



June 12, 2009

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 2; Docket No. 50-318
Nine-Month Supplemental (Post-Outage) Response to NRC Generic
Letter 2008-01

- REFERENCES:**
- (a) NRC Generic Letter 2008-01, dated January 11, 2008, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems
 - (b) Letter from Mr. M. G. Kowal (NRC) to Mr. J. A. Spina (CCNPP), dated August 4, 2008, Calvert Cliffs Nuclear Power Plant Unit 2 - Re: Generic Letter 2008-01, 'Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems,' Proposed Alternative Course of Action (TAC No. MD7808)
 - (c) Letter from Mr. J. A. Spina (CCNPP) to Document Control Desk (NRC), dated October 14, 2008, Nine-Month Response to NRC Generic Letter 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems

The Nuclear Regulatory Commission issued Generic Letter 2008-01 (Reference a) to request that each licensee evaluate the licensing basis, design, testing, and corrective actions for the Emergency Core Cooling Systems, Decay Heat Removal System, and Containment Spray System to ensure that gas accumulation is maintained less than the amount that challenges operability of these systems, and that appropriate action is taken when conditions adverse to quality are identified.

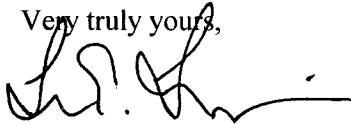
As requested in Reference (b), we are providing a supplemental response to Reference (a). This supplemental response (Attachment 1) is being submitted within 90 days of startup from the Spring 2009 Unit 2 outage which ended March 17, 2009. The long-term actions identified by the industry relative to the Generic Letter, as described in Reference (c), were not completed in time for inclusion of any relevant conclusions in this Generic Letter response. We continue to track those long-term actions in our action item tracking process.

We have evaluated the systems that perform the functions described in Generic Letter 2008-01 and have concluded that these systems are Operable, as defined in our Technical Specifications. Further, the

A134
NRR

subject systems are in conformance with our commitments to the applicable draft General Design Criteria, as stated in our Updated Final Safety Analysis Report.

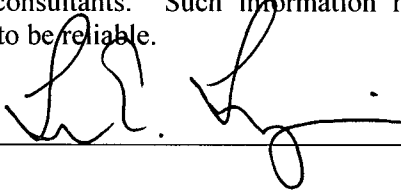
Should you have questions regarding this matter, please contact Mr. Jay S. Gaines at (410) 495-5219.

Very truly yours,


Thomas E. Trepanier
Plant General Manager

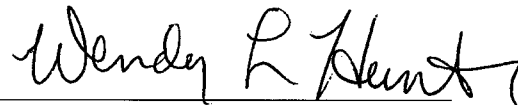
STATE OF MARYLAND :
 : TO WIT:
COUNTY OF CALVERT :

I, Thomas E. Trepanier, being duly sworn, state that I am Plant General Manager - Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP), and that I am duly authorized to execute and file this response on behalf of CCNPP. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other CCNPP employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.



Subscribed and sworn before me, a Notary Public in and for the State of Maryland and County of Calvert, this 12 day of June, 2009.

WITNESS my Hand and Notarial Seal:



Notary Public

My Commission Expires:

Wendy L. Hunter
NOTARY PUBLIC
Calvert County, Maryland
My Commission Expires 01/01/10

01/01/2010

Date

TET/ALS/bjd

Attachment: (1) Calvert Cliffs Nuclear Power Plant Unit 2 Nine-Month Supplemental (Post-Outage) Response to Generic Letter 2008-01

cc: D. V. Pickett, NRC
S. J. Collins, NRC

Resident Inspector, NRC
S. Gray, DNR

ATTACHMENT (1)

**CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 2 NINE-MONTH
SUPPLEMENTAL (POST-OUTAGE) RESPONSE TO
GENERIC LETTER 2008-01**

ATTACHMENT (1)

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 2 NINE-MONTH SUPPLEMENTAL (POST-OUTAGE) RESPONSE TO GENERIC LETTER 2008-01

This attachment contains the Calvert Cliffs Nuclear Power Plant Unit 2 Nine-Month Supplemental (Post-Outage) Response (as requested in Reference 1) to Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." The attachment supplements our nine-month initial submittal (Reference 2) for the previously identified inaccessible piping (Unit 2) described in References 2, 3, and 4.

The following information is provided in this attachment:

- a) A description of the results of evaluations that were performed on the previously incomplete activities.
- b) A description of any additional corrective actions determined necessary to assure system operability and compliance with the quality assurance criteria in 10 CFR Part 50, Appendix B, Sections III, V, XI, XVI, and XVII and the licensing basis and operating license, including a schedule and a basis for that schedule.
- c) A summary of any changes or updates to previous corrective actions, including any schedule change and the basis for the change.

The following systems were determined to be in the scope of the generic letter for Calvert Cliffs Nuclear Power Plant:

- Safety injection (SI) system
- Shutdown cooling (SDC) system
- Containment spray (CS) system
- Relevant flow path in the charging system when used for high pressure safety injection (HPSI)

For the purposes of this submittal, the term Emergency Core Cooling System (ECCS) refers to the combination of the SI and SDC systems. The relevant portion of the charging system includes that piping used for providing a HPSI flow path for hot leg injection via pressurizer spray post-loss-of-coolant accident. The ECCS, CS, and the portion of the charging system noted above are hereinafter referred to as "the subject systems" when referenced collectively.

The original conclusions documented in our nine-month response (Reference 2) with respect to the licensing basis evaluation, testing evaluations, and corrective action evaluations have not changed. This supplement will only discuss the results of design evaluation reviews conducted during the recent Unit 2 refueling outage (spring 2009) associated with previously uncompleted activities.

As committed in Reference 3, we have completed the evaluation of the inaccessible portions of the subject systems and have concluded that these systems are Operable, as defined in our Technical Specifications. Further, the subject systems are in conformance with our commitments to the applicable draft General Design Criteria, as stated in our Updated Final Safety Analysis Report.

A. EVALUATION RESULTS

1. Licensing Basis Evaluation

Licensing basis documents for the subject systems were reviewed as discussed in Reference 2. That review included the licensing basis documents for the inaccessible piping. The review did not result in any new corrective actions determined necessary to ensure compliance with the applicable quality

ATTACHMENT (1)

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 2 NINE-MONTH SUPPLEMENTAL (POST-OUTAGE) RESPONSE TO GENERIC LETTER 2008-01

assurance criteria of 10 CFR Part 50, Appendix B, our licensing bases, or our operating license with respect to the subject systems.

2. Design Evaluation

a. Design Basis Document Review

Review of the design basis documents (including calculations and engineering evaluations) and vendor technical manuals, with respect to gas accumulation in the subject systems are summarized in Reference 2. That review included design basis documents for the inaccessible piping described in this attachment. As discussed in Reference 2, no corrective actions were determined necessary to ensure compliance with the applicable quality assurance criteria of 10 CFR Part 50, Appendix B, our licensing bases, or our operating license with respect to the subject systems as a result of the design bases document review.

b. System Confirmation Walkdowns and Inspections

Confirmatory walkdowns and inspections for the subject systems located in the Unit 2 Containment and the Unit 2 West Penetration Rooms (27 ft and 5 ft room elevations) were performed during the spring 2009 Unit 2 refueling outage.

The results of the confirmatory walkdowns and inspections were as follows:

1. A three-dimensional, automated laser scanning process was used to determine the high points on the four safety injection discharge piping headers located on the 47 ft elevation in the Unit 2 Containment Building. These locations represent the highest elevation for each of the four safety injection discharge piping headers. In addition to the three-dimensional automated laser scanning, these headers were ultrasonically tested (UT'd) along their horizontal runs to identify the presence of any voids. No voids were found. The lack of voids demonstrates the acceptability of the dynamic flush performed at the end of the previous (2007 Unit 2) refueling outage. High points in long horizontal runs of the upstream SI piping at lower elevations were determined using a laser range finder. This piping could not be UT'd prior to SDC initiation. However, since this smaller diameter upstream piping contains no loop seals and the fluid velocities are greater, it is reasonable to conclude that no appreciable gas accumulation exists. Minor slope changes at field welds and supports, creating subtle high points, were found to be common on long horizontal runs. However, since no appreciable gas was found in the high points of the loops at the 47 ft elevation, the potential for any appreciable gas in these upstream subtle high points is unlikely. The Containment inspection also included locations where the potential for gas accumulation due to "stripping" could occur. Specifically the piping immediately upstream of the eight SI check valves (two check valves per loop) which separates the Reactor Coolant System from the lower pressure upstream SI piping was inspected. No voids were found at these locations. Ultrasonic testing of the four injection loops at the 47 ft elevation was repeated after securing SDC at the end of the outage. Again, no voids were found.
2. The high points in the SI discharge piping located in the 27 ft West Penetration Room were UT'd in Mode 3 prior to initiating SDC, and again at the end out of the outage. No voids were found during either inspection. The inspection also included locations where the potential for gas accumulation due to back-leakage and "stripping" could

ATTACHMENT (1)

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 2 NINE-MONTH SUPPLEMENTAL (POST-OUTAGE) RESPONSE TO GENERIC LETTER 2008-01

occur. Specifically, UT was also performed upstream of the normally shut motor-operated valves and check valve in the HPSI and low pressure safety injection (LPSI) discharge piping. No voids were found at these locations. The upstream piping, just below the grating on the 27 ft (in the overhead of the 5 ft West Penetration Room) could not be UT'd before initiating SDC. However, the downstream piping was full before and after the outage. Therefore, since the upstream piping contains no loop seals, and is at a lower elevation than the downstream piping, the upstream piping must also be full.

No voids were found at any location during the confirmatory walkdowns and evaluations performed on the subject systems.

Subsequent to our nine-month initial submittal (Reference 2) we identified sections of piping in a location not previously identified. Specifically, the long horizontal suction headers from the refueling water tank in the Unit 2, 27 ft West Penetration Room. This piping could not be UT'd prior to initiating flow to fill the refueling pool during the spring 2009 Unit 2 refueling outage. Relative elevation readings were determined manually using a hand-held laser over the length of these headers. Both headers were found to be slightly higher, 0.5 to 0.75 inches, at the downstream end of the 60 ft run. Our alternative course of action planned for this additional piping is to perform UT examinations during the next Unit 2 refueling outage in 2011. Plans are currently being formulated to complete these actions should an opportunity develop providing access prior to the next scheduled Unit 2 refueling outage.

c. Vent Valves

As a result of the design evaluation discussed in Reference 2, new vent valves were required in the subject systems including locations in inaccessible areas. Therefore, during the spring 2009 Unit 2 refueling outage, six new vent valves were installed in the previously identified inaccessible areas. Two were identified as corrective actions in Reference 2, Table 1 (vent valve added at 21 CS header and vent valve added in SDC return header above 22 LPSI pump), and to accommodate system fill and vents and on line maintenance, we elected to install four new vents in HPSI high point locations.

No additional vent valves were required as a result of the confirmatory walkdowns performed during the spring 2009 Unit 2 refueling outage.

d. Procedures

There were no new procedures or procedure revisions required as a result of the evaluations performed for the subject systems.

B. DESCRIPTION OF NECESSARY ADDITIONAL CORRECTIVE ACTIONS

There were no new corrective actions identified.

ATTACHMENT (1)

**CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 2 NINE-MONTH SUPPLEMENTAL
(POST-OUTAGE) RESPONSE TO GENERIC LETTER 2008-01**

C. CORRECTIVE ACTION UPDATES

The status of Unit 2 corrective actions identified in Reference 2 are shown in Table A below:

Table A Status of Unit 2 Corrective Actions		
Issue	Corrective Action	Scheduled Completion Date
Void found in 21 CS header at location identified during drawing review.	Add vent.	Complete
Void found in SDC return header above 22 LPSI Pump.	Add vent. Change procedure.	Complete
Void found in 22 HPSI suction. Vented piping verified void eliminated.	Change procedure.	Complete
Void found in pipe from 21 SDC heat exchanger to 21 HPSI suction. Vented piping verified void eliminated.	Change procedure.	Complete
Void in Unit 2 Hot Leg flush piping. Vented piping, verified void eliminated.	Change procedure.	Complete
Void found in Unit 2 Chemical and Volume Control System/SI cross-over piping.	Develop procedure. Dynamically fill per engineering change package.	Complete

D. CONCLUSION

We have evaluated the previously unevaluated portions of the subject systems located in Calvert Cliffs Nuclear Power Plant Unit 2 and have concluded that these systems are Operable.

REFERENCES:

1. Letter from Mr. M. G. Kowal (NRC) to Mr. J. A. Spina (CCNPP), dated August 4, 2008, Calvert Cliffs Nuclear Power Plant Unit 2 - Re: Generic Letter 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems, Proposed Alternative Course of Action (TAC No. MD7808)
2. Letter from Mr. J. A. Spina (CCNPP) to Document Control Desk (NRC), dated October 14, 2008, Nine-Month Response to NRC Generic Letter 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems
3. Letter from Mr. J. A. Spina (CCNPP) to Document Control Desk (NRC), October 10, 2008, Three-Month Supplemental Response to NRC Generic Letter 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems
4. Letter from Mr. J. A. Spina (CCNPP) to Document Control Desk (NRC), dated April 11, 2008, Three-Month Response to NRC Generic Letter 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems