



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

June 12, 2023

Mr. Daniel G. Stoddard
Senior Vice President and
Chief Nuclear Officer
Dominion Nuclear
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, VA 23060-6711

SUBJECT: MILLSTONE POWER STATION, UNIT NO. 3 – REVIEW OF THE SPRING 2022
STEAM GENERATOR TUBE INSPECTION REPORT (EPID L-2022-LRO-0142)

Dear Mr. Stoddard:

By letter dated October 27, 2022 (Agencywide Documents Access and Management Systems (ADAMS) Accession No. ML22300A100), as supplemented by letters dated March 8, 2023 (ML23068A107), and April 20, 2023 (ML23124A364), Dominion Energy Nuclear Connecticut, Inc. (the licensee) submitted information to the U.S. Nuclear Regulatory Commission (NRC) summarizing the results of the spring 2022 steam generator tube inspection that were performed at Millstone Power Station, Unit No. 3 (Millstone 3). This inspection was performed during the Millstone 3 Refueling Outage 21.

The NRC staff has completed its review of this report and concludes that the licensee provided the information required by the Millstone 3 Technical Specifications. No additional follow-up is required at this time. The NRC staff's review is enclosed.

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

Sincerely,

/RA/

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

Docket No. 50-423

Enclosure:
Review of the Spring 2022 Steam
Generator Tube Inspection Report

cc: Listserv

STAFF ASSESSMENT BY THE OFFICE OF NUCLEAR REACTOR REGULATION
REVIEW OF THE SPRING 2022 STEAM GENERATOR TUBE INSPECTION REPORT

DOMINION ENERGY NUCLEAR CONNECTICUT, INC.

MILLSTONE POWER STATION, UNIT NO. 3

DOCKET NO. 50-423

By letter dated October 27, 2022 (Agencywide Documents Access and Management Systems (ADAMS) Accession No. ML22300A100), as supplemented by letters dated March 8, 2023 (ML23068A107), and April 20, 2023 (ML23124A364), Dominion Energy Nuclear Connecticut, Inc. (the licensee) submitted information summarizing the results of the spring 2022 steam generator (SG) tube inspections that were performed at Millstone Power Station, Unit No. 3 (Millstone Unit 3), during Refueling Outage 21 (3R21).

Millstone Unit 3 has four Westinghouse Model F SGs, each of which contains 5,626 thermally treated Alloy 600 tubes. Each tube has a nominal outside diameter of 0.688 inches and a nominal wall thickness of 0.040 inches. During SG fabrication, the tubes were hydraulically expanded at both ends, over the full depth of the tubesheet. Eight stainless steel tube support plates (TSPs), which have broached quatrefoil holes, support the vertical section of the tubes. Six anti-vibration bars (AVBs) support the U-bend section of the tubes. The U-bends in rows 1 through 10 were stress relieved after being formed.

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), if any were taken in response to the inspection findings.

Based on the review of the information provided, the U.S. Nuclear Regulatory Commission (NRC) staff has the following observations:

- Stress corrosion cracking was detected for the first time in the Millstone Unit 3 SGs. One indication of circumferentially oriented outside diameter stress corrosion cracking (ODSCC) was detected in SG-A, approximately 0.32 inches above the top of the tubesheet on the hot leg in tube Row 10 Column 63 (R10C63). The indication was detected with the array probe and confirmed with the +Point™ rotating probe. Based on +Point™, the estimated size was 10 percent through wall (TW), 59 degrees (0.42 inches) in circumferential extent, and 0.59 percent degraded area. The size was below the screening limits for burst and leakage; therefore, no in-situ pressure tests were required. A review of prior inspection data was inconclusive in determining whether the flaw was present in previous inspections, due to influence of hard sludge deposits on the eddy current signal. The tube was stabilized and plugged.
- Two relatively deep TSP wear indications in SG-C were reported for the first time in 2022. The measured depths were 33 percent TW (R17C52) and 45 percent TW (R17C70). As discussed in the licensee's April 20, 2023, letter, no indications of degradation were detected with the bobbin probe examination during the previous

Enclosure

inspection in 2017, and the indications were not seen in lookbacks at the 2017 inspection data. The reason for the apparent rapid wear rate at these locations is unknown. Inspection of the TSP intersections for all in-service tubes is planned for the next inspection in fall 2023.

- On the secondary side, the licensee performed visual inspection of the feeding, J-nozzles, and feeding supports in all four SGs, and ultrasonic thickness testing of feeding components (tees, reducers, elbows, piping, etc.) in SG-B and SG-D. The inspections revealed no significant degradation.

Based on a review of the information provided, the NRC staff concludes that the licensee provided the information required by their technical specifications. In addition, the staff concludes that there are no technical issues that warrant follow-up action at this time 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.

SUBJECT: MILLSTONE POWER STATION, UNIT NO. 3 – REVIEW OF THE SPRING 2022 STEAM GENERATOR TUBE INSPECTION REPORT (EPID L-2022-LRO-0142) DATED JUNE 12, 2023.

DISTRIBUTION:

PUBLIC
PM File Copy
RidsNrrDorlLp1 Resource
RidsNrrPMillstone Resource
RidsNrrLAKEntz Resource
RidsNrrDnrlNcsg Resource
RidsACRS_MailCTR Resource

RidsRgn1MailCenter Resource
RidsACRS_MailCTR Resource
PKlein, NRR
AJohnson, NRR
GMakar, NRR
LTerry, NRR

ADAMS Accession No.: ML23151A074

NRR-106

OFFICE	NRR/DORL/LPL1/PM	NRR/DORL/LPL1/LA	NRR/DNRL/NCSSG/BC
NAME	RGuzman	KEntz	SBloom
DATE	6/6/2023	6/6/2023	5/30/2023
OFFICE	NRR/DORL/LPL1/BC	NRR/DORL/LPL1/LA	
NAME	HGonzález	RGuzman	
DATE	6/9/2023	6/12/2023	

OFFICIAL RECORD COPY