

TMI-16-027
May 27, 2016

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Three Mile Island Nuclear Station, Unit 1
Renewed Facility Operating License No. DPR-50
NRC Docket No. 50-289

Subject: Submittal of Relief Request RR-16-01 Concerning the Use of ASME Code
Case N-722-2

In accordance with 10 CFR 50.55a, "Codes and standards," paragraph (z)(1), Exelon Generation Company, LLC (EGC), hereby requests NRC approval of the following request regarding the fourth Inservice Inspection (ISI) Interval for Three Mile Island Nuclear Station (TMI), Unit 1. TMI, Unit 1, is proposing to utilize ASME Code Case N-722-2 in place of N-722-1 for the duration of the fourth ISI Interval for the Incore nozzle-to-adapter welds. The fourth interval of the TMI, Unit 1, ISI program complies with the 2004 Edition, No Addenda, of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code. The basis for this request is provided in the Attachment.

We request your approval by May 27, 2017.

There are no regulatory commitments contained in this submittal.

If you have any questions concerning this submittal, please contact Stephanie J. Hanson at (610) 765-5143.

Respectfully,



David P. Helker
Manager – Licensing & Regulatory Affairs
Exelon Generation Company, LLC

Attachment: Relief Request RR-16-01

cc: Regional Administrator, Region I, USNRC
USNRC Senior Resident Inspector, TMI
USNRC Project Manager, TMI

ATTACHMENT

THREE MILE ISLAND NUCLEAR STATION, UNIT 1

**SUBMITTAL OF RELIEF REQUEST RR-16-01 CONCERNING THE USE OF
ASME CODE CASE N-722-2**

10 CFR 50.55a Request Number RR-16-01
Proposed Alternative to Apply ASME Code Case N-722-2 for TMI, Unit 1
Incore Nozzle-to-Adapter Welds Containing Alloy 600/82/182
in Accordance with 10 CFR 50.55a(z)(1)
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1. ASME Code Component(s) Affected

Class 1 Reactor Coolant System Dissimilar Metal Welds Listed in Table 1 Below.

Table 1: TMI Unit 1 Class 1 Dissimilar Metal Welds

N-722-1 Item #	Size	Weld Number	Description
B15.80	<1"	RCT0001INCORENOZZLES	Reactor Vessel Lower Head Incore Penetrations (52)

Note: RCT0001INCORENOZZLES includes both the J-Groove weld and the nozzle-to-adapter weld. The nozzle-to-adapter weld is located below the Reactor Vessel insulation (Figure 1).

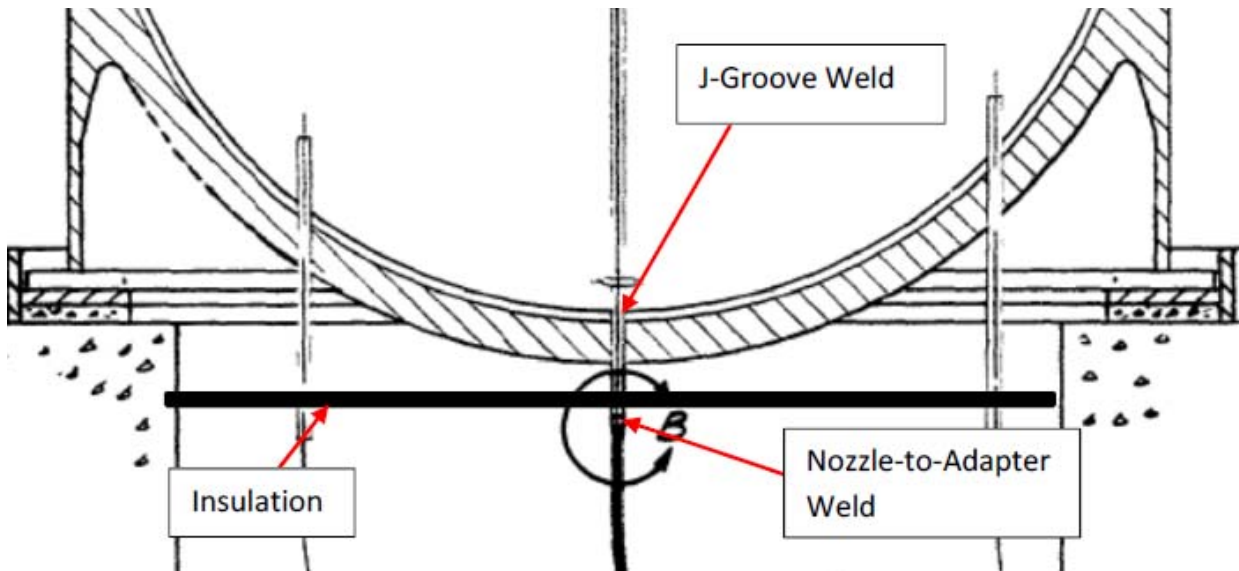


Figure 1: Bottom Mounted Nozzle Weld Configuration

2. Applicable Code Edition and Addenda

Three Mile Island Nuclear Station (TMI), Unit 1, complies with American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, 2004 Edition, No Addenda.

3. Applicable Code Requirement

- As required by 10CFR50.55a(g)(6)(ii)(E), Code Case N-722-1, "Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated With Alloy 600/82/182 Materials Section XI, Division 1" is utilized as amended by 10CFR50.55a(g)(6)(ii)(E).

(Throughout this request ASME Code Case N-722-1 is referred to CC N-722-1)

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4. Reason for Request

This request is being submitted by TMI, Unit 1 to request the use of alternate code requirements that provide an acceptable level of quality and safety in accordance with 10CFR50.55a(z)(1). TMI, Unit 1 currently performs an examination of the Bottom Mounted Nozzle (BMN) penetrations every other refueling outage as required by CC N-722-1. This examination includes both the J-Groove weld and the nozzle-to-adapter weld located beneath the TMI Unit 1 Reactor Vessel (RV) insulation. The examination of the nozzle-to-adapter weld results in increased time under the RV and increased dose.

CC N-722-1 was revised to CC N-722-2 in 2010 and provides alternate examination requirements to those in CC N-722-1. These alternative requirements are consistent with CC N-770-1 as welds at operating temperatures less than 525 °F are removed from scope. This request is intended to utilize Note 2 of CC N-722-2 and remove the nozzle-to-adapter weld from the examination scope as the operating temperature is less than 525 °F.

5. Proposed Alternative and Basis for Use

Exelon Generation Company, LLC (EGC) proposes to utilize Note 2 of CC N-722-2 to remove welds less than 525 °F from the examination scope. Utilization of this Note from CC N-722-2 will result in the following change to the TMI, Unit 1 ISI Program.

- Remove the nozzle-to-adapter weld located under the Reactor Vessel insulation from examination under TMI, Unit 1 component number RCT0001INCORENOZZLES, Code Case N-722-1 and N-722-2 item number B15.80. The nozzle-to-adapter weld is removed from the examination scope because its temperature is less than 525 °F and is exempted by Note 2 of Code Case N-722-2.

The TMI, Unit 1 ISI Program modifications discussed above are justified based on the following:

- The BMN nozzle-to-adapter weld is less susceptible to Primary Water Stress Corrosion Cracking (PWSCC) due to the lower temperatures associated with the weld. The exclusion of welds 525 °F or less is consistent with the requirements of CC N-770-1, approved for use by the NRC.
- Additionally, the Incore Tubes from the Reactor Vessel to the Incore Table are within the RCS System Pressure Test (VT-2) examination boundary that is performed every refueling outage. Leakage from these welds would be visible during the RCS pressure test as no insulation is installed over the welds.

6. Duration of Proposed Alternative

The proposed relief request to utilize Note 2 of CC N-722-2 is applicable for the TMI, Unit 1 fourth ISI interval which ends April 19, 2022. The use of Note 2 from CC N-722-2 is requested until the NRC publishes the code case in a future revision of Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," or a later version of 10CFR50.55a.

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7. References

1. ASME Code Case N-722-1, "Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated With Alloy 600/82/182 Materials Section XI, Division 1."
2. ASME Code Case N-722-2, "Visual Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated With Alloy 600/82/182 Materials, Section XI, Division 1."
3. ASME Code Case N-770-1, "Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated With UNS N062082 or UNS W86182 Weld Filler Material With or Without Application of Listed Mitigation Activities, Section XI, Division 1."
4. ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," 2004 Edition, No Addenda.