

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

November 19, 2014

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Serial No. 14-209A
SPS LIC/CGL R0
Docket No. 50-280
License No. DPR-32

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNIT 1
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
2013 STEAM GENERATOR INSERVICE INSPECTION REPORT

By letter dated May 6, 2014 (Serial No. 14-209), Virginia Electric and Power Company (Dominion) submitted information summarizing the results of steam generator (SG) tube inspections performed at Surry Power Station Unit 1 during the Fall 2013 refueling outage. On October 22, 2014, the NRC requested additional information related to the SG inspections. The NRC's questions and Dominion's responses are provided in the attachment to this letter.

If you have any questions or require additional information, please contact Ms. Candee Lovett at (757) 365-2178.

Very truly yours,



N. L. Lane
Site Vice President
Surry Power Station

Attachment - Response to NRC Request for Additional Information Regarding Fall 2013
Steam Generator Inservice Inspection Report

Commitments made in this letter: None

A047
NRL

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ATTACHMENT

**Response to NRC Request for Additional Information Regarding
Fall 2013 Steam Generator Inservice Inspection Report**

Surry Power Station Unit 1

**Virginia Electric and Power Company
(Dominion)**

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
REGARDING SURRY UNIT 1
FALL 2013 STEAM GENERATOR INSPECTIONS

By letter dated May 6, 2014 (Serial No. 14-209 - Agencywide Documents Access and Management System (ADAMS) Accession Number ML14135A365), Virginia Electric and Power Company (Dominion) submitted steam generator tube inspection results from the Fall 2013 inspections at Surry Power Station Unit 1. In order to complete its review of the document listed above, the NRC staff requests the following additional information. The Dominion responses are provided below.

- 1. It was indicated that the steam generators (SGs) had operated for 300.9 effective full power months (EFPM) at the time of this inspection. In a letter dated October 30, 2012 (ADAMS Accession Number ML12321A047), it was indicated that the SGs had operated for 300.1 EFPM, which gives a difference of 0.8 EFPM between this and the prior outage. Please verify that these values are correct.**

Response:

The 300.9 EFPM value is correct, and the 300.1 EFPM value requires the following clarification. The EFPM reported in the October 30, 2012 report included the 15.9 EFPM operating time prior to the first in-service inspection. To be consistent with previous submittals, the EFPM number in the October 30, 2012 report should have been reported as 284.2 EFPM. Therefore, the approximate time between the Unit 1 Fall 2013 inspection and the Unit 1 Spring 2012 inspection would be 16.7 EFPM.

- 2. Please discuss the results of the secondary side upper bundle inspections performed in SG B and SG C, and the results of any foreign object search and retrieval inspections that were performed in the three SGs.**

Response:

The visual inspection of welds, components, and a check for foreign material was completed in the secondary side of SG B and SG C during the Unit 1 Fall 2013 refueling outage with no abnormal conditions identified. The steam generator internals were found to be in the as-designed configuration.

In SG B, 100 percent of the top of tube sheet was inspected with eddy current (array probe) with no indications of possible loose parts identified. Since there were no loose parts to evaluate, no foreign object search and retrieval was performed at the top of tube sheet.

- 3. Two small volumetric indications were reported in SG B row 37 column 31 (R37C31) and R45C48. Please discuss the cause of these indications. If the cause is not known, please discuss the basis for selecting the sizing technique.**

Response:

Two small volumetric indications were newly reported during the Unit 1 Fall 2013 refueling outage. The first in R37 C31 at 04H – 24.06” was reported by bobbin as a non-quantifiable indication and then confirmed as volumetric by rotating coil examination. The indication was sized at 7 % through wall (TW) and was traced back to 1994 with no significant change in voltage or phase from 1994 to 2013. The second newly reported indication was in R45 C48 at TSC + 2.85”. Historical review showed that the indication was present in 1992 eddy current examination data and has been reported consistently through 2010 with no change in signal response. During the Unit 1 Fall 2013 refueling outage, it was reported as volumetric on the array and +Point™ probe and sized with a depth of 30 % TW. Since both of these signals have been present since at least 1994 with no change in the eddy current signal, they are believed to be related to manufacturing anomalies.

As noted above, these volumetric indications were traced back to the 1994/1992 outages and exhibited no change. Since these indications were historical indications that exhibited no change, they were treated as manufacturing anomalies and not as possible loose part wear. Although these indications are not believed to be caused by an active damage mechanism, sizing was performed (utilizing the conservative, qualified volumetric sizing technique (21998.1)) for purposes of tracking in subsequent outages. These indications will be diagnostically examined in subsequent outages and evaluated for changes in signal formation and depth.

- 4. Please confirm that no degradation was detected during the plug, divider plate weld region, and primary channel head inspections.**

Response:

Visual examinations were performed in each primary side channel head in SG B. No anomalous conditions associated with the divider plate, welds, cladding, channel head, channel head drain, or previously installed plugs were observed. Examination of the bottom of the bowl and drain in the dry condition showed no degradation.

- 5. A number of new anti-vibration bar wear indications were reported this outage. Please discuss any insights on why there was an increase in the number of indications.**

Response:

AVB wear not reportable during any previous inspection was reported in nine tubes in SG B during this outage (with a maximum depth of 14 %TW). This quantity and depth of newly-reported indications is within expectations based on industry experience and previous experience at Surry Unit 1 and Unit 2.

The most likely reason for the newly reported indications is related to the probability of detection of these shallow wear indications. These shallow wear flaws are near the threshold of detection for this mechanism and, hence, may have been present, but undetectable, during previous inspections.