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December 13, 2002

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: Removal of the Charging Pumps from the
Emergency Core Cooling System Technical Specification

REFERENCES:

- (a) Letter from Ms. D. Skay (NRC) to Mr. C. H. Cruse (CCNPP), dated April 8, 2002, "Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 Amendment Re: Implementation of ZIRLO Clad Fuel Rods (TAC Nos. MB2540 and MB2541)"
- (b) Letter from Mr. C. H. Cruse (CCNPP) to NRC Document Control Desk, dated May 9, 2002, "10 CFR 50.46 30-day Report for Changes to the Calvert Cliffs Nuclear Power Plant Emergency Core Cooling System Performance Analysis"
- (c) CENPD-137, Supplement 2-P-A, "Calculative Methods for the ABB CE Small Break LOCA Evaluation Model," April 1998

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 incorporate the changes described below into the Technical Specifications for Calvert Cliffs Unit Nos. 1 and 2.

DESCRIPTION

The proposed amendment revises Technical Specification 3.5.2, ECCS – Operating, by removing the Note that modifies the Limiting Condition for Operation. The proposed change will remove the requirement to have the charging pumps operable when thermal power is greater than 80% of rated thermal power (RTP). The proposed change will also remove Surveillance Requirement 3.5.2.4 for verifying the required charging pump flow rate. The proposed change to Technical Specification 3.5.2 does not modify any other charging pump requirements specified in the Technical Requirements Manual (e.g., requirements on charging pump availability for boration and cooldown remain in effect).

ADD 1

The requirement for the charging pumps was a result of the previous small-break loss-of-coolant accident (LOCA) analyses. Above 80% RTP, the small-break LOCA analyses assumed flow from a single charging pump, accounting for measurement uncertainties and flow mal-distribution effects, in calculating a conservative value of charging flow actually delivered to the Reactor Coolant System. Credit was only taken for the water inventory. No credit was taken for any boration delivered by the charging pumps. At or below 80% RTP, there was a corresponding decrease in decay heat such that the injection of water from one charging pump was not required in order to achieve acceptable results in the small-break LOCA analyses.

The Nuclear Regulatory Commission approved the use of the new small-break LOCA evaluation models on April 8, 2002 (Reference a). In our letter dated May 9, 2002 (Reference b), we informed you that the analyses for the small-break LOCA Emergency Core Cooling System performance had been re-analyzed for the Unit 1 Cycle 16 and the upcoming Unit 2 Cycle 15. The re-analyses were performed using the newest Nuclear Regulatory Commission accepted versions of the Westinghouse evaluation models for Combustion Engineering designed pressurized water reactors (Reference c). In addition, the new analysis explicitly modeled the replacement steam generators, which were installed in Unit 1 prior to the startup of Cycle 16 and will be installed in Unit 2 prior to the startup of Cycle 15, and the new fuel design being introduced. The new fuel design implements ZIRLO™ cladding and mixing vane grids.

The new small-break LOCA analysis incorporated several changes to plant parameters used in the analysis, one of which was the elimination of the need to credit the charging pump flow above 80% RTP. The charging pumps are not assumed to be operable to mitigate the consequences of a design basis accident or transient and are not an input assumption for any design basis accident analysis. Therefore, per 10 CFR 50.36(c)(2)(ii), this requirement can be removed from the Technical Specifications.

DETERMINATION OF SIGNIFICANT HAZARDS

The proposed amendment revises the Unit Nos. 1 and 2 Technical Specification 3.5.2, Emergency Core Cooling System – Operating, by removing the requirement to have the charging pumps operable above 80% of rated thermal power. The proposed change will also remove Surveillance Requirement 3.5.2.4 for verifying the required charging pump flow rate.

These 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 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.*

The charging pumps were credited in the previous analysis to mitigate the consequences of a small-break loss-of-coolant accident (LOCA) above 80% of rated thermal power (RTP). The charging pumps were not considered to be an initiator of the accident. The new analysis for the small-break LOCA does not assume the charging pumps are initiators of the accident. Therefore, removing the requirement to maintain the charging pumps operable above 80% RTP and removing Surveillance Requirement 3.5.2.4 from the Technical Specification does not involve a significant increase in the probability of an accident previously evaluated.

The consequence of a small-break LOCA is the potential for inadequate core cooling and decreased negative reactivity such that the reactor core is not protected after the design basis event. The previous analysis for the small-break LOCA above 80% RTP assumed unborated flow from a single

charging pump to ensure there was adequate cooling flow delivered to the Reactor Coolant System. The revised small-break LOCA analysis was performed such that flow from the charging pumps was not credited. Since the charging pump flow is no longer credited in the small-break LOCA analysis, the proposed changes do not involve a significant increase in the consequences of a small-break LOCA.

Therefore, the proposed Technical Specification changes do 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.*

This request change does not involve a change in the operation of the plant and no new accident initiation mechanism is created by the proposed changes. Since the charging pump flow is no longer credited in the small-break LOCA analysis, the requirement to have the charging pumps operable above 80% RTP and the charging pump Surveillance Requirement 3.5.2.4 can be removed from the Technical Specification. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

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

The safety function of the Emergency Core Cooling System is to provide core cooling and negative reactivity, to ensure that the reactor core is protected after design basis events. For a small-break LOCA, the previous analysis credited flow from the charging pumps above 80% RTP to supply supplemental cooling flow to the Reactor Coolant System. Credit for flow from a single charging pump was only taken for the water inventory.

The revised small-break LOCA analysis was performed using the newest Nuclear Regulatory Commission accepted versions of the Westinghouse evaluation models for Combustion Engineering designed pressurized water reactors. The revised small-break LOCA analysis incorporated several changes to plant parameters used in the analysis, one of which was the elimination of the need to credit the charging pump flow above 80% RTP. Since the charging pump flow is no longer credited in the small-break LOCA analysis, the requirement to have the charging pumps operable above 80% RTP and charging pump Surveillance Requirement 3.5.2.4 can be removed from the Technical Specification.

The proposed change to Technical Specification 3.5.2 does not modify any other charging pump requirements specified in the Technical Requirements Manual (e.g., requirements on charging pump availability for boration and cooldown remain in effect).

Therefore, the safety function of the Emergency Core Cooling System is maintained and the margin of safety is not significantly reduced by the proposed changes

ENVIRONMENTAL ASSESSMENT

We have determined that operation with the proposed amendments 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 amendments are eligible for categorical exclusion as set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact assessment is needed in connection with the approval of the proposed amendments.

SAFETY COMMITTEE REVIEW

The Plant Operations and Safety Review Committee and the Offsite Safety Review Committee have reviewed this proposed amendment and concur that operation with the proposed amendment will not result in an undue risk to the health and safety of the public.

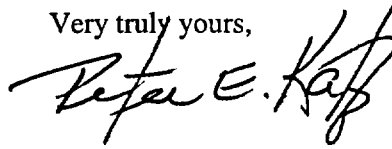
SCHEDULE

Since the Unit 1 steam generators were replaced during the refueling outage for Unit 1 Cycle 16, this proposed change would apply to Unit 1 at the present time. However, Unit 2 has not yet replaced steam generators or installed the new fuel design. Those changes will take place in the 2003 Refueling Outage.

The proposed change will apply to Unit 2 upon completion of the 2003 Refueling Outage, which is currently scheduled to be completed in May 2003. Therefore, we request approval of the proposed changes by May 1, 2003.

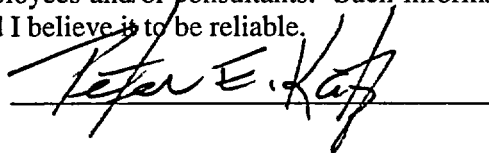
Should you have questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,



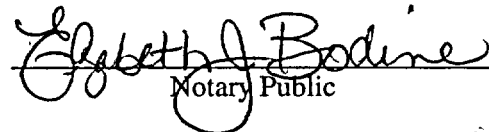
STATE OF MARYLAND :
: TO WIT:
COUNTY OF CALVERT :

I, Peter E. Katz, being duly sworn, state that I am Vice President - Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP), and that I am duly authorized to execute and file this License Amendment Request on behalf of CCNPP. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other CCNPP employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.



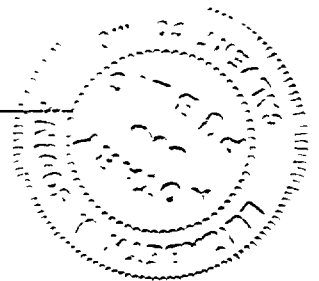
Subscribed and sworn before me, a Notary Public in and for the State of Maryland and County of Calvert, this 13 day of Dec., 2002.

WITNESS my Hand and Notarial Seal:


Notary Public

My Commission Expires:

7/1/06
Date



PEK/DJM/bjd

Attachment: (1) Marked up Technical Specification Pages

- cc: J. Petro, Esquire
- J. E. Silberg, Esquire
- Director, Project Directorate I-1, NRC
- D. M. Skay, NRC
- H. J. Miller, NRC
- Resident Inspector, NRC
- R. I. McLean, DNR

ATTACHMENT (1)

MARKED-UP TECHNICAL SPECIFICATION PAGES

3.5.2-1

3.5.2-2

3.5 EMERGENCY CORE COOLING SYSTEM (ECCS)

3.5.2 ECCS - Operating

LCO 3.5.2 Two ECCS trains shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3 with pressurizer pressure \geq 1750 psia.

~~NOTE~~
~~Charging pumps are not required to be OPERABLE when THERMAL POWER is \leq 80% RTP.~~

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more trains inoperable.</p> <p><u>AND</u></p> <p>At least 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available.</p>	<p>A.1 Restore train(s) to OPERABLE status.</p>	72 hours
<p>B. Required Action and associated Completion Time not met.</p>	<p>B.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>B.2 Reduce pressurizer pressure to < 1750 psia.</p>	<p>6 hours</p> <p>12 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY												
SR 3.5.2.1	<p>Verify the following valves are in the listed position with power to the valve operator removed.</p> <table border="1"> <thead> <tr> <th><u>Valve Number</u></th> <th><u>Position</u></th> <th><u>Function</u></th> </tr> </thead> <tbody> <tr> <td>MOV-659</td> <td>Open</td> <td>Mini-flow Isolation</td> </tr> <tr> <td>MOV-660</td> <td>Open</td> <td>Mini-flow Isolation</td> </tr> <tr> <td>CV-306</td> <td>Open</td> <td>Low Pressure Safety Injection Flow Control</td> </tr> </tbody> </table>	<u>Valve Number</u>	<u>Position</u>	<u>Function</u>	MOV-659	Open	Mini-flow Isolation	MOV-660	Open	Mini-flow Isolation	CV-306	Open	Low Pressure Safety Injection Flow Control	12 hours
<u>Valve Number</u>	<u>Position</u>	<u>Function</u>												
MOV-659	Open	Mini-flow Isolation												
MOV-660	Open	Mini-flow Isolation												
CV-306	Open	Low Pressure Safety Injection Flow Control												
SR 3.5.2.2	Verify each ECCS manual, power-operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days												
SR 3.5.2.3	Verify each high pressure safety injection - and low pressure safety injection pump's developed head at the test flow point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program												
SR 3.5.2.4	<p>Verify each required charging pump develops a flow of ≥ 37 gpm.</p>	<p>In accordance with the Inservice Testing Program</p>												
SR 3.5.2.5	Verify each ECCS automatic valve that is not locked, sealed, or otherwise secured in position, in the flow path actuates to the correct position on an actual or simulated actuation signal.	24 months												

Deleted → ~~Verify each required charging pump develops a flow of ≥ 37 gpm.~~

~~In accordance with the Inservice Testing Program~~