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

September 10, 2012

Mr. Preston Gillespie
Site Vice President
Oconee Nuclear Station
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672-0752

SUBJECT: OCONEE NUCLEAR STATION, UNIT 1, REVIEW OF THE SPRING 2011 STEAM GENERATOR TUBE INSERVICE INSPECTIONS DURING END OF CYCLE 26 REFUELING OUTAGE (TAC NO. ME7835)

Dear Mr. Gillespie:

By letter dated October 26, 2011 (Agencywide Documents Access Management System (ADAMS) Accession No. ML11301A112), Duke Energy Carolinas, LLC., the licensee, submitted information to the Nuclear Regulatory Commission (NRC) summarizing the results of their spring 2011 steam generator (SG) tube inspections performed during end of cycle 26 (EOC26) refueling outage at Oconee Nuclear Station, Unit 1 (ONS 1).

The NRC staff has completed its review of the report and concludes that the licensee provided the information required by the ONS 1 Technical Specifications. No additional follow up is required at this time. The NRC staff's review is enclosed.

If you have any questions, please call me at 301-415-2901.

Sincerely,

John P. Boska

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

Docket No. 50-269

Enclosure:
As stated

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OCONEE NUCLEAR STATION, UNIT 1
SUMMARY OF THE NRC STAFF'S REVIEW OF THE STEAM GENERATOR TUBE INSERVICE INSPECTIONS FOR 2011 REFUELING OUTAGE
TAC NO. ME7835
DOCKET NO. 50-269

By letter dated October 26, 2011 (Agencywide Documents Access Management System (ADAMS) Accession No. ML11301A112), Duke Energy Carolinas, LLC., the licensee, submitted information summarizing the results of their spring 2011 steam generator (SG) tube inspections performed during end of cycle 26 (EOC26) refueling outage at Oconee Nuclear Station, Unit 1 (ONS 1).

ONS 1 has two once-through steam generators designed and fabricated by Babcock and Wilcox International (B&W). Each SG has 15,631 thermally treated Alloy 690 tubes that have a nominal outside diameter of 0.625 inches and a nominal wall thickness of 0.038 inches. The tubes were hydraulically expanded into the tubesheet for 13 inches from the tube end. The tubesheets are 22 inches thick.

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 (i.e., tube plugging) taken in response to the inspection findings. The tubes in both SGs were inspected this outage.

On June 6, 2012, the NRC staff held a conference call with the licensee in which the licensee clarified the following:

> The licensee clarified that the total number of tubes plugged to date for SGs 1A and 1B are 112 and 105, respectively.
>
> All SG tube plugs are fabricated from Alloy 690 and all were inspected visually. The inspection was performed to verify that all plugs were present, in the correct location/tube, and that there were no anomalous conditions. There were no anomalies identified during these inspections.

Widespread wear degradation of tubing at tube support plate (TSP) locations has been observed at all three Oconee units. 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 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 NRC staff concludes that the licensee provided the information required by the ONS 1 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 the inspection results appear to be consistent with industry operating experience at similarly designed and operated units.

ENCLOSURE

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/RA/

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ADAMS Accession No. ML12251A031 ***See memo dated 8/24/12**

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