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GNRO-2010/00016

February 25, 2010

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Subject: Response to NRC Request for Additional Information for Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems"

Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
License No. NPF-29

- References:**
1. Letter GNRO-2008-00066, 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 13, 2008
 2. Letter GNRO-2008-00068, Nine-Month Supplemental Response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," dated November 20, 2008
 3. NRC Letter GNRI-2010/00011, Request for Additional Information for RE: Response to Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems" (TAC No. MD7831), dated January 6, 2010

Dear Sir or Madam:

In letter dated October 13, 2008 (Reference 1), as supplemented by letter dated November 20, 2008 (Reference 2), Grand Gulf Nuclear Station (GGNS), provided a 9-month response to U.S. Nuclear Regulatory Commission (NRC) Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." Based on its review of the information provided, the NRC requested via letter dated January 6, 2010 (Reference 3), additional information to complete the required reviews.

The response to the request for additional information is attached to this letter. This letter includes one commitment, which is summarized in Attachment 2.

If you have any questions regarding this submittal, please contact Dennis Coulter at 601-437-6595.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Buford". The signature is written in a cursive style with a large, sweeping initial "J".

FGB/DMC/PRR

Attachments: 1) Response to NRC Request for Additional Information for Generic Letter 2008-01
2) Commitment Summary

cc:

NRC Senior Resident Inspector
Grand Gulf Nuclear Station
Port Gibson, MS 39150

U.S. Nuclear Regulatory Commission
ATTN: Mr. Elmo E. Collins, Jr. (w/2)
Region Administrator, Region IV
612 East Lamar Blvd, Suite 400
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**Response to NRC Request for Additional Information
for Generic Letter 2008-01**

The NRC staff determined that additional information is necessary to conclude that Grand Gulf Nuclear Station (GGNS) has acceptably demonstrated "that the subject systems are in compliance with the current licensing and design bases and applicable regulatory requirements, and that suitable design, operational, and testing control measures are in place for maintaining this compliance," as stated in NRC Generic Letter 2008-01.

Specifically, the following statement appears on page 8 of Attachment 1 of GGNS letter to NRC, 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 13, 2008:

Surveillance test procedures for HPCS [high pressure core spray], LPCS [low pressure core spray], and RHR [residual heat removal] systems need to include specific acceptance criteria and actions to be taken if voids are detected, thereby making them consistent with the LPCI [low pressure coolant injection]/RHR monthly functional test procedure. Required actions will initiate the means for quantifying and trending the amount of gas present and a process for determining possible sources of gas accumulation.

The NRC staff requests that this statement be expanded upon by providing the additional information identified below in items a) through c). The NRC staff recommends that NRC letter to Nuclear Energy Institute (NEI), Preliminary Assessment of Responses to Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," and Future NRC Staff Review Plans, dated May 28, 2009 (ADAMS Accession No. ML091390637), be consulted when responding to the questions.

- a) Describe the specific acceptance criteria that need to be included for the subject systems.
- b) Describe the means used for quantifying and trending the amount of gas present in the subject systems.
- c) Discuss how amounts of gas found in the subject systems are used to adjust the surveillance intervals for the systems, when it is warranted.

The letter, Preliminary Assessment of Responses to Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," and Future NRC Staff Review Plans, dated May 28, 2009 (ADAMS Accession No. ML091390637) was consulted in preparing responses. The following information is provided:

- a) **Describe the specific acceptance criteria that need to be included for the subject systems.**

GGNS Response:

The above statement from the GGNS Nine-Month Response to the generic letter was derived from the section describing a review of the test procedures, specifically the Monthly Functional Test Procedures. The procedures for each of the systems mentioned were revised in 2008 to

incorporate the same criterion that had been established for the LPCI/RHR system test procedure.

Each of these systems is provided with a line fill system as described in the Updated Final Safety Analysis Report (UFSAR) Section 6.3.2.2.5. The ECCS discharge line fill system utilizes jockey pumps and is designed to maintain the pump discharge lines in a filled condition and voids are not expected to form in that portion of the piping. However, as required by Technical Specifications and as described in the response, periodic venting is performed using the monthly functional test procedures. The vent valves of the subject systems are located at the high point between the discharge of the pump and the injection valve. The monthly surveillance test procedures are based on opening the vent valves until a solid stream of water is observed.

Typically, with the keep-fill system, water is observed almost immediately during the venting. Currently, however, the procedure requires additional action if water is not observed within approximately one minute. GGNS has considered the information noted in the May 28, 2009 NRC document identified above (which applies to pump suction piping). Based on our review of this NRC document and our venting experience, GGNS will revise the procedures to establish and implement a shorter period of vent time before a condition report is prepared.

- b) Describe the means used for quantifying and trending the amount of gas present in the subject systems.**

GGNS Response:

Currently, if the vent time exceeds the acceptance criterion, the shift supervisor is informed and a condition report or a work order is initiated to investigate for system leakage and possible gas accumulation. GGNS will revise the Monthly Functional Test procedures to require at least a condition report be written. The condition reporting process is the appropriate process to track and trend gas accumulation issues.

- c) Discuss how amounts of gas found in the subject systems are used to adjust the surveillance intervals for the systems, when it is warranted.**

GGNS Response:

The condition reporting process is used to prompt the evaluation of any gas accumulation concerns and surveillance intervals for the subject systems. Adjustments are made as warranted.

COMMITMENT SUMMARY

This table identifies actions discussed in this letter for which Entergy commits to perform. Any other actions discussed in this submittal are described for NRC information and are not commitments.

| COMMITMENT | TYPE (Check one) | | SCHEDULED COMPLETION DATE (If Required) |
|---|---------------------|--------------------------|---|
| | ONE-TIME ACTION | CONTINUING COMPLIANCE | |
| GGNS will revise the procedures to establish and implement a shorter period of vent time before a condition report is prepared. The revision will ensure that at least a condition report is prepared when the venting time exceeds the acceptance criterion. | X | | June 30, 2010 |
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