



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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November 1, 2022

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

SUBJECT: SURRY POWER STATION, UNIT 2 – REVIEW OF THE FALL 2021 STEAM
GENERATOR TUBE INSPECTION REPORT (EPID L-2022-LRO-0049)

Dear Mr. Stoddard:

By letter dated April 14, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22108A224), Virginia Electric and Power Company (the licensee), submitted information summarizing the results of the fall 2021 steam generator inspections performed at Surry Power Station, Unit 2, during the end-of cycle 30 refueling outage.

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the report and concludes that the licensee provided the information required by their technical specifications and that no additional follow-up is required at this time. The enclosure documents the NRC staff's review of the submittal.

If you have any questions, please contact me at 301-415-0615 or via e-mail at John.Klos@nrc.gov.

Sincerely,

/RA/

John Klos, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-281

Enclosure:
Review of Steam Generator Tube
Inspection Report

cc: Listserv

REVIEW OF THE FALL 2021 STEAM GENERATOR

TUBE INSPECTION REPORT

VIRGINIA ELECTRIC AND POWER COMPANY

SURRY POWER STATION, UNIT 2

DOCKET NO. 50-281

By letter dated April 14, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22108A224), Virginia Electric and Power Company (the licensee), submitted information summarizing the results of the fall 2021 steam generator (SG) inspections performed at Surry Power Station, Unit 2, during the end-of-cycle 30 refueling outage (EOC30).

Surry Power Station, Unit 2, has three Westinghouse model 51F SGs. Each SG has 3,342 thermally treated Alloy 600 tubes with an outside diameter of 0.875 inches and a nominal wall thickness of 0.050 inches. The tubes are hydraulically expanded at each end for the full depth of the tubesheet. The tubes are supported by stainless steel support plates with quatrefoil-shaped holes. The U-bend region of the tubes installed in rows 1-8 was thermally treated after bending to reduce stress.

In its letter dated April 14, 2022, the licensee provided the scope, extent, methods, and results of the SG tube inspections. In addition, the licensee described corrective actions (e.g., tube plugging) 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 and comments:

- An axial primary water stress corrosion crack (PWSCC) indication was found in one tube in SG B. The axial PWSCC had a maximum depth of 66 percent through-wall (TW) and structural equivalent depth of 53.6 percent TW. A circumferential PWSCC indication was also found in one tube in SG B. The circumferential PWSCC had a maximum depth of 47 percent TW, the circumferential extent was 30 degrees, and the percent degraded area was 2.2 percent. Both indications were located within the tubesheet, near the top of the tubesheet. The tube with the axial indication was plugged and the tube with the circumferential indication was stabilized and plugged.
- The licensee reported that there are no low-row tubes with potentially high residual stress. There are some high-row tubes with potentially high residual stress: 0 in SG A, 2 in SG B, and 14 in SG C.
- Dent and ding inspections performed during the EOC30 included 100 percent of all dents and dings ≥ 2 volts in the hot leg straight section and 100 percent of all dents and dings ≥ 5 volts in the U-bend and cold-leg sections of the tubes.
- Cracking of secondary separator perforated plate welds in SG A were detected and repaired during the steam drum examination.

Based on its review of the information provided, the NRC staff concludes that the licensee provided the information required by their technical specifications.

Enclosure

In addition, the NRC 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.

Principal Contributor: A. Johnson, NRR

SUBJECT: SURREY POWER STATION, UNIT 2 – REVIEW OF THE FALL 2021 STEAM
 GENERATOR TUBE INSPECTION REPORT (EPID L-2022-LRO-0049)
 DATED NOVEMBER 1, 2022

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