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February 13, 1992

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
Request for License Amendment; Control Element Assemblies

Gentlemen:

The Baltimore Gas and Electric Company hereby requests an Amendment to its Operating License Nos. DPR-53 and DPR-69 for Calvert Cliffs Unit Nos. 1 & 2, respectively, with the submittal of these proposed changes to the Technical Specifications.

DESCRIPTION

The proposed amendment would revise the Technical Specifications for both Units 1 and 2 to provide clarifications and simplifications to several specifications for control element assemblies (CEAs). These revisions would: (1) provide a clarification of the terminology for a CEA which is not available for reactivity insertion during a reactor trip; (2) clarify the applicability of a specification; (3) provide clarification of the appropriate actions to be applied for inoperable and misaligned CEAs; (4) remove an unnecessary portion of an action statement that implies that an unavailable, automatic mode of CEA operation is acceptable; and (5) provide other minor administrative corrections and clarifications.

BACKGROUND

During various reviews and discussions at Calvert Cliffs, several specifications associated with the control element assemblies have been identified as having potential for misinterpretation. These have been combined into this change request to provide clarification and simplification. These items include:

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Item 1 - Specifications 4.1.1.1.1.a, 4.1.1.2.a, 3.1.3.1 Action a and the BASES for Specification 3/4.1.3 do not use consistent terminology when referring to a control element assembly (CEA) that is not available for reactivity insertion during a reactor trip. This inconsistency has been a source of confusion regarding actions required for an inoperable CEA when inoperability was due to electrical malfunctions that do not affect the CEA trippability.

Item 2 - Specification 3/4.1.1.2 is identified as applicable during Mode 5 with either: (1) pressurizer level above 90 inches; or (2) pressurizer level below 90 inches while all sources of non-borated water are less than 88 gpm. However, the specification is also intended to be applicable with the sources of water greater than 88 gpm as evidenced by Action b. This inconsistency can be eliminated by making the specification applicable in all of Mode 5, and identifying the intended limiting condition for operation.

Item 3 - The action statements of Specification 3.1.3.1 contain several confusing elements: (a) the action statements do not all apply to both regulating and shutdown CEAs, some are applicable to only regulating CEAs and some are applicable to both; (b) Action e currently provides requirements for more than one CEA misaligned, but does not differentiate which portions of the action statement apply only when a single CEA is inoperable; (c) Actions e, f, and g were developed separately and do not contain consistent requirements for power levels and timing; (d) the action statement of Specification 3.1.3.5 requires application of Specification 3.1.3.1, but is unclear on which of the action statements of Specification 3.1.3.1 are applicable to shutdown CEAs that are not fully withdrawn; (e) Action f of Specification 3.1.3.1 requires an unnecessary referral to a figure to determine the next action; and (f) Action i provides information to be used when conducting a surveillance and is not really an action statement.

Item 4 - Specification 3.1.3.1.b.2 implies that the automatic mode of the CEA drive system can be used. This mode of the system is not available for use at Calvert Cliffs.

Item 5 - Several administrative and editorial changes are also proposed.

REQUESTED CHANGE

Change Specifications 3/4.1.1.1, 3/4.1.1.2, 3/4.1.3.1, and 3/4.1.3.5 and Bases 3/4.1.3 for both Unit 1 and Unit 2 as shown on the marked-up pages attached to this transmittal. These changes simplify these specifications and provide clarification for each of the items discussed above.

SAFETY ANALYSES/JUSTIFICATION

The proposed changes would clarify the existing technical specifications to eliminate the potential for confusion and incorporate time limits where none are currently imposed. The proposed changes are consistent with the current safety analysis as described in the Updated Final Safety Analysis Report. They are aimed at improving clarity and consistency in the actions required when problems arise with CEAs. The actions themselves are not being changed in intent or substance. Therefore, the changes are non-technical and are essentially administrative in nature.

Item 1 - Action a of the specification for CEA operability, Specification 3.1.3.1, identifies the actions necessary for a CEA which is "inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable." The Bases for this specification indicate the intent is to ensure that minimum shutdown margin is maintained, and identify that the action statement applicable to a "stuck or untrippable CEA" requires a prompt shutdown of the reactor since the condition "may be indicative of a possible loss of mechanical functional capability of the CEA" and "the loss of SHUTDOWN MARGIN." Other actions (to assure adequate shutdown margin) are identified in the specification for CEAs which may be inoperable but trippable because they are not mechanically bound (stuck). Therefore, it follows that the term "immovable" is defined as a mechanically bound CEA which is untrippable and unavailable for reactivity insertion. However, the term "immovable" is also used in the shutdown margin Specifications 4.1.1.1.1.a and 4.1.1.2.a without being so well defined. Here again, the inoperable CEA is referred to as "immovable or untrippable", but the term "immovable" is not expanded as it is in Specification 3.1.3.1.a. Since the purpose of both specifications is to assure adequate shutdown margin, BG&E requests a change to delete the term "immovable" in Specifications 4.1.1.1.1.a and 3.1.3.1. This would clarify that an increase in the shutdown margin is required only if the CEA is untrippable, i.e., unavailable for reactivity insertion, and the Bases would be similarly modified. This does not represent an actual change to the specifications, but rather provides clarification of the current requirements.

Item 2 - Specification 3/4.1.1.2 is required to be met in Mode 5, but applicability is further restricted. These restrictions currently exclude applicability of the specification during operation in Mode 5 with the pressurizer level below 90 inches and sources of non-borated water exceeding 88 gpm. The intent of the change in a previous amendment was to restrict the sources of non-borated water to $\leq$88 gpm while in Mode 5, as evidenced by the entry conditions for Action b. To accomplish the intent, a portion of the current applicability statement is proposed to be relocated into the limiting condition for operation (LCO) so that the LCO and the action statements match. This relocation does not represent an actual change to the specifications, but rather clarifies the intended requirements.

Item 3 - Specifications 3.1.3.1 and 3.1.3.5 both provide action requirements to be met when a shutdown CEA is found to be mispositioned. Some of these action requirements apply when the CEA is withdrawn to less than 129.0 inches, others apply when the CEA is misaligned in relation to the other CEAs in its group, some apply in both instances and some don't ever apply to shutdown CEAs. Personnel at Calvert Cliffs have found these specifications as they are currently written to be confusing and easily misapplied. The changes proposed below are based on prior analysis and are not intended to substantially change the requirements for inoperable or misaligned CEAs, but are intended to simplify and clarify the appropriate actions for such occurrences, as follows:

a) The entry conditions for each Action statement in Specification 3.1.3.1 have been modified to identify the type of CEA for which the Action statement is applicable. Action e is applicable to only regulating CEAs since the shutdown CEAs do not have "Long Term Steady State Insertion Limits" and cannot meet the entry conditions for the action statement. All other actions are applicable to both regulating and shutdown CEAs.

b) Action e requires that one or more CEA(s) be returned to within the alignment requirements or declared inoperable. Once the CEA(s) are declared inoperable, additional actions are provided for continued operation. The original entry conditions for Action e are for "one or more" misaligned CEAs, however these additional actions for continued operation are allowed for a single inoperable CEA only. As written, the action statement presents a potential for misinterpretation as allowing continued operation with more than one misaligned (and subsequently declared inoperable) CEA. Such operation would be in direct

conflict with Action h which has an entry condition of "more than one inoperable CEA." To prevent this potential misinterpretation, Action e would be split into two separate Actions (e and a new h), each with clear entry conditions. This does not represent an actual change to the specification, but rather provides only a clarification of the current requirements. The revised Action e would also not require restoration of the CEA to "OPERABLE status" since the CEA has not yet been declared inoperable.

c) Independent development of Specifications 3.1.3.1.e, f and g over time have resulted in different, but similar requirements. These action statements allow continued operation with one CEA misaligned (and subsequently declared inoperable) for a maximum of seven days. Since the analysis of one CEA misaligned by more than 15 inches is bounding for a CEA misaligned by less than 15 inches, these action requirements would be combined into a new Action g which would include the current power reduction requirements for CEAs misaligned at greater than 15 inches.

Action g would be revised to include an entry condition of "With one CEA (regulating or shutdown) not within its specified alignment requirements..." rather than "With one CEA misaligned from any other CEA in its group by 15 inches or more ..." since it would be applicable to other misalignment conditions as well, i.e., resulting from new Actions e, f and h.

Action g would also include a time requirement for realigning the remainder of the CEAs with the inoperable CEA such as currently exists in Action e. An allowed time frame for compliance with these alignment requirements is not currently identified. BG&E has determined that the intended time frame for these alignments to occur is "within one hour after declaring the CEA inoperable" and requests that this additional limitation be included in the action statement in order to prevent potential noncompliance with the intent of the specification. This determination is based on a review of similar specifications for other nuclear units and Calvert Cliffs' current Action e. These changes would result in only one clearly identified action statement to be followed any time a single CEA has been declared inoperable due to misalignment.

d) Specification 3.1.3.5 currently requires that the CEA be declared inoperable and Specification 3.1.3.1 be applied when a shutdown CEA is found to be withdrawn less than 129.0 inches. However, the application of Specification 3.1.3.1 is another source of confusion. From Specification 3.1.3.5, none of the Specification 3.1.3.1 action statements' entry conditions appear to be applicable. Since entry into the Specification 3.1.3.5 action statement has already resulted in a declaration of inoperability for the CEA, Specifications 3.1.3.1.e, f and g cannot be applied as their entry conditions are for misaligned, but operable CEAs. The latter portions of Actions e and g appear to be applicable, but this would require an unusual and confusing entry into an action statement midway through the requirements. Specifications 3.1.3.1.c and d are not applicable to a shutdown CEA which is not fully withdrawn, Specifications 3.1.3.1.b and i are for motion inhibit inoperability and performance of a surveillance. This leaves only Action a, which requires a determination of why the CEA could not be fully withdrawn. Depending on the results of such a determination, it may also not be applicable.

The analysis performed to support Amendment Nos. 127 and 109 for Units 1 and 2, respectively, considered both the shutdown and regulating CEAs independent of their type to ensure that adequate shutdown margin would be available. Therefore, BG&E proposes that a shutdown CEA not be treated any differently from a regulating CEA except that it be

considered "misaligned" when it is withdrawn to less than 129.0 inches as well as when it is greater than 7.5 inches from any other CEA in its group. This continues to allow the one hour to attempt to realign the CEA and provides clear application of an appropriate action statement if the realignment is not successful.

This revision requires other minor editorial changes for implementation. Action e and the new Action h would not indicate that misalignment is "greater than or equal to 7.5 inches" since a regulating CEA is not "misaligned" if it is within the specified alignment requirements, i.e., within 7.5 inches, and because the misalignment of a shutdown CEA may be less than 7.5 inches. Similarly, Action f, which currently requires the misaligned CEA to be "positioned within 7.5 inches of the other CEAs in its group in accordance with the time allowance . . . ," would be revised to require that the CEA be "restored to within its specified alignment requirements within the time allowance . . . ." This would cover the possibility that the misalignment might be due to a shutdown CEA not being withdrawn to 129.0 inches rather than not within 7.5 inches of the other CEAs in its group.

e) Action f is also proposed to be revised in another area to prevent confusion by deleting an unnecessary activity. Currently, if no measurements of the total integrated radial peaking factor had been taken within five days prior to the misalignment, a pre-misalignment value of 1.65 is required to be assumed. Applying this value to Figure 3.1-3 results in a time to realign the CEA of zero minutes. This results in immediate implementation of Action g. The proposed wording would eliminate the assumed value and reference to the figure and require an immediate implementation of Action g. Incorporation of a description of the logic behind this action in the Bases would assure this action is understood. Again, this wording revision does not represent an actual change to the specification, but rather is deleting unnecessary and confusing language.

f) A final revision to Specification 3.1.3.1 is to incorporate the current Action i into Surveillance Requirement 4.1.3.1.2. The information provided in this action statement is applicable only when performing the surveillance and does not have a separate entry condition nor a required action for that condition as is normally provided in an action statement. This information would be incorporated into the surveillance requirement to assure it is not missed when performing the surveillance. This revision does not result in any actual changes to the requirements, but only provides clarification of when the requirements must be met.

Item 4 - The CEA drive system is designed to operate in any one of five modes; one of these is an AUTOMATIC mode. However, for Calvert Cliffs, the AUTOMATIC mode has been disabled and operation of the drive system in this mode is not allowed. Therefore, the CEA drive system mode switch can only be in one of four positions; OFF, MANUAL INDIVIDUAL, MANUAL GROUP, or MANUAL SEQUENTIAL. Specification 3.1.3.1.b.2 begins with a requirement to "place and maintain the CEA drive system mode switch in either the 'Off' or any 'Manual Mode' position . . . ." This requirement implies that the mode switch could be in another position, but the only other position is the disallowed "automatic mode." This requirement therefore serves no useful purpose and injects confusion into the requirements. Removal of this statement would result in no different actions than are presently required, and incorporation of appropriate language in the Bases would explain that the system cannot be used in the automatic mode. Again, deletion of this requirement does not represent an actual change to the required actions, but rather is deleting unnecessary and confusing language in the specification.

Item 5 - Several administrative and editorial revisions have also been identified as necessary for these specifications. These include: (a) incorporating a discussion in the Bases of the "greater than or equal to" symbol prior to the "40 gpm of 2300 ppm" to clarify that the symbol applies to the entire phrase and not just the 40 gpm. This is necessary to the understanding of the "or equivalent" phrase. (b) incorporating the missing title of Specification 3/4.1.3.1, "CEA POSITION" which was inadvertently omitted in a past amendment; (c) correcting the number identifier for the "MOVABLE CONTROL ASSEMBLIES" Specification from 3.4.1.3 to 3/4.1.3; (d) adding periods to the end of notes for Specifications 3/4.1.1.1 and 3/4.1.3.5; and (e) revising a time reference in Bases 3/4.1.3 to match the time actually allowed by the current action statements. These changes do not impact the specifications, but only correct past omissions and administrative errors.

DETERMINATION OF SIGNIFICANT HAZARDS:

This proposed change has been evaluated against the standards in 10 CFR 50.92 and has been determined to involve no significant hazards considerations, in that operation of the facility in accordance with the proposed amendment:

(1) would not involve a significant increase in the probability or consequences of an accident previously evaluated.

This change involves only clarification of the current requirements for control element assemblies (CEAs) which are inoperable or misaligned within the constraints of current safety analyses. A stuck or misaligned CEA is not assumed as the initiator of any accidents previously evaluated. However, a stuck CEA is considered in the mitigation assumptions of previously evaluated accidents. The clarifications would not allow more than previously accepted misalignment or inoperability of the CEAs and, therefore, do not involve a significant increase in the consequences of any previously evaluated accident.

(2) would not create the possibility of a new or different type of accident from any accident previously evaluated.

The safety analyses consider rod ejection, loss of coolant, loss of flow, and other sudden loss of negative reactivity events. However, there are no changes in design or operation of the plant as a result of this change, and the changes would provide no opportunity for creating new or different initiators of the previously analyzed accidents. This change provides only a clarification to prevent misinterpretation of the requirements for inoperable or misaligned CEAs. Therefore, there is no possibility of a new or different type of accident.

(3) would not involve a significant reduction in a margin of safety.

The margin of safety of these Specifications is assured by maintaining the availability of negative reactivity for insertion to provide the shutdown margin assumed in the safety analyses. These clarifications would continue to assure that the necessary negative reactivity is available in the form of trippable CEAs.

SCHEDULE

This change is requested to be approved and issued by September 1, 1992.

SAFETY COMMITTEE REVIEW

These proposed changes to the Specifications and our determination of significant hazards have been reviewed by our Plant Operations and Off-Site Safety Review Committees, and they have concluded that implementation of these changes will not result in an undue risk to the health and safety of the public.

Very truly yours,

STATE OF MARYLAND :
: TO WIT :
COUNTY OF CALVERT :

I hereby certify that on the 13th day of February, 1992, before me, the subscriber, a Notary Public of the State of Maryland in and for Calvert County, personally appeared George C. Creel, being duly sworn, and 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 information for the purposes 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 information on behalf of said Corporation.

WITNESS my Hand and Notarial Seal: Michelle D. Hall
Notary Public

My Commission Expires: February 2, 1994
Date

GCC/ERG/erg/dlm

Attachments

cc: D. A. Brune, Esquire
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