



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

November 1, 2013

Mr. Steven D. Capps
Vice President
McGuire Nuclear Station
Duke Energy Carolinas, LLC
12700 Hagers Ferry Road
Huntersville, NC 28078

SUBJECT: MCGUIRE NUCLEAR STATION, UNIT 2 – SUMMARY OF NRC'S REVIEW OF
THE 2012 STEAM GENERATOR TUBE INSERVICE INSPECTIONS (TAC NO.
MF1159)

Dear Mr. Capps:

By letter dated February 6, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13052A270), Duke Energy Carolinas, LLC, the licensee, submitted information summarizing the results of the 2012 steam generator tube inspections at McGuire Nuclear Station, Unit 2.

Based on a review of the material provided by the licensee, the U.S. Nuclear Regulatory Commission (NRC) concludes that the licensee provided the information required by their technical specifications. In addition, the NRC staff did not identify any issues that warrant additional follow-up at this time. The staff's review of the licensee's report is enclosed.

Sincerely,

A handwritten signature in black ink, appearing to read "Jason C. Paige", with a large, stylized initial "P" and a horizontal line extending to the right.

Jason C. Paige, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-370

Enclosure: Summary

cc w/encl: Distribution via Listserv



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REVIEW OF THE 2012 STEAM GENERATOR TUBE

INSERVICE INSPECTION REPORT

MCGUIRE NUCLEAR STATION, UNIT 2

DOCKET NO. 50-370

TAC NO. MF1159

By letter dated February 6, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13052A270), Duke Energy Carolinas, LLC, the licensee, submitted information summarizing the results of the 2012 steam generator (SG) tube inspections at McGuire Nuclear Station (McGuire), Unit 2.

McGuire, Unit 2, has four recirculating SGs designed and fabricated by Babcock and Wilcox International (BWI). The model CFR 80 SGs were put into service in 1997 during refueling outage eleven (RFO11). Each SG has 6,633 thermally treated Alloy 690 tubes, which have a nominal outside diameter of 0.688 inches and a nominal wall thickness of 0.040 inches. The tubes were hydraulically expanded at each end for the full depth of the tubesheet.

The licensee provided the scope, extent, methods, and results of the McGuire, Unit 2, 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.

On August 8, 2013, the licensee clarified the following during a conference call:

Erosion of the secondary separators has been observed in BWI SGs. At McGuire, SG A is used as the leading SG in both Units 1 and 2. In Unit 1, in addition to inspecting the secondary separator in SG A, SG D has also been inspected. The level of erosion of the secondary separators in SG D of Unit 1 is similar to that in SG A of Unit 1. SG A in Unit 2 has more erosion than that observed in Unit 1 and more than that observed at Catawba (which also has SGs fabricated by BWI). Additional secondary side separators will be inspected during the next planned inspection outage. In summary, operating experience from the fleet of BWI SGs is used to inform the inspections of the secondary side separators at McGuire.

The lattice grid inspections indicated there was no blockage or bridging of deposits in the area where the tube passes through the lattice grid.

The 2012 inspection was performed during RFO21. At the time of the inspection, the SGs were 0.34 effective full power years (EFPYs) into the 108 effective full power month sequential period. At the RFO16 inspections, the SGs had operated 5.48 EFPY since the first inservice inspection (6.8 EFPY since replacement). At RFO19, the SGs had operated 9.55 EFPY since the first inservice inspection.

Enclosure

Visual inspections were performed of all of the steam generator channel head bowls. No degradation was observed as a result of those inspections.

Based on a review of the information provided, the U.S. Nuclear Regulatory Commission (NRC) 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 the inspection results appear to be consistent with industry operating experience at similarly designed and operated units.

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Sincerely,

/RA/

Jason C. Paige, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
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***By memo**

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DATE	10/30/13	10/30/13	09/19/2013	11/1/13	11/1/13

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