

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

February 18, 2009

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
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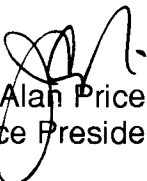
VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2
RELIEF REQUEST CMP-24 AND CMP-25

Pursuant to 10 CFR 50.55a(a)(3)(i), Dominion requests approval of the following requests for the third ten-year interval inservice inspection testing program: Relief Requests CMP-24 and CMP-25 for North Anna Units 1 and 2, respectively, propose an alternative to volumetric examination requirements of American Society of Mechanical Engineers (ASME) Code, Section XI, Table IWB-2500-1, Category B-F, Item B5.10, Reactor Vessel Nozzle to Safe-End Butt Welds. The proposed alternative provides an acceptable level of quality and safety. The attachment to this letter provides the basis for the proposed alternative.

Dominion intends to perform the reactor vessel nozzle to safe-end butt weld inspections during the next scheduled refueling outages for North Anna Units 1 and 2, which are currently scheduled for spring 2009 and spring 2010, respectively. Although there is no expectation that an identifiable indication exists which would require depth sizing during the upcoming spring 2009 Unit 1 and spring 2010 Unit 2 examinations, Dominion is submitting the subject relief requests as a contingency. Dominion is formally requesting approval of the relief requests by December 31, 2009. However, if an indication is detected that requires depth sizing during the reactor nozzle examinations performed during the spring 2009 Unit 1 refueling outage, an expedited NRC review of CMP-24 will be requested at that time.

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

Sincerely,



J. Alan Price
Vice President – Nuclear Engineering

Attachment: Relief Requests CMP-24 and CMP-25

Commitments made in this letter: None

cc: U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Suite 23T85
Atlanta, Georgia 30303

Mr. J. E. Reasor, Jr.
Old Dominion Electric Cooperative
Innsbrook Corporate Center
4201 Dominion Blvd.
Suite 300
Glen Allen, Virginia 23060

NRC Senior Resident Inspector
North Anna Power Station

Ms. D. N. Wright
NRC Project Manager
U. S. Nuclear Regulatory Commission
One White Flint North
Mail Stop O-8 H4A
11555 Rockville Pike
Rockville, Maryland 20852

Mr. J. F. Stang, Jr.
NRC Project Manager
U. S. Nuclear Regulatory Commission
One White Flint North
Mail Stop O-8 G9A
11555 Rockville Pike
Rockville, Maryland 20852

ATTACHMENT

**FOURTH INTERVAL ISI PLAN
RELIEF REQUESTS CMP-24 and CMP-25**

**VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 AND 2**

CMP-024 and CMP-025

Proposed Alternative in Accordance with 10 CFR 50.55a(a)(3)(i)

1.0 ASME CODE COMPONENTS AFFECTED

Code components associated with this request are high safety significant (HSS) Class 1 dissimilar metal welds (ASME SA-508 to ASME SA-351 Gr. CF8A or CF8M). ASME Section XI, Table IWB-2500-1, Category B-F, Item B5.10, Reactor Vessel Nozzle to Safe-End Butt Welds, specifies volumetric examination for the dissimilar metal welds. However, these welds are part of the Risk-Informed program and listed in the ISI schedule as Category R-A, Item R1.11.

1.1 Category and System Details:

Code Class:	Class 1
System:	Reactor Coolant System (RCS)
Examination Category:	R-A (Welds are in Risk Informed ISI Program)

1.2 Component Descriptions:

These welds are the Reactor Vessel nozzle to piping dissimilar metal welds and are subject to volumetric inspections during the 10 year ISI.

Unit 1:

- Welds 1, 13 & 25, Reactor Vessel nozzle to RCS hot legs.
- Welds 12, 24 & 36, Reactor Vessel nozzle to RCS cold legs.

Unit 2:

- Welds 1, 13 & 25, Reactor Vessel nozzle to RCS hot legs.
- Welds, 12, 24, 36, Reactor Vessel nozzle to RCS cold legs.

1.3 Component Materials:

The Reactor Vessel nozzles are ASME SA-508 Class 2 (P3) and the piping is ASME SA-351 Gr. CF8A or CF8M (P8). Type 308 weld filler material was used for all welding applications.

2.0 APPLICABLE CODE EDITION AND ADDENDA

North Anna Power Station (NAPS) Units 1 and 2 are currently in their 3rd 10 year ISI Intervals which began on May 1, 1999 and December 14, 2001, respectively.

The ASME Boiler and Pressure Vessel Code (ASME Code) of record for the current period of the third 10-year ISI intervals is the 1989 Edition for Unit 1 and the 1995 Edition with 1996 Addenda for Unit 2. Ultrasonic examination of the subject welds is implemented in accordance with the requirements of the 1995 Edition with the 1996 Addenda of Appendix VIII and the supplements of Appendix VIII of ASME Section XI. Section XI, Code Case N-695, "Qualification Requirements for Dissimilar Metal Piping Welds," and Code Case N-696, "Qualification Requirements for Appendix VIII Piping Examinations Conducted from the Inside Surface," are referenced in the ISI program. These Code Cases are listed in Reg. Guide 1.147, Rev. 15, Table 1, "Acceptable Section XI Code Cases."

3.0 APPLICABLE CODE REQUIREMENTS

The volumetric examinations are to be conducted in accordance with ASME Section XI, Appendix VIII, Supplements 2 and 10, 1995 Edition with 1996 Addenda. Code Cases N-695 and N-696 are acceptable alternatives to Appendix VIII, Supplement 10.

The specific Code Case requirements for which relief is requested pertains to the depth sizing qualification requirements for performance demonstration of ultrasonic examination systems for dissimilar and similar metal piping welds as listed below. These same requirements exist in ASME Section XI, 1995 Edition with 1996 Addenda.

Code Case N-695

- 3.3 Depth-Sizing test:
"(c) Examination procedures, equipment, and personnel are qualified for depth-sizing when the RMS error of the flaw depth measurements, as compared to the true flaw depths, do not exceed 0.125 in. (3 mm)."

Code Case N-696

- 3.3 Depth-Sizing test:
"(d) Supplement 2 or Supplement 3 examination procedures, equipment, and personnel are qualified for depth-sizing when the flaw depths estimated by ultrasonics, as compared to the true depths, do not exceed 0.125 in. (3 mm) RMS when they are combined with a successful Supplement 10 qualification."

4.0 REASON FOR REQUEST

Virginia Electric and Power Company (Dominion) is submitting a request for the use of an alternative to the examination requirements of ASME Code, Section XI, at NAPS Unit 1 (CMP-024) and Unit 2 (CMP-025). This request supports the

examination of Reactor Vessel outlet nozzle to pipe and inlet elbow to nozzle (dissimilar metal) welds performed from the inside surface during the 10 Year ISI outages at the end of the respective intervals. Dominion has determined the proposed alternative provides for an acceptable level of quality and safety, consistent with 10 CFR 50.55a(a)(3)(i).

5.0 PROPOSED ALTERNATIVES AND BASIS FOR USE

Dominion proposes to use the Supplement 10 demonstrated value of 0.224 in. for dissimilar metal welds instead of the 0.125 inch value specified for depth sizing. In the event an indication is detected that requires depth sizing, the difference between the required root mean square error (RMSE) and the demonstrated RMSE (0.099 inch) will be added to the measured through-wall extent for comparison with applicable acceptance criteria.

Consequently, Dominion proposes to use an alternative through-wall depth sizing criteria for dissimilar metal welds that are examined from the inside surface. Examinations of these components will be performed during the 10 Year ISI examinations scheduled in March 2009 for Unit 1 and March 2010 for Unit 2.

To date, although qualified for detection and length sizing on these welds, the examination vendors have not met the established RMSE requirement for depth sizing (0.125 in.) when examining from the inside diameter (ID). Dominion's examination vendor has demonstrated ability to meet the depth sizing qualification requirement with an RMSE of 0.224 inch (dissimilar metal weld) instead of the required 0.125 inch. EPRI has published under their Policy/Procedure Directives the criteria of error in the RMS which has utility approval.

Dominion has determined that the alternative in this request will result in an acceptable level of quality and safety, pursuant to the provisions of 10 CFR 50.55a(a)(3)(i). The proposed alternative assures that the subject welds will be fully examined by procedures, personnel and equipment qualified by demonstration in all aspects except depth sizing. For depth sizing, the proposed addition of the difference between the qualified and demonstrated sizing tolerance to any flaw that is required to be sized compensates for the potential variation and likewise assures an acceptable level of quality and safety.

6.0 DURATION OF PROPOSED ALTERNATIVE

The proposed alternative to the ASME Code is applicable for the remainder of the third 10-year inservice inspection (ISI) interval at NAPS Units 1 and 2.

7.0 PRECEDENTS

A similar alternative request has been approved for use at the V.C. Summer Station in an NRC letter, dated February 3, 2004 (ADAMS Accession No. ML040340450) and for use at Diablo Canyon, Units 1 and 2 in an NRC letter dated October 26, 2005 (ADAMS Accession No. ML052660331).

8.0 REFERENCES

- (1) 1989 Edition ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components."
- (2) 1995 Edition, ASME Code, Section XI, with the 1996 Addenda, Appendix VIII, Supplement 10.
- (3) Code Case N-695, Qualification Requirements for Dissimilar Metal Piping Welds, Section XI, Division 1.
- (4) Code Case N-696, Qualification Requirements for Appendix VIII Piping Examinations Conducted From the Inside Surface, Section XI, Division 1.
- (5) EPRI Policy/Procedure Directives.