



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

July 7, 2010

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

SUBJECT: OCONEE NUCLEAR STATION, UNIT 3 (OCONEE 3), EVALUATION OF 2009
(CYCLE 24) STEAM GENERATOR (SG) TUBE INSPECTIONS (TAC NO.
ME2219)

Dear Mr. Baxter:

By letter dated August 14, 2009, Duke Energy Carolinas, LLC (the licensee), submitted information pertaining to its 2009 SG tube inspections at Oconee 3, during the Cycle 24 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,

A handwritten signature in black ink, appearing to read "John Stang".

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

Docket No. 50-287

Enclosure:
As stated

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SUMMARY OF REVIEW BY THE OFFICE OF NUCLEAR REACTOR REGULATION

OCONEE NUCLEAR STATION, UNIT 3

EVALUATION OF THE STEAM GENERATOR INSPECTIONS

PERFORMED DURING THE 2009 REFUELING OUTAGE

DOCKET NO. 50-287

By letter dated August 14, 2009 (Agencywide Documents Access and Management System, Accession No. ML092330195), Duke Energy Carolinas, LLC (Duke, the licensee), submitted information summarizing the results of the 2009 steam generator (SG) tube inspections at Oconee Nuclear Station, Unit 3 (Oconee 3) that were performed during refueling outage 24 (RFO 24).

Oconee 3 is a two-loop pressurized-water reactor with replacement once-through steam generators (ROTSGs) manufactured by Babcock & Wilcox (B&W), Canada. The Oconee 3 ROTSGs were installed during the fall 2004 refueling outage. The ROTSGs contain 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) of trifoil broach design; however, there are some round drilled openings at the 14th TSP. The inspection performed in spring 2009 was the third inservice inspection of the ROTSGs.

The first inservice inspection of the ROTSGs at Oconee 3 (spring 2006) revealed widespread wear degradation of the tubing at TSP locations. Oconee 1 and 2 have also experienced this widespread tube wear degradation at TSP locations.

As a result of the 2009 inspections, three tubes were plugged in ROTSG 3A and eight tubes were plugged in ROTSG 3B. Four of the tubes were plugged due to wear (3 in ROTSG 3A (R105C109, R139C70, R145C22) and 1 in ROTSG 3B (R71C3)). One tube in ROTSG 3B (R114C99) was plugged due to an obstruction and the six tubes (R113C99, R113C100, R114C98, R114C100, R115C98, and R115C99) surrounding the obstructed tube were preventively plugged and stabilized. The obstruction was caused by a foreign object. Based on visual inspection, the object appears to be a small bearing (likely a roller bearing used in the eddy current snorkel support assembly). Efforts to dislodge the foreign object were unsuccessful. The following acronyms were used in the licensee's report: OBS (obstructed tube), ROB (retest obstructed tube), and LAR (lead analyst review).

Based on a review of the information provided, the Nuclear Regulatory Commission (NRC) staff concludes that the licensee provided the information required by their 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/

John Stang, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
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*Memo submitted by Tech Staff dated

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