



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

August 16, 2013

Mr. David A. Heacock
President and Chief Nuclear Officer
Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Blvd.
Glenn Allen, VA 23060

SUBJECT: SURRY POWER STATION - REVIEW OF THE STEAM GENERATOR TUBE
INSERVICE INSPECTION REPORT FOR THE SURRY POWER STATION,
UNIT 1, REFUELING OUTAGE IN 2012 (TAC NUMBER MF0062)

Dear Mr. Heacock:

By letter dated October 30, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12321A047), Virginia Electric and Power Company (the licensee) submitted steam generator tube inspection results from the spring 2012 inspections at Surry Power Station, Unit 1. The licensee provided additional information in a letter dated April 1, 2013 (ADAMS Accession No. ML13105A134). Your report was submitted in accordance with Technical Specification (TS) 5.6.10, "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 TS 5.6.10. 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. A summary of the NRC staff review is enclosed.

If you have any questions regarding this matter, I may be reached at (301) 415-1438 or via e-mail at karen.cotton@nrc.gov.

Sincerely,

A handwritten signature in cursive script that reads "Karen Cotton".

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

Docket No. 50-280

Enclosure:
As stated

cc w/encl: Distribution via Listserv

REVIEW OF THE 2012 STEAM GENERATOR TUBE

INSERVICE INSPECTION REPORT

VIRGINIA ELECTRIC AND POWER COMPANY

SURRY POWER STATION, UNIT 1

DOCKET NO. 50-280

By letter dated October 30, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12321A047), Virginia Electric and Power Company (the licensee) submitted steam generator (SG) tube inspection results from the spring 2012 inspections at Surry Power Station (Surry), Unit 1. The licensee provided additional information in a letter dated April 1, 2013 (ADAMS Accession No. ML13105A134).

The three replacement SGs at Surry, Unit 1, were installed in 1981. Westinghouse fabricated the replacement SGs and each SG contains 3,342 thermally treated Alloy 600 tubes. Each tube has a nominal outside diameter of 0.875 inches and a nominal wall thickness of 0.050 inches. The tubes were hydraulically expanded at both ends for the full length of the tubesheet and are supported by a number of stainless steel tube support plates. The U-bends of the tubes installed in rows 1 through 8 were thermally stress relieved after bending.

The licensee provided the scope, extent, methods, and results of their SG tube inspections in the documents referenced above. In addition, the licensee described corrective actions (e.g., tube plugging) taken in response to the inspection findings.

After review of the information provided by the licensee, the NRC staff has the following comments/observations:

- The spring 2012 inspections were the first inspections in the fourth sequential inspection period of the replacement SGs.
- No stress corrosion cracking was detected during the 2012 outage. Although a crack had been detected in both SG A (in 2009) and SG C (in 2010), a sampling approach was used to inspect the top of the tubesheet region on the hot-leg side in SG B. Weaknesses of a sampling strategy when the number of flaws is low, was highlighted in NRC Information Notice 2013-11, "Crack-Like Indications at Dents/Dings and in the Freespan Region of Thermally Treated Alloy 600 Steam Generator Tubing," dated July 3, 2013.
- Visual examinations in the steam drum of SG A identified no degradation (this was confirmed during a conference call on July 18, 2013.)
- A pit-like indication was detected in SG A and not plugged during the 2012 outage (the pit-like indication had been detected in prior outages as well). This pit-like indication is discussed in the NRC staff's previous review of the SG inspection results (ADAMS Accession No. ML102580831).

Enclosure

Based on a review of the information provided by the licensee, the staff concludes that the licensee provided the information required by their technical specifications. The SG tube inspections at Surry, Unit 1, 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 (with the possible exception of the pit-like indications).

August 16, 2013

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If you have any questions regarding this matter, I may be reached at (301) 415-1438 or via e-mail at karen.cotton@nrc.gov.

Sincerely,
/RA/
Karen Cotton, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-280

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***Concurred by SE**

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