

August 26, 2014

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 14-050A
NAPS/JHL R0
Docket No. 50-339
License No. NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNIT 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
ASME SECTION XI INSERVICE INSPECTION PROGRAM
RELIEF REQUEST N2-I4-LMT-002 – FOURTH INTERVAL
PERIOD 1 LIMITED EXAMINATIONS

In a letter dated April 21, 2014, Dominion requested NRC approval of a relief request for limited examination coverage (i.e., less than 90% weld coverage achieved, due to physical interferences that prohibited attaining full weld coverage) obtained during the inservice inspection (ISI) examinations at North Anna Power Station Unit 2 during the first period of the fourth ten-year ISI interval. These examinations were performed to meet the requirements of the 2004 Edition of ASME Section XI with No Addenda and the Risk-Informed/Safety-Based Inservice Inspection (RIS B) Program Plan based on Code Case N-716.

In a July 30, 2014 e-mail from Dr. V. Sreenivas, the NRC requested additional information to complete the review of the proposed relief request. The attachment to this letter provides the requested information.

If you have any questions or require additional information, please contact Mr. Thomas Shaub at (804) 273-2763.

Very truly yours,



M. D. Sartain
Vice President - Nuclear Engineering

Attachment:

Response to Request for Additional Information For Relief Request N2-I4-LMT-002
Regarding Limited Examination Coverage

Commitments made in this letter: None

AD47
NRR

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ATTACHMENT

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
RELIEF REQUEST N2-I4-LMT-002 REGARDING LIMITED EXAMINATION
COVERAGE**

**VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNIT 2**

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
RELIEF REQUEST N2-I4-LMT-002 REGARDING LIMITED EXAMINATION
COVERAGE**

Background

By letter dated April 21, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML14115A066), Virginia Electric and Power Company - Dominion (the licensee) submitted relief request (RR) N2-I4-LMT-002 for the U.S. Nuclear Regulatory Commission (NRC) review and approval. The licensee requested relief from a certain requirement of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI. The request relates to essentially 100 percent coverage of the ASME Code required examination volume for various welds. The licensee submitted RR N2-I4-LMT-002 for the North Anna Power Station, (North Anna), Unit 2.

In a July 30, 2014 e-mail from Dr. V. Sreenivas, the NRC requested additional information to complete the review of the proposed relief request. The additional information was requested by September 1, 2014.

NRC Question 1

The licensee stated in Section 6.A1, Attachment to RR N2-I4-LMT-002, that,

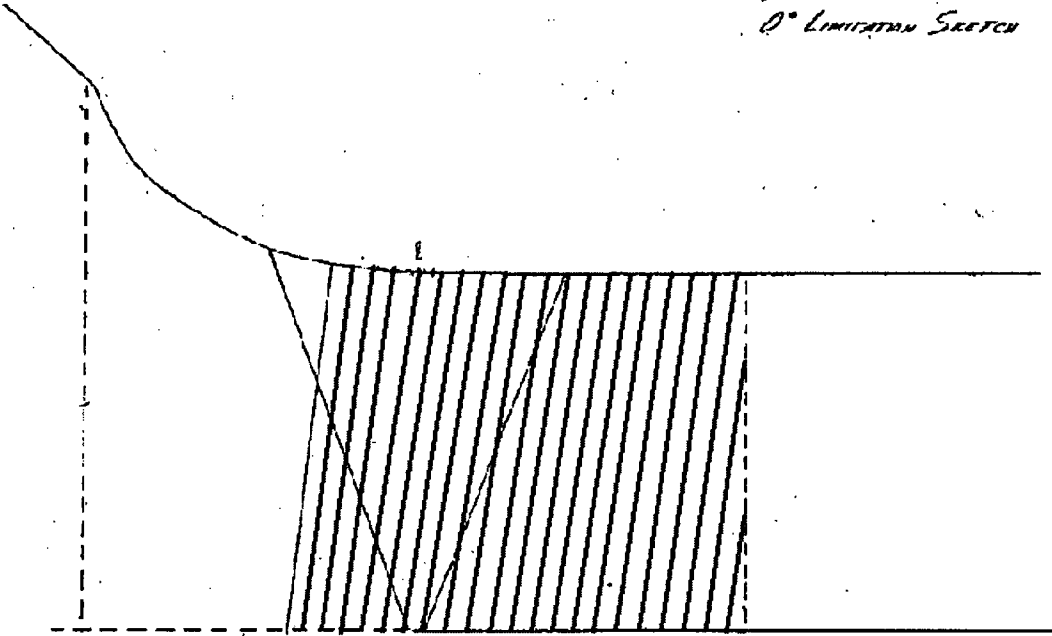
"...The examination volumes included the weld and base materials near the inside surface of the weld joint, which are typically the highest regions of stress, and where the expected degradation sources to be manifested should they occur..."

The NRC staff reviewed the examination coverage schematic diagrams the licensee provided on pages 14, 15, and 16 of Enclosure A1-1, and was unable to confirm from the schematic diagrams whether the volume scanned by the ultrasonic testing (UT) included the weld materials and the heat affected zone (HAZ) near the inside diameter (ID) surface of the weld joint. Provide and show clearly on the schematic diagrams on pages 14, 15, and 16 the volume scanned by the UT (e.g., similar to the dashed areas depicted on the schematic diagrams on pages 22 and 23, Enclosure A1-2 to the relief request, that showed the exact volume scanned by the UT).

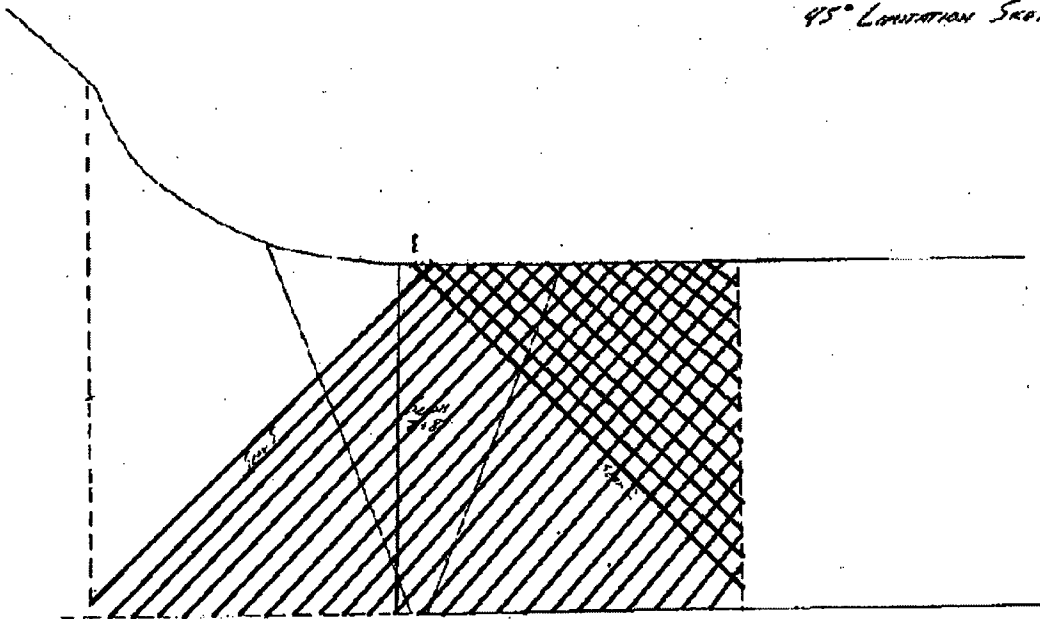
Dominion Response

Below are the sketches for Enclosure A1-1 with the cross-hatching of the volume scanned by UT for Weld #10, as requested.

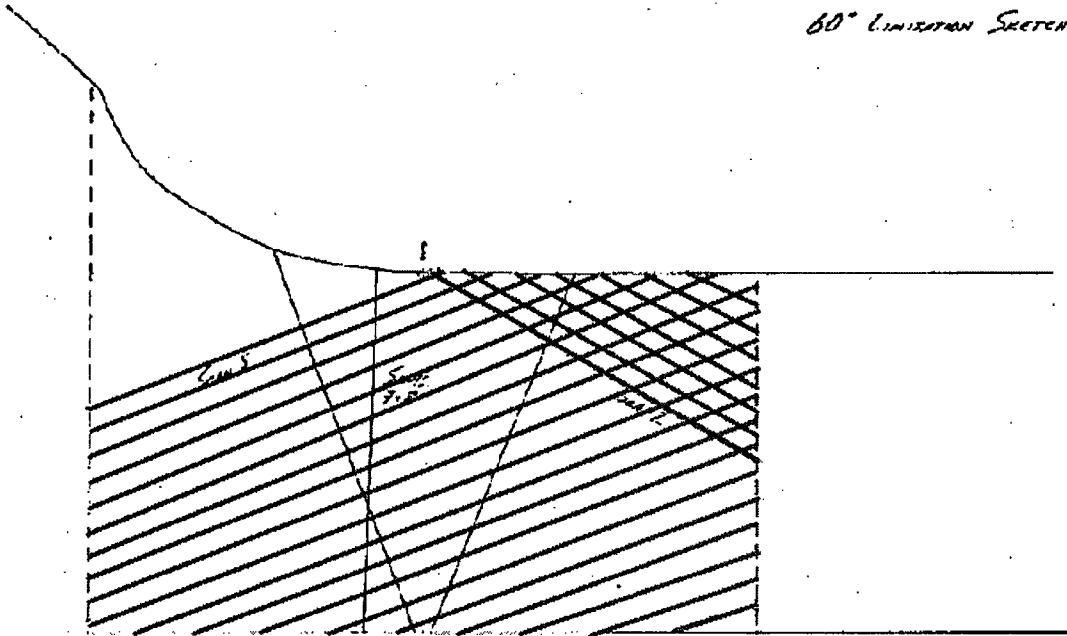
*DWG: 12050-WMKS-RC-E-2
Weld #10
0° Limitation Sketch*



*DWG: 12050-WMKS-RC-E-2
Weld #10
45° Limitation Sketch*



*Plant: 12050-LINKS-RC-E-2
Weld #10
60° Limitation Sketch*



NRC Question 2

Given the reduced inspection coverage of the welds under consideration, discuss the need for compensatory measures such as plant walk downs, VT-2 examination, or leak detection systems and whether such compensatory measures have been implemented.

Dominion Response

When the limited examinations in this request were identified, the need for compensatory measures was considered. All of the Class 1 and Class 2 components in this request are boric acid controlled and are visually inspected as part of the Boric Acid Corrosion Control Program, as well as the ASME Code System Pressure Tests each refueling outage for Class 1 and each period for Class 2. The Main Steam weld (SW-5) is in an accessible area that is regularly walked down by shift personnel. For these particular components, no additional compensatory measures have been identified as necessary.

NRC Question 3

Clarify whether the 75 percent coverage of the ASME Code required examination volume obtained by the UT is accurately documented in the following Enclosures to the relief request. If no, provide correct examination coverage obtained.

- a. In Enclosure R1-1 to RR N2-I4-LMT-002, the ultrasonic data records on pages 50, 51, and 52 as compared to Table entitled "Coverage Summary" on page 53 appear to be inconsistent.

(Example: Table entitled "Coverage Summary" on page 53 shows that during performance of the circumferential scanning from the downstream side of the weld in the clockwise and counter clockwise directions, 100 percent coverage of the required volume was obtained. However, no ultrasonic data were recorded to substantiate this coverage.)

- b. In Enclosure R2-1 to RR N2-I4-LMT-002, the ultrasonic data records on pages 74, 75, 76, and 77 as compared to Table entitled "Coverage Summary" on page 79 appears to be inconsistent.

(Example: Table entitled "Coverage Summary" on page 79 shows that during performance of the circumferential scanning from the downstream side of the weld in the clockwise and counter clockwise directions, 100 percent coverage of the required volume was obtained. However, no ultrasonic data were recorded to substantiate this coverage.)

Dominion Response

The examination volume is accurately documented in the submitted reports. The process used for completing the examination reports shows that circumferential scanning was performed both in the clockwise (CW) and counter clockwise (CCW) direction using 45° & 60° shear wave search units (refer to pages 50, 51, and 74, 75). That information along with the coverage summary portion of the report, which describes the coverage that was achieved and direction of the scan (upstream or downstream side). The "Upstream" and "Downstream" check-boxes on the UT Calibration/Examination form are used to identify axial scan coverage, and are also used along with the Coverage Summary table to identify the completed examination coverage.

NRC Question 4

The licensee stated in R1 and R2, Attachment to RR N2-I4-LMT-002, that the UT procedures, equipment, and personnel are qualified in accordance with the performance demonstration requirements of Appendix VIII, Section XI of the ASME Code. Provide the applicable supplement(s) used for the UT qualification in R1 and R2.

Dominion Response

For Request subsections R1 and R2, the applicable supplements of Appendix VIII, Section XI of the ASME Code, that were used for UT qualification are Supplement 2 for Wrought Austenitic Piping Welds (2B, 7, 4, and 6A) and Supplement 3 for Ferritic Piping Welds (SW-5).

NRC Question 5

The licensee stated on page 61 and 62 in R2, Attachment to RR N2-I4-LMT-002, that,

“... The UT examination identified two recordable indications: 1) The first indication evaluated as acceptable per ASME Section XI Table IWB-3514-1, and 2) The second identified as Inner Diameter Geometry. ...”

- (a) Discuss the history of these indications (e.g., (i) Had the above indications ever been detected during previous examinations? (ii) did the fabrication radiographs document the above indications?).
- (b) Comparing to the baseline data, discuss whether the indications have grown. If the indications have grown, provide the flaw growth projection for the future.
- (c) Discuss whether these indications will be re-examined in the future to monitor their growth or lack of.

Dominion Response

- (a) Weld SW-5 (BPL-343) has been examined as part of the Augmented Inspection Program in 1989 and 2002 as a non-classed Main Steam Postulated Break Location, using both surface and volumetric examinations. The indication was previously recorded below the reporting thresholds. The geometry indication was also previously identified. This weld is in a non-class section of piping and no construction radiographs are available.
- (b) Based on review by qualified NDE personnel, no change in indication size has been identified from previous examinations, considering the examinations performed ten and twenty years ago used different techniques and requirements to identify and quantify the indication.
- (c) Since the Flaw Evaluation Report (Page 72 of original request) identified Indication #1 as Acceptable per ASME Section XI Table IWB-3514-1, and there has been no significant change in size noted from the previous examinations, no additional examinations have been determined necessary. It is expected the location will

continue to be examined as part of the Augmented and Risk-Informed Inspection Programs.