



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

March 14, 2019

Vice President, Operations  
Entergy Nuclear Operations, Inc.  
Indian Point Energy Center  
450 Broadway, GSB  
P.O. Box 249  
Buchanan, NY 10511-0249

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 2 – REVIEW OF THE  
SPRING 2018 STEAM GENERATOR TUBE INSPECTION REPORT  
(EPID L-2018-LRO-0036)

Dear Sir or Madam:

By letter dated August 13, 2018 (Agencywide Documents Access and Management System Accession No. ML18254A183), Entergy Nuclear Operations, Inc. (the licensee) submitted a summary of the results of the spring 2018 steam generator inspections performed at Indian Point Nuclear Generating Unit No. 2. The inspections were performed during refueling outage 23. The steam generator tube inspection report was submitted in accordance with Technical Specification 5.6.7, "Steam Generator Tube Inspection Report."

Based on its review, the U.S. Nuclear Regulatory Commission (NRC) staff concludes that the licensee has provided the information required by Technical Specification 5.6.7, and no followup is required at this time. A summary of the NRC staff's review is enclosed.

If you have any questions concerning this matter, please contact me at 301-415-1030 or by e-mail to [Richard.Guzman@nrc.gov](mailto:Richard.Guzman@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "R. Guzman", is written over a horizontal line.

Richard V. Guzman, Senior Project Manager  
Plant Licensing Branch 1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosure:  
Steam Generator Tube Inspection Report

cc: Listserv



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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REVIEW OF THE 2018 REFUELING OUTAGE 23  
STEAM GENERATOR TUBE INSPECTION REPORT  
ENTERGY NUCLEAR OPERATIONS, INC.  
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2  
DOCKET NO. 50-247

By letter dated August 13, 2018 (Agencywide Documents Access and Management System Accession No. ML18254A183), Entergy Nuclear Operations, Inc. (the licensee) submitted information summarizing the results of the spring 2018 steam generator (SG) inspections at Indian Point Nuclear Generating Unit No. 2 (Indian Point 2). These inspections were performed during refueling outage 23 (RFO23). The SG tube inspection report was submitted in accordance with Technical Specification 5.6.7, "Steam Generator Tube Inspection Report."

Indian Point 2 has four replacement SGs that were installed during RFO14 in 2000. The replacement SGs are Westinghouse model 44F SGs. Each SG contains 3,214 thermally treated Alloy 600 tubes, which have a nominal outside diameter of 0.875 inches and a nominal wall thickness of 0.050 inches. The tubes are supported by stainless steel tube support plates with quatrefoil-shaped holes and V-shaped anti-vibration bars.

The licensee provided the scope, extent, methods, and results of its SG tube inspections in the letter dated August 13, 2018. In addition, the licensee described corrective actions, such as tube plugging, taken 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:

- Cladding anomalies that were characterized by discoloration were identified in the hot-leg channel head of SGs 22 and 23, and also in the cold-leg channel head of SGs 23 and 24. Inspection of the cladding anomalies showed that none of the anomalies exhibited undercutting, and the cladding in the vicinity of the anomalies was tightly adhered to the channel head. Based on an engineering evaluation, repair of the anomalies was not required prior to restart. No additional areas of cladding degradation were found during the RFO23 channel head visual inspections.

Based on a review of the information provided, the NRC staff concludes that the licensee provided the information required by its technical specifications. In addition, the staff concludes there are no technical issues that warrant followup action at this time, since the inspections appear to be consistent with the objective of detecting potential tube degradation. The staff also concludes that the inspection results appear to be consistent with industry operating experience at similarly designed and operated units.

Enclosure

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 2 – REVIEW OF THE  
SPRING 2018 STEAM GENERATOR TUBE INSPECTION REPORT  
(EPID L-2018-LRO-0036) DATED MARCH 14, 2019

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\*by e-mail

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| NAME   | RGuzman          | LRonewicz        | SBloom            | JDanna           |
| DATE   | 03/12/2019       | 03/12/2019       | 03/07/2019        | 03/14/2019       |

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