating License No. DPR-53 for approval of an issue involving the Societe Alsacienne Construction Mechaniques Del Melhouse (SACM) diesel generator (DG) that constitutes an unreviewed safety question. Specifically, a new failure mode has been identified for DG 1A (SACM) that is not adequately described in the Updated Final Safety Analysis Report. The manufacturer has indicated that operating the engine in a light load condition may degrade engine performance and could ultimately result in engine failure.

#### **REQUESTED CHANGES**

Per 10 CFR 50.92(2)(c), we request the NRC review and approve the unreviewed safety question based on the supporting information described below. It has been determined that acceptance of the new failure mode constitutes an unreviewed safety question. We request approval through an amendment to our operating license that concludes that the new failure mode is acceptable on the basis that we will assure on every shift that safety-related loads are sufficiently available to DG 1A to ensure the minimum load requirement is met. Otherwise, DG 1A will be declared inoperable.

#### **SAFETY ANALYSIS**

At Calvert Cliffs Nuclear Power Plant, there are four safety-related DGs with two DGs dedicated to each unit. Three of the DGs are Fairbanks Morse DGs and one is a SACM DG. The one SACM DG is dedicated to one of the Unit 1 safety-related 4 kV buses and is designated as DG 1A. The diesel manufacturer states that DG 1A may be operated up to eight consecutive hours unloaded without jeopardizing reliability. The manufacturer has indicated that operating the SACM DG with loads below the minimum load requirement may degrade engine performance and could ultimately result in engine failure. Our design does not ensure that the minimum load requirement can be met for all Chapter 14 accident scenarios with safety-related loads that are automatically sequenced onto DG 1A. This issue

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does not exist for the Fairbanks Morse DGs because the engine support systems required for these diesels to operate provide sufficient load.

After the failure mode was discovered on DG 1A, electrical loads under various scenarios were calculated. As a compensatory action to ensure that operability is met, interim controls were created and load has been monitored to ensure the minimum load requirement for DG 1A is met. After reviewing several solution paths for this issue, we propose continuing to monitor the load to ensure that sufficient safety-related loads are available to DG 1A to address the minimum load concern. Diesel Generator 1A will be declared inoperable if sufficient loads are not available from safety-related sources to satisfy the minimum load requirement. The operator actions needed to provide the required load for DG 1A will be controlled under plant procedures. In responding to events involving a valid demand for DG 1A to start and run, where the DG is not sufficiently loaded, our operators are given the flexibility within these procedures to select from either safety-related or non-safety-related loads when loading the DG. It has been determined the operators will have ample time (several hours) to place load on the engine. We have evaluated the lists of the safety-related equipment that would be made available to supply load to DG 1A during Modes 1-4, and have determined that operating the equipment in this fashion would not create a new unreviewed safety question. A similar evaluation will be performed for load lists that will be used during upcoming and future outages.

We have a high level of confidence that DG 1A could perform its safety function even if the engine is run below the minimum load requirement for greater than the eight hours stated by the vendor. A test of our spare SACM engine is planned to provide information to determine if this is a valid failure mode for this type of engine. The test is intended to verify that a SACM diesel would tolerate running at minimal load for a substantial period (days) and still be capable of performing its required safety function, if required. Baltimore Gas and Electric Company expects the test to be completed and the results reviewed and accepted by June 2000. If the test results lead to the conclusion that this is not a valid failure mode for the SACM diesels, there will no longer be an unreviewed safety question concerning minimum load. Based on the test results, we expect to follow up with further licensing actions, as appropriate.

## **SCHEDULE**

The 2000 refueling outage is currently expected to begin in March 2000 and end in April 2000. Given this schedule, we request the License Amendment be approved by April 10, 2000.

## **ASSESSMENT AND REVIEW**

We have evaluated the significant hazards considerations associated with this proposed amendment, as required by 10 CFR 50.92, and have determined that there are none (see Attachment 1 for a complete discussion). We have also determined that operation with the proposed amendment will not result in any significant change in the types or significant increases in the amounts of any effluents that may be released offsite, and no significant increases in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment is eligible for categorical exclusion as set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed change. The Plant Operations and Safety Review Committee and the Offsite Safety Review Committee have reviewed this proposed change and concur that operation with the proposed change will not result in an undue risk to the health and safety of the public.



**ATTACHMENT (1)**

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**DETERMINATION OF SIGNIFICANT HAZARDS**

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The proposed amendment revises the operating licenses to accept the Diesel Generator (DG) 1A as-is with the new failure mode of light load condition. We have concluded that acceptance of this new failure mode is an unreviewed safety question. Operation with the unreviewed safety question is acceptable since we will continue to ensure that there are sufficient safety-related loads available to meet the minimum load requirement for DG 1A.

The proposed change has been evaluated against the standards in 10 CFR 50.92 and has been determined to not involve a significant hazards consideration, in that operation of the facility in accordance with the proposed amendments:

1. *Would not involve a significant increase in the probability or consequences of an accident previously evaluated.*

The DGs are the standby, onsite source of power for the safety-related systems necessary to safely shut down the units following a design basis accident and/or a loss-of-offsite power. The proposed change would revise the operating license to conclude that the new failure mode for DG 1A is acceptable.

Diesel generators are not initiators in any previously evaluated accidents. Therefore, the proposed change does not involve an increase in the probability of an accident previously evaluated. For DG 1A to be considered operable, the required minimum load must be available to DG 1A from safety-related sources.

The proposed change accepts operation with the new failure mode of DG 1A because the required minimum load required will be met by having safety-related loads available to DG 1A. Having the safety-related loads available will ensure DG 1A will be capable of performing its safety function. Therefore, accepting the unreviewed safety question for DG 1A does not involve a significant increase in the consequences of an accident previously evaluated.

Based on the above, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. *Would not create the possibility of a new or different type of accident from any accident previously evaluated.*

The proposed change does not involve a significant change in the operation of the plant and no new or different accident initiation mechanism is created by accepting the new failure mode. Diesel Generator 1A is not being modified by the proposed change nor will an unusual operator action be required. The DG 1A will continue to operate in the same manner. Therefore, the proposed change does not support the possibility of a new or different type of accident from any accident previously evaluated.

3. *Would not involve a significant reduction in a margin of safety.*

The margin of safety of the DGs is to provide a reliable standby, onsite source of power for the safety-related systems necessary to safely shut down the units following a design basis accident and/or a loss-of-offsite power. The proposed change accepts the new failure mode for the DG because the required minimum load requirement will be met by having safety-related loads available to DG 1A. Therefore, accepting the DG as-is does not involve a significant reduction in the margin of safety.