Greg Gibson
Vice President, Regulatory Affairs

250 West Pratt Street, Suite 2000
Baltimore, Maryland 21201

UniStar
NUCLEAR ENERGY

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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. 42, Revision 0, Questions 09.05.02-1 and 09.05.02-2,
Communications Systems

Reference: John Rycyna (NRC) to George Wrobel (UniStar), "RAI No 42 ICE1 1479.doc (P)" email dated December 16, 2008

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, dated December 16, 2008 (Reference). This RAI addresses Communications Systems, as discussed in Section 9.5.2 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the CCNPP Unit 3 Combined License Application (COLA), Revision 3.

The enclosure provides our response to RAI No. 42, Revision 0, Questions 09.05.02-1 and 09.05.02-2. Our response to Question 09.05.02-1 includes revised COLA content. A Licensing Basis Document Change Request will be incorporated into a future COLA revision, upon NRC approval of the response. Our response to Question 09.05.02-1 does not include new regulatory commitments. Our response to Question 09.05.02-2 does not include any new regulatory commitments and does not require revised COLA content.

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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 January 14, 2009

Greg Gibson

Enclosure: Response to NRC Request for Additional Information, RAI No. 42, Revision 0, Questions 09.05.02-1 and 09.05.02-2, Communications Systems, Calvert Cliffs Nuclear Power Plant, Unit 3

cc: John Rycyna, NRC Project Manager, U.S. EPR COL Application
Thomas Fredrichs, NRC Environmental Project Manager, U.S. EPR COL Application
Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosure)
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2
U.S. NRC Region I Office

**Enclosure**

**Response to NRC Request for Additional Information, RAI No. 42, Revision 0**
**Questions 09.05.02-1 and 09.05.02-2**

**Communications Systems**

**Calvert Cliffs Nuclear Power Plant, Unit 3**

**RAI No. 42, Revision 0**

**Question 09.05.02-1**

Section 9.5.2.3 of the applicant's FSAR states that "[c]ommunication equipment will be provided in this area to support effective communication between plant personnel during normal operation, as well as during accident conditions. This location will contain equipment to allow use of the plant digital telephone system, PA and alarm system, and sound powered system. A portable wireless communication system will also be provided for use by fire brigade and other operations personnel required to achieve safe plant shutdown." Title 10, C.F.R. 52.47(a)(9) requires that "[f]or applications for light-watercooled nuclear power plants, an evaluation of the standard plant design against the Standard Review Plan (SRP) revision in effect 6 months before the docket date of the application. The evaluation required by this section shall include an identification and description of all differences in design features, analytical techniques, and procedural measures proposed for the design and those corresponding features, techniques, and measures given in the SRP acceptance criteria. Where a difference exists, the evaluation shall discuss how the proposed alternative provides an acceptable method of complying with the Commission's regulations, or portions thereof, that underlie the corresponding SRP acceptance criteria. Section 9.5.2 of the Standard Review Plan provides acceptance criteria for plant communications systems. Section 9.5.2.III.1 of SRP provides that the NRC will "[v]erify that effective communication will not be impeded by transmission through barriers, high-noise areas, personnel use of protective equipment, inadequate number of communication channels, interference between channels or subsystems, or interference from other electronic or electrical equipment." The applicant is requested to demonstrate that the portable wireless communication system used in the Ultimate Heat Sink (UHS) Makeup Water Intake Structure and the UHS Electrical Building are not susceptible to an excess noise level, electromagnetic interference (EMI), and radio frequency interference (RFI).

**Response**

The portable wireless communication system provided for the Ultimate Heat Sink (UHS) Makeup Water Intake Structure and the UHS Electrical Building is a part of the portable wireless communication system described in Calvert Cliffs Nuclear Power Plant, Unit 3 (CCNPP 3) FSAR Section 9.5.2.3. The design for the communication system in both of these structures is site specific.

The devices used for the communication system are conventional and have a history of reliable operation. Most of these devices are in routine use, and this routine use will demonstrate their availability. Further, the communication system equipment will be factory tested to verify compliance with the emission limits specified in EPRI TR-102323-R3 for Electromagnetic and Radio Frequency Interference (EMI/RFI).

The communication equipment will also be tested in accordance with the startup and preoperational procedures recommended by the equipment supplier to verify communication system operability under the potential maximum noise levels. Text will be added to Section 14.2.14 of the next revision of the CCNPP Revision 3 COLA FSAR, to include test method and acceptance criteria for the Ultimate Heat Sink (UHS) Makeup Water Intake Structure and the UHS Electrical Building Communication System as shown below under the heading FSAR Impact.

**FSAR Impact**

The CCNPP Revision 3 COLA, FSAR Section 14.2.14, will be supplemented in a future revision to add the following new subsection, at the end of Section 14.2.14.

**14.2.14.XX UHS Makeup Water Intake Structure and UHS Electrical Building Communications System**

1. OBJECTIVES

   a. To demonstrate the adequacy of the UHS Makeup Water Intake Structure and UHS Electrical Building intra-plant communications system to provide communications between vital plant areas.

2. PREREQUISITES

   a. Construction activities on the intraplant communications system have been completed.

   b. Support systems required for operation of the intraplant communications system are complete and functional.

   c. Plant equipment that contributes to the ambient noise level in the UHS Makeup Water Intake Structure and UHS Electrical Building shall be in operation.

3. TEST METHOD

   a. Verify the intraplant portable wireless communication system functions as designed in the UHS Makeup Water Intake Structure and UHS Electrical Building.

   b. Verify that the intraplant (PABX) telephone system functions as designed in the UHS Makeup Water Intake Structure and UHS Electrical Building.

   c. Verify the intraplant sound powered telephone system functions as designed in the UHS Makeup Water Intake Structure and UHS Electrical Building.

   d. Verify the intraplant public address system functions as designed in the UHS Makeup Water Intake Structure and UHS Electrical Building.

   e. Verify the security radio system functions as designed in the UHS Makeup Water Intake Structure and UHS Electrical Building.

   f. Verify that the communication equipment will perform under the anticipated maximum plant noise levels in the UHS Makeup Water Intake Structure and UHS Electrical Building.

   g. Verify the effectiveness of the exclusion zones established for protecting the safety-related I&C equipment from mis-operation due to EMI/RFI effects from the

h. portable phones and radios of the communications system or verify the adequacy of the lack of exclusion zones in the UHS Makeup Water Intake Structure and UHS Electrical Building.

4. DATA REQUIRED

a. Record the results of communication attempts from each system and its locations.

5. ACCEPTANCE CRITERIA

a. The intraplant communication system operates in the UHS Makeup Water Intake Structure and UHS Electrical Building to the same level of performance as described in the U.S. EPR FSAR Section 9.5.2.

b. The communications equipment in the UHS Makeup Water Intake Structure and UHS Electrical Building is capable of operating under maximum noise conditions.

c. Safety-related I&C equipment performance is not adversely impacted by the portable phones and radios of the communications system.

**RAI No. 42, Revision 0**

**Question 09.05.02-2**

Section F, "Emergency Communications" of the Calvert Cliffs Nuclear Power Plant Unit 3 Emergency Plan describes the details of the plant's emergency response facilities and associated communications capabilities. Figure F-1 of Section F provides a depiction of the initial notification paths and the organizational titles from the Licensee Emergency Response Facilities (ERFs) to federal, state and local emergency response organizations, and industry support agencies. This figure shows that communication is established between the EOF and the Local and State Authorities for initial notification and subsequent updates. Appendix E to 10 CFR Part 50, Part IV.D(1) requires a description of the administrative and physical means for notifying local, State, and Federal officials and agencies and agreements reached with these officials and agencies for the prompt notification of the public and for public evacuation or other protective measures, should they become necessary. The staff evaluated the communications interfaces depicted in Figure F-1 of Section F of the CCNPP Unit 3 Emergency Plan and finds that additional information is necessary to evaluate the adequacy of these interfaces to satisfy the requirements of Appendix E to 10 CFR Part 50, Part IV.D(1). Describe the specific local and state authorities that the plant emergency operations facilities will be interfacing and the specific emergency communications system (i.e. dedicated phone lines) that will be used to communicate with these authorities to meet Appendix E to 10 CFR Part 50, Part IV.D(1).

**Response**

The CCNPP Unit 3 Emergency Plan provides both administrative and physical means for fulfilling state and local notification requirements:

Administrative Commitments

1. A dedicated 24/7 communications position will be established to make required notifications (CCNPP Unit 3 Emergency Plan Annex, Table B-1a).

2. Procedures will be developed to control the notification process. (CCNPP Unit 3 Emergency Plan, Part II, Section E.1).

3. A training program will be established to train personnel responsible for making notifications (CCNPP Unit 3 Emergency Plan, Part II, Section O.4).

4. A testing and surveillance process will be procedurally developed to ensure notification systems function properly and personnel are proficient in their use (CCNPP Unit 3 Emergency Plan, Part II, Section N.2.a).

Equipment Commitments

1. A dedicated communication link between the station and state / local warning points will be in place (CCNPP Unit 3 Emergency Plan, Part II, Sections E.2.b.1 & F.1.a).

2. A back up means of making notifications will be available (CCNPP Unit 3 Emergency Plan, Part II, Section E.2.b.1 & F.1.a)

Discussion

State and Local Authorities are identified in the CCNPP Unit 3 Emergency Plan, Part II, Section A.1.a.2 and A.1.a.3 as the State of Maryland, Calvert County, Dorchester County and St Mary's County. The CCNPP Unit 3 Emergency Plan, Part II, Section F.1.a, commits to providing a system to notify the identified 24 hour warning points and the EOC for each of these agencies. Additionally, COL application Table 2.3-1, "ITAAC for Emergency Planning" commits in Inspection, Tests, Analysis 2.1 to: *A test of the dedicated offsite notification system will be performed to demonstrate the capabilities for providing initial notification to the offsite authorities after a simulated emergency classification.*

Specificity of the emergency communication system is not provided because technology may change prior to CCNPP Unit 3 operation. Additionally, it should be noted that specific local and state authorities and notification protocols are a cooperative effort between the State and local jurisdictions involved with emergency planning for CCNPP Unit 3 and CCNPP Units 1 & 2. Each offsite agencies' Emergency Plan controls the specific State and local location and authorities to be notified.

CCNPP Unit 3 will utilize the methods and protocols established with the offsite authorities in place for CCNPP Units 1 & 2 at the time of CCNPP Unit 3 operation.

Section F.1.b-d.1) of the CCNPP Unit 3 Emergency Plan commits to establishing a dedicated communications system to notify State and Local authorities.

> *"{Offsite notification system}: The {offsite notification system} is a dedicated communications system that has been installed for the purpose of notifying state and local authorities of declared nuclear emergencies. This system links together the {CCNPP'} Control Room(s), the EOF, TSC(s) and state and local authorities as appropriate."*

The system may be dedicated commercial phone lines or a radio system of trunk lines based on the most reliable system available at the time of installation.

The CCNPP Unit 3 Emergency Plan, Part II, Figure F-1, depicts these communications links. The two lines to the State and County/local points are intended to show the dedicated system for initial notification and the use of commercial phones for follow-up or back-up notification as necessary.

**FSAR Impact**

No change will be made to the FSAR as a result of this NRC question.