



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

June 28, 2019

ANO Site Vice President  
Arkansas Nuclear One  
Entergy Operations, Inc.  
N-TSB-58  
1448 S.R. 333  
Russellville, AR 72802

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 2 – REVIEW OF THE FALL 2018 STEAM GENERATOR TUBE INSPECTION REPORT (EPID L-2019-LRO-0012)

Dear Sir or Madam:

By letter dated February 28, 2019 (Agencywide Documents Access and Management System Accession No. ML19059A440), Entergy Operations, Inc. (the licensee) submitted information summarizing the results of the fall 2018 steam generator (SG) tube inspections at Arkansas Nuclear One, Unit 2 (ANO-2). The inspections were performed during Refueling Outage 26 (2R26). The SG tube inspection report was submitted in accordance with Technical Specification (TS) 6.6.7, "Steam Generator Tube Inspection Report."

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the submittal and concludes that the licensee provided the information required by ANO-2 TS 6.6.7. 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 ANO-2, SG tube inspection report.

If you have any questions, please contact me at (301) 415-4037 or by e-mail at [Thomas.Wengert@nrc.gov](mailto:Thomas.Wengert@nrc.gov).

Sincerely,

**/RA/**

Thomas J. Wengert, Senior Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-368

Enclosure:  
Review of SG Tube Inspection Report

cc: Listserv

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 2 – REVIEW OF THE FALL 2018 STEAM GENERATOR TUBE INSPECTION REPORT (EPID L-2019-LRO-0012)  
 DATED JUNE 28, 2019

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**ADAMS Accession No.: ML19175A292**

\*by memorandum

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DMLR/MCCB/BC*
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DATE	06/28/19	06/25/19	06/17/19
OFFICE	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM	
NAME	RPascarelli	TWengert	
DATE	06/28/19	06/28/19	

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STAFF REVIEW OF RESULTS OF FALL 2018 STEAM GENERATOR TUBE  
INSERVICE INSPECTIONS PERFORMED DURING REFUELING OUTAGE 26

ARKANSAS NUCLEAR ONE, UNIT 2

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-368

By letter dated February 28, 2019 (Agencywide Documents Access and Management System Accession No. ML19059A440), Entergy Operations, Inc. (the licensee) submitted information summarizing the results of the fall 2018 steam generator (SG) tube inspections at Arkansas Nuclear One, Unit 2 (ANO-2). These inspections were performed during Refueling Outage 26 (2R26).

The SG tube inspection report was submitted in accordance with Technical Specification (TS) 6.6.7, "Steam Generator Tube Inspection Report."

ANO-2 has two Westinghouse model Delta 109 SGs, each containing 10,637 thermally-treated Alloy 690 tubes. The tubes each have a nominal outside diameter of 0.688 inches and a nominal wall thickness of 0.040 inches. The tubes are hydraulically expanded through the tubesheet thickness and are supported by eight broached-hole tube support plates (TSPs) in the vertical region of the tube bundle. In the U-bend region, the tubes are supported by five sets of staggered Type 405 stainless steel anti-vibration bars (AVBs).

In the letter dated February 28, 2019, the licensee provided the scope, extent, methods, and results of its SG tube inspections. In addition, the licensee described corrective actions it has taken, such as tube plugging, in response to the inspection findings.

After reviewing the information provided by the licensee, the U.S. Nuclear Regulatory Commission (NRC) staff has the following comments or observations:

- In the licensee's report, the three-letter codes TBP and PTP are used for "to be plugged" and "preventive tube plug," respectively.
- Service induced indications were reported from wear with anti-vibration bars, tube support plates, and loose parts; however, the loose part indications were all historical and no new loose parts were reported.

Based on a review of the information provided, the NRC staff concludes that the licensee provided the information required by ANO-2 TS 6.6.7. In addition, the staff concludes that there are no technical issues that warrant followup 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.