



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001**

April 19, 2011

Mr. R. W. Borchardt
Executive Director for Operations
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

**SUBJECT: CHAPTERS 2, 4, 5, 8, 10, 11, 12, 16, 17 AND 19 OF THE SAFETY
EVALUATION REPORT WITH OPEN ITEMS ASSOCIATED WITH THE
CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 3, COMBINED LICENSE
APPLICATION**

Dear Mr. Borchardt:

During the 582nd meeting of the Advisory Committee on Reactor Safeguards (ACRS), April 7-9, 2011, we met with representatives of the NRC staff and UniStar Energy Nuclear, Inc., (UniStar) to review the following chapters of the Safety Evaluation Report (SER) with Open Items associated with the review of the Calvert Cliffs Nuclear Power Plant (CCNPP), Unit 3, Combined License Application (COLA): Chapter 2, "Site Characteristics" (except for Sections 2.4, "Hydrologic Engineering," and 2.5, "Geotechnical Engineering"); Chapter 4, "Reactor"; Chapter 5, "Reactor Coolant System and Connected Systems"; Chapter 8, "Electric Power"; Chapter 10, "Steam and Power Conversion"; Chapter 11, "Radioactive Waste Management"; Chapter 12, "Radiation Protection"; Chapter 16, "Technical Specifications"; Chapter 17, "Quality Assurance"; and Chapter 19, "Probabilistic Risk Assessment and Severe Accident Evaluation." Our Evolutionary Power Reactor (EPR) Subcommittee also reviewed these chapters during meetings on February 19, 2010; April 20, 2010; May 21, 2010; November 30, 2010; and January 12, 2011. The CCNPP, Unit 3, COLA references the U.S. Evolutionary Power Reactor (U.S. EPR) Design Certification Document (DCD). Site-specific technical aspects of the use of the U.S. EPR design as well as the open items and the combined license (COL) action items identified in each of these SER chapters were discussed at these meetings. We also had the benefit of the documents referenced.

CONCLUSIONS

1. Our reviews of the SER with Open Items for Chapters 2 (except for Sections 2.4, "Hydrologic Engineering," and 2.5, "Geotechnical Engineering"), 4, 5, 8, 10, 11, 12, 16, 17 and 19 have not identified issues that merit further consideration by us at this time.
2. We plan to review the resolution of the open items in these SER Chapters during future meetings.

BACKGROUND

By letter dated July 13, 2007, UniStar submitted Part 1 of a COLA for CCNPP, Unit 3, pursuant to Title 10 of the Code of Federal Regulations (10 CFR) Part 52, "*Licenses, Certifications, and*

Approvals for Nuclear Power Plants." By letter dated March 14, 2008, UniStar submitted a complete COLA for CCNPP, Unit 3. The U.S. EPR DCD under review by NRC is referenced by the CCNPP, Unit 3, COLA. On September 30, 2009, UniStar submitted Revision 6 of the Final Safety Analysis Report, which is the version reviewed by the staff resulting in the SER with Open Items.

DISCUSSION

We have agreed to review the SER on a chapter-by-chapter basis to identify technical issues that may merit further consideration. The staff has provided to us portions of SER Chapter 2, and complete Chapters 4, 5, 8, 10, 11, 12, 16, 17 and 19 with Open Items. We found the open items identified in the chapters of the SER to be appropriate. We did not identify any additional items or other technical issues that merit further consideration by us at this time for these SER chapters.

The SER with Open Items for Sections 2.4, "Hydrologic Engineering," and 2.5, "Geotechnical Engineering," will be reviewed at a future EPR Subcommittee meeting. Conclusions in the SER on those two sections may affect conclusions reached by the Committee on the chapters that are the subject of this letter report. We will comment on any safety implications of conclusions in Sections 2.4 and 2.5 of the SER in a future report on this matter.

Sincerely,

/RA/

Said Abdel-Khalik
Chairman

References:

1. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Portions of Chapter 2, "*Site Characteristics*," 10/29/2010 (ML102600408)
2. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 4, "*Reactor*," 10/24/2010 (ML092320020)
3. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 5, "*Reactor Coolant System and Connected Systems*," 03/30/2010 (ML100600731)
4. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 8, "*Electric Power*," 10/20/2010 (ML093641019)

5. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 10, “*Steam and Power Conversion*,” 06/16/2010 (ML101110480)
6. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 11, “*Radioactive Waste Management*,” 10/21/2010 (ML102560475)
7. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 12, “*Radiation Protection*,” 03/18/2010 (ML100539568)
8. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 16, “*Technical Specifications*,” 10/14/2010 (ML102150183)
9. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 17, “*Quality Assurance and Reliability Assurance*,” 03/29/2010 (ML100550979)
10. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 19, “*Probabilistic Risk Assessment and Severe Accident Evaluation*,” 04/30/2010 (ML100830515)
11. Letter to the U.S. Nuclear Regulatory Commission, “*Submittal of a Partial Combined License Application for the Calvert Cliffs Nuclear Power Plant, Unit 3*,” 07/13/2007 (ML071980292)
12. Letter to the U.S. Nuclear Regulatory Commission, “*Submittal of Revision 2 of the Partial Combined License Application for the Calvert Cliffs Nuclear Power Plant, Unit 3*,” 03/14/2008 (ML080780459)
13. Letter to the U.S. Nuclear Regulatory Commission, “*Submittal of Revision 6 to the Combined License Application for the Calvert Cliffs Nuclear Power Plant, Unit 3*,” 09/30/2009 (ML092880200)

Approvals for Nuclear Power Plants." By letter dated March 14, 2008, UniStar submitted a complete COLA for CCNPP, Unit 3. The U.S. EPR DCD under review by NRC is referenced by the CCNPP, Unit 3, COLA. On September 30, 2009, UniStar submitted Revision 6 of the Final Safety Analysis Report, which is the version reviewed by the staff resulting in the SER with Open Items.

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Sincerely,
 /RA/
 Said Abdel-Khalik
 Chairman

References:

1. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Portions of Chapter 2, "*Site Characteristics*," 10/29/2010 (ML102600408)
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4. Memorandum to Edwin M. Hackett, Calvert Cliffs Nuclear Power Plant, Unit 3 Combined License Application – Safety Evaluation Report with Open Items for Chapter 8, "*Electric Power*," 10/20/2010 (ML093641019)

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Letter Mr. R. W. Borchardt, Executive Director of Operations, NRC, from Said Abdel-Khalik, Chairman, ACRS, dated April 19, 2011

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