



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

May 4, 2022

Mr. Christopher P. Domingos
Site Vice President
Northern States Power Company – Minnesota
Prairie Island Nuclear Generating Plant
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 2 – REVIEW OF
THE 2021 STEAM GENERATOR TUBE INSPECTION REPORT
(EPID L-2022-LRO-0010)

Dear Mr. Domingos:

By letter dated January 17, 2022 (Agencywide Documents Access and Management System Accession No. ML22017A005), Northern States Power Company, doing business as Xcel Energy (the licensee), submitted information summarizing the results of the fall 2021 steam generator inspections at Prairie Island Nuclear Generating Plant, Unit 2.

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the information provided and concludes that the information required by the Prairie Island Nuclear Generating Plant, Unit 2, technical specifications has been satisfied and that no follow-up is required at this time. The NRC staff's review is enclosed.

If you have any questions, please contact me at 301-415-3733 or via e-mail at Robert.Kuntz@nrc.gov.

Sincerely,

/RA/

Robert F. Kuntz, Senior Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-306

Enclosure:
Review of the Fall 2021 Steam Generator Tube
Inspection Report

cc: Listserv

REVIEW OF THE FALL 2021 STEAM GENERATOR TUBE INSPECTION REPORT

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 2

DOCKET NO. 50-306

By letter dated January 17, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22017A005), Northern States Power Company, doing business as Xcel Energy (the licensee) submitted information summarizing the results of the fall 2021 steam generator (SG) inspections at Prairie Island Nuclear Generating Plant (Prairie Island), Unit 2. This report was submitted in accordance with Technical Specification (TS) 5.6.7, "Steam Generator Tube Inspection Report." These inspections were performed during the 30-second refueling outage (RFO 32).

Prairie Island, Unit 2, has two AREVA Model 56/19 replacement recirculating SGs. Each SG has 4,868 thermally treated Alloy 690 tubes, which have a nominal outside diameter of 0.750 inches and a nominal wall thickness of 0.043 inches. The tubes were hydraulically expanded at each end for the full depth of the tubesheet. The tubes are supported by stainless steel anti-vibration bars (AVBs) and stainless steel tube support plates (TSPs) with quatrefoil-shaped holes through which the tubes pass. The inspections performed during RFO 32 were the second inservice inspections (ISIs) of the replacement SGs and followed 5.37 effective full-power years (3 cycles) of operation after the initial ISI in 2015.

The January 17, 2022, letter provided the scope, extent, methods, and results of the SG tube inspections in the letter referenced above. In addition, the letter described corrective actions (e.g., tube plugging), if any were taken in response to the inspection findings. Based on review of the information provided, the U.S. Nuclear Regulatory Commission (NRC) staff has the following observations:

- Tube wear at TSPs and AVBs was the only degradation mechanism reported and the licensee preventively plugged one tube in SG 21 and five tubes in SG 22.
- The licensee performed an operational assessment that concluded the structural and leakage integrity performance criteria would be met for periods of three and four cycles until the next inspection.
- Secondary-side foreign object search and retrieval revealed one piece of wire on the tubesheet in SG 21. The wire was removed and subsequent eddy current inspection of the surrounding tubes detected no damage from the object.
- Secondary-side inspections of the upper internals were performed during RFO 32 in both SGs, with no degradation found. These inspections included the bolted closures, feedwater ring J-tubes, primary moisture separators, loose parts trapping screens, downcomer loose parts trapping system, and tube wrapper position.

Based on a review of the information provided, the NRC staff concludes that the information meets the requirements of Prairie Island, Unit 2, TS 5.6.7. In addition, the staff concludes that there are no technical issues that warrant follow-up action currently, 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.

Enclosure

SUBJECT: PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNIT 2 – REVIEW OF THE 2021 STEAM GENERATOR TUBE INSPECTION REPORT (EPID L-2022-LRO-0010) DATED MAY 4, 2022

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DATE	5/3/2022	5/4/2022	

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