

Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385



June 24, 2004

10 CFR 50.54(f)

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
11555 Rockville Pike
Rockville, Maryland 20852

Serial No. 03-459C
NL&OS/ETS R0
Docket No. 50-423
License No. NPF-49

DOMINION NUCLEAR CONNECTICUT, INC (DNC)
MILLSTONE POWER STATION UNIT 3
SIXTY-DAY RESPONSE TO NRC BULLETIN 2003-02
LEAKAGE FROM REACTOR PRESSURE VESSEL LOWER HEAD PENETRATIONS
AND REACTOR COOLANT PRESSURE BOUNDARY INTEGRITY

On August 21, 2003 the NRC issued NRC Bulletin 2003-02, "Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity." The bulletin informed licensees that based on previous indications of cracking on the upper RPV head penetrations in the industry and the recent leakage indications identified on the two lower RPV head penetrations at South Texas Project Unit 1, the current methods of inspecting the RPV lower heads may need to be supplemented with additional measures (e.g., bare-metal visual inspections) to detect reactor coolant pressure boundary (RCPB) leakage. The bulletin requested licensees to provide a description of the inspection programs for the reactor pressure vessel (RPV) lower head penetrations that have been previously implemented at their plants, as well as a description of the inspection programs that they will be implementing during the next and subsequent refueling outages.

The bulletin also requested that a summary report be submitted to the NRC within 60 days of plant restart following the next inspection of the RPV lower head penetrations. The report is to include the inspections performed, the extent of the inspections, the methods used, a description of the as-found condition of the lower head, any findings of relevant indications of through-wall leakage, and a summary of the disposition of any findings of boric acid deposits and any corrective actions taken as a result of indications found. DNC performed the requested inspection of the RPV lower head penetrations during the Spring 2004 refueling outage that was completed on May 4, 2004. The requested 60-day response documenting the inspection of the RPV lower head penetrations for Millstone Unit 3 is provided in the attachment.

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If you have any questions or require additional information, please contact Mr. Thomas Shaub at (804) 273-2763.

Very truly yours,



L. N. Hartz
Vice President – Nuclear Engineering

Attachment

Sixty-Day Response to NRC Bulletin 2003-02, Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity, Millstone Power Station Unit 3

Commitments made in this letter: None

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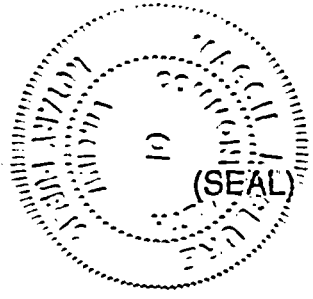
COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

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 Virginia Electric and Power Company. 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 24th day of June, 2004.

My Commission Expires: 3/31/08.

Maggie McCense
Notary Public



ATTACHMENT

**Sixty-Day Response to NRC Bulletin 2003-02
Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor
Coolant Pressure Boundary Integrity**

Millstone Power Station Unit 3

**Dominion Nuclear Connecticut, Inc.
(DNC)**

Sixty-Day Response to NRC Bulletin 2003-02
Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor
Coolant Pressure Boundary Integrity

Millstone Power Station Unit 3

On August 21, 2003 the NRC issued Bulletin 2003-02, "Leakage from Reactor Pressure Vessel Lower Head Penetrations and Reactor Coolant Pressure Boundary Integrity." The bulletin requested licensees to provide information related to inspections that have been performed to verify the integrity of the reactor pressure vessel (RPV) lower head bottom-mounted instrumentation (BMI) penetration nozzles within sixty-days of the completion of the outage in which the inspections were completed. The sixty-day response for Millstone Power Station Unit 3 is provided below.

Requested Information

Within 60 days of plant restart following the next inspection of the RPV lower head penetrations, subject PWR addressees should submit to the NRC a summary of the inspections performed, the extent of the inspections, the methods used, a description of the as-found condition of the lower head, any findings of relevant indications of through-wall leakage, and a summary of the disposition of any findings of boric acid deposits and any corrective actions taken as a result of indications found.

DNC Response

During the most recent Millstone Power Station Unit 3 (MPS 3) refueling outage (3R09), a 360-degree bare-metal visual examination was performed on the 58 reactor pressure vessel (RPV) lower-head bottom-mounted instrumentation (BMI) penetration nozzles in accordance with station procedures. This examination (VT-2) was performed on the RPV lower head to inspect for any potential boric acid leakage from the bottom-mounted instrumentation nozzles.

The nozzle penetration inspection was performed by direct visual using a qualified VT-2 examiner, who was certified to a Level II in accordance with ASME Code requirements and station procedures. The inspector that performed the examination has also received additional training in leak detection as required by the Dominion Boric Acid Corrosion Control Program and as required training for participation in the previous Millstone reactor vessel head penetration inspections. Additionally, this inspector performed the VT-2 inspections of the pressurizer heater sleeves at MPS 2, which have essentially the same geometry as the bottom mounted instrument nozzles, and identified the leakage of two heater sleeves on that component.

The MPS 3 lower head is not insulated and there are no obstructions that limit access to any of the penetration nozzles. Digital photography was used to record portions of the inspection. No evidence of through-wall leakage was observed through any nozzle penetration during the bare-metal visual examination.

The bottom of the RPV was also inspected for contour changes that would be indicative of wastage. No areas of wastage were detected.

Although no boric acid deposits indicative of BMI nozzle leakage were detected, some evidence of boric acid residue from other sources (e.g., reactor cavity seal leakage) was noted on the vessel bottom during the course of the examination. What was noted to be boric acid appeared in the form of a thin transparent film, which clearly originated from an area above the penetration nozzles. None of the penetration to nozzle interfaces was masked by this small amount of residue and it did not interfere with the inspection of the penetrations or nozzles for evidence of leakage.

Following refueling activities, the bottom of the RPV was cleaned, and an as-left inspection was performed. This inspection was performed to ensure that there was no boric acid residue from other sources remaining on the vessel bottom in the area of the bottom mounted instrument nozzles and to provide a suitable baseline for future inspections.