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UniStar
NUCLEAR ENERGY

10 CFR 50.4
10 CFR 52.79

March 8, 2011

UN#11-096

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. 264, Tornado Loads

References:
1) Surinder Arora (NRC) to Robert Poche (UniStar Nuclear Energy), "FINAL RAI 264 SEB2 5094" email dated December 16, 2010

2) UniStar Nuclear Energy Letter UN#11-009, from Greg Gibson to Document Control Desk, U.S. NRC, Submittal of Response to RAI No. 264, Tornado Loads, dated January 14, 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 December 16, 2010 (Reference 1). This RAI addresses Tornado Loads, as discussed in Section 3.3 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.

Reference 2 provided a March 9, 2011 response date for RAI 264 Questions 03.03.02-4 and 03.03.02-7. Enclosure 1 provides our response to RAI 264, Question 03.03.02-7. Enclosure 2 provides enlargements of three FSAR figures in support of the response to Question 03.03.02-7.

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NRO

UniStar Nuclear Energy requires additional time to finalize the response to RAI 264 Question 03.03.02-4. A response will be provided to the NRC by April 8, 2011.

Our response does not include any revised COLA content and does not include any new regulatory commitments. This letter does not contain any sensitive or proprietary information.

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 8, 2011

Greg Gibson

Enclosures: 1) Response to RAI No. 264, Question 03.03.02-7, Tornado Loads, Calvert Cliffs Nuclear Power Plant Unit 3

2) Enlarged FSAR Figures to Support Question 03.03.02-7 Response

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

GTG/SJS/mdf

Enclosure 1

Response to
RAI No. 264, Question 03.03.02-7,

Calvert Cliffs Nuclear Power Plant Unit 3

RAI 264

Question 03.03.02-7

Introduction

General Design Criterion 2 (GDC 2) requires that structures, systems and components important to safety, be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunamis, and seiches without loss of capability to perform their intended safety functions. GDC 2 further requires that the design bases reflect appropriate considerations for the most severe natural phenomena that have been historically reported for the site and surrounding area, with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated in the past.

The Calvert Clift Nuclear Power Plant Unit 3 (CCNPP U3) FSAR, Revision 6, Section 3.3.2.3, and the applicant's response to RAI No. 128, Question 3.3.2-1, parts 1 and 2, created additional concerns for the staff.

Supplementary Question to RAI 128:

In response to RAI 128, Question 3.3.2-1, Part 1, regarding the separation distances between non-safety related structures and safety related structures, the applicant referenced Figures 2.4-2, 2.1-5, 2.4-51 and 9.2-4 and provided separation distances for the 13 structures listed in Table 1. Although the separation distances between the above mentioned structures in Table 1 are adequate, the staff is unable to verify this information from the referenced Figures due to lack of dimensioning and scale drawings. Further, the applicant noted in Figure 2.1-5 of FSAR, Rev.6, "Working with this drawing with 3-P1-0010-00001." The staff assumes this to mean there are other drawings with detailed separation distances. The staff could not find such drawings in the FSAR, Rev.6.

The staff requests that the applicant provide information on referenced drawing 3-P1-0010-00001 and other sources so the staff can verify the separation distances between the non-safety related and safety related structures listed in revised Section 3.3.2.3. The staff needs this information to verify the distances between aforementioned non-safety related structures not designed for tornado loadings, which could adversely affect the safety related structures in its proximity.

The FSAR should be revised to include the responses to this RAI.

Response

Enclosure 2 provides 11 x 17 enlargements of FSAR Figure 2.1-5, Figure 2.4-2, and Figure 9.2-4 from Revision 7. Because these figures are enlargements of the entire FSAR figure, the scale is included. This scale will allow the staff to confirm the separation distances previously provided.

Drawing 3-P1-00100-00001 was an internal reference to the source drawing for FSAR Figure 2.4-2. This note has been removed from FSAR Figure 2.1-5 in Revision 7.

To aid review, Table 1 from the response to RAI 128 Question 03.03.02-1, Part 1 (UN#09-378[1]) is reproduced in its entirety below. The Figure 2.1-5 and Figure 2.4-2 enlargements have lines added between the non safety-related structures and the nearest safety-related structures. The lines are identified by the item number listed in the left-hand column of the above table. These two figures show all listed structures except for Items 10 and 14, the Circulating Water System Makeup Water Intake Structure and the Forebay, which can be seen on Figure 9.2-4. The Forebay is included in this table although it has been re-classified as a safety-related structure. The non safety-related Circulating Water System Makeup Water Intake Structure is more than 50 feet from the Forebay. This can also be seen on Figure 9.2-4.

Table 1

Item No.	Non-Safety-Related Structure	FSAR Ref Figure(s)	Conservative Distance to Nearest Safety-Related Structure (D)	Potential Interaction w/ Safety-Related Structures
1	Fire Protection Water Tanks[1]	2.1-5	200 ft	No[8]
2	Fire Protection Building	2.1-5	300 ft	No[8]
3	Storage Warehouse[2]	2.1-5	200 ft	No[8]
4	Central Gas Supply Building	2.4-2	1600 ft	No[8]
5	Security Access Facility	2.1-5	200 ft	No[8]
6	Switchgear Building	2.1-5	See Part 2 Response	
7	Grid Systems Control Bldg	2.1-5	700 ft	No[8]
8	Circulating Water System Cooling Tower[3]	2.4-2	1800 ft	No[8]
9	Circulating Water System Pump Building (Located adjacent to Cooling Tower in Plant N-E direction)	2.4-2	1700 ft	No[8]
10	Circulating Water System Makeup Water Intake Structure[4]	2.4-51 9.2-4	See Part 2 Response	
11	Circulating Water System Retention Basin[5]	2.4-2	1200 ft	No[8]
12	Desalinization/Water Treatment Plant[6]	2.4-2	1600 ft	No[8]
13	Waste Water Treatment Plant[7]	2.4-2	1300 ft	No[8]
14	Forebay	2.4-51	See Part 2 Response	
15	Demineralized Water Tanks	2.1-5	60 ft	No[9]

Notes:

1. Fire Protection Water Tanks are named Fire Protection Storage Tanks in Figure 2.1-5.
2. Storage Warehouse is named Workshop & Warehouse Building in Figure 2.1-5.
3. Circulating Water System Cooling Tower is named Cooling Tower in Figure 2.4-2.
4. Circulating Water System Makeup Water Intake Structure is named C W Makeup Intake Structure in Figure 2.4-51.
5. Circulating Water System Retention Basin is named Waste Water Retention Basin in Figure 2.4-2.
6. Desalinization/Water Treatment Plant is named Desalinization Structure in Figure 2.4-2.
7. Waste Water Treatment Plant is named Sewage Treatment Plant in Figure 2.4-2.
8. Height is much smaller than the separation distance. Therefore, no potential for interaction.
9. Height of structure is about 50 ft, which is less than 60 ft separation distance. Therefore, no potential for interaction.

[1] G. Gibson (UniStar Nuclear Energy) to Document Control Desk (U.S. NRC), "Response to Request for Additional Information for the Calvert Cliffs Nuclear Power Plant, Unit 3, RAI 128, Tornado Loads," Letter UN#09-378, dated September 10, 2009.

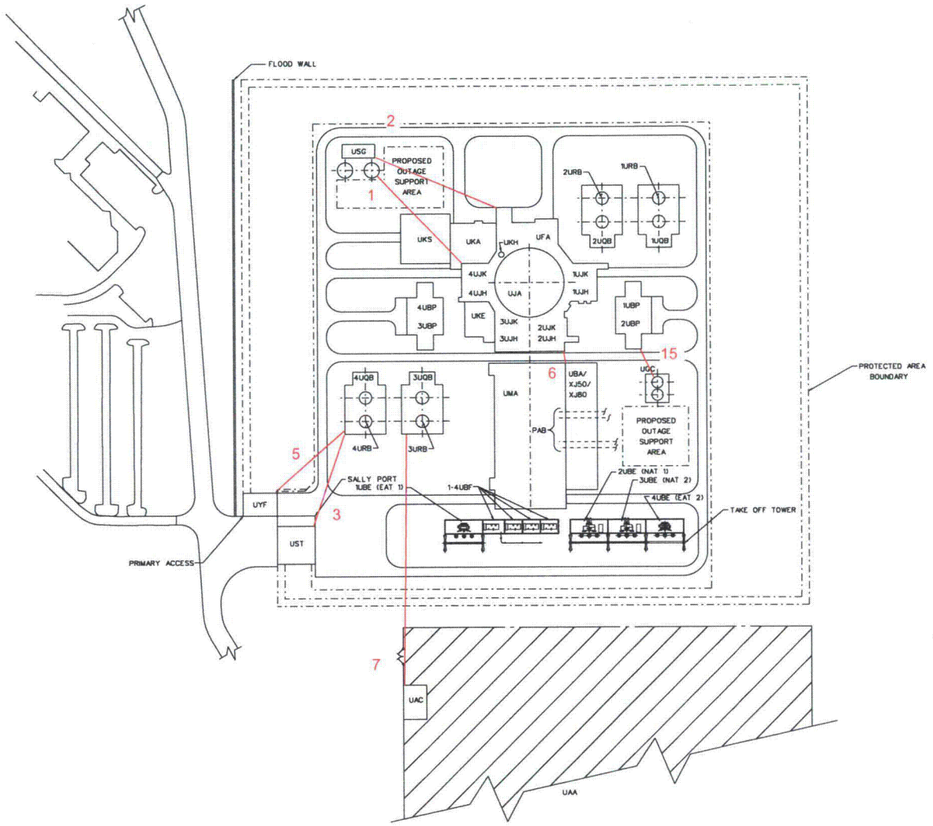
COLA Markup

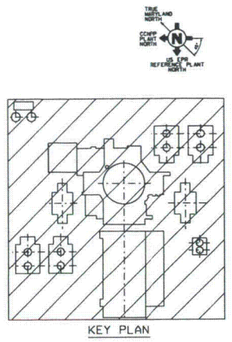
No changes to the COLA are necessary.

Enclosure 2

Enlarged FSAR Figures to Support Question 03.03.02-7 Response

Figure 2.1-5— {CCNPP Unit 3 Enlargement}





LEGEND:

	PAB	CIRCULATING WATER PIPING SYSTEM
	UAA	SWITCHYARD
	UAC	GRID SYSTEMS CONTROL BUILDING
	UBA	SWITCHGEAR BUILDING
1-4	UBE	AUXILIARY POWER TRANSFORMERS
1-4	UBF	GENERATOR TRANSFORMERS
1-4	UBP	EMERGENCY POWER GENERATING BUILDINGS
	UFA	FUEL BUILDING
	UGC	DEMINERALIZED WATER TANKS
	UJA	REACTOR BUILDING
1-4	UJH	SAFEGUARD BUILDING MECHANICAL
1-4	UJK	SAFEGUARD BUILDING ELECTRICAL
	UKA	NUCLEAR AUXILIARY BUILDING
	UKE	ACCESS BUILDING
	UKH	VENT STACK
	UKS	RADIOACTIVE WASTE PROCESSING BUILDING
	UMA	TURBINE BUILDING
1-4	UQB	ESSENTIAL SERVICE WATER PUMP BUILDINGS
1-4	URB	ESSENTIAL SERVICE WATER COOLING TOWER STRUCTURES
	USG	FIRE PROTECTION STORAGE TANKS AND BUILDING
	UST	WORKSHOP & WAREHOUSE BUILDING
	XJA50	6.9 KV STATION BLACKOUT DIESEL ENGINE, TRAIN
	XJA80	6.9 KV STATION BLACKOUT DIESEL ENGINE, TRAIN
	UYF	SECURITY ACCESS FACILITY

0 100 200
1" = 100'

Figure 2.4-2— {Site Utilization Plot Plan}

Figure 9.2-4— {General Area - UHS Makeup Water and CW Intake Structures}