May 5, 2003

Mr. J. T. Gasser
Vice President - Vogtle Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNIT 1 RE: REVIEW OF STEAM GENERATOR TUBE INSERVICE INSPECTION SUMMARY REPORT FOR REFUELING OUTAGE 1R10 (TAC NO. MB6960)

Dear Mr. Gasser:

By letters dated April 5, and July 1, 2002, and February 12, 2003, Southern Nuclear Operating Company submitted reports and additional information addressing Nuclear Regulatory Commission (NRC) staff's questions related to the Vogtle Electric Generating Plant, Unit 1 (Vogtle-1), steam generator tube inspections performed during refueling outage 1R10 (spring 2002).

As discussed in the enclosed NRC staff review, the NRC staff has reviewed your submittals and concluded that you have provided the information required by the Technical Specifications for Vogtle-1, and no additional follow-up is required at this time. If you have any questions, contact me at (301) 415-1447.

Sincerely,

/***RA***/

Frank Rinaldi, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-424

Enclosure: As stated

cc w/encl: See next page

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DATE	5/5/03	5/5/03	04/10/03	5/5/03

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NUCLEAR REACTOR REGULATION STAFF'S REVIEW

OF STEAM GENERATOR TUBE INSPECTION REPORTS

SOUTHERN NUCLEAR OPERATING COMPANY, INC., ET AL.

VOGTLE ELECTRIC GENERATING PLANT, UNIT 1

DOCKET NO. 50-424

By letters dated April 5 and July 1, 2002, Southern Nuclear Operating Company (the licensee) submitted reports summarizing the steam generator tube inspections performed at the Vogtle Electric Generating Plant, Unit 1 (Vogtle-1), during refueling outage 1R10 (spring 2002). By letter dated February 12, 2003, the licensee has also provided for NRC staff review, responses to NRC questions asked during a telephone call that took place on January 13, 2003.

Vogtle-1 has four Westinghouse Model F steam generators. There are 5626 thermally treated Alloy 600 tubes in each of the steam generators. The tubes have an outside diameter of 11/16-inch, a wall thickness of 0.040-inch, and are supported by seven stainless steel tube support plates and a flow distribution baffle. The tube support plate holes are quatrefoil shaped. The U-bend region of the tubes in rows 1 through 10 were stress relieved after bending.

During refueling outage 1R10, the licensee performed tube inspections in steam generators 1 and 4. The scope and results of the inspection are discussed in the submittals provided by the licensee. Two tubes were plugged during refueling outage 1R10, since an acceptable examination could not be performed because the rotating coil probe bound and stopped rotating during the examination (i.e., encountered difficulty in passing a rotating coil probe through the U-bend region of low row tubes). Attempts were made to inspect these tubes with a 0.500-inch rotating coil probe from both the hot leg and cold leg without success. Both tubes had successfully passed a 0.520-inch bobbin coil probe during the previous inspection. The licensee believes that the binding of the rotating coil probe in the tube resulted from the differences in the design dimensions of the rotating coil and bobbin probes, and their ability to pass through the U-bend region of low row tubes.

In 1997, two tubes had also been plugged at Vogtle-1 due to "restrictions". These two tubes were plugged for what was believed to be a foreign object lodged in the tube near the U-bend region. These foreign objects are believed to be pieces of a guide tube support pin that were lodged in the tube during operation. Attempts have been made to retrieve and/or dislodge these pieces and to perform visual inspection of the loose part. However, these attempts were unsuccessful. These two tubes were inspected in the previous outage with a 0.520-inch bobbin probe.

The NRC staff concludes that the licensee has provided the information required to be submitted by the Technical Specifications and that no additional follow-up is required at this time. However, the staff notes that the licensee's explanations for the restrictions in the tubes

that they plugged are plausible, but not definitive. If restrictions are found in future outages, the licensee may want to consider performing additional diagnostic examinations to investigate whether a service induced condition is causing the restrictions. For example, inspections could be performed with the largest bobbin probe that has ever passed through the tube to confirm that the rotating probe is binding and stopping because of design differences rather than due to a restriction. Similarly, profilometry of the tube in the U-bend region could confirm that the dimensions of the tube are within tolerances and visual inspections may confirm whether a loose part is lodged in a tube.

Principal Contributor: K. Karwoski, EMCB/DE

Date: May 5, 2003

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