UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 26, 2011

Mr. M. J. Ajluni
Nuclear Licensing Director
Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
P. O. Box 1295, Bin - 038
Birmingham, AL 35201-1295

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNIT 2 (VOGTLE 2) – REVIEW OF THE 2010 REFUELING OUTAGE STEAM GENERATOR TUBE INSERVICE INSPECTION REPORT (TAC NO. ME4842)

Dear Mr. Ajluni:

By letter dated September 28, 2010 (Agencywide Documents Access and Management System, Accession Number ML102710369), Southern Nuclear Operating Company, Inc. (the licensee), submitted information summarizing the results of the 2010 steam generator tube inspections at Vogtle 2. These inspections were performed during the 14th refueling outage.

The Nuclear Regulatory Commission (NRC) staff has completed its review of the report and concludes that the licensee provided the information required by their technical specifications and that no additional follow-up is required at this time. The NRC staff's review of the report is enclosed.

Sincerely,

Patrick G. Boyle

Patrick G. Boyle, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-425

Enclosure:
Inspection Summary Report

cc w/encl: Distribution via Listserv

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OFFICE OF NUCLEAR REACTOR REGULATION
REVIEW OF THE 2010 REFUELING OUTAGE STEAM GENERATOR TUBE INSERVICE INSPECTION REPORT
SOUTHERN NUCLEAR OPERATING COMPANY, INC.
VOGTLE ELECTRIC GENERATING PLANT, UNIT 2
DOCKET NO. 50-425

By letter dated September 28, 2010 (Agencywide Documents Access and Management System, Accession Number ML102710369), Southern Nuclear Operating Company, Inc. (the licensee), submitted information summarizing the results of the 2010 steam generator (SG) tube inspections at Vogtle Electric Generating Plant, Unit 2 (Vogtle 2). These inspections were performed during the 14th refueling outage.

Vogtle 2 has four Westinghouse Model F SGs, each of which contains 5,626 U-bend thermally treated Alloy 600 tubes. Each tube has a nominal outside diameter of 0.688 inches and a nominal wall thickness of 0.040 inches. During SG fabrication, the tubes were hydraulically expanded, at both ends, over the full depth of the tubesheet. Type 405 stainless steel support plates, which have broached quatrefoil holes, support the vertical section of the tubes, and anti-vibration bars support the U-bend section of the tubes.

The licensee provided the scope, extent, methods, and results of their SG tube inspections in the document referenced above. In addition, the licensee described corrective actions (e.g., tube plugging) taken in response to the inspection findings.

No crack-like indications were detected during the 2010 inspections.

On February 14, 2011, the Nuclear Regulatory Commission (NRC) staff held a conference call with the licensee to clarify some information in their September 28, 2010, letter. During the call the licensee clarified:

- That the scope of the spring 2010 tube inspections was limited to SGs 2 and 3, and that there were no inspections performed in SGs 1 and 4.

- That there are no low-row tubes in any of the SGs with the Seabrook offset (i.e., tubes in rows 1 – 10).

- That there are 108 high-row tubes (i.e., tubes in rows 11 and higher) that do not have the expected eddy current signal offset. These tubes are as follows:
  - SG 1 – 23 tubes in rows 12 through 40
  - SG 2 – 32 tubes in rows 13 through 49
  - SG 3 – 31 tubes in rows 11 through 35
  - SG 4 – 22 tubes in rows 12 through 49

Enclosure

- That the upper bundle in-bundle (UBIB) inspection in SG 2 consisted of a visual inspection from the top of tube support plate 3 (TSP 3) to the bottom of TSP 7. There was no evidence of erosion, flow accelerated corrosion, or cracking of the TSP ligaments. There was no flow hole blockage noted and there were no significant deposits in the quatrefoil shaped holes noted. The freespan region of the tubes was free of denting. There were no dense deposits identified in the tube bundle; however, light scale was observed on the tubes. A foreign object search and retrieval was performed in the tube lane and sludge lancing was performed as well. Visual inspections were also performed in the bundle at the top of the tubesheet to identify the presence of loose parts.

- The tube plug inspections performed in SGs 2 and 3 revealed no degradation and no leakage was noted from the plugs.

Based on a review of the information provided by the licensee, the NRC staff concludes that the licensee provided the information required by their technical specifications and that no additional follow-up is required. The SG tube inspections at Vogtle Unit 2 appear to be consistent with the objective of detecting potential tube degradation and the inspection results appear to be consistent with industry operating experience at similarly designed and operated units.

Principal Contributor: Andrew B. Johnson, NRR/DCI

Date: April 26, 2011

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