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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. 107, Concrete Containment

Reference: John Rycyna (NRC) to Robert Poche (UniStar), "RAI No 107 SEB 2195.doc (PUBLIC)" email dated April 22, 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 April 22, 2009 (Reference). This RAI addresses Concrete Containment, as discussed in Sections 3.7 and 3.8 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 4.

The enclosure provides our response to RAI No. 107, Question 03.08.01-1, 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 to Question 03.08.01-1 does not include any new regulatory commitments.

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NRO

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 May 22, 2009

Greg Gibson

Enclosure: Response to NRC Request for Additional Information RAI No. 107, Question 03.08.01-1, Concrete Containment, Calvert Cliffs Nuclear Power Plant, Unit 3

cc: John Rycyna, NRC Project Manager, U.S. EPR COL Application
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/jmm

Enclosure

Response to NRC Request for Additional Information
RAI No. 107, Question 03.08.01-1, Concrete Containment
Calvert Cliffs Nuclear Power Plant, Unit 3

RAI No. 107

Question 03.08.01-1

In Calvert Cliffs Unit 3 FSAR Section 3.8.1.3 - Loads and Load Combinations (for containment), it states that "Relative site-specific seismic, RSB, and buoyancy conditions are addressed in Sections 3.7.2, 3.8.4, and 3.8.5, respectively." Please clarify exactly what is meant by this sentence. Include in the explanation why the term "relative" is used and what is the meaning of "RSB" when discussing loading conditions. Also, the referenced Section 3.7.2 does not demonstrate that for the containment (as well as some of the other structures) the site-specific seismic loads lie within the standard plant design envelope as required by the U.S. EPR COL Item in Section 3.8.1.3. Please clarify this.

Response

The FSAR Section 3.8.1.3 statement, "Relative site-specific seismic, RSB, and buoyancy conditions are addressed in Sections 3.7.2, 3.8.4, and 3.8.5, respectively," refers to conditions that could potentially affect containment load and the load combination evaluation. The intended purpose of this passage was to provide references to site-specific conditions described in other sections that could affect containment response, but were not explicitly described in Section 3.8.1.3. Reference to the Reactor Shield Building (RSB) in discussing containment loading conditions denotes consideration for structural interaction between the Reactor Containment Building and the RSB due to loads not described in Section 3.8.1.3. The term "relative" in this context was intended to indicate comparison of U.S. EPR design and Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 site-specific conditions. For clarity, the word "relative" will be deleted from the sentence in FSAR Section 3.8.1.3.

FSAR Section 3.7.2 will be updated to indicate that site-specific CCNPP Unit 3 seismic parameters are bounded by the U.S. EPR Standard Design, as discussed in FSAR Section 3.7.1.1.

COLA Impact

FSAR Section 3.7.2 will be updated as follows in a future COLA revision:

3.7.2 SEISMIC SYSTEM ANALYSIS

This COL Item is addressed as follows:

{Site specific CCNPP Unit 3 seismic parameters are bounded by the U.S. EPR Standard Design, as discussed in FSAR Section 3.7.1.1.

{As established in Section 3.7.1.1.1, the seismic input to the analysis of the Seismic Category I EPGBs and the Seismic Category I ESWBs is in accordance with the U.S. EPR FSAR seismic criteria. Figures 3.7-35 and 3.7-36 establish that the U.S. EPR FSAR seismic input motion is conservative relative to the site-specific input motion. The analysis of these two structures considers the ten generic soil profiles defined for the certified design in U.S. EPR FSAR Section 3.7.1.3. These ten soil profiles bound the site-specific soil profile as indicated in Section 2.5.2.6. Consequently, the site-specific

seismic responses of the EPGBs and ESWBs are within the parameters of U.S. EPR FSAR Section 3.7.

FSAR Section 3.8.1.3 will be updated as follows in a future COLA revision:

3.8.1.3 Loads and Load Combinations

This COL Item is addressed as follows:

{The RCB design for CCNPP Unit 3 is the standard RCB design as described in the U.S. EPR FSAR without departures. ~~Relative s~~Site-specific loads are confirmed to lie within the standard U.S. EPR design certification envelope. Site-specific seismic, RSB, and buoyancy conditions are addressed in Sections 3.7.2, 3.8.4, and 3.8.5, respectively.}