



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

July 21, 2021

Vice President, Operations  
Entergy Nuclear Operations, Inc.  
Palisades Nuclear Plant  
27780 Blue Star Memorial Highway  
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT – REVIEW OF THE FALL 2020 STEAM  
GENERATOR TUBE INSPECTION REPORT (EPID L-2021-LRO-0014)

Dear Sir or Madam:

By letter dated March 25, 2021 (Agencywide Documents Access and Management System Accession No. ML21084A077), Entergy Nuclear Operations, Inc. (ENO, the licensee) submitted information summarizing the results of the fall 2020 steam generator (SG) inspections for the Palisades Nuclear Plant (Palisades). This report was submitted in accordance with Technical Specification (TS) 5.6.8, "Steam Generator Tube Inspection Report."

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the 2020 SG tube inspection report for Palisades. Based on this review, the NRC staff concludes that the information required by TS 5.6.8 has been provided and no additional follow-up action is required at this time. A summary of the NRC staff's review is enclosed.

If you have any questions, please contact me at (301) 415-2855 or via e-mail at [Scott.Wall@nrc.gov](mailto:Scott.Wall@nrc.gov).

Sincerely,

*/RA/*

Scott P. Wall, Senior Project Manager  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure:  
Review of the Fall 2020 Steam Generator Tube  
Inspection Report

cc: Listserv

REVIEW OF THE FALL 2020 STEAM GENERATOR TUBE INSPECTION REPORT

ENTERGY NUCLEAR OPERATIONS, INC.

PALISADES NUCLEAR PLANT

DOCKET NO. 50-255

By letter dated March 25, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21084A077), Entergy Nuclear Operations, Inc. (the licensee) submitted information summarizing the results of the fall 2020 steam generator (SG) inspections for the Palisades Nuclear Plant (Palisades) during refueling outage 27 (RFO 27). This report was submitted in accordance with Technical Specification (TS) 5.6.8, "Steam Generator Tube Inspection Report." Additionally, the U.S. Nuclear Regulatory Commission (NRC) staff held a conference call with the licensee on September 11, 2020, regarding the ongoing SG inspection activities at Palisades. A summary of this conference call was issued in a letter dated September 23, 2020 (ADAMS Accession No. ML20267A074).

Palisades has two Combustion Engineering Model 2530 replacement SGs. Each SG has 8,219 mill-annealed, Alloy 600 tubes. The tubes have an outside diameter of 0.75 inches, and a wall thickness of 0.042 inches. Stainless steel, eggcrate, lattice-type tube supports, diagonal straps, and vertical straps support the tubes at various locations. The tubes were expanded through the full depth of the tubesheet using an explosive process.

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

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

- One tube in SG A was plugged for wear at a vertical strap. This was the only tube plugged for wear in RFO 27.
- Axial and circumferential outside diameter stress corrosion cracking (SCC) indications were identified in both the A and B SGs. These indications were on the hot-leg side of the SGs at various tube support locations and at the top of the tubesheet. As a result, 17 tubes were stabilized and 53 tubes were plugged.
- One axial primary water SCC indication was detected just below the top of the tubesheet in SG B. This indication was in the tube in row 97 column 74 and the tube was plugged.
- Four tubes in SG A and four tubes in SG B were plugged to bound foreign objects. In both SGs, three of the four plugged tubes were also stabilized.

Based on a review of the information provided, the NRC staff concludes the licensee provided the information required by its TSs. In addition, the staff concludes there are no technical issues that warrant follow-up action at this time because 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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DATED JULY 21, 2021

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**ADAMS Accession No.: ML21197A032**

**\* via e-mail    \*\*via memo**

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