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Dominion®

December 15, 2005

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Serial No. 05-789
NLOS/PRW Rev. 0
Docket No. 50-423
License No. NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
NRC BULLETIN 2004-01 INSPECTION OF ALLOY 82/182/600 MATERIALS USED IN THE FABRICATION OF PRESSURIZER PENETRATIONS AND STEAM SPACE PIPING CONNECTIONS AT PRESSURIZED WATER REACTORS
60 DAY REPORT

In a letter dated May 28, 2004, the NRC issued Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors." The bulletin requested that information on the inspection of these penetrations and piping connections be submitted within 60 days of plant restart following the next inspection. In response to item (1)(c) of NRC Bulletin 2004-01, Dominion Nuclear Connecticut, Inc. (DNC) has completed the required inspections for Millstone Power Station Unit 3 (MPS3).

The attachment to this letter provides the DNC 60-day report for MPS3.

Should you have any questions regarding the report, please contact Mr. Paul R. Willoughby at (804) 273-3572.

Very truly yours,

Leslie N. Hartz
Vice President – Nuclear Engineering

Attachments: (1)

Commitments: None

cc U.S. Nuclear Regulatory Commission
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COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Leslie N. Hartz, who is Vice President - Nuclear Engineering of Dominion Nuclear Connecticut, Inc. She has affirmed before me that she is duly authorized to execute and file the foregoing document in behalf of that company, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged before me this 15th day of December, 2005.

My Commission Expires: August 31, 2008.

Margaret B. Bennett
Notary Public

(SEAL)

ATTACHMENT 1

NRC BULLETIN 2004-01
INSPECTION OF ALLOY 82/182/600 MATERIALS USED IN THE FABRICATION OF PRESSURIZER PENETRATIONS AND STEAM SPACE PIPING CONNECTIONS AT PRESSURIZED WATER REACTORS

60 DAY REPORT

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3

NRC BULLETIN 2004-01
INSPECTION OF ALLOY 82/182/600 MATERIALS USED IN THE FABRICATION OF PRESSURIZER PENETRATIONS AND STEAM SPACE PIPING CONNECTIONS AT PRESSURIZED WATER REACTORS

60 DAY REPORT

Bare Metal Visual Examinations:

During the recent Millstone Power Station Unit 3 (MPS3) outage 3R10 completed on October 27, 2005, a bare metal visual examination was made of 6 piping connections to the pressurizer that include the surge line, the spray line, the relief valve line and the three safety valve lines. All six connections have an Alloy 82/182 weld between the nozzle and safe end. All six bare metal visual examinations were satisfactory, with no signs of boric acid residue.

Volumetric Examinations:

In addition to the bare metal visual examinations, the five piping connections (nozzles) that are located on top of the pressurizer were volumetrically examined. These nozzles have weld butter on the carbon steel that is followed by a weld to the safe end. An ultrasonic examination (UT) was performed on the nozzle-to-safe-end welds using an ASME Section XI Appendix VIII Supplement 10, Performance Demonstration Initiative (PDI) qualified manual technique. Because of the as-found crown condition in the welds, the PDI manual technique was used for axial indication detection only. No axial indications were detected. This UT examination was followed by a radiographic examination (RT) for circumferential indication detection.

The RTs of the relief valve nozzle-to-safe-end weld and the three safety valve nozzle-to-safe-end welds were all satisfactory, with no indications found. However, the RT of the spray line nozzle-to-safe-end weld showed lack of fusion in the area of the butter. Because of this finding, the spray line nozzle was machined flat to allow for an automated UT examination of the nozzle-to-safe-end weld. The automated UT was carried out by PDI qualified personnel, using PDI qualified procedures and equipment. The automated UT examination revealed three indications.

The automated UT located the RT identified lack of fusion indication at the interface between the butter and the weld to the safe end. UT sized the indication as 0.208 inches deep, (~24% of wall thickness), and it appeared to start at or near the inner diameter of the nozzle. The indication was intermittent for the full 360 degrees around the nozzle, being more prevalent in the areas noted by RT.

The second indication was on the opposite side of the weld, i.e., between the weld and the safe end. This indication was located at or near the inside surface of the weld. The indication was 0.219 inches deep, (~24% of wall thickness), and was 7.7 inches long. This indication also had the characteristics of lack of fusion.

The third indication was a short axial flaw found in the spray line nozzle butter. The flaw was measured to be 0.214 inches in depth, (~24% of wall thickness), and 0.25 inches long. This is an estimated value, as through-wall and length sizing of axially oriented indications is not qualified through the PDI program for Appendix VIII, Supplement 10 of Section XI of the ASME Code. Axial indications are only qualified for detection. Again this indication was at or near the inner surface of the spray line nozzle. This indication was described as a planar flaw but given its location may be a weld defect.

These three indications were evaluated in accordance with ASME Section XI IWB-3640 and were found to be acceptable to the date of discovery but not for future service. Because of this, a structural weld overlay was designed and applied to both the spray line nozzle-to-safe-end and safe-end-to-pipe welds. This overlay was performed as described in Relief Request IR-2-39, Use of Weld Overlay and Associated Alternative Repair Techniques, in a letter submitted by DNC on October 13, 2005, and as supplemented on October 18 and 20, 2005. A non-emergency Event Notification Report (Event No. 42059) for these indications was made on October 18, 2005, and updated on October 21, 2005.