VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

May 4, 2009

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

Serial No. 09-265
NL&OS/ETS R0
Docket No. 50-338
License No. NPF-4

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNIT 1
FOURTH INTERVAL ISI PROGRAM
RESPONSE TO REQUEST FOR INFORMATION REGARDING NDE-005

In a letter dated October 17, 2008 (Serial No. 08-0595), Dominion submitted the North Anna Power Station Unit 1 inservice inspection (ISI) program for the fourth inservice inspection (ISI) interval applicable to Class 1, 2, and 3 components and component supports. The ISI Plan described the programmatic aspects of ISI examinations of components and component supports. Included with the program were requests for alternatives or relief from the specific code requirements in accordance with 10 CFR 50.55a (a)(3)(i) and/or (ii) or 10 CFR 50.55a(g)(5)(iii). In an April 15, 2009 letter the NRC staff requested additional information regarding relief request NDE-005 to complete their review. The attachment to this letter provides the information requested by the NRC staff.

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

Sincerly,

J. Alan Price
Vice President – Nuclear Engineering

Attachment

Response to Request for Additional Information Regarding NDE-005

Commitments made in this letter:

1. None

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ATTACHMENT

FOURTH INTERVAL ISI PLAN
RESPONSE TO REQUEST FOR INFORMATION REGARDING NDE-005

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 1

Background

By application dated October 7, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML082880160), as supplemented by letter dated January 30, 2009 (ADAMS Accession No. ML090330392), Virginia Electric and Power Company (the licensee) submitted the fourth interval inservice inspection (ISI) plan and associated proposed alternatives and relief requests from requirements of Section XI of the American Society of Mechanical Engineers, *Boiler and Pressure Vessel Code* (ASME Code), for North Anna Power Station Unit No. 1. Specifically, request NDE-005 pertains to six weld overlays that were installed during the third ISI interval. The Nuclear Regulatory Commission (NRC) staff determined that additional information is required to complete the evaluation for the request.

Request NDE-005 is similar to applications the NRC staff has reviewed that requested use of Code Case N-504-2 as conditioned to Section XI, Appendix Q in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1." In accordance with the guidance, the NRC staff identified missing information in your request and areas in need of clarification. Please address the following questions:

NRC Question 1

Request NDE-005 states in Part A of the alternative that the relief is to continue ISIs using procedures and personnel qualified to Appendix VIII, Supplement 11, as modified by Attachment 1 of the submittal. Supplement 11 is for the examination of wrought stainless steel piping and weld overlays. Provide a description of the base material, weld/butter material, and overlay material (wrought or cast stainless steel, Inconel, carbon steel, etc.).

Dominion Response

The following materials are included in the base material, weld/butter material, and overlay material:

- Nozzles are (P-No. 3 Group No. 3) Low Alloy Steel SA-508 CL2
- Safe End-to-Nozzle Weld and buttering are Alloy 82/182 (F-No. 43)
- Safe Ends are (P-No. 8) Wrought Stainless Steel (SS) SA-182 GR F316L
- Surge Line Pipe, Safety Line Elbows, Relief Line Reducer and Spray Line Pipe are (P-No. 8) Wrought Seamless SS and Welds are SS (A-N0. 8)
- Welding of Structural Overlay was performed using ERNiCrFe-7 (Alloy 52) or ERNiCrFe-7A (Alloy 52M)

NRC Question 2

The alternative's examination requirements are similar to the examination requirements of Section XI, Appendix Q, for ISIs. One of the requirements is for ultrasonic examination of overlays during the first or second refueling outage following installation. Discuss whether such examinations have been performed or plans to do so in the fourth ISI interval.

Dominion Response

During the Unit 1 fall 2007 refueling outage, full structural mitigative PWOLs for the pressurizer safety, spray, relief, and surge nozzles were completed. Examinations of these pressurizer weld overlays were completed during the spring 2009 outage for Unit 1. Examinations in the 4th interval will be completed in accordance with this relief request.

NRC Question 3

Part B, Paragraph (a)(3) of NDE-005 states that, "The inservice examination acceptance standards of Table IWB-3514-2 shall be met for the weld overlay. If the acceptance criteria of Table IWB-3514-2 cannot be met, the acceptance criteria of IWB-3600 shall be met for the weld overlay. Cracks in the outer 25% of the base metal shall meet the design analysis requirements of Attachment 2, Crack Growth and Design." According to MRP-139, "Primary System Piping Butt Weld Inspection and Evaluation Guide," the weld overlay material must be resistant to stress corrosion cracking. As such, similar applications have included the phrase, "Any indication characterized as stress corrosion cracking in the weld overlay material is unacceptable." Discuss the plans for addressing stress corrosion cracking.

Dominion Response

If flaw growth in the weld overlay occurs and the acceptance standards of Table IWB-3514.2 cannot be met, a determination will be made to prove if the flaw is not PWSCC. If the cause is determined to be PWSCC or the cause of the flaw cannot be determined, North Anna will repair the flaw and will not use IWB-3600 of ASME Code, Section XI to accept these types of flaws.