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UniStar
NUCLEAR ENERGY

10 CFR 50.4
10 CFR 52.79

July 26, 2013

UN#13-089

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 380, Offsite Power System

References:
1) Surinder Arora (NRC) to Paul Infanger (UniStar Nuclear Energy), "CCNPP3 - Final RAI 380 EEB 6829," dated October 31, 2012

2) UniStar Nuclear Energy Letter UN#13-078, from Mark T. Finley to Document Control Desk, U.S. NRC, Response to Request for Additional Information for the Calvert Cliffs Nuclear Power Plant, Unit 3, RAI 380, Offsite Power System, dated June 28, 2013

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 31, 2012 (Reference 1). This RAI addresses the Offsite Power System, as discussed in Section 8.2 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 9.

Reference 2 indicated that a response to RAI 380, Question 08.02-11, would be provided to the NRC by July 26, 2013. Enclosure 1 provides our response to RAI 380, Question 08.02-11, 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. Enclosure 2 provides a table of changes to the CCNPP Unit 3 COLA associated with the RAI 380, Question 08.02-11 response.

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NRO

Our response does not include any new regulatory commitments. This letter, and its enclosures, does not contain any sensitive or proprietary information.

If there are any questions regarding this transmittal, please contact me at (410) 369-1907 or Mr. Wayne A. Massie at (410) 369-1910.

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

Executed on July 26, 2013

Mark T. Finley

Enclosures: 1) Response to NRC Request for Additional Information RAI 380, Question 08.02-11, Offsite Power System, Calvert Cliffs Nuclear Power Plant, Unit 3

2) Table of Changes to CCNPP Unit 3 COLA Associated with the Response to RAI 380, Question 08.02-11, Calvert Cliffs Nuclear Power Plant, Unit 3

cc: Surinder Arora, NRC Project Manager, U.S. EPR Projects Branch
Laura Quinn-Willingham, NRC Environmental Project Manager, U.S. EPR COL Application
Tomeka Terry, NRC Environmental Project Manager, U.S. EPR COL Application
Amy Snyder, NRC Project Manager, U.S. EPR DC Application, (w/o enclosures)
Patricia Holahan, Acting Deputy Regional Administrator, NRC Region II, (w/o enclosures)
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2,
David Lew, Deputy Regional Administrator, NRC Region I (w/o enclosures)

Enclosure 1

Response to NRC Request for Additional Information
RAI 380, Question 08.02-11,
Offsite Power System,
Calvert Cliffs Nuclear Power Plant, Unit 3

RAI No. 380

Question 08.02-11

On July 27, 2012, the NRC issued Bulletin 2012-01, "Design Vulnerability in Electric Power System," (Agencywide Documents Access and Management System (ADAMS) Accession Number ML12074A115) to all holders of operating licenses and combined licenses for nuclear power reactors requesting information about the facilities' electric power system designs, in light of the recent operating experience that involved the loss of one of the three phases of the offsite power circuit (single-phase open circuit condition) at Byron Station, Unit 2 to verify compliance with applicable regulations and to determine if further regulatory action is warranted.

In order to verify that the applicants of new reactors have addressed the design vulnerability identified at Byron in accordance with the requirements specified in General Design Criterion (GDC) 17, "Electric Power Systems," in Appendix A, "General Design Criteria for Nuclear Power Plants," and the design criteria for protection systems under 10 CFR 50.55a(h)(3), please provide the following information:

- Describe the protection scheme design for important to safety buses (31-34BDA) to detect and automatically respond to a single-phase open circuit condition or high impedance ground fault condition on credited offsite power circuits.
- If the important to safety buses are not powered by offsite power sources during at power condition, explain how the surveillance tests (e.g., SR 3.8.1.1) are performed to verify that a single-phase open circuit condition or high impedance ground fault condition on an off-site power circuit is detected.
- Describe the plant operating procedures including off-normal operating procedures, specifically call for verification of the voltages on all three phases of the ESF buses?

Response:

Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 incorporates the AREVA response[1] to NRC Bulletin 2012-01, "Design Vulnerability in Electric Power System" by reference.

First Bullet:

The protection scheme design for the buses is addressed in AREVA's response[1] to U.S. EPR request for additional information (RAI) 564. CCNPP Unit 3 COLA incorporates the AREVA response by reference.

Second Bullet:

The four 6.9kV Emergency Power Supply System (EPSS) buses are powered by the Emergency Auxiliary Transformers (EATs) via at least two offsite circuits, as stated in the AREVA response[1].

[1] Dennis Williford (AREVA) to Amy Snyder (NRC), "Response to U.S. EPR Design Certification Application RAI No. 564 (6901), FSAR Ch. 8, Supplement 2", email dated July 16, 2013

Third Bullet:

This bullet is addressed by a CCNPP Unit 3 COLA revision, as shown in the COLA Impact section of this response, which addresses the addition of the COL Item 8.2-9 discussed in AREVA's response[1] to U.S. EPR RAI 564.

COLA Impact

CCNPP Unit 3 COLA Part 2, FSAR, Section 8.2.2.4 has been updated as follows:

8.2.2.4 Compliance with GDC 17

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FMEA Conclusion

The finding of this FMEA analysis is that there are no single failures which would cause the simultaneous failure of both preferred sources of offsite power.}

The U.S. EPR FSAR includes the following COL Item in Section 8.2.2.4:

> A COL applicant that references the U.S. EPR design certification will describe essential elements of a program for the operation and surveillance testing of the Phase Monitoring System for the GDC 17 off-site power feeds to address NRC Bulletin 2012-01.

This COL Item is addressed as follows:

The essential elements of the program for the operation and surveillance testing of the Phase Monitoring System are:

- Procedures addressing the operation and maintenance of the Phase Monitoring System, including:
  - Normal operation
  - Abnormal operation
  - Alarm response
  - Calibration/setpoint
  - Diagnostic/trouble-shooting
- Control room operator and maintenance technician training programs, which address the operation and maintenance of the Phase Monitoring System.

Enclosure 2

Table of Changes to CCNPP Unit 3 COLA
Associated with the Response to
RAI 380, Question 08.02-11,
Calvert Cliffs Nuclear Power Plant, Unit 3

Table of Changes to CCNPP Unit 3 COLA

Associated with the Response to RAI No. 380

Change ID #	Subsection	Type of Change	Description of Change
Part 2 – FSAR			
GN-13-0119	8.2.2.4	Incorporated COLA markups associated with the response to RAI 380, Question 08.02-11 (this response).	A COL Item and response, was added to address the Phase Monitoring System as part of the RAI 380, Question 08.02-11 response.