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10 CFR 50.4
10 CFR 52.79

October 30, 2009

UN#09-469

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016
Response to Request for Additional Information for the
Calvert Cliffs Nuclear Power Plant, Unit 3,
RAI No. 186, Pressure-Temperature Limits, Upper-Shelf Energy, and
Pressurized Thermal Shock

Reference: Surinder Arora (NRC) to Robert Poche (UniStar Nuclear Energy), "FINAL RAI
No. 186 CIB1 3716" email dated October 2, 2009

The purpose of this letter is to respond to the request for additional information (RAI) identified in the NRC e-mail correspondence to UniStar Nuclear Energy, dated October 2, 2009 (Reference). This RAI addresses Pressure-Temperature Limits, Upper-Shelf Energy, and Pressurized Thermal Shock, as discussed in Section 5.3.2 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 Combined License Application (COLA), Revision 6.

The enclosure provides our response to RAI No. 186, Question 05.03.02-2, and includes revised COLA content. A Licensing Basis Document Change Request has been initiated to incorporate these changes into a future revision of the COLA.

Our response does not include any new regulatory commitments and does not contain any sensitive or proprietary information.

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If there are any questions regarding this transmittal, please contact me at (410) 470-4205, or Mr. Michael J. Yox at (410) 495-2436.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 30, 2009



Greg Gibson

Enclosure: Response to NRC Request for Additional Information RAI No. 186, Question 05.03.02-2, Pressure-Temperature Limits, Upper-Shelf Energy, and Pressurized Thermal Shock, Calvert Cliffs Nuclear Power Plant, Unit 3

cc: Surinder Arora, NRC Project Manager, U.S. EPR Projects Branch
Laura Quinn, NRC Environmental Project Manager, U.S. EPR COL Application
Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosure)
Loren Plisco, Deputy Regional Administrator, NRC Region II (w/o enclosure)
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2
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Enclosure

**Response to NRC Request for Additional Information RAI No. 186, Question 05.03.02-2,
Pressure-Temperature Limits, Upper-Shelf Energy, and Pressurized Thermal Shock,
Calvert Cliffs Nuclear Power Plant, Unit 3**

RAI No. 186

Question 05.03.02-2

In a letter dated April 30, 2009, AREVA submitted revised technical report, ANP-10283P, Revision 1, which contains the pressure and temperature (P-T) limit curves based on bounding material properties, and a generic pressure and temperature limits report (PTLR) following the guidelines of Generic Letter 96-03. In light of this generic submittal, the NRC staff requests the following additional information on its applicability to Calvert Cliffs:

- a) Confirm the use by Calvert Cliffs of the generic PTLR for the U.S. EPR design (provided by AREVA in technical report ANP-10283P, Rev.1) and revise the COLA, accordingly.
- b) Revise Calvert Cliffs 3 COL FSAR Section 5.3.2.1 to provide a commitment to submit plant-specific, pressure-temperature limits using an approved methodology. For example, such a commitment may require the COL Holder to update the P/T limits prior to fuel loading using the PTLR methodologies approved in the US EPR DCD and using plant specific material properties as well as a commitment that the COL Holder will inform the NRC of the updated P/T limits.

This approach is consistent with the NRC Generic Letter 96-03 (January 31, 1996), which provides a method for the licensee to inform the NRC of any subsequent change in P-T limits without a requirement for NRC approval, if there are no changes to the approved PTLR methodology.

Response

a) U.S. EPR FSAR Section 5.3.2.1, Revision 1 references technical report ANP-10283P, U.S. EPR Pressure-Temperature Limits Methodology for RCS Heat-Up and Cool-Down Technical Report, dated December 2007. As part of the response to U.S. EPR RAI 64, Supplement 2, Question 05.03.02-5,^a AREVA committed to revise U.S. EPR FSAR Section 5.3.2.1 to reference Revision 1 of technical report ANP-10283P, dated April 2009, in a future version.

Revision 6 of the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 COLA, FSAR Section 5.3.2.1 incorporates the use of technical report ANP-10283P, consistent with COL Holder Item 5.3-2. The CCNPP Unit 3 COLA will be revised to reflect the use of ANP-10283P, Revision 1 after it has been incorporated into U.S. EPR FSAR Section 5.3.2.1.

b) COLA FSAR Section 5.3.2 will be revised to indicate the plant-specific PTLR will be provided prior to initial fuel load.

Updates to the PTLR will be provided as required by U.S. EPR FSAR Chapter 16, Technical Specification 5.6.4. Technical Specification 5.6.4 is incorporated by reference in the COLA FSAR Chapter 16.

^a R. Pederson (AREVA) to G. Tesfaye (NRC), "Response to U.S. EPR Design Certification Application RAI No. 64, Supplement 2," email dated 04/30/09 (ML0912007580)

COLA Impact

FSAR Section 5.3.2.1 will be revised as follows in a future COLA Revision:

5.3.2.1 Pressure-Temperature Limit Curves

A plant-specific PTLR will be provided in accordance with {CCNPP Unit 3} Technical Specification 5.6.4, "Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)," and will be based on the methodology provided in ANP-10283P, Revision 1 (AREVA, ~~20092007~~), prior to initial fuel loading.

FSAR Section 5.3.4 will be revised as follows in a future COLA Revision:

5.3.4 REFERENCES

{AREVA, ~~20092007~~. Reactor Coolant System (RCS) Pressure and Temperature Limits Report (PTLR), ANP-10283P, Revision 1, AREVA NP, ~~20092007~~.}

COLA Part 10 (ITAAC) Appendix A, Item 2 will be revised as follows in a future COLA Revision:

2. COL ITEMS

COL Item 5.3-2 in Section 5.3.2.1

A plant-specific Pressure and Temperature Limits Report shall be provided in accordance with {CCNPP Unit 3} Technical Specification 5.6.4, "Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)," and shall be based on the methodology provided in ANP-10283P, Revision 1, prior to initial fuel load.