

Charles R. Pierce
Regulatory Affairs Director

Southern Nuclear
Operating Company, Inc.
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, AL 35242

Tel 205.992.7872
Fax 205.992.7601



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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Vogtle Electric Generating Plant, Unit 2
Response to "Request for Additional Information on Spring 2013
Steam Generator Tube Inspections (TAC No. MF4288)"

Ladies and Gentlemen:

By letters dated July 2, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML13184A269) and September 26, 2013 (ADAMS Accession Number ML14170A021), Southern Nuclear Operating Company, Inc. (SNC) submitted information summarizing the results of the spring 2013 steam generator (SG) tube inspections performed at Vogtle Electric Generating Plant, Unit 2. These inspections were performed during refueling outage 16 (RFO 16). In a letter dated April 25, 2013 (ADAMS Accession Number ML13112A225), the U.S. Nuclear Regulatory Commission (NRC) staff summarized two conference calls that were held with the licensee during RFO 16. The NRC issued a request for additional information via a letter dated November 13, 2014 (ADAMS Accession Number ML14314A878). The enclosure to this letter contains the SNC responses to that request.

This letter contains no NRC commitments. If you have any questions, please contact Ken McElroy at (205) 992-7369.

Respectfully submitted,

A handwritten signature in black ink that reads "C. R. Pierce".

C. R. Pierce
Regulatory Affairs Director

CRP/EGA

Sworn to and subscribed before me this 12 day of January, 2015.

A handwritten signature in black ink that reads "Laura L. Crump".

Notary Public

My commission expires: 10-8-2017



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Enclosure: SNC Response to Request for Additional Information

cc: Southern Nuclear Operating Company

Mr. S. E. Kuczynski, Chairman, President & CEO

Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer

Mr. D. R. Madison, Vice President – Fleet Operations

Mr. M. D. Meier, Vice President – Regulatory Affairs

Mr. B. K. Taber, Vice President – Vogtle 1 & 2

Mr. B. J. Adams, Vice President – Engineering

Mr. G.W. Gunn, Regulatory Affairs Manager – Vogtle 1 & 2 (Acting)

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Mr. V. M. McCree, Regional Administrator

Mr. R. E. Martin, NRR Senior Project Manager – Vogtle 1 & 2

Mr. L. M. Cain, Senior Resident Inspector – Vogtle 1 & 2

**Vogtle Electric Generating Plant, Unit 2
Response to "Request for Additional Information on Spring 2013
Steam Generator Tube Inspections (TAC No. MF4288)"**

Enclosure

SNC Response to Request for Additional Information

NRC Question 1

Please discuss the results of the tube plug visual inspections. Were all plugs confirmed to be present and free of degradation?

SNC Response to RAI 1

All installed tube plugs were visually inspected from the steam generator (SG) primary side on both the hot leg and cold leg primary tubesheet. All tube plugs were confirmed present with no indications of degradation in any of the tube plugs.

NRC Question 2

Please discuss the results of the SG channel head visual inspections.

SNC Response to RAI 2

The channel head visual inspections that were performed were on the hot leg and cold leg of the primary side. No degradation was observed during the SG channel head primary side visual inspections in any of the four steam generators.

NRC Question 3

Please clarify what is meant by "legacy items" in reference to the foreign object search and retrieval inspection. Does this mean that visual inspections were performed at locations where loose parts were known to be present from prior inspections?

SNC Response to RAI 3

Correct. Visual inspections were performed in areas where loose parts were identified in prior inspections and assumed to remain in the steam generators. These locations on the secondary side of the steam generators at the top of the tubesheet were noted in the inspection report as "legacy items." No degradation was identified at these locations.

NRC Question 4

Possible loose part indications and wear attributed to loose parts were identified on the hot-leg side of the SG. Is wear attributed to loose parts a potential degradation mechanism at Vogtle, Unit 2, on the cold-leg side of the SG? If so, please discuss whether the bobbin coil is qualified to detect such degradation near the top of the tubesheet on the cold-leg side of the SG. If the bobbin coil is not qualified, please discuss why a probe capable of detecting such degradation and that may satisfy the applicable tube repair criteria was not employed at those locations where the potential for this degradation mechanism exists (e.g., peripheral tubes).

SNC Response to RAI 4

The Degradation Assessment identifies wear due to loose parts as an existing degradation mechanism for the Vogtle Unit 2 steam generators. There are only three indications and no plugged tubes due to foreign object wear at Vogtle Unit 2. Although the bobbin probe has been effective in identifying loose part wear above the top-of-tubesheet, it is not qualified to detect foreign object wear right at the top-of-tubesheet interface. The most likely area for foreign

objects to migrate and cause wear is in periphery tubes and tubes along the tube free lane. A secondary side visual inspection was performed of the cold leg periphery tubes and along the tube free lane in order to supplement the bobbin coil inspections.

NRC Question 5

A "historical" tube wear indication in SG 4 was reported. In reviewing the prior inspection report submitted to the NRC, no reference was made to this indication. Please confirm that this indication was detected in the prior inspection and that all indications are being reported.

SNC Response to RAI 5

Tube SG4 R12C57 was previously identified as a volumetric indication associated with Mechanical Wear and Wall Loss from Secondary Side Cleaning activities reported in the Unit 2 Refueling Outage 13 inspection report (Reference ADAMS Accession Number ML090990606). This indication has been re-categorized as loose part wear based on evaluation of location and eddy current signal character in the Unit 2 Refueling Outage 16. No progression of growth has been identified, and no foreign objects have been associated with this indication. Indications are reported as they are identified. The indication associated with SG4 R12C57 was identified prior to Unit 2 Refueling Outage 15 (2R15), and discussion of this tube indication was not included in the 2R15 inspection report.

NRC Question 6

With respect to the accident induced leakage performance criteria it was indicated that:

There was no SG primary to secondary leakage present during Cycle 16. The calculated accident induced leakage rate is zero; therefore, the performance criteria for Cycle 16 with respect to the H* permanent alternate repair criteria have been satisfied.

No operational leakage was reported during the previous cycle; therefore, the calculated accident induced leakage rate is zero.

Please clarify these statements. The NRC staff notes the following: (1) there is no separate accident induced leakage rate limit for the H* permanent alternate repair criteria (rather the accident induced leakage rate limit applies to leakage from all possible sources) and (2) the absence of operational leakage does not necessarily mean that the calculated accident induced leakage rate is zero (since there could be other sources of leakage such as from tube plugs and from degradation mechanisms other than those that may be permitted to remain in service under the H* criteria).

SNC Response to RAI 6

None of the indications reported during the Vogtle 2R16 steam generator inspections are evaluated to have primary to secondary leakage at accident induced conditions. Therefore, the accident induced leakage rate for these indications would be zero, and the accident induced leakage performance criteria is satisfied. There was no leakage from the portion of tubing within the H* depth for which to apply the leak rate factor associated with the alternate repair criteria. There was no calculated leakage from any other sources and none of the tube plugs installed in the Vogtle Unit 2 SGs require considerations for leakage.