Greg Gibson
Vice President, Regulatory Affairs

750 East Pratt Street, Suite 1600
Baltimore, Maryland 21202

UniStar
NUCLEAR ENERGY

10 CFR 50.4
10 CFR 52.79

June 12, 2009

UN#09-240

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. 109, Seismic Classification

References:
1) John Rycyna (NRC) to Robert Poche (UniStar Nuclear Energy), "RAI No 109 EMB2 2238.doc (PUBLIC)" email dated April 27, 2009

2) UniStar Nuclear Energy Letter UN#09-263, from Greg Gibson to Document Control Desk, U.S. NRC, Submittal of Response to RAI No. 109, Seismic Classification, dated May 27, 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 27, 2009 (Reference 1). This RAI addresses Seismic Classification, as discussed in Section 3.2 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 4.

Reference 1 requested UniStar Nuclear Energy to respond to the RAI within 30 days. Reference 2 provided a schedule for the expected response dates for Questions 03.02.01-1 through 03.02.01-5. The scheduled responses to Questions 03.02.01-3 and 03.02.01-5 remain unchanged. The enclosure provides our response to RAI No. 109, Questions 03.02.01-1, 03.02.01-2 and 03.02.01-4, and includes revised COLA content.

D096
NRO

A Licensing Basis Document Change Request has been initiated to incorporate these changes into a future revision of the COLA. Our response to Questions 03.02.01-1, 03.02.01-2 and 03.02.01-4 does not include any new regulatory commitments.

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 June 12, 2009

Greg Gibson

Enclosure: Response to NRC Request for Additional Information RAI No. 109, Questions 03.02.01-1, 03.02.01-2 and 03.02.01-4, Seismic Classification, 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/KAT

Enclosure

Response to NRC Request for Additional Information
RAI No. 109, Questions 03.02.01-1, 03.02.01-2 and 03.02.01-4, Seismic Classification
Calvert Cliffs Nuclear Power Plant, Unit 3

RAI No. 109

Question 03.02.01-1

10 CFR Part 50, Appendix S, IV(a)(2)(i)(B)(*I*) states that SSCs necessary for continued operation without undue risk to the health and safety of the public must remain functional and within applicable stress, strain, and deformation limits when subject to the effects of the Operating Basis Earthquake (OBE) Ground Motion. SRP 3.2.1 states that, if the applicant has set the OBE Ground Motion to the value one-third of the SSE Ground Motion, then the applicant should also provide a list of SSCs necessary for continued safe operation that must remain functional without undue risk to the health and safety of the public and within applicable stress, strain and deformation, during and following the OBE. U.S. EPR FSAR Section 3.7 states that the OBE for the U.S. EPR standard plant design is defined as one-third of the standard plant SSE. However, this list of SSCs necessary for continued operation is not provided in the U.S. EPR FSAR. Clarify whether this list of SSCs necessary for continued operation will be provided as part of the CCNPP Unit 3 FSAR.

Response

As noted in 10 CFR 50, Appendix S, Section IV(a)(2)(i)(A), if the Operating Basis Earthquake (OBE) ground motion is set to one-third or less of the Safe Shutdown Earthquake (SSE), then the requirements associated with the OBE ground motion in 10 CFR 50, Appendix S, Section IV (a)(2)(i)(B)(I) can be satisfied without the applicant performing explicit response or design analyses. Since the U.S. EPR has set the OBE at one-third of the SSE (see U.S EPR FSAR Section 3.7), no further explicit response is required in accordance with 10 CFR 50, Appendix S, Section IV(a)(2)(i)(A). Those SSC that are designed to withstand an SSE are classified as Seismic Category I and are listed in U.S. EPR FSAR Table 3.2.2-1. This classification is in accordance with SRP 3.2.1. For additional information, see AREVA response to U.S. EPR FSAR RAI 201, Question 03.02.01-9[1]. Seismic category classification for site-specific SSCs is listed in COLA FSAR Table 3.2-1.

COLA Impact

The COLA FSAR will not be revised as a result of this question.

---

[1] R.M. Pederson (AREVA NP Inc.) to G.Tesfaye (NRC), "Response to U.S. EPR Design Certification Application RAI No. 201, FSAR Ch. 3," email dated May 6, 2009.

Question 03.02.01-2

Site-specific SSCs for the fire water supply system and the fire suppression system were added to CCNPP Unit 3 FSAR Table 3.2-1. However, the site-specific piping and instrumentation diagrams (P&IDs) for the fire protection system cannot be located in the CCNPP Unit 3 FSAR. Provide the simplified fire protection system P&IDs in the FSAR showing the site-specific SSCs including seismic category.

Response

Simplified fire protection system P&IDs (FSAR Figures 9.5-2 and 9.5-3) showing the site-specific SSCs, were previously provided in response to RAI No. 75 Question 09.05.01-4[2].

FSAR Figures 9.5-2 and 9.5-3 will be revised to identify the SSC Seismic Category, consistent with FSAR Table 3.2-1. In addition, FSAR Table 3.2-1 and COLA Part 10 ITAAC Tables 2.4-26 and 2.4-27 will be revised for clarity and consistency.

COLA Impact

FSAR Table 3.2-1 will be revised as follows in a future COLA revision:

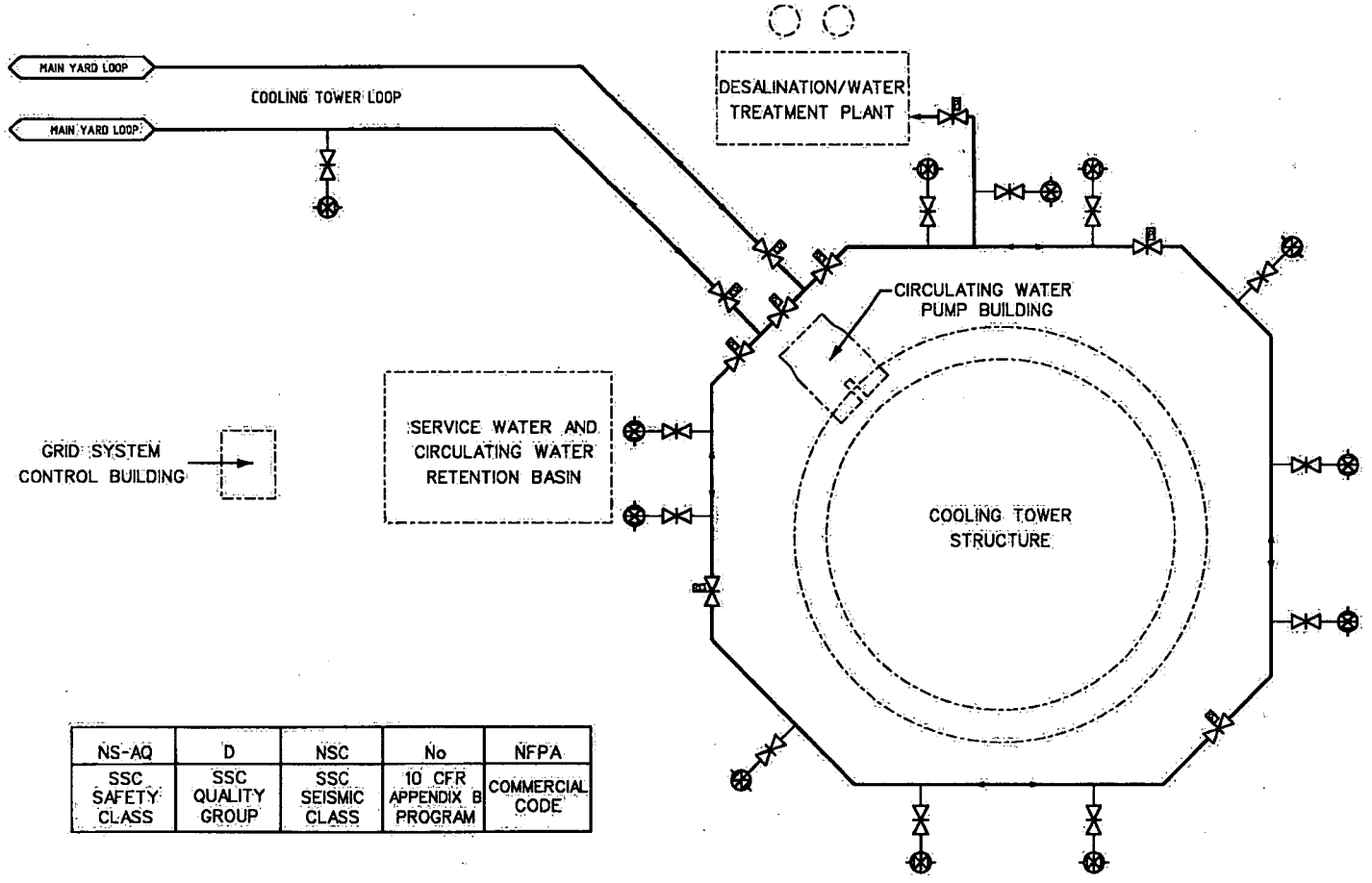
Table 3.2-1—{Classification Summary for Site-Specific SSCs}

KKS System or Component Code	System or Component Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/ Commercial Code
Fire Suppression Systems							
	Fire Suppression Systems for UHS Makeup Water Intake Structure, UHS Electrical Building, and Fire Protection Building	NS-AQ	D	II-SSE	~~No~~ Yes	UPB, ~~UQA~~ USG	NFPA/ANSI/ASME B31.1

FSAR Figure 9.5-2 and Figure 9.5-3 will be revised as follows in a future COLA revision:

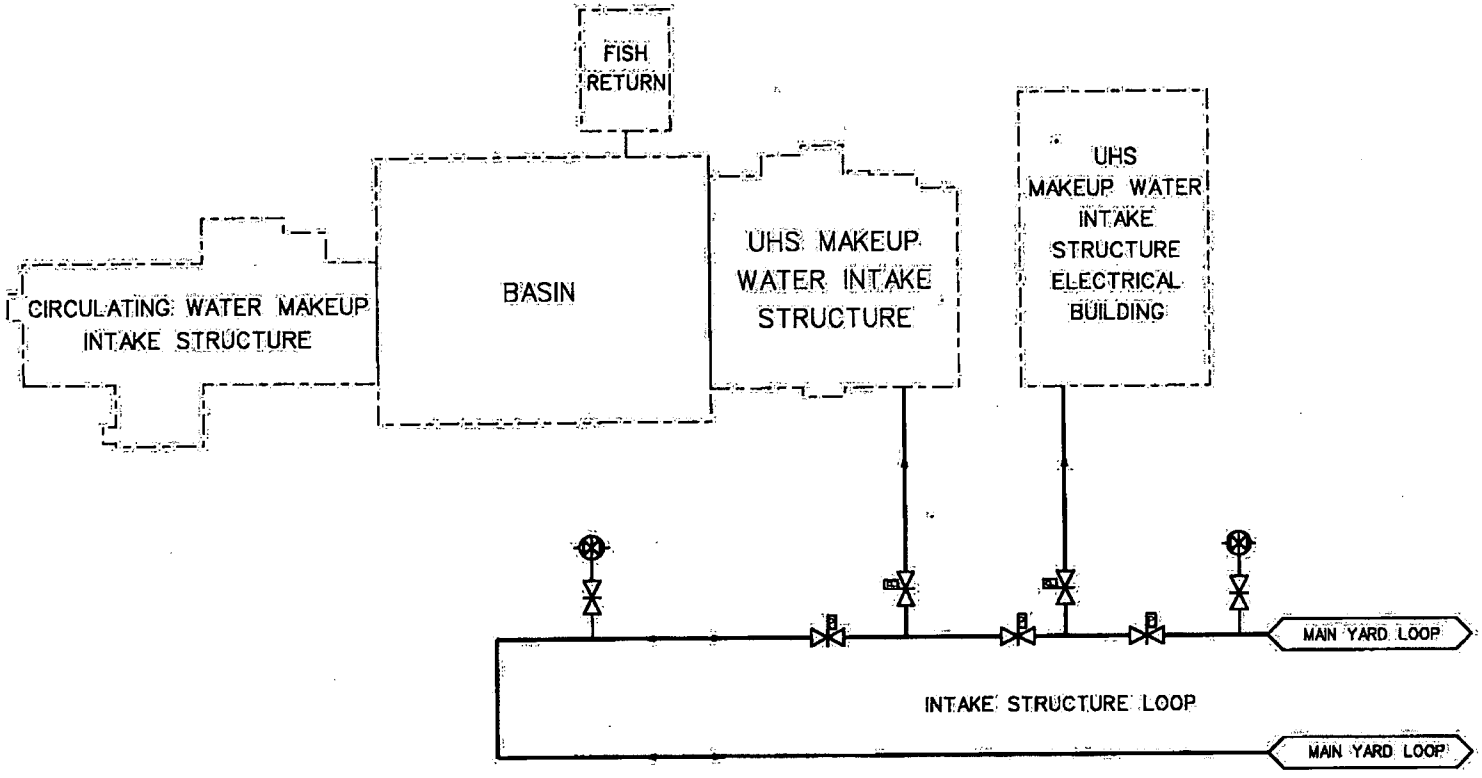
[2] G. Gibson (UniStar) to Document Control Desk (NRC), UN#09-211, "Response to Request for Additional Information for the Calvert Cliffs Nuclear Power Plant, Unit 3, RAI No. 75, Fire Protection Program," dated May 8, 2009.

Figure 9.5-2—(CCNPP Unit 3 Fire Water Distribution System - Cooling Tower Loop)



NS-AQ	D	NSC	No	NFPA
SSC SAFETY CLASS	SSC QUALITY GROUP	SSC SEISMIC CLASS	10 CFR APPENDIX B PROGRAM	COMMERCIAL CODE

{Figure 9.5-3--{CCNPP Unit 3 Fire Water Distribution System - Intake Structure Loop}



NS-AQ	D	II-SSE	Yes	NFPA/ANSI /ASME B31.1
SSC SAFETY CLASS	SSC QUALITY GROUP	SSC SEISMIC CLASS	10 CFR APPENDIX B PROGRAM	COMMERCIAL CODE

COLA Part 10 ITAAC Tables 2.4-26 and 2.4.27 will be revised as follows in a future COLA revision:

Table 2.4-26—{Fire Water Distribution System Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
3	Fire Water Distribution System equipment and piping that could impact the capability of Seismic Category 1 Structures to perform its safety function are designated as Seismic Category II or Seismic Category II-SSE, and can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category 1 from performing its safety function.	a. Type tests, tests, analysis, or a combination of tests and analyses will be performed. b. Inspections will be conducted of the as-built equipment.	a. A report exists and concludes that the Fire Water Distribution System equipment and piping that are designated as Seismic Category II or Seismic Category II-SSE can withstand design basis seismic loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. Fire Water Distribution System equipment and piping that are designated as Seismic Category I are installed as designed.

Table 2.4-27—{Fire Suppression Systems Inspections, Tests, Analyses, and Acceptance Criteria}

	Commitment Wording	Inspection, Test, or Analysis	Acceptance Criteria
1	The Fire Suppression System components for the UHS Makeup Water Intake Structure are designated as Seismic Category II-SSE, and can withstand seismic design basis loads without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed. b. Inspections will be conducted of the as-built equipment.	a. A report exists and concludes that the Fire Suppression System components for the UHS Makeup Water Intake Structure designated as Seismic Category II-SSE can withstand a design basis seismic load without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. The Fire Suppression System components for the UHS Makeup Water Intake Structure designated as Seismic Category II-SSE are installed as designed.
2	The Fire Suppression System components for the UHS Electrical Building are designated as Seismic Category II-SSE and can withstand a design basis seismic load without impacting the capability of equipment designated as Seismic Category I from performing its safety function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed. b. Inspections will be conducted of the as-built equipment.	a. A report exists and concludes that the Fire Suppression System components for the UHS Electrical Building designated as Seismic Category II-SSE can withstand a design basis seismic load without impacting the capability of equipment designated as Seismic Category I from performing its safety function. b. The Fire Suppression System components for the UHS Electrical Building designated as Seismic Category II-SSE are installed as designed.
3	The Fire Suppression System components for the Fire Protection Building are designated as Seismic Category II-SSE, and can withstand a design basis seismic load without impacting the capability of equipment designated as Seismic Category II-SSE from performing its safety function.	a. Type tests, tests, analyses, or a combination of tests and analyses will be performed. b. Inspections will be conducted of the as-built equipment.	a. A report exists and concludes that the Fire Suppression System components for the Fire Protection Building designated as Seismic Category II-SSE can withstand a design basis seismic load without impacting the capability of equipment designated as Seismic Category II-SSE from performing its function. b. The Fire Suppression System components for the Fire Protection Building designated as Seismic Category II-SSE in are installed as designed.

Question 03.02.01-4

Seismic categories CS and NSC are defined in the U.S. EPR FSAR. For clarification and consistency, the definition for seismic categories CS and NSC should also be included in the notes for CCNPP Unit 3 FSAR Table 3.2-1.

Response

FSAR Table 3.2-1 will be revised to include the definition of CS and NSC in Note 2.

COLA Impact

FSAR Table 3.2-1 will be revised as follows in a future COLA revision:

Table 3.2-1—{Classification Summary for Site-Specific SSCs}

KKS System or Component Code	System or Component Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/ Commercial Code
	Electrical Duct Banks traversing between miscellaneous buildings	NS	E	CS	No	UZT	IEEE/NEC

Notes:

1. As defined in U.S. EPR FSAR Section 3.2.1, the US EPR safety classifications, as supplemented by the UniStar Quality Assurance Program Description (QAPD) classifications, are:
   S- Safety-related (UniStar QAPD classification - QA Level 1)
   NS- Non-safety-related (UniStar QAPD classification - QA Level 3)
   NS-AQ- Supplemented Grade (UniStar QAPD classification - QA Level 2)
2. As defined in Section 3.2.1 and U.S. EPR FSAR Section 3.2.1, the Seismic Classifications are:
   I – Seismic Category I
   II – Seismic Category II
   II-SSE – Seismic Category II Fire Protection structures, systems, and components that are required to remain functional during and following a safe shutdown earthquake to support equipment required to achieve safe shutdown. The following Fire Protection structures, systems, and components are required to remain functional during and after a seismic event: 1) Fire Water Storage Tanks; 2) Fire Protection Building; 3) Diesel driven fire pumps and their associated subsystems and components, including the diesel fuel oil system; 4) Critical support systems for the Fire Protection Building, i.e., ventilation; and 5) The portions of the fire water piping system and components (including isolation valves) which supply water to the stand pipes in buildings that house the equipment required for safe shutdown of the plant following an SSE. Manual actions may be required to isolate the portion of the Fire Protection piping system that is not qualified as Seismic Category II-SSE.
   CS – Conventional Seismic
   NSC – Non-seismic