

Greg Gibson  
Vice President, Regulatory Affairs

750 East Pratt Street, Suite 1600  
Baltimore, Maryland 21202



10 CFR 50.4  
10 CFR 52.79

April 14, 2010

UN#10-096

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 226, Fuel System Design

Reference: Surinder Arora (NRC) to Robert Poche (UniStar Nuclear Energy), "FINAL RAI  
226 SRSB 4552" email dated April 5, 2010

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 April 5, 2010 (Reference). This RAI addresses Fuel System Design, as discussed in Section 4.2 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 226, Question 04.02-1, 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. This letter 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. Wayne A. Massie at (410) 470-5503.

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

Executed on April 14, 2010

A handwritten signature in black ink, appearing to read 'Greg Gibson', with a stylized flourish at the end.

Greg Gibson

Enclosure: Response to NRC Request for Additional Information RAI 226, Question 04.02-1,  
Fuel System Design, 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  
U.S. NRC Region I Office

GTG/RDS/mdf

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**Enclosure**

**Response to NRC Request for Additional Information  
RAI 226, Question 04.02-1, Fuel System Design,  
Calvert Cliffs Nuclear Power Plant, Unit 3**

**RAI 226**

**Question 04.02-1**

The Combined License Application (COLA) for the Calvert Cliffs Nuclear Power Plant Unit 3, Part 7, Item 1.2.6, includes an exemption on the use of M5™ advanced zirconium alloy fuel rod cladding.

The Applicant is requested to add a discussion to Chapter 4 of the COL FSAR describing the exemption request.

This RAI will be used to track the evaluation of this exemption request in the UniStar COL application through the completion of the staff's review of the exemption request. The Staff's Safety Evaluation Report will refer to this RAI to track the open item dependent upon approval of this exemption request.

**Response**

COLA FSAR Section 4.2 is revised to describe the exemption request related to the use of M5™ advanced zirconium alloy fuel rod cladding, consistent with the description in COLA Part 7.

**COLA Impact**

FSAR Section 4.2 is revised as follows:

**4.2 FUEL SYSTEM DESIGN**

This section of the U. S. EPR FSAR is incorporated by reference with the following supplemental information.

Pursuant to 10 CFR 52.7 and 10 CFR 52.93, {Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC} has requested an exemption from the requirements of 10 CFR 50.46, Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors, and 10 CFR 50, Appendix K, ECCS Evaluation Models, paragraph I.A.5, regarding the use of Zircaloy or ZIRLO as fuel cladding material. The exemption request is consistent with the U.S. EPR design and is related to the proposed use of the M5™ advanced zirconium alloy for the fuel rod cladding and fuel assembly structural material. The exemption request is described in COLA Part 7.