From: Sreenivas, V
Sent: Monday, July 12, 2010 1:37 PM
To: 'david.heacock@dom.com'
Cc: 'Tom Shaub'; 'david.sommers@dom.com'; Kulesa, Gloria
Subject: NAPS-Unit No 1- Request for Relief (RR) N1-13-PRT-004

By letter dated February 1, 2010, the licensee, Virginia Electric and Power Company (Dominion), submitted Request for Relief (RR) N1-13-PRT-004 from the requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, for North Anna Power Station, Unit 1. The request for relief applies to the third 10-year inservice inspection interval, in which the licensee adopted the 1989 Edition with no Addenda of ASME Code, Section XI as the Code of record.

REQUEST FOR ADDITIONAL INFORMATION

2.1 Request for N1-13-PRT-004, Part A, ASME Code, Section XI, Examination Category B-A, Items B1.11, B1.21, and B1.22, Pressure Retaining Welds in Reactor Vessel

2.1.1 Please submit detailed and specific information to support the bases for limited volumetric coverage for ASME Code, Section XI, Examination Category B-A components, and therefore, demonstrate impracticality.

a) As applicable, describe Nondestructive Examination (NDE) equipment (ultrasonic (UT) scanning apparatus), details of the listed obstructions (size, shape, proximity to the weld, etc.) to demonstrate accessibility limitations, and discuss whether alternative methods or advanced technologies could be employed to maximize ASME Code coverage.
b) Please state whether the examinations listed in ASME Code, Section XI, Examination Category B-A were conducted in accordance with the performance demonstration requirements described in ASME Code, Section XI, Appendix VIII. If not, please state the ASME Code requirements used for the UT examinations of these welds.
c) Fully clarify the wave modality and insonification angles used for all UT examinations.

d) Show cross-sectional coverage plots to describe ASME Code volumes examined.
e) State whether any indications were discovered as a result of ASME Code required examinations, and how these indications have been dispositioned.
f) Based on the limited information in the sketch provided by the licensee, it is assumed that these examinations were performed from the inside surface of the reactor pressure vessel (RPV). Discuss whether ASME Code volumetric coverage could be increased by applying NDE from the outside surface of the RPV.

2.1.2 For the third inspection interval, ASME Code coverage for Circumferential Shell and Head Welds, W04 and W08, had decreased by approximately 5% from the examinations performed in the second interval. Please explain why there was a decrease in coverage.

2.2 Request for N1-13-PRT-004, Part B, ASME Code, Section XI, Examination Category B-D, Item B3.110, Full Penetration Welded Nozzles in Vessels

2.2.1 Please submit detailed and specific information to support the bases for limited volumetric coverage in ASME Code, Section XI, Examination Category B-D components, and therefore, demonstrate impracticality.

a) As applicable, describe NDE equipment (UT scanning apparatus), details of the listed obstructions (size, shape, proximity to the weld, etc.) to demonstrate accessibility limitations, and discuss whether alternative methods or advanced technologies could be employed to maximize ASME Code coverage.
b) Fully clarify the wave modality and insonification angles used for all UT examinations.
c) State whether any indications were discovered as a result of ASME Code required examinations, and how these indications have been dispositioned.

2.2.2 For the third inspection interval, ASME Code coverage for Pressurizer Relief Nozzle Weld 13 had decreased by approximately 35% from volumetric examinations performed in the second interval. Please explain why there was a decrease in coverage.

2.2.3 Please state the material of construction and the wall thickness for the subject pressurizer nozzle-to-vessel welds.

2.3 Request for Relief N1-13-PRT-004, Part C, ASME code, Section XI, Examination Category B-K-1, Item B10.20, Integral Attachments for Piping, Pumps, and Valves

2.3.1 ASME Code, Section XI, 1989 Edition, Examination Category B-K-1, Item B10.20 requires a surface examination of integrally welded pump attachments. The description of the integrally welded attachment for this relief request is referring to a piping attachment which would correspond to ASME Code, Section XI, Item B10.10 of Category B-K-1. Please verify the correct item number and examination category applied to the pipe support integral attachment weld in this relief request.

The licensee may have invoked ASME Code Case N-509, "*Alternative Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments, Section XI, Division 1*," which lists Examination Category B-K, and states requirements for this,

and other integral attachment, welds. However, no mention of the use of ASME Code Case N-509 has been stated. ASME Code Case N-509, is conditionally acceptable according to an earlier revision of Regulation Guide 1.147, "*Inservice Inspection Code Case Acceptability*," which may have been in effect at the start of the licensee's second 10-year inspection interval. The NRC condition for acceptable use was that a minimum 10% sample of integrally welded attachments for each item in each ASME Code class shall be examined during each interval.

State whether ASME Code Case N-509 was invoked and confirm that the listed condition for acceptance was applied for all ASME Code, Class 1, 2 and 3 integral attachment welds.

2.3.2 Please state the material of construction and what type of surface examination was performed (liquid penetrant (PT) or magnetic particle (MT)).

2.4 Request for Relief N1-13-PRT-004, Part D, ASME Code, Section XI, Examination Category R-A, Item R1.11, Risk-Informed Piping Examinations

2.4.1 Please submit detailed and specific information to support the bases for limited volumetric coverage in ASME Code, Examination Category R-A piping welds, and therefore, demonstrate impracticality.

a) As applicable, describe NDE equipment (UT scanning apparatus), details of the listed obstructions (size, shape, proximity to the weld, etc.) to demonstrate accessibility limitations, and discuss whether alternative methods or advanced technologies could be employed to maximize ASME Code coverage.
b) Fully clarify the wave modality and insonification angles used for all UT examinations.
c) If not already provided in the licensee's description, please state the materials of construction for each of the welds and base materials.
d) State whether any indications were discovered as a result of ASME Code-required examinations, and how these indications have been dispositioned.

2.4.2 Please confirm whether the examinations listed for all ASME Code, Examination Category R-A welds were conducted in accordance with the performance demonstration requirements of ASME Code, Section XI, Appendix VIII.

2.4.3 The licensee stated that in most cases a 100% surface examination was performed. Please state which welds received a surface examination and whether or not any indications were found as a result of these examinations being performed.

2.4.4 Please confirm that all of the subject ASME Code, Examination Category R-A welds are Item R1.11 (elements subject to thermal fatigue) per ASME Code Case N-577, as shown in the licensee's table.

2.4.5 In the licensee's table provided in Section 4.R.1 in its submittal, incorrect tables and figures are being referenced. Please clarify this table.

2.4.6 Further discuss whether additional welds could have been examined to augment the reduced volumetric coverage resulting from the limited examinations of the subject welds, or if alternate welds could be selected to achieve the required coverage.

2.5 Request for Relief N1-13-PRT-004, Part E, ASME code, Section XI, Examination Category C-B, Item C2.21, Pressure Retaining Nozzle Welds in Vessels

2.5.1 Please submit detailed and specific information to support the bases for limited volumetric coverage in Examination Category C-B components, and therefore, demonstrate impracticality.

a) As applicable, describe NDE equipment (UT scanning apparatus), details of the listed obstructions (size, shape, proximity to the weld, etc.) to demonstrate accessibility limitations, and discuss whether alternative methods or advanced technologies could be employed to maximize ASME Code coverage.
b) Fully clarify the wave modality and insonification angles used for all ultrasonic examinations.
c) State whether any indications were discovered as a result of ASME Code-required volumetric examinations, and how these indications have been dispositioned.
d) Please confirm that the required surface examinations (PT or MT) were performed for the subject welds, whether these surface examinations were full ASME Code examinations (>90% coverage), and describe any indications that were detected.

2.5.2 Please state the materials of construction and the wall thickness for the boron injection tank and nozzle.

2.6 Request for Relief N1-13-PRT-004, Part F, ASME Code, Section XI, Examination Category C-C, Item C3.20, Integral Attachments for Vessels, Piping, Pumps, and Valves

2.6.1 Please state the material of construction and what type of surface examination was performed (PT or MT) for the integrally welded attachments to ASME Code, Class 2 piping.

2.7 Request for Relief N1-13-PRT-004, Part G, ASME Code, Examination Category C-F-1, Items C5.11 and C5.21, Pressure Retaining Welds in Austenitic Stainless Steel or High Alloy Piping

2.7.1 Please submit detailed and specific information to support the bases for limited volumetric coverage in ASME Code, Section XI, Examination Category C-F-1 piping welds, and therefore, demonstrate impracticality.

a) As applicable, describe NDE equipment (UT scanning apparatus), details of the listed obstructions (size, shape, proximity to the weld, etc.) to demonstrate accessibility limitations, and discuss whether alternative methods or advanced technologies could be employed to maximize ASME Code coverage.
b) Fully clarify the wave modality and insonification angles used for all UT examinations.
c) Please confirm that the required surface examinations (PT or MT) were performed for the subject welds, whether these surface examinations were full ASME Code examinations (>90% coverage), and describe any indications that were detected.
d) Please state, if not already provided, whether the examinations listed in ASME Code, Section XI, Examination Category C-F-1 were conducted in accordance with the performance demonstration requirements described in ASME Code, Section XI, Appendix VIII. If not, please state the ASME Code requirements used for the UT examinations of these welds.

e) Further discuss whether additional welds could have been examined to augment the reduced volumetric coverage resulting from the limited examinations of the subject welds, or if alternate welds could be selected to achieve the required coverage.

Request your response by August 31, 2010. If you have any questions, please contact me at your earliest.

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