



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

September 20, 2012

Mr. David A. Heacock  
President and Chief Nuclear Officer  
Virginia Electric and Power Company  
Innsbrook Technical Center  
5000 Dominion Boulevard  
Glen Allen, VA 23060-6711

SUBJECT: SURRY POWER STATION, UNIT 2 – REVIEW OF THE SPRING 2011 STEAM  
GENERATOR TUBE INSERVICE INSPECTIONS (TAC No. ME7353)

Dear Mr. Heacock:

By letters dated October 5, 2011 (Agencywide Documents Access Management System (ADAMS) Accession No. ML11291A058), and June 22, 2012 (ADAMS Accession No. ML12187A165), Virginia Electric and Power Company (Dominion), the licensee, submitted information summarizing the results of their 2011 steam generator (SG) tube inspections at Surry Power Station, Unit 2 (Surry 2). In addition to these reports, the staff summarized a conference call held with the licensee concerning the 2011 SG tube inspections in letter dated July 5, 2011 (ADAMS Accession No. ML11173A154).

The U.S. Nuclear Regulatory Commission staff has completed its review of the reports and concludes that the licensee provided the information required by the Surry 2 Technical Specifications. No additional follow up is required at this time. The staff's review is enclosed.

If you have any questions, please feel free to call me at 301-415-1438.

Sincerely,

A handwritten signature in black ink, appearing to read "K. Cotton", with a stylized flourish at the end.

<sup>for</sup>  
Karen Cotton, Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-281

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OFFICE OF NUCLEAR REACTOR REGULATION

SUMMARY OF THE STAFF'S REVIEW OF THE STEAM GENERATOR TUBE INSERVICE

INSPECTIONS FOR THE SPRING 2011 REFUELING OUTAGE

SURRY POWER STATION, UNIT 2

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

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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 for the full depth of the tubesheet at each end. 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 in order to reduce stress.

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 (i.e., tube plugging) taken in response to the inspection findings. The tubes in SGs B and C were inspected this outage.

After reviewing the information provided by the licensee, the staff has the following comments/observations:

No crack like indications were detected during the 2011 SG tube inspections.

The feedrings in all three SGs were replaced with flow accelerated-corrosion resistant stainless steel material. During the feedring replacement work in SG A, a hole in one of the primary separator riser barrels was identified coincident with a J-Nozzle overspray location. The licensee stated that ultrasonic wall-thickness measurements were performed on six of the sixteen SG A riser barrels which visually showed J-Nozzle overspray indications. The regions which had reduced wall thickness, along with the hole identified above, were repaired by welding ¾ inch inconel patch plates over the affected areas. Inconel patch plates were previously installed on the susceptible riser barrels in SGs B and C. In addition, the J-Nozzles on the replacement feedrings in all three SGs were oriented such that the spray does not impinge on the riser barrels.

Based on a review of the information provided, the NRC staff concludes that the licensee provided the information required by the Surry 2 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.

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*/RA by V. Sreenivas for/*

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