April 23, 2002

Charles H. Cruse
Vice President, Nuclear Energy
Calvert Cliffs Nuclear Power Plant, Inc.
1650 Calvert Cliffs Parkway
Lusby, MD 20657

SUBJECT: CORRECTION TO SAFETY EVALUATION RELATED TO AMENDMENT NOS. 251 AND 228 TO CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2 (TAC NOS. MB2540 AND MB2541)

Dear Mr. Cruse:

By letter dated April 8, 2002, the U.S. Nuclear Regulatory Commission (NRC) issued Amendment Nos. 251 and 228 to Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, respectively. The amendments added references to Technical Specification 5.6.5.b to allow the use of ZIRLO™ clad fuel rods in the Calvert Cliffs reactor cores. Subsequent to issuance, errors were discovered in the safety evaluation (SE) related to these amendments.

Section 2.0 of the SE lists the conditions that were imposed on the use of ZIRLO cladding material in the staff's review of Topical Report CENPD-404-P, Revision 0, "Implementation of ZIRLO Cladding Material in CE Nuclear Power Fuel Designs." Condition 5 states that the burnup limit for this approval is 60 MWD/MTU. A correction to the SE of Topical Report CENPD-404-P was issued on October 12, 2001, that changed the burnup limit to 60 GWD/MTU. This is the value that should have been listed in the SE for Calvert Cliffs Amendment Nos. 251 and 228.

In addition, references 4 and 5 of the SE list the responses to requests for additional information. The dates of these letters should be 2002 and not 2001.

Corrected SE pages 2 and 5 for Amendment Nos. 251 and 228 are enclosed.

We apologize for any inconvenience this may have caused you.

Sincerely,

***/RA/***

Donna Skay, Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

Enclosure: Corrected SE pages 2 and 5

cc w/encl: See next page

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Lusby, MD 20657

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Unit Nos. 1 and 2

cc:

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2. All of the conditions listed in the safety evaluations (SEs) for all CENP methodologies used for ZIRLO fuel analysis will continue to be met, except that the use of ZIRLO cladding in addition to Zircaloy-4 cladding is now approved.

3. All CENP methodologies will be used only within the range for which ZIRLO data was acceptable and for which the verification discussed in CENPD-404-P and related responses to requests for additional information were performed.

4. Until data is available demonstrating the performance of ZIRLO cladding in CENP plants, the fuel duty will be limited for each CENP plant with some provision for adequate margin to account for variations in core design (e.g., cycle length, plant operating conditions, etc.). Details of this condition will be addressed on a plant-specific basis during the approval to use ZIRLO in a specific plant.

5. The burnup limit for this approval is 60 GWD/MTU.

In addition, the topical report which approves the use of ZIRLO clad fuel pins for use in CENP plants requires the use of specific versions of the Westinghouse Emergency Core Cooling System (ECCS) performance evaluation models for CE designed pressurized-water reactors.

## 3.0 EVALUATION

### 3.1 Conditions for use of CENPD-404-P-A

Condition 1

CCNPPI stated that it will use the best-estimate models and methods for calculating the corrosion thickness as described and approved by the staff in CENPD-404-P-A. In addition, CCNPPI will take waterside corrosion measurements of the high duty ZIRLO fuel to verify that the corrosion thickness correlates to the fuel duty as expected. This approach is acceptable to the staff because it provides the licensee with an approved method for calculating the corrosion thickness and verifies that the fuel will perform as predicted by the modeling correlations.

Condition 2

The licensee stated in its letter dated January 16, 2002, that it will abide by all the conditions of the SEs needed for the implementation of ZIRLO cladding.

Condition 3

CCNPP commited to verify that the CENP methodologies are used with the accepted data ranges during the design and safety analysis for each fuel cycle. CENPD-404-P-A was approved by the NRC staff with a burnup limit of 60,000 MWD/MTU. CCNPP commits to maintaining this limit. These measures will ensure that CCNPP continues to meet the conditions of the SE and are acceptable means of ensuring compliance with the conditions in the SE.

1. Letter from Charles Cruse, Constellation Nuclear Service Company, to the U.S. Nuclear Regulatory Commission, Response to Request for Additional Information, January 16, 2002.

2. Letter from Charles Cruse, Constellation Nuclear Service Company, to the U.S. Nuclear Regulatory Commission, Response to Request for Additional Information, February 26, 2002.

Principal Contributor: U. Shoop

Date: April 8, 2002