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

February 24, 2010

Mr. Dave Baxter
Vice President, Oconee Site
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION, UNIT 2, EVALUATION OF 2008 (CYCLE 23) STEAM GENERATOR TUBE INSPECTIONS (TAC NO. ME1562)

Dear Mr. Baxter:

By letter dated March 6, 2009, Duke Energy Carolinas, LLC (the licensee) submitted information pertaining to its 2008 steam generator (SG) tube inspections at Oconee Nuclear Station, Unit 2 during the Cycle 23 refueling outage.

The U.S Nuclear Regulatory Commission (NRC) staff has completed its review of these reports 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 reports is enclosed.

Sincerely,

John Stang

John Stang, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-270

Enclosure:
As stated

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SUMMARY OF REVIEW BY THE OFFICE OF NUCLEAR REACTOR REGULATION

OCONEE NUCLEAR STATION, UNIT 2

EVALUATION OF THE STEAM GENERATOR INSPECTIONS

PERFORMED DURING THE 2008 REFUELING OUTAGE

DOCKET NO. 50-270

By letters dated March 6, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML0090700262), Duke Energy Carolinas, LLC, (the licensee), submitted information summarizing the results of the 2008 steam generator (SG) tube inspections at Oconee Nuclear Station, Unit 2 (Oconee 2).

Oconee 2 is a two-loop pressurized-water reactor with once-through steam generators (OTSGs) manufactured by Babcock & Wilcox (B&W), Canada. The Oconee 2 OTSGs are replacement OTSGs that were installed during the 2004 refueling outage. The OTSGs consist of 15,631 thermally-treated Alloy 690 tubes that have been hydraulically expanded into the tubesheet to a depth of 13 inches. There are 15 Type 410 stainless steel tube support plates (TSP) with trefoil shaped holes. However, there are some round drilled openings at the 14th TSP. The 2008 inspections at Oconee 2 were the third inservice inspections of the replacement OTSGs.

Widespread wear degradation of the tubing at TSP locations has been observed at all three Oconee units. 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.

As discussed in a public meeting on March 27, 2008, the licensee and B&W have determined that the most probable cause of the tube wear indications at TSP locations is the tubes vibrating and impacting the tube support plates. The licensee and B&W have developed a conceptual repair, but the plugging projection model indicates that the Oconee 2 SGs can meet their design life without implementing this repair, although a number of tubes may have to be plugged.

Based on a review of the information provided, the Nuclear Regulatory Commission (NRC) staff concludes that the licensee provided the information required by the technical specifications. In addition, the NRC staff concludes that there are no technical issues that warrant follow-up action at this time since the inspections appear to be consistent with the objective of detecting potential tube degradation and that inspection results appear to be consistent with industry operating experience at similarly designed and operated units.

Principal Contributor: A. Obodoako, NRR/DCI

Date: February 24, 2010

Enclosure

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ADAMS Accession No.: ML100540042 *Memo submitted by Tech Staff dated

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