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March 24, 2010

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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. 217, Basic Geologic and Seismic Information

Reference: Surinder Arora (NRC) to Robert Poche (UniStar Nuclear Energy), "Final RAI 217
RGS2 4376" email dated February 23, 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 February 23, 2010 (Reference). This RAI addresses Basic Geologic and Seismic Information, as discussed in Section 2.5.1 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. 217, Question 02.05.01-62 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 March 24, 2010

A handwritten signature in dark ink, appearing to read 'Greg Gibson', with a long horizontal flourish extending to the right.

Greg Gibson

Enclosure: Response to NRC Request for Additional Information, RAI No. 217, Basic Geologic and Seismic Information, Question 02.05.01-62, 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. 217, Basic Geologic and Seismic Information, Question 02.05.01-62,
Calvert Cliffs Nuclear Power Plant, Unit 3**

RAI No 217

Question 02.05.01-62

In FSAR rev 6 Section 2.5.1.2.6.3 "Deformational Zones", the applicant states that excavation mapping is required during construction and any noted deformational zones will be evaluated. NRC staff note that the section does not indicate that the geology exposed in the excavation would be mapped, nor that NRC be notified when the excavation was open. In order to fully evaluate the potential for deformation beneath the Calvert Cliffs Unit 3 site, please provide a commitment in the FSAR to (1) perform geologic mapping (based on the guidance provided in RG 1.208) of future excavations for safety-related structures, (2) evaluate any geologic features that are encountered, and (3) notify the NRC once any excavations for safety-related structures are open for inspection.

Response

The response to CCNPP Unit 3 RAI 130, Question 02.05.01-56 stated:

Future excavations for safety-related structures will be geologically mapped and photographed by experienced geologists. Unforeseen geologic features that are encountered will be evaluated. Although a specific excavation mapping method has not been identified, it is likely that a photogrammetric mapping technology will be used.

FSAR Section 2.5.2.2, Geologic and Tectonic Characteristics of Site and Region, states:

As discussed in Section 2.5.1.2.6, excavation mapping is required during construction and any noted deformational zones will be evaluated and NRC notified when excavations are open for inspection.

FSAR Section 2.5.1.2.6.3, Deformational Zones, currently states that future excavations for safety-related structures will be geologically mapped and any deformational zones will be evaluated. This section will be modified to reflect the evaluation wording provided in Regulatory Guide 1.208, A Performance-Based Approach to Define the Site-Specific Earthquake Ground Motion, to include the NRC notification requirement as stated in FSAR Section 2.5.2.2.

COLA Impact

FSAR Section 2.5.1.2.6.3, Deformational Zones, will be revised as follows:

No deformation zones were encountered in the exploration or excavation for CCNPP Units 1 and 2 and none have been encountered in the site investigation for CCNPP Unit 3. Excavation mapping is required during construction and any noted deformational zones will be evaluated and assessed as to their rupture and ground motion generating potential while the excavations' walls and bases are exposed. Additionally, the NRC will be notified when excavations are open for inspection.