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NL-03-2294

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50-425

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

**Vogtle Electric Generating Plant
Additional Information Concerning GL 96-06,
Assurance of Equipment Operability and Containment
Integrity During Design Basis Accident Conditions**

Ladies and Gentlemen:

By letter NL-03-0620 dated March 21, 2003, Southern Nuclear Operating Company (SNC) provided additional information concerning Generic Letter (GL) 96-06, Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Conditions. Additional information was requested in your letter dated October 14, 2003. The requested information is provided in the attachment to this letter.

There are no NRC commitments in this letter.

Sincerely,

Jeffrey T. Gasser

JTG/kgl/daj

Attachment

cc: Southern Nuclear Operating Company
Mr. J. D. Woodard, Executive Vice President
Mr. W. F. Kitchens, General Manager – Plant Vogtle
Mr. M. Sheibani, Engineering Supervisor – Plant Vogtle
Document Services RTYPE: CVC7000

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. F. Rinaldi, NRR Project Manager – Vogtle
Mr. J. Zeiler, Senior Resident Inspector – Vogtle

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Attachment to NL-03-2294
Vogtle Electric Generating Plant
Additional Information Concerning GL 96-06 RAI

By letter NL-03-0620 dated March 21, 2003, Southern Nuclear Operating Company (SNC) provided additional information concerning Generic Letter (GL) 96-06, Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Conditions. On August 19, 2003, a conference call was held between SNC and the NRC staff related to their review of our response to GL 96-06. Following this call, the NRC staff requested the following information by letter dated October 14, 2003, in order to continue with this review:

1. NRC Request

As stated in your submittal of March 23¹, 2003, in analyzing the nuclear service water system for the waterhammer event, you found that two mechanical snubbers exceeded the allowable loads. You then removed the snubber supports from the piping analysis model and a subsequent analysis determined that the remaining supports did not exceed the allowable stresses. The NRC staff has identified some issues regarding your approach in this analysis. The model for the piping system eliminates some supports that are part of the actual piping configuration. The NRC staff does not consider this approach to be conservative. If the overloaded supports are actually loaded to complete failure (i.e., breaking), there would be a dynamic load transfer on to the remaining supports and piping that is not adequately modeled. Particularly, where there are one-way supports, the sudden application of loads could result in gaps that are not predicted utilizing your proposed method. Provide a discussion regarding the configuration of the overloaded supports and the nature of the possible failure modes. Also, provide the margin present in the adjacent supports and in the piping. Provide sufficient details that demonstrate the fact that the structure will not be overloaded.

SNC Response

Both of the supports that are assumed to fail are snubbers. Both snubbers are Anchor Darling AD-153 with a design rating of 1500 lbs. Load rating tests by Anchor Darling for this model snubber showed the snubber fails at approximately 5600 lbs. both in compression and tension. Failures were in bending of the rack pinion tooth. This would result in locking of the snubber in place. Based on this test load, the vendor established the Level C (ASME Code – Emergency Conditions) rating of the snubber to be approximately 3000 lbs. The maximum calculated load for these snubbers is 4526 lbs. While this load is less than the test load at failure, it was conservatively assumed that the snubbers could fail for evaluation of other supports.

¹ Note that the actual date of our submittal was March 21, 2003.

Attachment to NL-03-2294
Vogtle Electric Generating Plant
Additional Information Concerning GL 96-06 RAI

The piping system was analyzed for the configuration with the snubbers in place and removed, and surrounding supports were evaluated using the higher loads of the two configurations. The maximum load increase of a surrounding support with the snubbers removed was 154 lbs. The surrounding supports were determined to have margins of greater than 3000 lbs. using the design basis allowables. This provides a factor of greater than 2.0 for the support with the highest load of 2812 lbs., which provides sufficient margin for any potential dynamic load effects.

The NSCW system does not have any supports which are only single direction supports. The support clearance in any supported direction is 1/16 inch. Therefore, there would not be gaps outside the design configuration.

2. NRC Request

In your submittal of March 23, 2003, you provided the results of an initial engineering assessment and stated that final documentation of these evaluations has not been completed. Provide the schedule for the completion of these evaluations. Further, for the initial assessment, you referenced the Energy Power Research Institute (EPRI) document NP-6041, Revision 1, criteria for the acceptance criteria for stresses in certain piping and support components. However, it should be noted that NP-6041 was developed to assess seismic margins and is not a substitute for the licensing-basis acceptance criteria documented in your plant's Final Safety Analysis Report. Verify that the final evaluation will be based on the plant licensing-basis criteria, not the criteria provided in EPRI document NP-6041, Revision 1.

SNC Response

Documentation of evaluation of the NSCW piping and supports, based on the plant licensing basis, was completed October 31, 2003. More detailed analysis is being performed for 15 supports to determine whether modifications may be required to meet design basis allowables. This analysis, based on the plant licensing basis, will be completed by December 31, 2003. Any modifications determined by these analyses are tentatively planned for refueling outages 1R12 (Spring 2005) and 2R11 (Fall 2005).