

Greg Gibson
Senior Vice President, Regulatory Affairs

750 East Pratt Street, Suite 1600
Baltimore, Maryland 21202



10 CFR 50.4
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October 18, 2011

UN#11-271

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. 326, Control Systems

Reference: Surinder Arora (NRC) to Paul Infanger (UniStar Nuclear Energy),
"FINAL RAI No. 326 ICE1 6067" email dated October 12, 2011

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 12, 2011 (Reference). This RAI addresses Control Systems, as discussed in Section 7.7 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 7.

The enclosure provides our response to RAI No. 326, Question 07.07-1, 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.

DOG
KRW

If there are any questions regarding this transmittal, please contact me at (410) 369-1905, or Mr. Wayne A. Massie at (410) 369-1910.

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

Executed on October 18, 2011



Vincent Sorel
for Greg Gibson

Enclosure: Response to NRC Request for Additional Information RAI No. 326,
Question 07.07-1, Control Systems, 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)
Charles Casto, 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

UN#11-271

Enclosure

**Response to NRC Request for Additional Information
RAI No. 326, Question 07.07-1, Control Systems,
Calvert Cliffs Nuclear Power Plant, Unit 3**

RAI No. 326

Question 07.07-1

Address the U.S. EPR combined license (COL) Item, regarding the primary power calorimetric uncertainty.

The staff was not able to identify where the COL Item related to the primary power calorimetric uncertainty is addressed in Section 7.7 of the Calvert Cliffs Unit 3 Final Safety Analysis Report (FSAR). In its review of the U.S. EPR design certification, the staff indentified the following information, as found in FSAR Tier 2, Section 7.7.2.3.5, Interim Revision 3 mark-ups, which was provided in response to U.S. EPR RAI 442, Supplement 11, dated October 20, 2010:

A COL applicant that references the U.S. EPR design certification will, following selection of the actual plant operating instrumentation and calculation of the instrumentation uncertainties of the operating plant parameters, prior to fuel load, calculate the primary power calorimetric uncertainty. The calculations will be completed using an NRC acceptable method and confirm that the safety analysis primary power calorimetric uncertainty bounds the calculated values.

The applicant is requested to address the COL Item. If the COL Item is addressed in another part of the FSAR, then provide information pointing to that location in Section 7.7 of the FSAR.

Response

The COL Item will be incorporated into the CCNPP Unit 3 FSAR with the response as shown below under COLA Impact.

COLA Impact

FSAR Section 7.7 is being updated as follows:

7.7 INFORMATION SYSTEMS IMPORTANT TO SAFETY

This section of the U.S. EPR FSAR is incorporated by reference- with the following supplements.

7.7.1 Description

No departures or supplements.

7.7.2 Design Basis Information

No departures or supplements.

7.7.2.1 Operational Core Control Functions

No departures or supplements.

7.7.2.2 Operational Plant Control Functions

No departures or supplements.

7.7.2.3 Process Limitation I&C Functions

No departures or supplements.

7.7.2.3.1 Loss of One Reactor Coolant Pump Limitation

No departures or supplements.

7.7.2.3.2 Axial Offset Limitation

No departures or supplements.

7.7.2.3.3 Reactor Power Limitation with Respect to Feedwater Flow Rate

No departures or supplements.

7.7.2.3.4 Reactor Power Limitation with Respect to Generator Power

No departures or supplements.

7.7.2.3.5 Reactor Power Limitation with Respect to Thermal Power

The U.S. EPR FSAR includes the following COL Item in Section 7.7.2.3.5:

A COL applicant that references the U.S. EPR design certification will, following selection of the actual plant operating instrumentation and calculation of the instrumentation uncertainties of the operating plant parameters, prior to fuel load, calculate the primary power calorimetric uncertainty. The calculations will be completed using an NRC acceptable method and confirm that the safety analysis primary power calorimetric uncertainty bounds the calculated values.

The COL Item is addressed as follows:

Following selection of the actual plant operating instrumentation and calculation of the instrumentation uncertainties of the operating plant parameters, and prior to fuel load, the primary power calorimetric uncertainty will be calculated. The calculations shall be completed using an NRC acceptable method and shall confirm that the safety analysis primary power calorimetric uncertainty bounds the calculated values.

7.7.2.3.6 Rod Drop Limitation

No departures or supplements.

7.7.2.3.7 Intermediate Range High Neutron Flux Limitation

No departures or supplements.

7.7.2.3.8 High Linear Power Density Limitation

No departures or supplements.

7.7.2.3.9 Low Departures from Nucleate Boiling Limitation

No departures or supplements.

7.7.2.3.10 RCS Dilution (Shutdown Condition) Limitation

No departures or supplements.

7.7.2.3.11 Reactor Coolant System Pressure Limitations

No departures or supplements.

7.7.2.3.12 Pressurizer Level Limitations

No departures or supplements.

7.7.2.3.13 Reactor Coolant System Loop Level Limitation

No departures or supplements.

7.7.2.3.14 Steam Generator Level Limitations

No departures or supplements.

7.7.2.4 Non-Safety Control Systems Described in Other Sections

No departures or supplements.

7.7.2.5 Safety Classification

No departures or supplements.

7.7.2.6 Effects of Control System Operation Upon Accidents

No departures or supplements.

7.7.2.7 Effects of Control System Failures

No departures or supplements.

7.7.2.8 Environmental Control System

No departures or supplements.

7.7.2.9 Independence

No departures or supplements.

7.7.2.10 Interactions between Safety-Related and Non Safety-Related I&C Systems

No departures or supplements.

7.7.2.11 Defense in Depth and Diversity

No departures or supplements.

7.7.2.12 Potential for Inadvertent Actuation

No departures or supplements.

7.7.2.13 Control of Access

No departures or supplements.

7.7.3 Analysis

No departures or supplements.

7.7.4 References

No departures or supplements.

FSAR Table 1.8-2 is being updated to add the new COL Item 7.1-2 as follows:

Table 1.8-2— FSAR Sections that Address COL Items

<u>7.1-2</u>	<u>A COL applicant that references the U.S. EPR design certification will, following selection of the actual plant operating instrumentation and calculation of the instrumentation uncertainties of the operating plant parameters, prior to fuel load, calculate the primary power calorimetric uncertainty. The calculations will be completed using an NRC acceptable method and confirm that the safety analysis primary power calorimetric uncertainty bounds the calculated values.</u>	<u>7.7.2.3.5</u>
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