



March 30, 2010

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

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NLOS/WDC R0
Docket No. 50-336
License No. DPR-65

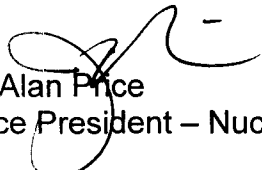
DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
RELIEF REQUESTS RR-04-02, ALTERNATIVE VT-2 PRESSURE TESTING
REQUIREMENTS FOR THE LOWER PORTION OF THE REACTOR PRESSURE
VESSEL, AND RR-04-03, ALTERNATIVE EVALUATION CRITERIA FOR CODE CASE
N-513-2, TEMPORARY ACCEPTANCE OF FLAWS IN MODERATE ENERGY CLASS 2
OR 3 PIPING

Pursuant to 10 CFR 50.55a (a)(3)(i) and (a)(3)(ii), Dominion Nuclear Connecticut, Inc. (DNC) requests relief for Millstone Power Station Unit 2 (MPS2) from certain evaluation and testing requirements required by Section XI of the 2004 American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. The proposed alternatives and relief from specific 2004 ASME Code requirements are provided in Attachments 1 and 2. Nuclear Regulatory Commission (NRC) approval is required before the relief requests can be implemented.

DNC requests review and approval of these relief requests by March 30, 2011, in order to utilize the reliefs in the first refueling outage (2R20) of MPS2's fourth 10-year in-service inspection (ISI) interval, which will begin on April 1, 2010. DNC's submittal of the fourth 10-year ISI program update and remaining associated relief requests will be submitted separately in separate correspondence.

If you have any questions regarding this submittal, please contact Wanda Craft at (804) 273-4687.

Sincerely,


J. Alan Price
Vice President – Nuclear Engineering

Attachments:

1. Relief Request RR-04-02, Alternative VT-2 Pressure Testing Requirements for the Lower Portion of the Reactor Pressure Vessel
2. Relief Request RR-04-03, Alternative Evaluation Criteria for Code Case N-513-2, Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping

Commitments made in this letter: None

cc: U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Ms. C. J. Sanders
Project Manager - Millstone Power Station
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop O8 B-3
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Millstone Power Station

ATTACHMENT 1

RELIEF REQUEST RR-04-02
ALTERNATIVE VT-2 PRESSURE TESTING REQUIREMENTS FOR THE LOWER
PORTION OF THE REACTOR PRESSURE VESSEL

MILLSTONE POWER STATION UNIT 2
DOMINION NUCLEAR CONNECTICUT, INC.

Relief Request RR-04-02

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

--Hardship or Unusual Difficulty
Without a Compensating Increase in Level of Quality or Safety--

1. ASME Code Components Affected

ASME Code Class: Code Class 1

Reference: ASME Section XI, IWB-2500, Table IWB-2500-1 and IWB-5222

Examination Category: B-P (All Pressure Retaining Components)

Item Number: B15.10

Description: Performance of VT-2 Pressure Testing of the Lower Portion of the Reactor Pressure Vessel (RPV)

Component: Reactor Pressure Vessel

2. Applicable Code Edition and Addenda

ASME Section XI, 2004 Edition (No Addenda)

3. Applicable Code Requirement

The following Code requirements are applicable to the examination of the lower portion of the RPV. ASME Section XI, IWB-2500, Table IWB-2500-1, Code Category B-P, Item Number B15.10 requires that all Class 1 pressure retaining components be visually, VT-2 examined each refueling outage. The required system pressure test can be either a hydrostatic test or a system leakage test. The system leakage test is performed at a pressure not less than the pressure corresponding to 100% rated reactor power. Per IWB-5222(a), the pressure retaining boundary during the system leakage test shall correspond to the reactor coolant system (RCS) boundary, with all valves in the position required for normal reactor operation startup. The visual examination shall, however, extend to and include the second closed valve at the boundary extremity. Per IWB-5222(b), the pressure retaining boundary during the system leakage test conducted at or near the

end of the interval shall extend to all Class 1 pressure retaining components within the system boundary.

4. Reason for Request

Pursuant to the provisions of 10 CFR 50.55a (a)(3)(ii), Dominion Nuclear Connecticut, Inc. (DNC) requests Nuclear Regulatory Commission (NRC) approval to perform the examination of the lower portion of the RPV at Millstone Power Station Unit 2 (MPS2) at different plant conditions than those required by the ASME Code. Due to the harsh conditions in the area of the RPV, performance of required examinations during a system leakage or hydrostatic test at normal operating pressure and temperature (NOP/NOT) represents undue hardship without a commensurate safety benefit.

Figure 1 provides an illustration of the arrangement of the RPV area. This area is classified as a confined space with limited air circulation and limited access. With the RCS at NOP/NOT conditions, ambient temperatures in this area are very high due to the uninsulated condition of the RPV. The high air temperature in this area creates a significant safety hazard to personnel entering this space. Additionally, the elevation of the RPV in the cubicle is relatively low with about a 2-foot distance between the floor and bottom of the vessel. The distance between the floor and the RPV poses an additional hazard to personnel in the area regarding inadvertent contact with the uninsulated vessel surface and the consequential potential for a severe burn.

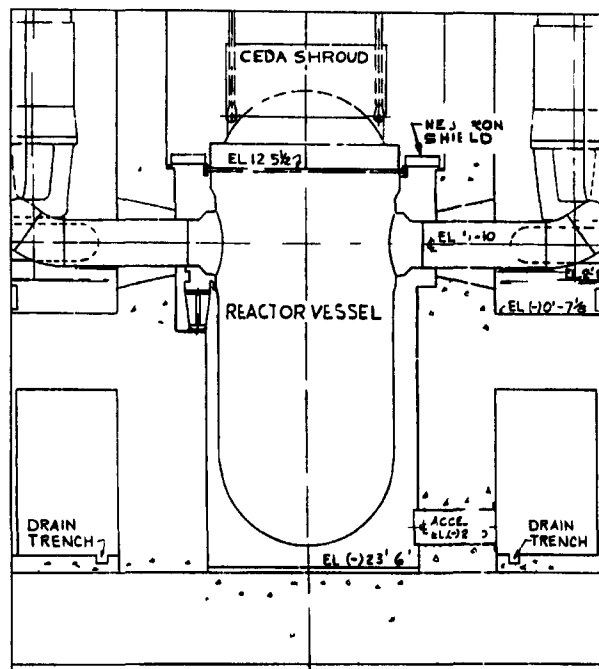


Figure 1: General Arrangement of Reactor Pressure Vessel Area

In Mode 3 (Hot Standby – NOP/NOT conditions) through Mode 6 (Refueling), radiation dose rates under the vessel are estimated to be approximately 2 to 4 R/Hr. Since no significant reduction in radiation exposure would be expected while performing the pressure testing in Mode 6 versus Mode 3, radiation exposure is not included as a reason for the request

5. Proposed Alternative and Basis for Use

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

The objective of the required VT-2 examination at NOP/NOT conditions 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. Since there is no insulation on the RPV in this area, evidence of leakage and boric acid corrosion occurring during the fuel cycle would be detected by visual examination following plant cooldown. The ability to visually detect evidence of leakage and boric acid corrosion in this area during the refueling outage provides reasonable assurance of leak tight integrity of the lower portion of the RPV without exposing personnel to the environmental hazards associated with entry into this area during Mode 3 at NOP/NOT conditions.

Note that there are no bottom mounted instrumentation nozzles on the RPV at MPS2. Consequently, degradation in the vessel wall with the potential to challenge the pressure boundary integrity is not expected in the absence of penetrations.

6. Duration of Proposed Alternative

This relief is requested for the duration of the fourth 10-year ISI interval at MPS2, which begins on April 1, 2010, and is scheduled to end on March 31, 2020.

7. Precedents

A similar alternative was approved for use at MPS2 during the third 10-year ISI interval (Reference: Relief Request RR-89-42 in NRC letter A15958, dated October 22, 2003 (ADAMS Accession No. ML032690717)).

In addition, a similar alternative was approved for use at the Surry Power Station Units 1 and 2 (Reference: Relief Request RR 14 for Unit 1 and RR 8 for Unit 2), in NRC letter dated August 1, 2001 (ADAMS Accession No. ML012060064)).

ATTACHMENT 2

RELIEF REQUEST RR-04-03
ALTERNATIVE EVALUATION CRITERIA FOR CODE CASE N-513-2, TEMPORARY
ACCEPTANCE OF FLAWS IN MODERATE ENERGY CLASS 2 OR 3 PIPING

MILLSTONE POWER STATION UNIT 2
DOMINION NUCLEAR CONNECTICUT, INC.

Relief Request RR-04-03

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

--Alternative Provides Acceptable Level of Quality and Safety--

1. ASME Code Components Affected

ASME Code Classes: Code Classes 2 and 3

Reference: ASME Section XI, IWA-2441(b), 2004 Edition (No Addenda)

Examination Category: N/A

Item Number: N/A

Description: Evaluation Criteria for Temporary Acceptance of Flaws in
Moderate Energy Class 2 or 3 Piping

Components: Moderate Energy Class 2 or 3 Piping with Flaws

2. Applicable Code Edition and Addenda

ASME Section XI, 2004 Edition (No Addenda)

3. Applicable Code Requirement

IWA-2441(b) states: "Code Cases shall be applicable to the Edition and Addenda specified in the Inspection Plan."

4. Reason for Request

On April 1, 2010, Dominion Nuclear Connecticut, Inc. (DNC) will begin the Millstone Power Station Unit 2 (MPS2) Fourth 10-year Interval Inservice Inspection (ISI) program, which meets the requirements of the 2004 Edition of Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code.

When using code cases with the 2004 Edition of Section XI, subparagraph IWA-2441(b) requires the following be met:

“IWA-2441 Section XI Code Cases

(b) Code Cases shall be applicable to the Edition and Addenda specified in the Inspection Plan.”

Code Case N-513-2, “Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping Section XI, Division 1” (Reference 8.1), has an applicability limited to the 2003 Addenda, which is identified in Section 7.0 of the code case and in the latest applicability index of the ASME Code Cases Book, 2007 Edition, Code Cases: Nuclear Components, Supplement 8 Applicability Index (Reference 8.2). Since Code Case N-513-2 only applies up to the 2003 Addenda, IWA-2441(b) does not allow the use of Code Case N-513-2 for MPS2.

The NRC has accepted the use of Code Case N-513-2 as an acceptable method for evaluating the structural integrity of flaws identified in moderate-energy piping, as stated in Nuclear Regulatory Commission (NRC) Regulatory Issue Summary (RIS) 2005-20, Revision to NRC Inspection Manual Part 9900 Technical Guidance, “Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality and Safety,” Revision 1 (Reference 8.3). Additionally, the NRC has accepted Code Case N-513-2 in the latest revision of Regulatory Guide 1.147 (Reference 8.4).

5. Proposed Alternative and Basis for Use

Since Code Case N-513-2 is the latest NRC accepted version of this code case allowed for use at this time, DNC requests approval to use this code case without meeting the requirements of IWA-2441(b). The applicability requirements will be limited to those in Section 7.0 of the code case currently written as follows:

“7.0 APPLICABILITY

This Case is applicable from the 1983 Edition with the Winter 1985 Addenda through the 2001 Edition with the 2003 Addenda. References in this Case to Appendix C shall mean Appendix C of the 2002 Addenda. For editions and addenda prior to 2002 Addenda, Class 1 pipe flaw evaluation procedures may be used for other piping classes. As a matter of definition, the term “structural factor” is equivalent to the term “safety factor” that is used in earlier editions and addenda.”

No technical changes to Code Case N-513-2 are being proposed in this request. This request is being submitted to correct a timing situation, which has resulted from the application of the 2004 Edition of Section XI for MPS2. Code Case N-513-3 has been approved by ASME and includes a new applicability for the case up to the 2007 Edition with the 2008 Addenda of Section XI. When the next revision of Code Case N-513-2 is reviewed and accepted for use by the NRC in Regulatory Guide 1.147, no future need for relief will exist. Since no technical change is proposed in

this request, DNC considers this alternative provides an acceptable level of quality and safety, and is consistent with provisions of 10 CFR 50.55a (a)(3)(i).

6. Duration of Proposed Alternative

This relief is requested for the duration of the fourth 10-year ISI interval, which begins on April 1, 2010, and is scheduled to end on March 31, 2020, or until such time as Code Case N-513-3 is accepted for use in a later revision of NRC Regulatory Guide 1.147. When Code Case N-513-3 is accepted for use by the NRC in NRC Regulatory Guide 1.147, this alternative will no longer be needed.

7. Precedents

A similar alternative was requested for use at MPS3 during the third 10-year ISI interval (Reference: DNC letter dated May 28, 2009, "Millstone Power Station Unit 3, Alternative Request IR-3-12 for the Use of ASME Code Case N-513-2").

8. References

- 8.1 ASME Code Case N-513-2, "Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping Section XI, Division 1," dated February 20, 2004
- 8.2 "Applicability Index for Section XI Cases," 2007 Edition, Supplement 8
- 8.3 NRC Regulatory Issue Summary 2005-20, Revision to NRC Inspection Manual Part 9900 Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality and Safety," Revision 1, dated April 16, 2008
- 8.4 NRC Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 15, dated October 2007