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NUCLEAR ENERGY

10 CFR 50.4
10 CFR 52.79

February 18, 2010

UN#10-036

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016
Departure from U.S. EPR Final Safety Analysis Report, Tier 2, Section 8.3.1, Onsite Power System

As was discussed with the NRC Staff on February 17, 2010, the purpose of this letter is to document a departure from the information described in U.S. EPR Final Safety Analysis Report (FSAR), Tier 2, Section 8.3.1, Onsite Power System. The departure addresses the Normal Power Supply System (NPSS), as discussed in Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 FSAR Section 8.3.1.1.2, as submitted in Part 2 of the CCNPP Unit 3 Combined License Application (COLA), Revision 6.

The departure relates to site-specific aspects of the design of the non-Class 1E NPSS electrical distribution system supply to the Circulating Water System (CWS) cooling towers. The design of the CWS cooling towers is identified as site-specific in U.S. EPR FSAR, Tier 2, Section 10.4.5, Circulating Water System, and the design descriptions provided therein are identified as conceptual. The departure involves replacing the six 480 V load centers that are identified as providing power to the CWS cooling tower structure area in U.S. EPR FSAR, Tier 2, Section 8.3.1.1.2, Table 8.3-3, and Figure 8.3-3 with four additional 6.9 kV switchgear. These changes are currently reflected in CCNPP Unit 3 FSAR Sections 8.3.1.1.2, Table 8.3-3, and Figure 8.3-2.

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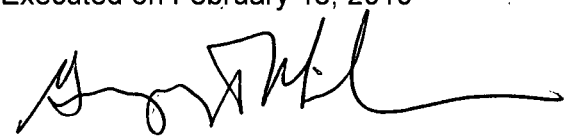
The Enclosure provides page markups for the departure from U.S. EPR Final Safety Analysis Report, Tier 2, Section 8.3.1.1.2, Normal Power Supply System, and includes revised COLA content. A Licensing Basis Document Change Request has been initiated to incorporate these changes into a future revision of the COLA.

This transmittal 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 February 18, 2010



Greg Gibson

Enclosure: Page Markups for Departure from U.S. EPR Final Safety Analysis Report, Tier 2, Section 8.3.1, Onsite Power System, 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
U.S. NRC Region I Office

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UN#10-036

Enclosure

Page Markups for Departure from
U.S. EPR Final Safety Analysis Report, Tier 2,
Section 8.3.1, Onsite Power System

Calvert Cliffs Nuclear Power Plant Unit 3

CCNPP Unit 3 FSAR Section 1.8.2 will be revised as follows in a future COLA Revision:

1.8.2 DEPARTURES

The U.S. EPR FSAR includes the following COL Item in Section 1.8.2:

> A COL applicant that references the U. S. EPR design certification will provide a list of any departures from the FSAR in the COL FSAR.

This COL Item is addressed as follows:

{The list of departures from the U.S. EPR FSAR is as follows:

Maximum Differential Settlement	FSAR 2.5.4 and 3.8.5
Maximum Annual Average Atmospheric Dispersion Factor	FSAR 2.3.5
Accident Atmospheric Dispersion Factor from 0 - 2 Hours for the Low Population Zone	FSAR 2.3.4 and 15.0.3
Maximum Ground Water Elevation	FSAR 2.4.12, 3.4.2, and 3.8.5
Toxic Gas Detection and Isolation	FSAR 3.11, 6.4, 9.4.1 and 14.2.12
Normal Power Supply System	FSAR 8.3.1.1.2
Technical Specifications Setpoint Control Program	FSAR 16.3.3, 16.5.5, and Bases 16.3.3

Justification for these departures is presented in Part 7 of the COL application.}

CCNPP Unit 3 FSAR Section 8.3.1 will be revised as follows in a future COLA Revision:

8.3 ONSITE POWER SYSTEM

This section of the U.S. EPR FSAR is incorporated by reference with the following supplements and departure.

CCNPP Unit 3 FSAR Section 8.3.1.1.2 will be revised as follows in a future COLA Revision[1]:

8.3.1.1.2 Normal Power Supply System

{The Normal Power Supply System (NPSS) is shown on Figure 8.3-2 and Figure 8.3-3. Figure 8.3-2 illustrates the NPSS single line drawing as shown in the U.S. EPR FSAR, with site-specific added or removed, as appropriate. Site-specific features identified on Figure 8.3-2 include:

- Power is supplied to switchyard control house MCC from 31BHH and 32BBH
- Circulating Water intake Structure loads are supplied from 34BBH
- Backup power for desalination plant and demineralization plant loads
- Cooling tower wet fans are supplied by site-specific 6.9 kV switchgear 35BBE and 35BBF for Train 5, and 6.9 kV switchgear 36BBE and 36BBF for Train 6. These switchgear replace 480 VAC load centers 35BFB, 35BFC, and 35BFD for Train 5, and 480 VAC load centers 36BFB, 36BFC, and 36BFD for Train 6 listed in U.S. EPR FSAR Table 8.3-3. The changes resulted from increasing the size of the cooling tower wet fans from 300 hp (each) to 350 hp (each).

Figure 8.3-3 shows site-specific transformer 30BBT04 and distribution system, which supplies the normal power from the station switchyard to the desalinization plant, demineralization plant, waste water treatment facility, and Circulating Water System Cooling Tower dry fans (plume abatement). There is also a backup power source for the desalinization plant and demineralization plant loads from NPSS bus 36BBD to site-specific 6.9 kV switchgear 30BBM. A loss of power from 30BBT04 results in the automatic transfer (via dead bus transfer) of 30BBM from the normal power source to the backup power from 36BBD.

The site-specific NPSS equipment shown on Figure 8.3-2 and Figure 8.3-3 is listed in Table 8.3-3.

U.S. EPR FSAR Table 8.3-3 lists 480 V AC Load Centers 35BFB, 35BFC, and 35BFD for Train 5, and 480 V AC Load Centers 36BFB, 36BFC, and 36BFD for Train 6. These 480 V AC load centers are also shown on U.S. EPR FSAR Figure 8.3-3. These 480 V AC Load Centers are replaced in the site-specific design with 6.9 kV Switchgear 35BBE and 35BBF for Train 5 and 6.9 kV Switchgear 36BBE and 36BBF for Train 6. This represents a departure from the U.S. EPR FSAR.}

[1] Markup based on changes to FSAR Section 8.3.1.1.2 that were previously submitted in letter from Greg Gibson (Unistar) to Document Control Desk (NRC), Response to Request for Additional Information for the Calvert Cliffs Nuclear Power Plant, Unit 3, RAI 115, AC Power Systems Onsite, dated September 25, 2009.

CCNPP Unit 3 FSAR Table 8.3-3 will be revised as follows in a future COLA Revision[2]:

Table 8.3-3—{CCNPP Unit 3 Normal Power Supply System Switchgear, and Load Center Numbering and Nominal Voltage}

Nominal Voltage Level	Train	Bus / Load Center
6.9 kV Switchgear	5	35BBE(1) (2), 35BBF(1) (2)
6.9 kV Switchgear	6	36BBE(1) (2), 36BBF(1) (2)
6.9 kV Switchgear	0	30BBA(1), 30BBM, 30BBE(1), 30BBG(1)
480 V Load Center	0	30BFM, 30BFD(1), 30BFE(1), 30BFF(1), 30BFG(1), 30BFH(1), 30BFJ(1)
13.8 kV – 6.9 kV Transformer	0	30BBT08
6.9 kV 480 V Transformer	0	30BHT01, 30BFT02, 30BHT03, 30BFT04(1), 30BFT05(1), 30BFT06(1), 30BFT07(1), 30BFT08(1), 30BFT09(1)
6.9 kV 480 V Transformer	1	31BHT11(3)
6.9 kV 480 V Transformer	2	32BHT11(3)
6.9 kV 480 V Transformer	4	34BHT07(4)
13.8 kV – 6.9 kV Transformer	5	35BBT05 (1), 35BBT06(1)
13.8 kV – 6.9 kV Transformer	6	36BBT05(1), 36BBT06(1)

Notes:

1. Equipment located in the Circulating Water System Cooling Tower Area.
2. U.S. EPR FSAR Table 8.3-3 lists 480 V AC Load Centers 35BFB, 35BFC, and 35BFD for Train 5, and 480 V AC Load Centers 36BFB, 36BFC, and 36BFD for Train 6. These 480 V AC Load Centers are replaced in the site-specific design with 6.9 kV Switchgear 35BBE and 35BBF for Train 5 and 6.9 kV Switchgear 36BBE and 36BBF for Train 6.
3. Equipment located in the Switchyard.
4. Equipment located in the Circulating Water System Makeup Water Intake Structure.

[2] FSAR Table 8.3-3, as shown, includes changes that were previously submitted in letter from Greg Gibson (Unistar) to Document Control Desk (NRC), Response to Request for Additional Information for the Calvert Cliffs Nuclear Power Plant, Unit 3, RAI 115, AC Power Systems Onsite, dated September 25, 2009.

CCNPP Unit 3 COLA Part 7, Section 1.1, will be revised as follows in a future COLA Revision:

1.1 DEPARTURES

This Departure Report includes deviations in the CCNPP Unit 3 COL application FSAR from the information in the U.S. EPR FSAR, pursuant to 10 CFR Part 52. The U.S. EPR Design Certification Application is currently under review with the NRC. However, for the purposes of evaluating these deviations from the information in the U.S. FSAR, the guidance provided in Regulatory Guide 1.206, Section C.IV.3.3, has been utilized.

The following Departures are described and evaluated in detail in this report:

1. Maximum Ground Water Level
2. Maximum Differential Settlement (across the basemat)
3. Maximum Annual Average Atmospheric Dispersion Factor (0.5 mile – limiting sector)
4. Accident Atmospheric Dispersion Factor (0-2 hour, Low Population Zone, 1.5 miles)
5. Normal Power Supply System

CCNPP Unit 3 COLA Part 7, Section 1.1.7, will be added as follows in a future COLA Revision:

1.1.7 Normal Power Supply System

Affected U.S. EPR FSAR Sections: Tier 2 Section 8.3.1.1.2, Table 8.3-3, and Figure 8.3-3

Summary of Departure:

U.S. EPR FSAR, Tier 2, Section 8.3.1.1.2 describes 480 V AC Load Centers 35BFB, 35BFC, and 35BFD (for Train 5), and 36BFB, 36BFC, and 36BFD (for Train 6) as supplying power to the Circulating Water System (CWS) cooling tower area loads. These 480 V AC load centers are also identified in U.S. EPR FSAR, Tier 2, Table 8.3-3, and U.S. EPR FSAR, Tier 2, Figure 8.3-3. The 480 V AC Load Centers are replaced in the site-specific design with 6.9 kV Switchgear 35BBE and 35BBF (for Train 5), and 36BBE and 36BBF (for Train 6). The site-specific Normal Power Supply System major distribution switchgear and nominal bus voltages are shown in CCNPP Unit 3 FSAR Table 8.3-3, and the addition of 6.9 kV switchgear and deletion of 480 V AC load centers that provide power to the CWS cooling tower area loads are shown in CCNPP Unit 3 FSAR Figure 8.3-3.

Scope/Extent of Departure:

This Departure is identified in CCNPP Unit 3 FSAR Section 8.3.1.1.2.

Departure Justification:

An evaluation of the CWS cooling tower area loads was performed that considered the effects of replacing the six 480 V AC load centers with four additional 6.9 kV switchgear. The added 6.9 kV switchgear are powered from the same non-Class 1E electrical buses as the 480 V AC load centers that are deleted, and there is no increase in the total electrical load associated with the change. The evaluation concluded that the impacts of the site-specific loads are within design margins for the Normal Power Supply System. As a result, impacts associated with the change would be minimal.

Departure Evaluation:

This Departure, associated with the non-Class 1E Normal Power Supply System, has been evaluated and determined to not adversely affect the safety function.

Accordingly, the Departure does not:

1. Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the plant-specific FSAR;
2. Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety and previously evaluated in the plant-specific FSAR;
3. Result in more than a minimal increase in the consequences of an accident previously evaluated in the plant-specific FSAR;
4. Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the plant-specific FSAR;
5. Create a possibility for an accident of a different type than any evaluated previously in the plant-specific FSAR;
6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific FSAR;
7. Result in a design basis limit for a fission product barrier as described in the plant-specific FSAR being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific FSAR used in establishing the design bases or in the safety analyses.

This Departure does not affect resolution of a severe accident issue identified in the plant specific FSAR.

Therefore, this Departure has no safety significance.