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July 20, 1984

ARTHUR E. LUNDVALL, JR.  
VICE PRESIDENT  
SUPPLY

U. S. Nuclear Regulatory Commission  
Region I  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

ATTENTION: Mr. Thomas E. Murley  
Regional Administrator

SUBJECT: Calvert Cliffs Nuclear Power Plant  
Unit Nos. 1 & 2, Docket Nos. 50-317 & 50-318  
IE Bulletin 84-02: Failures of General Electric Type HFA Relays in Use in  
Class IE Safety Systems

Gentlemen:

This refers to IE Bulletin 84-02, which requested information on failures of GE HFA Relays used in Class IE systems. Enclosure 1 provides a reply to items 1 through 4 as requested in the Bulletin.

Should you have further questions regarding this reply, we will be pleased to discuss them with you.

Very truly yours,

AEL/LOW/sjb

STATE OF MARYLAND :  
  : TO WIT:  
CITY OF BALTIMORE :

Arthur E. Lundvall, Jr., being duly sworn states that he is Vice President of the Baltimore Gas and Electric Company, a corporation of the State of Maryland; that he provides the foregoing response for the purpose therein set forth; that the statements made are true and correct to the best of his knowledge, information, and belief; and that he was authorized to provide the response on behalf of said Corporation.

WITNESS my Hand and Notarial Seal:

Minnie L. Robinson  
Notary Public

My Commission Expires:

July 1, 1986.

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cc: D. A. Brune, Esquire  
G. F. Trowbridge, Esquire  
D. H. Jaffe, NRC  
T. E. Foley, NRC

## ENCLOSURE 1

### REPLY TO I&E BULLETIN 84-02

#### NRC REQUEST

##### Plants in Operation

- 1.a. Develop plans and schedules for replacing (1) nylon or Lexan coil spool-type HFA relays used in normally energized safety-related applications and (2) nylon coil spool-type HFA relays used in normally deenergized safety-related applications. The replacement relays and any replacements made in the future should meet the requirements of the applicable IEEE standards. The replacement program for energized and deenergized relays should be performed on a "best efforts" basis during plant outages of sufficient duration. The entire replacement program should be completed within two years from the date of this bulletin.

The replacement schedule should consider the following recommended priority:

- Nylon or Lexan normally energized in the reactor trip system
- Nylon or Lexan normally energized in other safety-related applications
- Nylon normally de-energized in the reactor trip system
- Nylon normally de-energized in other safety-related applications

#### BG&E RESPONSE

The Calvert Cliffs Reactor Protective System does not incorporate any GE-type HFA relays. We do use GE-type HFA normally deenergized relays in other safety-related applications. All GE-type HFA normally deenergized relays associated with safety-related functions will be replaced (contingent upon engineering support and spare parts availability) in accordance with the following schedule:

- (1) Unit 1 relays requiring a unit shutdown will be replaced by the end of the May 1985 scheduled refueling outage.
- (2) Unit 2 relays requiring a unit shutdown will be replaced by the end of the December 1985 scheduled refueling outage.
- (3) All identified GE-type HFA normally deenergized relays associated with safety-related applications will be replaced by March 1986.

We are aware of some recent problems within the Industry regarding the GE-type HFA 151 replacement relays and we understand that General Electric is doing some research on these relays. The replacement schedules we have provided are optimistic in that we have not fully defined the contingencies such as logistics and recent technical problems which influence the availability of the GE-type HFA 151 relay as a qualified replacement.

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#### NRC REQUEST

- 1.b. During the period before relay replacement, develop and implement surveillance plans that include:
- (1) Monthly functional tests of all reactor trip system normally energized relays that verify relay contacts change state when the relay coil is deenergized.
  - (2) Visual inspections of all safety-related normally energized relays as soon as practical upon receipt of this bulletin. Thereafter, similar inspections should be accomplished in conjunction with the monthly functional test. These visual inspections should verify that relay coils are not deteriorating (e.g., inspect coil bobbins for visual cracks or melting), and should confirm cleanliness of the relay pole pieces.

#### BG&E RESPONSE

This request is not applicable to the Calvert Cliffs facility since we do not use any normally energized GE-type HFA relays in reactor trip or other safety-related systems.

#### NRC REQUEST

- 1.c. Provide a basis for continuing operations for the period of time until the normally energized relays are replaced. This basis should include a discussion of those measures addressed in Items 1.a and 1.b and any other preventive and/or corrective measures taken or planned.

#### BG&E RESPONSE

As per item 1.a and 1.b, this item is not applicable to the Calvert Cliffs facility.

#### NRC REQUEST

- 1.d. Provide a written report of the above actions, including schedule for completion. This report is to be submitted to the NRC within 120 days of receipt of this bulletin.

#### BG&E RESPONSE

Our response to item 1.a provides the actions applicable to the Calvert Cliffs facility in response to this bulletin.

## ENCLOSURE 1

### REPLY TO I&E BULLETIN 84-02

#### NRC REQUEST

2. Plants Under Construction

#### BG&E RESPONSE

This item is not applicable to the Calvert Cliffs facility.

#### NRC REQUEST

3. If your plant does not use or plan to use the nylon or Lexan-type GE HFA relays in the safety-related systems discussed above, a negative response is requested within 120 days of receipt of this bulletin, and no further action is required.

#### BG&E RESPONSE

Consistent with our response to item 1.a, all GE-type HFA relays used in deenergized applications in safety-related equipment will be replaced. We do not plan to use these types of relays in energized or deenergized applications in safety-related equipment in the future.

#### NRC REQUEST

4. If your plant uses or plans to continue to use the nylon or Lexan-type HFA relay in systems other than those safety-related applications defined in this bulletin, then the appropriate administrative controls dealing with maintenance, storage, and handling of spare parts at your facility must be revised to ensure that the older and problematic HFA relay coils are not inadvertently used as a replacement part in safety-related applications in future maintenance efforts at your facility(ies).

#### BG&E RESPONSE

We currently use both energized and deenergized GE-type HFA relays in nonsafety-related applications at our facility. We plan to continue using deenergized applications of these relays. Accordingly, we have reviewed and initiated appropriate changes to the procurement, storage, and issuance of spare parts at the Calvert Cliffs facility. These changes have been made to ensure that the concerns of this bulletin are addressed. Of an immediate nature, all GE-type HFA 51 relays carried in stock have been downgraded to a nonsafety-related status by stock description changes. Additionally, the mechanism used for ordering safety-related relays from stock has been modified to ensure no further relays will be ordered for safety-related applications. These measures will ensure that future safety-related relays drawn from stock will not be of the GE-type HFA 51.



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In addition, the Quality Assurance procurement and receipt program has been modified such that no further GE-type HFA 51 relays will be purchased non-stock as safety-related for the Calvert Cliffs facility. All safety-related purchase requests must be processed through the Procurement Coordinator-Electric Engineering Department and the Procurement Supervisor-Engineering Quality Assurance Unit. These groups have been notified and will disapprove all safety-related GE-type HFA 51 relay requests. The Receipt & Inspection Unit of Operations Quality Assurance will reject any safety-related GE type HFA 51 relays received. Moreover, any attempt to upgrade GE-type HFA 51 nonsafety-related relays to a safety-related status will be defeated during the approval process by the Procurement Supervisor-Engineering Quality Assurance Unit and the Procurement Coordinator-Electric Engineering Department.

We have reviewed IEB 84-02 for the specific concerns involving GE-type HFA relays. Our response to items 1 through 4 identify the short term corrective measures we have planned or have taken to respond to the concerns expressed in the bulletin. We have also investigated relays identified in I&E Information Notice 84-20 for the concerns expressed in IEB 84-02. With regard to the relays identified in I&E Information Notice 84-20, our investigation reveals that these relays are not used in safety-related applications at our facility. This does not preclude the possibility of future use of such relays in safety-related applications. Therefore, the same corrective measures described under our response to item 4 regarding the purchase and stocked availability for nonsafety-related applications will be applied to the I&E Information Notice 84-20 identified relays.

The subject bulletin also requests that "general concerns expressed in the bulletin" be addressed with respect to "past operating history and the manufacturers recommendation". Calvert Cliffs has an operating experience review function in place which reviews applicable industry and plant data bases in a summary fashion to detect trends or events adverse to quality operation or equipment performance. To date, this review has not detected adverse indications regarding relay failures or degradation related to equipment installed at Calvert Cliffs not addressed in the subject bulletin. Since this review is an ongoing function, we are confident that if such adverse indications occur in the future, they will be recognized and appropriate corrective actions will be implemented.