

Greg Gibson
Vice President, Regulatory Affairs

750 East Pratt Street, Suite 1600
Baltimore, Maryland 21202



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March 3, 2010

UN#10-046

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. 202, Initial Plant Test Program

Reference: Surinder Arora (NRC) to Robert Poche (UniStar Nuclear Energy), "FINAL RAI
No. 202 CQVB 4100" email dated February 3, 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 February 3, 2010 (Reference). This RAI addresses the Initial Plant Test Program, as discussed in Section 14.2 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 6.

The enclosure provides our responses to RAI No. 202, Questions 14.02-55 and 14.02-56, 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.

Our responses do not include any new regulatory commitments. This letter does not contain any sensitive or proprietary information.

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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 3, 2010



Greg Gibson

Enclosure: Response to NRC Request for Additional Information RAI No. 202, Questions 14.02-55 and 14.02-56, Initial Plant Test Program, 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

GTG/RDS/mdf

UN#10-046

Enclosure

**Response to NRC Request for Additional Information
RAI No. 202, Questions 14.02-55 and 14.02-56, Initial Plant Test Program,
Calvert Cliffs Nuclear Power Plant, Unit 3**

RAI No. 202

Question 14.02-55

In response to RAI 14.02-13 (ML082960301) and RAI 14.02-41 (ML092600156), UniStar submitted test abstract 14.2.14.12, "Personnel Monitors and radiation Survey Instruments." However, additional information is needed for portions of the test abstract.

RG 1.68 Appendix C.3.e states that the preoperational test procedures should include prerequisite testing of individual components or subsystems to demonstrate that they meet their functional requirements. For electrical, instrumentation, and control components and subsystems, this includes calibration. The NRC staff requests that the applicant add an additional prerequisite stating that the personnel monitors and radiation survey instruments will be calibrated in accordance with industry and manufacturer standards, or provide an acceptable alternative.

In addition, test Method item c) states that the COL holder will "verify that alarms and displays are capable of detecting activity levels that are above the acceptance levels." Since the alarms and displays do not detect activity please clarify this statement. For example, revise the wording to say "Verify that personnel monitors and radiation survey instruments are capable of detecting and activating alarms and displays in response to activity levels that are above acceptable levels."

Lastly, SRP Section 14.2.II.5.B states that the abstracts should include acceptance criteria in sufficient detail to establish the functional adequacy of the SSCs and design features tested. The staff requests that the applicant include a pointer to the appropriate FSAR section that includes the design data that will be used for the acceptance criteria.

Response

FSAR Section 14.2.14.12 will be updated with the addition of a statement in the prerequisites that the Personnel Monitors and Radiation Survey Instruments have been calibrated in accordance with industry and manufacturer standards.

FSAR Section 14.2.14.12, Test Method Item c will be revised to state, "Verify that Personnel Monitors and Radiation Survey Instruments are capable of detecting activity levels that are above acceptable limits and activating alarms and displays in response."

FSAR Section 14.2.14.12 will be updated with the addition of a statement that the Personnel Monitors and Radiation Survey Instruments are discussed within the Operational Radiation Protection Program described in Section 12.5.

COLA Impact

FSAR Section 14.2.14.12 will be updated as follows in a future COLA revision (The base FSAR text includes the changes provided in response to RAI 137, Question 14.02-41¹ and RAI 162, Question 14.02-43²):

14.2.14.12 Personnel Monitors and Radiation Survey Instruments

Personnel Monitors and Radiation Survey Instruments are discussed within the Operational Radiation Protection Program described in Section 12.5.

1. OBJECTIVES

- a. To demonstrate the ability of the Personnel Monitors and Radiation Survey Instruments to monitor radiation levels.
- b. Provide local and remote indications, if applicable, to alert personnel of potential releases of radioactive material.

2. PREREQUISITES

Personnel Monitors and Radiation Survey Instrument testing shall be performed during the preoperational testing phase. The following prerequisites shall be met:

- a. Construction activities on the Personnel Monitors and Radiation Survey Instruments have been completed.
- b. Personnel Monitors and Radiation Survey Instruments have been calibrated in accordance with industry and manufacturer standards.
- bc. Area ventilation systems in the area where the Personnel Monitors and Radiation Survey Instruments are installed are functional.
- cd. Plant ventilation systems in the areas where plant personnel are working are complete and functional.
- de. The plant access control has been established (doors and access points installed and wall, ceiling, and floor penetrations in their design condition). This prerequisite ensures that personnel exit routes that do not pass through the Personnel Monitors and Radiation Survey Instruments have been eliminated.
- ef. Test instrumentation available and calibrated.
- fg. Support systems (120 volt AC, purge gas, etc.) are available.

¹ UniStar Nuclear Energy Letter UN#09-479, from Greg Gibson to Document Control Desk, U.S. NRC, Response to Request for Additional Information for the Calvert Cliffs Nuclear Power Plant, RAI No.137, Initial Test Program, dated September 14, 2009

² UniStar Nuclear Energy Letter UN#09-479, from Greg Gibson to Document Control Desk, U.S. NRC, Response to Request for Additional Information for the Calvert Cliffs Nuclear Power Plant, RAI No. 162, Initial Test Program, dated November 20, 2009.

3. TEST METHOD

- a. Verify alarms, displays, indications and status lights both locally and in the plant access control area are functional.
- b. Verify that background levels have been established.
- c. Verify that Personnel Monitors and Radiation Survey Instruments are capable of detecting activity levels that are above acceptable limits and activating alarms and displays in response. Verify that alarms and displays are capable of detecting activity levels that are above the acceptance levels.

4. DATA REQUIRED

- a. Background level settings.
- b. Setpoints at which alarms and status light displays occur.

5. ACCEPTANCE CRITERIA

- a. Alarms, displays, and status lights indicate locally and in the plant access control area
- b. The background radiation level from radon and other sources doesn't reduce the ability to detect radiation releases.
- c. The Personnel Monitors and Radiation Survey Instruments are capable of detecting test sources.

RAI No. 202

Question 14.02-56

In response to RAI 14.02-38, the applicant significantly revised Section 14.2.2, "Organization and Staffing," of the Calvert Cliffs Unit 3 COL FSAR. In RAI 14.02-44, dated September 29, 2009 (ML092970041), the staff requested that the applicant revise the remainder of Section 14.2 to reflect the new organizational structure described in the proposed revision to Section 14.2.2. In response to the staff's RAI, the applicant submitted a proposed revision to the remainder of Section 14.2 to address the new organizational structure.

In the first paragraph of the proposed revision to subsection 14.2.5.1, "Procedure Review and Evaluation," the applicant replaced the "Startup/Preoperational Test Engineer" with "test engineer." The test engineer is not described in Subsection 14.2.2 or Ch 13. The staff requests that the applicant clarify if the test engineer is equivalent to a Commissioning Supervisor, or if this is a new position. If the test engineer is a Commissioning supervisor, please revise Subsection 14.2.5.1 to state "Commissioning Supervisor" instead of "test engineer." If the test engineer is a new position, please revise Subsection 14.2.2 to include a description of the test engineer.

Response

FSAR Section 14.2.5.1 will be revised to state "responsible Commissioning Supervisor, or designee" instead of "test engineer."

COLA Impact

The first paragraph of FSAR section 14.2.5.1 will be updated as follows in a future COLA revision (The base FSAR text includes the changes provided in response to RAI 162, Question 14.02-44³):

14.2.5.1 Procedure Review and Evaluation

The responsible {responsible Commissioning Supervisor, or designee test engineer} presents to the responsible reviewer a completed test procedure and test report with remarks and recommendations. During this review, the {responsible Commissioning Supervisor, or designee test engineer} and/or the reviewer initiates action items in a tracking system to document failure to meet Test (Review) or Acceptance Criteria.

³ UniStar Nuclear Energy Letter UN#09-479, from Greg Gibson to Document Control Desk, U.S. NRC, Response to Request for Additional Information for the Calvert Cliffs Nuclear Power Plant, RAI No. 162, Initial Test Program, dated November 20, 2009.