

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



AS 11 2003

Docket No. 50-336
B18946

RE: 10 CFR 50.55a(a)(3)(ii)

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Millstone Power Station, Unit No. 2
Inservice Inspection Program Alternative Request RR-89-42 for the
Inspection of Pressure-Retaining Surfaces of the Reactor Vessel Bottom Head Area

Pursuant to the provisions of 10 CFR 50.55a(a)(3)(ii), Dominion Nuclear Connecticut, Inc. (DNC) requests U.S. Nuclear Regulatory Commission (NRC) approval for the attached Inservice Inspection (ISI) Program Alternative Request RR-89-42. The American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) requires examinations of the reactor vessel bottom head areas during the system leakage and hydrostatic test at normal operating pressure and temperature (NOP/NOT). Due to the harsh conditions in these areas at NOP/NOT and the ability to achieve the objectives of the required examination at different conditions during refueling outages when temperatures are less harsh, the ASME Code requirement represents a hardship for Millstone Unit No. 2 without a compensating increase in the level of quality and safety.

The Millstone Unit No.2 ISI Program is based on the ASME Code, Section XI, 1989 Edition, no Addenda. This request is for the Third Ten-Year Interval of the ISI Program at Millstone Unit No. 2, which began on April 1, 1999.

This request is submitted in support of inspection activities required to be completed during upcoming refueling outages. The next refueling outage is scheduled for the Fall of 2003. Accordingly, DNC requests review and approval of this alternative by October 2003.

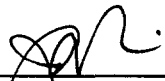
There are no regulatory commitments contained within this letter.

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If you should have any questions regarding this submittal, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.



J. Alan Price
Site Vice President - Millstone

Attachment (1)

cc: H. J. Miller, Region I Administrator
R. B. Ennis, NRC Senior Project Manager, Millstone Unit No. 2
Millstone Senior Resident Inspector

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Attachment 1

Millstone Power Station, Unit No. 2

10 CFR 50.55a Request Number: RR-89-42

Millstone Power Station, Unit No. 2
10 CFR 50.55a Request Number: RR-89-42

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(ii)

*--Hardship or Unusual Difficulty without Compensating
Increase in Level of Quality or Safety--*

1.0 ASME CODE COMPONENT(S) AFFECTED

Code Class 1

Pressure-Retaining Surfaces of the Reactor Vessel Bottom Head Area

2.0 APPLICABLE CODE EDITION AND ADDENDA

American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, 1989 Edition, no Addenda

3.0 APPLICABLE CODE REQUIREMENT

The following Code requirements are applicable to the examination of the reactor vessel bottom head area during the system leakage and hydrostatic tests. ASME Section XI, 1989 Edition, Table IWB-2500-1, Examination Category B-P, Item Nos. B15.10 and B15.11 require a visual (VT-2) examination of the reactor vessel pressure retaining boundary during the system leakage test of IWB-5221, following each refueling outage and during the system hydrostatic test of IWB-5222 at or near the end of the inspection interval. Code Case N-498-1 has been approved for use at Millstone Unit No. 2 that allows the normal operating pressure and temperature requirements of IWB-5221 to be used during the system hydrostatic test as an alternative to the elevated hydrostatic pressure requirements of IWB-5222.

4.0 REASON FOR THE REQUEST

Pursuant to the provisions of 10 CFR 50.55a(a)(3)(ii), Dominion Nuclear Connecticut, Inc. (DNC) requests U.S. Nuclear Regulatory Commission (NRC) approval to perform the examination of the reactor vessel bottom head area at different plant conditions than those required by the ASME Code. Performance of the required examinations during the system leakage and hydrostatic test is performed at normal operating pressure and temperature (NOP/NOT), which represents undue hardship without a commensurate safety benefit.

Figure 1 provides an illustration of the arrangement of the under vessel area. This area is classified as a confined space with limited air circulation and limited access. With the Reactor Coolant System (RCS) at NOP/NOT conditions,

ambient temperatures in this area are very high due to the uninsulated condition of the vessel. The high temperature levels in this area create a significant safety hazard to personnel entering this space. Additionally, the position of the vessel in the cubicle is relatively low with about a 2-foot distance between the floor and bottom of the vessel. Consequently, the floor elevation poses an additional hazard for personnel in the area to inadvertently contact the uninsulated vessel surface with a potential for a severe burn.

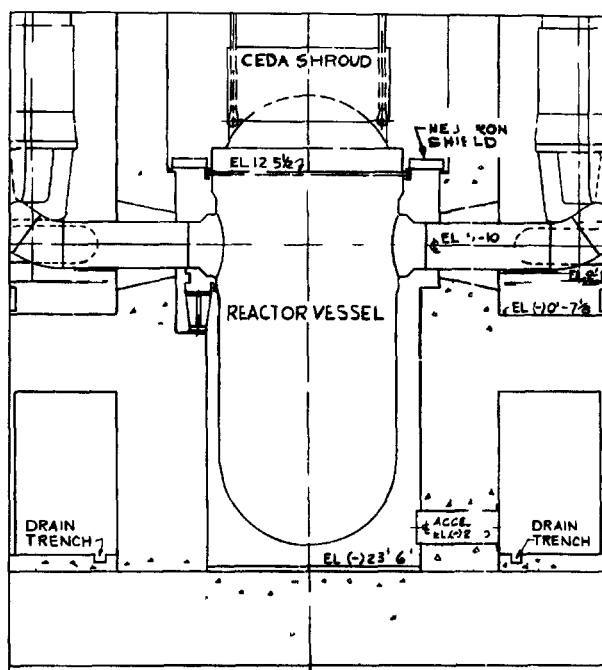


Figure 1: General Arrangement of Reactor Vessel Area

In Mode 3, Cold Shutdown or refueling Modes during a refueling outage, the radiation dose rate in the area is estimated to be at approximately 2 to 4 R/Hr and consideration to As-Low-As-Reasonably-Achievable (ALARA) Program goals will be applied for performance of this examination. However, radiation exposure is not included as a reason for the request because no significant reductions in exposures to radiation are expected from this proposal.

5.0 PROPOSED ALTERNATIVE AND BASIS FOR USE

DNC proposes to conduct the VT-2 examination of the pressure retaining surfaces of the reactor vessel bottom head following plant cooldown during each refueling outage. With the substantially lower RCS temperatures, the under vessel area will also be at a lower temperature and therefore less hazardous to personnel.

The objective of the required VT-2 visual examination at normal operating pressure and temperature is to detect evidence of leakage and thereby verify the integrity of the RCS pressure boundary. DNC believes that this objective can be achieved by the same VT-2 visual examination performed following the RCS cooldown to support the refueling outage. There is no insulation on the reactor vessel in this area and evidence of leakage and boric acid corrosion occurring during the fuel cycle would be detected by visual examination of this area at the end of the cycle during the outage. This ability to detect evidence of leakage and boric acid corrosion in this area during the refueling outage provides reasonable assurance of leak tight integrity of the reactor vessel bottom head area without exposing personnel to the environmental hazards associated with entry into this area during Mode 3 at normal operating pressure and temperature.

Note that there are no bottom mounted instrumentation nozzles on the reactor vessel at Millstone Unit No. 2. Consequently, degradation in the vessel wall with the potential to challenge the pressure boundary integrity is not expected in the absence of penetrations.

6.0 DURATION OF PROPOSED ALTERNATIVE

This alternative is requested for the remainder of the Third Ten-Year Inspection Interval for Millstone Unit No. 2, which began on April 1, 1999.

7.0 PRECEDENTS:

A similar ASME Code relief request was submitted by Virginia Electric and Power Company and approved by the NRC for the Surry Power Station Units 1 and 2 on August 1, 2001.⁽¹⁾

⁽¹⁾ NRC letter, Surry Power Station Units 1 and 2 re: Inservice Inspection (ISI) Program Relief Requests RR 14 (Unit 1) and RR 8 (Unit 2) (TAC NOS. MB1083 and MB1084), August 1, 2001, Accession No. ML012060064.