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NL-08-1921

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

Vogtle Electric Generating Plant
Unit 2 Nine-Month Supplemental (Post-Outage) Response to
Nuclear Regulatory Commission Generic Letter 2008-01

- References:
1. NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems" dated January 11, 2008.
 2. Request for Extension of the Three-Month Response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems" dated April 8, 2008.
 3. Three-Month Response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems" dated May 30, 2008.
 4. NRC Letter to Nuclear Energy Institute, Dated July 8, 2008 (ML081830557).
 5. Nine-Month Response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems" dated October 10, 2008.

Ladies and Gentlemen:

The Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2008-01 (Reference 1) to request that each licensee evaluate the licensing basis, design, testing, and corrective actions for the emergency core cooling, decay heat removal, and containment spray systems 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 stated in Reference 5, please find attached the Southern Nuclear Operating Company (SNC) supplemental response to the nine-month response letter. This supplemental response is being submitted within ninety days following the completion of the Vogtle Unit 2 refueling outage (2R13).

In addition, a revision was made to the GL 2008-01 Nine-Month Response Commitment Table for Vogtle Unit 2. The Unit 2 outage number was revised from 1R22 to 2R13. A change bar has been added to indicate the line which was revised. Enclosure 2 contains the revised table.

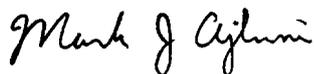
In summary, SNC has concluded that the subject systems at Vogtle are operable and that Vogtle is currently in compliance with the licensing basis documentation and applicable regulations, including 10 CFR 50 Appendix B, Criteria III, V, XI, XVI, and XVII, with respect to the concerns outlined in GL 2008-01 regarding managing gas accumulation in these systems/functions.

Mr. M. J. Ajluni states he is Nuclear Licensing Manager of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

If you have any questions, please advise.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



M. J. Ajluni
Manager, Nuclear Licensing



Sworn to and subscribed before me this 21st day of January, 2009.


Notary Public

My commission expires: _____

NOTARY PUBLIC STATE OF ALABAMA AT LARGE
MY COMMISSION EXPIRES: July 21, 2012
BONDED THRU NOTARY PUBLIC UNDERWRITERS

- Enclosures: 1. Unit 2 Nine-Month Supplemental (Post-Outage)
Response to NRC Generic Letter 2008-01
2. Unit 2 Revised Commitment Table

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cc: Southern Nuclear Operating Company

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U. S. Nuclear Regulatory Commission

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Mr. N. Holcomb, Commissioner – Department of Natural Resources

**Vogtle Electric Generating Plant
Supplemental Response to Nuclear Regulatory Commission
Generic Letter 2008-01**

Enclosure 1

**Unit 2 Nine-Month Supplemental (Post-Outage)
Response to NRC Generic Letter 2008-01**

Enclosure 1

Unit 2 Nine-Month Supplemental (Post-Outage) Response to NRC Generic Letter 2008-01

This enclosure provides the Nine-Month Supplemental (Post Outage) Response to Generic Letter 2008-01 for actions that were deferred until the next refueling outage as requested by the NRC in Reference 4 of the cover letter.

The following information is provided in this enclosure:

A description of the results of evaluations that were performed pursuant to Generic Letter 2008-01 on the previously incomplete activities, such as system piping walkdowns, at Vogtle (see section A of this enclosure).

A description of any additional corrective actions determined necessary to assure system operability and compliance with the quality assurance criteria in Sections III, V, XI, XVI, and XVII of Appendix B to 10 CFR Part 50 and the licensing basis and operating license with respect to the subject systems, including a schedule and a basis for that schedule (see Section B.1 of this Enclosure), and summary of any changes or updates to previous corrective actions, including any schedule change and the basis for the change. (See Section B.2 of this Enclosure).

The original conclusions documented in the nine-month response 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 refueling outage associated with walkdowns of previously uncompleted activities.

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Unit 2 Nine-Month Supplemental (Post-Outage) Response to NRC Generic Letter 2008-01

A. EVALUATION RESULTS

1. Design Basis Documents

There is no additional information to report since the Southern Nuclear Operating Company (SNC) Nine-Month Response dated October 10, 2008 to NRC GL 2008-01, except as discussed in item B.2.2 below.

2. Confirmatory Walkdowns

1. There is no additional information to report since the SNC Nine-Month Response dated October 10, 2008 to NRC GL 2008-01. The evaluation of the laser scanning results will be completed by April 26, 2009.
2. For a summary of the results of venting utilized to ensure that voids in the identified high points were confirmed acceptable, see B.2.1 below.

3. Vent Valves

There have not been any additional vent valves added since the SNC Nine-Month Response letter dated October 10, 2008. However, as the need arises, and based on the results of monitoring and/or evaluation of walkdown results, installation of additional vent valves will be evaluated.

4. Procedures

There is no additional information to report since the SNC Nine-Month Response dated October 10, 2008 to NRC GL 2008-01.

B. DESCRIPTION OF NECESSARY ADDITIONAL CORRECTIVE ACTIONS

1. Additional Corrective Actions

There has not been any additional corrective action identified since the SNC Nine-Month Response dated October 10, 2008 to NRC GL 2008-01.

2. Corrective Action Updates

The following corrective actions, described in our October 10, 2008, response are repeated below for clarity, followed by the status as of the completion of the Vogtle Unit 2 2R13 refueling outage:

1. SNC plans to implement corrective actions for procedure development/revision (i.e., improved periodic monitoring of ECCS piping and the initiation of periodic monitoring of the CS System piping, refer to testing evaluation section). In addition, SNC plans to confirm adequacy of filling and venting practices utilized during the Vogtle Unit 2 Fall 2008 refueling outage to be followed by enhanced monitoring and trending for both Vogtle units. This will be completed by November 21, 2008.

Status: Procedures 14460-1, 14460-2, and 50085-C were revised/initiated to include additional locations to be monitored in the ECCS and Containment Spray systems. The periodicity of the monitoring for accessible locations that would be subject to gas

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accumulation at power was set at monthly, to be reassessed at a later date based on performance. Inaccessible locations or locations that were determined not to be susceptible to gas accumulation at power, but could accumulate air/gas during refueling (e.g. system draining), were assigned a refueling outage periodicity, with a requirement to perform monitoring prior to Mode 4 entry.

Additionally, during startup from refueling outage 2R13 (Fall 2008), locations were monitored to confirm the adequacy of filling and venting practices utilized during the outage (reference maintenance work order 2081667801 and procedure 14460-2). This monitoring indicated that two locations had air/gas present (reference condition report (CR) 2008111024). One location, the cross-connect piping between the safety injection pumps, and centrifugal charging pumps had not been properly filled and vented following maintenance. The line was subsequently filled and vented. However, due to the location of the vent valve and slope in the piping, not all of the air/gas could be vented. The small volume of air/gas that remained in the line was evaluated and it was determined that this volume of air/gas would not adversely affect ECCS operability (reference CR 2008111153). The majority of air/gas that was discovered at the other location (HHSI discharge header outside of containment) was removed as part of the vacuum refill process. However, due to the piping and vent valve configuration, a small volume of gas could not be removed. The volume of gas that remained was analyzed and it was determined that this volume of air/gas would not have an adverse affect on ECCS operability (reference CR 2008111153). Due to the discovery of air/gas at these locations on Unit 2, the corresponding locations on Unit 1 were monitored (reference CR 2008111243 and procedure 14460-1). No air/gas was found at these corresponding Unit 1 locations.

Procedures 14460-1, 14460-2, and 50085-C include guidance to perform the enhanced monitoring and trending for both Vogtle Units. Subsequent monitoring has not identified any gas.

2. Generate a calculation to identify an accepted criterion for submergence with the vortex suppression device. This will be completed by January 15, 2009.

Status: A change notice to Calculation X4C1204T03 has been generated to identify an accepted criterion for submergence with the vortex suppression device.

3. Implement procedure guidance to provide assurance that the volume of gas in the pump suction piping for the ECCS, RHR, and CS System is limited such that pump gas ingestion is within the above PWROG program established interim criteria. This will be completed by November 21, 2008.

Status: Procedure 50085-C, "Gas Accumulation Monitoring and Trending," has been issued to perform monitoring on ECCS (CVCS, RHR and SI) and CS systems for Units 1 and 2. The frequency will be monthly and/or after every refueling outage, to be reassessed at a later date based on performance. As required, the procedure may be performed after specific ECCS and CS system maintenance evolutions that require system draining. The acceptance criteria are provided in the procedure.

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4. Containment Spray System discharge header piping will be evaluated consistent with the PWROG methodology. Using this methodology it will be determined if the force imbalances on the Containment Spray System discharge header piping are within the margin of the pipe hanger design. SNC expects to receive the results of the application of this methodology by December 2008. SNC will determine if any follow up corrective action are needed within 90 days following receipt of the evaluation. Final corrective action will be discussed in our follow-up letter.

Status: The containment spray ring header was evaluated using the PWROG methodology for the Vogtle specific design configuration that focuses on the final closure of the air volume as the header fills. Additionally, the discharge piping from the containment spray pumps to the isolation valve that is normally closed has been analyzed for various accumulated gas volumes in the piping. These loads were compared to the conservatively estimated loads imposed on the piping restraints.

The acceptance criteria will be incorporated into Vogtle procedure 50085-C, "Gas Accumulation Monitoring and Trending," limit the gas volumes to sizes such that the resulting loads are within the margin of the piping restraint design. The procedure will be revised by March 31, 2009.

5. Complete evaluation to determine allowable void sizes that will prevent significant waterhammer, i.e., none of the relief valves in the subject systems would lift, and none of the piping restraints would be damaged as a result of the flow restrictions in the flow path. SNC expects to receive the evaluation results by December 2008. SNC will determine if any follow up corrective action are needed within ninety days following receipt of the evaluation. Final corrective action will be discussed in our follow-up letter.

Status: The HHSI, IHSI, LHSI, and CSS pump discharge piping were evaluated for water-hammer. The evaluation provided an assessment of the maximum pressures that could result from both pump starts due to a receipt of an SI signal, as well as during pump surveillance testing. This information was used to determine the maximum gas volume that can be accumulated within the piping highpoints to prevent challenging the system relief valves and confirm the load on the piping system remains within the design of the piping restraints. The assessment of the relief valves is a function of the total gas volume in the system and therefore is system related. The evaluation for the piping loads is typically governed by the gas volume that could be accumulated in the highpoint with the largest volume. In this regard, a bounding (system related) criterion was determined. Selected highpoints will be monitored to provide reasonable assurance that the total gas volume is less than the system related criterion.

The acceptance criteria for the discharge piping will be incorporated into Vogtle procedure 50085-C "Gas Accumulation Monitoring and Trending." The procedure will be revised by March 31, 2009.

6. The Vogtle procedures will be revised to provide assurance that the total gas accumulation in Vogtle LHSI injection system cold leg and hot leg piping is verified to be less than 5 cubic feet of non-condensable gas at 100 psia. Vogtle procedures will also be revised to provide assurance that the total gas accumulation Vogtle HHSI cold leg injection and IHSI injection system cold leg and hot leg piping is verified to be less than 5

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cubic feet of non-condensable gas at 400 psia. This will be completed by November 21, 2008.

Status: Procedure 50085-C, "Gas Accumulation Monitoring and Trending," has been implemented. The total gas accumulation acceptance criteria in the LHSI, IHSI and HHSI system is provided in the procedure.

7. Develop pump discharge void acceptance criteria to account for air trapped in valve bonnets that could get in the system piping. SNC expects to receive the evaluation results by December 2008. SNC will determine if any follow up corrective action are needed within ninety days following receipt of the evaluation. Final corrective action will be discussed in our follow-up letter.

Status: The gas that could be collected in check valves was included in the total gas system volume (as discussed in Item 5 above). The gas volumes that are collected in the bonnets of globe and gate valves were not included since they do not actively participate in the fluid stream and do act as local surge suppressors that reduce the waterhammer impulse and therefore the piping loads.

8. A vent valve will be installed in the common suction line for the normal charging system and the HHSI during the Fall 2009 Vogtle Unit 1 refueling outage. This will be completed by the Fall 2009 Vogtle Unit 1 refueling outage. Complete evaluation of the other locations using developed discharge piping acceptance criteria and monitoring and trending results to determine if vent valves need to be installed or these locations should be monitored. SNC expects to receive the evaluation results by December 2008. SNC will determine if any follow up corrective action are needed within ninety days following receipt of the evaluation. Final corrective action will be discussed in our follow-up letter. Address additional locations where gas can accumulate if identified during the Vogtle Unit 1 Fall 2009 refueling outage and the Unit 2 Spring 2010 refueling outage. This will be completed by Vogtle Unit 1 Fall 2009 refueling outage and Unit 2 Spring 2010 refueling outage.

Status: An evaluation of the other locations was completed using the developed discharge piping acceptance criteria and monitoring and trending results to determine if vent valves need to be installed or these locations should be monitored. The results of this evaluation concluded that four locations in the discharge piping need to be added to the monitoring program. These locations will be added to the monitoring program by March 31, 2009.

Conclusion

SNC has evaluated the previously unevaluated portions of the applicable systems at Vogtle that perform the functions described in the GL and has concluded that these systems are operable.

**Vogtle Electric Generating Plant
Supplemental Response to Nuclear Regulatory Commission
Generic Letter 2008-01**

Enclosure 2

Unit 2 Revised Commitment Table

Enclosure 2

Unit 2 Revised Commitment Table

The following table identifies those actions committed by Southern Nuclear Operating Company in this document for Vogtle Electric Generating Plant. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

Commitment	Type		Scheduled Completion Date (If Required)
	One-Time Action	Continuing Compliance	
All currently identified GL 2008-01 related corrective actions for Vogtle Unit 2 will be completed by no later than the end of the Unit 2 2R13 refueling outage.	X		04/26/09
A follow-up updated submittal to the nine-month response will be provided to the NRC, for Vogtle Unit 2, no later than ninety days following the end of the current 2R13 refueling outage.	X		01/18/09