NRR-PMDAPEm Resource

From: Sreenivas, V
Sent: Tuesday, March 05, 2013 4:45 PM
To: 'david.heacock@dom.com'
Cc: 'Tom Shaub'; 'david.sommers@dom.com'; Pascarelli, Robert
Subject: REQUEST FOR ADDITIONAL INFORMATION - RELIEF REQUEST N1-I4-LMT-001 LIMITED WELD EXAMINATIONS FOR NAPS, UNIT NO. 1

By letter dated November 1, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12319A278), Virginia Electric and Power Company (the licensee) submitted relief request (RR) N1-I4-LMT-001 for the U.S. Nuclear Regulatory Commission (NRC) review and approval. The licensee requested relief from certain requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, specifically related to examination coverage.
RR N1-I4-LMT-001 is applicable for the fourth 10-year inservice inspection (ISI) interval of the North Anna Power Station (North Anna), Unit 1, which commenced on May 1, 2009 and will end on April 30, 2019. The purpose of this email is to provide the results of the U.S. Nuclear Regulatory Commission (NRC) staff's detailed technical review of this request. Please submit the following additional information in order to complete its detailed technical review.

REQUEST FOR ADDITIONAL INFORMATION (RAI)
VIRGINIA ELECTRIC AND POWER COMPANYNORTH ANNA POWER STATION UNITS 1 DOCKET No. 50-338

1. The weld schematics (scan plots) in RR N1-I4-LMT-001, Enclosure A1-1, pages 13 and 20 of 105, show that the volume covered by the (UT) examinations performed from the vessel side, (or the refracted 45- and 60-degree shear waves traveling through the weld material), were terminated at the boundary between the weld material and the base material's heat affected zone (HAZ). Discuss reason, basis, or implication of this volume coverage.

2. Section 4 of WCAP-14572, Rev. 1-NP-A, states in part,

   "When an examination location is selected that does not meet > 90% examination coverage, a strategy should to be applied with regard to examination coverage as follows:
   4. If the area or volume of concern still remains insufficiently addressed, consideration should be given to leakage monitoring options such as more frequent pressure testing and VT-2 examinations or operator walkdowns."

   For each weld for which relief is requested (i.e., the required coverage is not achieved), discuss whether any supplemental examinations or compensatory measures, as specified above, have been taken to provide additional assurance of pressure boundary leak tightness.

3. Provide ASME Code class type (e.g., Class 1, 2, or 3 piping) for risk informed welds for which relief is requested. Provide piping system (e.g., reactor coolant system) for each weld for which relief is requested.

4. RR N1-I4-LMT-001, Enclosure R1-1 through R3-7, pages 30, 35, 40, 45, 54, 61, 70, 75, 80, 84, 90, 97, 103 of 105 documented the examination volume.

   a. Clarify whether the correct width dimension for the welds was used in the calculation of volume. As an example, Enclosure R1-2, page 35 of 105, top right of page, documented, *"Weld Width 1.1 [inches],"* for Weld No. 20 (Line No. (6"-RC-17) while middle right of the same page documented "*Width 1.1 [inches]* for the "*Examination Volume Dimensions.*" For this example, clarify why the examination volume does not include the required expanded volume (e.g., heat affected zone of base materials or the risk-informed expanded volume).

b. Clarify why the thickness dimension for the welds documented in "UT Calibration/Examination" sheets is different than the thickness documented in the weld schematics (scan plots) for the same weld. As an example, Enclosure R1-1, page 26 of 105, documented, *"Thickness/Diameter: 0.719"/6.0 [inches],"* for Weld No. 15 (Line No. 6"-RC-16), while page 30 of 105 documented *"Weld Thickness: 0.771 [inch],"* for the same weld. Clarify whether the correct thickness, or height dimension, for the welds was used in the calculation of volume.

5. The licensee requested relief from the required risk-informed (RI)-ISI examination coverage (greater than 90% of the ASME Code required volume) due to single-sided access and physical limitations. The staff notes that when the RI-ISI program is established, the welds should be selected such that the ASME Code required examination coverage is achievable.

   The staff noted that RR N1-I4-LMT-001, Attachment R1 through R3, contain the following statements:

   In Attachment R1, the licensee stated that,
   "Inspection of these particular welds are considered the best choices for meaningful examination."
   In Attachment R2, the licensee stated that,
   "No alternative selections are available to meet greater than 90% coverage."
   In Attachment R3, the licensee stated that,
   "Inspection of these particular welds are considered the best choices for meaningful examination results."

   It is unclear whether the licensee intended to state that, there were not any other welds with the same risk-significance subject to the same degradation mechanism that could be examined, and achieved the required examination coverage. Please clarify.

   Or discuss whether there were other welds with the same risk-significance, subject to the same degradation mechanism that could be examined, and achieved the required examination coverage. If the answer is yes, then will the licensee substitute that weld for the subject weld in its RI-ISI program update?

Please submit the response to these RAIs by April 5, 2013. If you have any questions please contact me at your earliest.

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