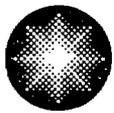


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June 7, 2005

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: Technical Specification Changes to Modify Requirements Related to Positive Reactivity Additions

REFERENCES:

- (a) Letter from G. S. Vissing (NRC) to G. Vanderheyden (CCNPP), dated May 6, 2004, "Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 & 2 Amendment Re: Technical Specification Changes to Modify Requirements Related to Positive Reactivity Additions (TAC Nos. MB8478 and MB8479)"
- (b) Letter from G. Vanderheyden (CCNPP) to Document Control Desk (NRC), dated July 29, 2003, "License Amendment Request: Improvement to the Definition of Operations Involving Positive Reactivity Changes"

Pursuant to 10 CFR 50.90, Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP) hereby requests an amendment to Renewed Operating License Nos. DPR-53 and DPR-69 to change Technical Specification 3.1.1 to modify a positive reactivity addition restriction and to correct an administrative error in Technical Specification 3.4.17.

Reference (a) approved changes to Calvert Cliffs Technical Specifications related to positive reactivity additions that were proposed in Reference (b). Reference (b) was based on Technical Specification Task Force 286, Revision 2. We are now proposing a similar change to Technical Specification 3.1.1 that was not proposed in Reference (b) because it is a plant specific change. Additionally, we are proposing a correction to an administrative error that was in the markup presented in Reference (b).

The description and technical discussion of the proposed change is contained in Attachment (1). The proposed Technical Specification changes are shown in the markup in Attachment (2). The final Technical Specification pages will be renumbered to accommodate the insertion of this change.

We request approval of this change by May 1, 2006. No operation of the facility is dependent on approval.

ADD

ATTACHMENT (1)

**TECHNICAL BASIS AND
NO SIGNIFICANT HAZARDS CONSIDERATION**

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ATTACHMENT (1)

TECHNICAL BASIS AND NO SIGNIFICANT HAZARDS CONSIDERATION

1. DESCRIPTION

This letter requests an amendment to Renewed Operating License Nos. DPR-53 and DPR-69 for Calvert Cliffs Units 1 and 2 to revise Technical Specification 3.1.1 to modify a positive reactivity addition restriction and to correct an administrative error in Technical Specification 3.4.17.

2. PROPOSED CHANGE

This proposed license amendment would revise the Calvert Cliffs Nuclear Power Plant Technical Specifications as follows:

- Required Action B.1 of Technical Specification 3.1.1 "Shutdown Margin (SDM)" is revised to only prohibit positive reactivity changes that could result in the loss of required SDM.
- Limiting Condition of Operation (LCO) 3.4.17.b is revised to correct an administrative error. The LCO should reference LCO 3.1.1 instead of LCO 3.9.1.

3. BACKGROUND

We proposed changes to the Calvert Cliffs Technical Specifications related to positive reactivity additions in Reference (1). That submittal was based on Technical Specification Task Force (TSTF) 286, Revision 2, which did not include a change to Technical Specification 3.1.1. After the changes proposed in Reference (1) were approved by the Nuclear Regulatory Commission (Reference 2), we observed that Required Action 3.1.1.B.1 can create a conflict with Required Action 3.1.1.B.2. Therefore, we are now proposing a change to Technical Specification 3.1.1 to resolve this possible conflict.

If the pressurizer level is less than 90 inches and the Reactor Coolant System (RCS) is at or below the bottom of the hot leg nozzles, Technical Specification 3.1.1 is applicable. In Technical Specification 3.1.1, Required Action B.1 prohibits positive reactivity additions and Required Action B.2 simultaneously requires water addition to the RCS to raise the level above the bottom of the hot leg nozzles. Required Action 3.1.1.B.2 is generally accomplished by taking water from the Refueling Water Tank (RWT) and adding it to the RCS. The potential conflict between these required actions is when the RWT boron concentration is lower than the RCS boron concentration. This can happen if the RCS boron concentration is elevated above the required shutdown margin and the RWT boron concentration is at shutdown margin. Even though adding water from the RWT will not dilute the RCS below the shutdown margin, this action would be an introduction of positive reactivity by lowering the RCS boron concentration. Therefore, we are proposing a change that would allow positive reactivity additions as long as the required SDM is maintained. This proposed change resolves the potential conflict described above.

We are also proposing to correct an administrative error in Reference (1), which changed LCO 3.4.17.b. The LCO should reference LCO 3.1.1 instead of LCO 3.9.1. We improperly marked up the proposed change in Attachment (2) of Reference (1). However, the reference was properly identified on Page 7 of Attachment (1) to Reference (1). In the Nuclear Regulatory Commission (NRC) Safety Evaluation (Reference 2) the NRC staff references LCO 3.1.1 in the discussion for accepting our proposed change. The Technical Specification pages issued with Reference (2) matched our marked up pages, thus creating the incorrect reference.

4. TECHNICAL ANALYSIS

With the RCS level below the bottom of the hot leg nozzles, while the unit is in Mode 5 with the pressurizer level less than 90 inches, the consequences of a boron dilution event may exceed the analysis results. Therefore, action must be initiated immediately to reduce the potential for such an event.

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However, Required Action 3.1.1.B.1 only reduces the potential for the event and does not eliminate it, therefore immediate action must also be initiated to increase the RCS level to above the bottom of the hot leg nozzles (Required Action 3.1.1.B.2). The immediate Completion Time reflects the urgency of the corrective actions.

In this scenario, the most important action is the addition of inventory in the RCS to prevent uncovering the reactor core. But, avoiding a boron dilution event is also important and adding inventory from the RWT will not create such an event because the RWT boron concentration is at or above the concentration assumed in the calculated shutdown margin. If we add to the scenario that the RCS has a higher boron concentration than the RWT, any addition from the RWT will be a positive reactivity addition, even though the resulting boron concentration in the RCS would be above the calculated shutdown margin. While the proposed change will permit changes in the discretionary boron concentration above the Technical Specification requirements, this excess concentration is not credited in the Updated Final Safety Analysis Report safety analysis.

To resolve this potential conflict, we are proposing to change Required Action 3.1.1.B.1 to allow positive reactivity additions as long as the RCS inventory stays within the calculated shutdown margin. This change is similar in nature to the changes approved by the NRC in Reference (2) and TSTF-286, Revision 2.

5. NO SIGNIFICANT HAZARDS CONSIDERATION

This proposed license amendment is to allow positive reactivity additions to the Reactor Coolant System (RCS) when the reactor coolant is below the bottom of the reactor hot leg nozzles. The positive reactivity additions are limited to those that are accounted for in the calculated shutdown margin. The amendment also proposes to correct an administrative error from a previous license amendment submittal. The proposed changes have been evaluated against the standards in 10 CFR 50.92 and have been determined to not involve a significant hazards consideration in the 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.

The intent of this change is to clarify a Technical Specification involving positive reactivity additions to the shutdown reactor so that small, controlled, safe insertions of positive reactivity will be allowed where they are now categorically prohibited, posing a potential conflict between two required actions. These controlled activities could result in a slight change in the probability of an event occurring as a RCS manipulation that is currently prohibited would now be allowed. However, RCS manipulations are rigidly controlled to minimize the possibility of a significant reactivity increase. In addition, there is sufficient shutdown margin available in this condition to allow for slight reactivity changes without significantly increasing the probability of an accident previously evaluated.

The proposed change involving positive reactivity additions does not permit the shutdown margin required by the Technical Specifications to be reduced. While the proposed change will permit changes in the discretionary boron concentration above the Technical Specification requirements, this excess concentration is not credited in the Updated Final Safety Analysis Report safety analysis. Because the initial conditions assumed in the safety analysis are preserved, no increase in the consequence of an accident previously evaluated would occur. These small changes are within the required shutdown margin, therefore, there is no increase in the consequence of an accident previously evaluated.

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The administrative error was in the marked up Technical Specification pages submitted with a proposed change. The correct Technical Specification number was provided in the proposal letter and was used by the staff in the discussion for accepting the proposed change. Correcting this administrative error does not change the significant hazards discussion previously submitted.

Therefore, 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 kind of accident from any accident previously evaluated.*

This proposed change involving positive reactivity addition allows for a minor plant operational adjustment without adversely impacting the safety analysis required shutdown margin. It does not involve any change to plant equipment or the shutdown margin requirements in the Technical Specifications.

The administrative error was in the marked up Technical Specification pages submitted with a proposed change. The correct Technical Specification number was provided in the proposal letter and was used by the staff in the discussion for accepting the proposed change. Correcting this administrative error does not change the significant hazards discussion previously submitted.

Therefore, the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The margin of safety in Modes 3, 4 and 5 is preserved by the calculated shutdown margin which prevents an inadvertent criticality. The proposed change involving positive reactivity addition will permit reductions in discretionary shutdown margin that is beyond Technical Specification requirements. However, the shutdown margin required by the Technical Specifications is not changed. By not impacting the shutdown margin, the margin of safety is not affected.

The administrative error was in the marked up Technical Specification pages submitted with a proposed change. The correct Technical Specification number was provided in the proposal letter and was used by the staff in the discussion for accepting the proposed change. Correcting this administrative error does not change the significant hazards discussion previously submitted.

Therefore, the proposed change will not involve a significant reduction in the margin of safety.

In summary, based upon the above evaluation, Calvert Cliffs has concluded that the proposed amendment involves no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

6. ENVIRONMENTAL ASSESSMENT

We have determined that operation with the proposed amendment would not result in any significant change in the types, or significant increases in the amounts, of any effluents that may be released offsite, nor would it result in any significant increase in individual cumulative occupational exposure. Therefore, the proposed amendment is eligible for categorical exclusion as set forth in 10 CFR 51.22(c)(9). Pursuant

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to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed amendment.

7. PRECEDENT

None

8. REGULATORY COMMITMENTS

None

9. REFERENCE

1. Letter from G. Vanderheyden (CCNPP) to Document Control Desk (NRC), dated July 29, 2003, License Amendment Request: Improvement to the Definition of Operations Involving Positive Reactivity Changes
2. Letter from G. S. Vissing (NRC) to G. Vanderheyden (CCNPP), dated May 6, 2004, Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 Amendment Re: Technical Specification Changes to Modify requirements Related to Positive Reactivity Additions (TAC Nos. MB8478 and MB8479)

ATTACHMENT (2)

MARKED UP TECHNICAL SPECIFICATION PAGES

3.1.1-2

3.4.17-1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. (continued)</p>	<p>A.2 Initiate action to increase SDM to compensate for the additional non-borated water sources.</p> <p><u>AND</u></p> <p>A.3 Verify SDM has been increased to compensate for the additional sources of non-borated water.</p>	<p>Immediately</p> <p>Once per 12 hours</p>
<p>B. ----- NOTE ----- Only applicable in MODE 5 with pressurizer level < 90 inches. ----- Reactor Coolant System level at or below the bottom of the hot leg nozzles.</p>	<p>B.1 Suspend positive reactivity changes.</p> <p><u>AND</u></p> <p>B.2 Initiate action to increase Reactor Coolant System level to above the bottom of the hot leg nozzles.</p>	<p>Immediately</p> <p>Immediately</p> <p><i>Suspend operations involving positive Reactivity additions that could result in loss of Required SDM.</i></p>
<p>C. SDM not within limits for reasons other than Condition A or B.</p>	<p>C.1 Initiate boration to restore SDM to within limit.</p>	<p>Immediately</p>

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.17 Special Test Exception (STE) RCS Loops - MODES 4 and 5

LCO 3.4.17 The reactor coolant circulation requirements of LCO 3.4.6, "RCS Loops-MODE 4," LCO 3.4.7, "RCS Loops-MODE 5, Loops Filled," and LCO 3.4.8, "RCS Loops-MODE 5, Loops Not Filled" may be suspended during the time intervals required: 1) for local leak rate testing of containment penetration number 41 pursuant to the requirements of the Containment Leakage Rate Testing Program; and 2) to permit maintenance on valves located in the common shutdown cooling suction line or on the shutdown cooling flow control valve (CV-306) provided:

- a. Xenon reactivity is $\leq 0.1\% \Delta k/k$ and is approaching stability;
- b. No operations are permitted which could cause introduction of coolant into the RCS with boron concentration less than that required to meet the minimum boron concentration of LCO ~~3.9.1~~; 3.1.1
- c. The charging pumps are deenergized and the charging flow paths are closed; and
- d. The SDM requirement of LCO 3.1.1 is verified every 8 hours.

APPLICABILITY: MODES 4 and 5.