



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

June 24, 2020

Ms. Kim Maza
Site Vice President
Shearon Harris Nuclear Power Plant
Mail Code NHP01
5413 Shearon Harris Road
New Hill, NC 27562-9300

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1 – REVIEW OF THE
FALL 2019 STEAM GENERATOR TUBE INSPECTIONS DURING REFUELING
OUTAGE NO. 22 (EPID L-2020-LRO-0016)

Dear Ms. Maza:

By letter dated April 8, 2020 (Agencywide Documents Access and Management System Accession No. ML20099K699), Duke Energy Progress, LLC (the licensee), submitted information to the U.S. Nuclear Regulatory Commission (NRC) summarizing the results of the fall 2019 steam generator (SG) tube inspections performed at Shearon Harris Nuclear Power Plant, Unit 1. The inspections were performed during refueling outage (RFO) no. 22.

The NRC staff has completed its review of the submittal and concludes that the licensee provided the information required by Harris, Unit 1 Technical Specification 6.9.1.7, "Steam Generator Tube Inspection Report." In addition, the NRC staff concludes that there are no technical issues that warrant followup actions at this time. Enclosed is the NRC staff's review of the Harris, Unit 1 SG tube inspection report for RFO no. 22.

If you have any questions, please contact me at 301-415-3867 or Michael.Mahoney@nrc.gov.

Sincerely,

/RA/

Michael Mahoney, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-400

Enclosure:
Review of the Steam Generator Tube
Inspection Report

cc: Listserv

REVIEW OF THE FALL 2019 STEAM GENERATOR TUBE INSPECTION REPORT

DUKE ENERGY PROGRESS, LLC

SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1

DOCKET NO. 50-400

By letter dated April 8, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20099K699), Duke Energy Progress, LLC (the licensee), submitted information summarizing the results of the fall 2019 steam generator (SG) inspections performed at Shearon Harris Nuclear Power Plant (Harris), Unit 1. The inspections were performed during refueling outage (RFO) no. 22. On October 29, 2019, the U.S. Nuclear Regulatory Commission (NRC) staff participated in a conference call with the licensee on the ongoing SG inspections at Harris, Unit 1 during RFO no. 22 and a summary of the conference call is available in ADAMS under Accession No. ML19329A023.

The three Westinghouse D75 SGs at Harris, Unit 1 were installed in 2001 during RFO no. 10. Each SG has 6,307 thermally-treated Alloy 690 tubes with 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 tubes are supported by several stainless-steel tube support plates (TSPs) with trefoil-shaped holes. Below the TSPs is a flow distribution baffle plate that has octafoil-shaped holes. The tubes in rows 1 through 17 (i.e., those with a bend radius less than 12 inches) received a supplemental thermal treatment (stress relief) after bending.

The licensee provided the scope, extent, methods, and results of the SG tube inspections in the letter referenced above. In addition, the licensee described corrective actions (e.g., foreign object removal) taken in response to the inspection findings.

Based on the review of the information provided, the NRC staff has the following observations:

- The inspection scope for each SG during RFO 22 included array probe inspection of 80 tubes, in both the hot and cold legs from the top of the tubesheet to the flow distribution baffle, due to a chemistry excursion that occurred in 2018. Based on the results reported by the licensee, the chemistry excursion did not seem to have caused any tube degradation.
- The licensee stated that the SGs cannot operate more than five cycles between inspections based on foreign objects and associated wear. The licensee further stated that the next planned inspection would have only three cycles between inspections.

Based on a review of the information provided by the licensee, the NRC staff concludes that the licensee provided the information required by Harris, Unit 1 Technical Specification 6.9.1.7, "Steam Generator Tube Inspection Report." 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.

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1 – REVIEW OF THE FALL 2019 STEAM GENERATOR TUBE INSPECTIONS DURING REFUELING OUTAGE NO. 22 (EPID L-2020-LRO-0016) DATED JUNE 24, 2020

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ADAMS Accession No.: ML20157A106

*by e-mail

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