



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

October 31, 2016

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 2015 STEAM GENERATOR  
TUBE INSERVICE INSPECTION REPORT (CAC NO. MF7554)

Dear Sir or Madam:

By letter dated March 30, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16092A086), as supplemented by letter dated June 17, 2016 (ADAMS Accession No. ML16168A004), Entergy Nuclear Operations, Inc. (the licensee), submitted information pertaining to their 2015 steam generator (SG) tube inspections at the Palisades Nuclear Plant (PNP). In addition, the U.S. Nuclear Regulatory Commission (NRC) staff held a telephone conference call on October 2, 2015, regarding the 2015 SG tube inspections at PNP. The October 2, 2015, conference call is summarized in a letter dated October 27, 2015 (ADAMS Accession No. ML15294A300).

The NRC staff has completed its review of these documents and concludes that the licensee provided the information required by the PNP technical specifications. No additional follow-up is required at this time. If you have any questions, please contact me at (301) 415-1530 or via e-mail at [Jennivine.Rankin@nrc.gov](mailto:Jennivine.Rankin@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Jennivine Rankin", is positioned above the typed name.

Jennivine K. Rankin, Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure:  
Review of the 2015 Steam Generator  
Tube Inspections

cc w/encl: Distribution via Listserv



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OFFICE OF NUCLEAR REACTOR REGULATION

REVIEW OF RESULTS OF 2015 STEAM GENERATOR TUBE INSPECTIONS

ENTERGY NUCLEAR OPERATIONS, INC.

PALISADES NUCLEAR PLANT

DOCKET NO 50-255

By letter dated March 30, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16092A086), as supplemented by letter dated June 17, 2016 (ADAMS Accession No. ML16168A004), Entergy Nuclear Operations, Inc. (the licensee), submitted information pertaining to their 2015 steam generator (SG) tube inspections at the Palisades Nuclear Plant (PNP). In addition, the U.S. Nuclear Regulatory Commission (NRC) staff held a telephone conference call on October 2, 2015, regarding the 2015 SG tube inspections at PNP. The October 2, 2015, conference call is summarized in a letter dated October 27, 2015 (ADAMS Accession No. ML15294A300).

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 their SG tube inspections in the documents referenced above. In addition, the licensee described corrective actions (e.g., tube plugging) taken in response to the inspection findings.

After review of the information provided by the licensee, the NRC staff has the following comments/observations:

A summary of the axial outside diameter stress corrosion cracking (ODSCC) indications identified during the three most recent SG tube examinations shows the maximum reported depth was 63.8 percent through-wall in refueling outage 24 (RFO24), which is within approximately 2 percent of the maximum depths reported in both refueling outage 22 (RFO22) and refueling outage 23 (RFO23). The number of reported axial ODSCC indications in RFO23 and RFO24 are less than those reported in RFO22, but the average depth of the indications increased from RFO22 to RFO23 and from RFO23 to RFO24. All tubes with axial or circumferential ODSCC indications were removed from service.

Based on a review of the information provided by the licensee, the NRC staff concludes that the licensee provided the information required by their technical specifications. The SG tube inspections at PNP 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

October 31, 2016

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Entergy Nuclear Operations, Inc.  
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Sincerely,

/RA/

Jennivine K. Rankin, Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-255

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**ADAMS Accession No.: ML16302A044**

**\*via memo**

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