



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

August 22, 2011

Mr. David A. Heacock  
President and Chief Nuclear Officer  
Dominion Nuclear Connecticut, Inc.  
Innsbrook Technical Center  
5000 Dominion Boulevard  
Glen Allen, VA 23060-6711

SUBJECT: MILLSTONE POWER STATION, UNIT NO. 3 – REVIEW OF THE 2010 STEAM  
GENERATOR TUBE INSERVICE INSPECTION REPORT (TAC NO. ME5193)

Dear Mr. Heacock:

By letter dated October 28, 2010, as supplemented by letter dated May 24, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML103130038 and ML11159A025, respectively), Dominion Nuclear Connecticut, Inc. (DNC or the licensee), submitted information summarizing the results of the 2010 steam generator tube inspections at Millstone Power Station, Unit No. 3 (MPS3). These inspections were performed during the thirteenth refueling outage.

The Nuclear Regulatory Commission (NRC) staff has completed its review of the information provided and concludes that DNC provided the information required by the MPS3 technical specifications and that no additional follow-up is required. The NRC's review is enclosed.

If you have any questions, please contact me at 301-415-1603.

Sincerely,

A handwritten signature in black ink, appearing to read "Carleen J. Sanders", is written over the typed name.

Carleen J. Sanders, Project Manager  
Plant Licensing Branch 1-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-423

Enclosure:  
As stated

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REVIEW OF THE 2010 STEAM GENERATOR TUBE

INSERVICE INSPECTION REPORT

MILLSTONE POWER STATION, UNIT NO. 3

DOCKET NUMBER 50-423

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MPS3 has four Westinghouse Model F steam generators (SG), each of which contains 5,626 U-bend 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 21.23-inch thick tubesheet. The U-bends in rows 1 through 10 were stress relieved after forming. Eight Type 405 stainless steel support plates, which have broached quatrefoil holes, support the vertical section of the tubes, and six anti-vibration bars support the U-bend section of the tubes.

As of the end of Cycle 13 (April 2010), the SGs had approximately 17.9 effective full-power years of operation. A 7% power uprate was implemented for Cycle 13. Prior to this implementation, MPS3 operated with a hot leg temperature of 617° F; after implementation, MPS3 operated with a hot leg temperature of 622° F.

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

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

- An upper bundle flush was performed in each of the four SGs.
- Upper bundle inspections were performed in SG C. The erosion and corrosion damage of nozzles 1, 15, 16, and 30 in SG C has not advanced since the previous inspection. These nozzles had an overlay applied during a previous outage. Some of the primary separator riser barrels in SG C showed minor erosion from overspray of the J-nozzles. The erosion is considered minor and will be monitored during future inspections.

Based on a review of the information provided by DNC, the NRC staff concludes that DNC provided the information required by the MPS3 technical specifications. In addition, the SG tube

Enclosure

inspections at MPS3 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: C. Hunt

Date: August 22, 2011

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/ra/

Carleen J. Sanders, Project Manager  
Plant Licensing Branch 1-2  
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**\*By Memo Dated**

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