

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**RICHMOND, VIRGINIA 23261**

May 27, 2004

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

Serial No.	04-309
NL&OS/ETS	R0
Docket Nos.	50-338 50-339
License Nos.	NPF-4 NPF-7

**VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)**  
**THIRD INTERVAL ASME SECTION XI RELIEF REQUESTS**  
**REVISION TO NORTH ANNA UNIT 1 RELIEF REQUESTS NDE-1 AND NDE-2**  
**WITHDRAWAL OF NORTH ANNA UNIT 2 RELIEF REQUESTS NDE-2 AND NDE-3**

North Anna Power Station Units 1 and 2 are presently in the third ten-year inservice inspection (ISI) interval and examinations are conducted in accordance with the requirements of the 1989 Edition of ASME Section XI and the 1995-96 Edition of ASME Section XI Code, respectively. For the third interval, Dominion, requested relief and received NRC approval for the ASME Section XI Code Category C-G pump casing weld requirement on the Outside Recirculation Spray Pumps and the Low Head Safety Injection Pumps for Units 1 and 2. The third interval relief requests were approved for Unit 1 in an NRC letter dated November 25, 2000, and for Unit 2 in an NRC letter dated June 12, 2002. Dominion has since discovered that the welds identified by these relief requests are not the pump casing welds, but are welds on the pump suction can in which the actual pump casing is contained and supported. Therefore, Dominion has revised the relief requests and is providing the revised relief requests for your review in accordance with 10 CFR 50.55a(g)(4)(iv).

The attached revised Unit 1 relief requests (NDE-1 and NDE-2) identify the correct pressure retaining pump casing welds and also include as an alternative the use of 1995-1996 Edition of ASME Section XI Code, which defines these welds as inaccessible as discussed below.

The Unit 2 relief requests are being withdrawn since these relief requests are no longer required based on our interpretation of the 1995-96 Edition of the ASME Section XI Code definition of "inaccessible welds" in paragraph IWC-1223. Dominion interprets this definition to apply to the pump casing welds on the Outside Recirculation Spray Pump and Low Head Safety Injection Pumps. Furthermore, Dominion's interpretation of the 1995 code is that a surface examination of all pump casing welds on one pump in a similar group is required per interval if a pump is disassembled for maintenance rendering the welds accessible for examination.

Similar relief requests, which also identified the incorrect welds were requested and approved by the NRC for the second ten-year ISI interval for both North Anna Units 1 and 2. Relief requests (NDE-8 and NDE-9) were approved by the NRC in a letter dated

April 7, 1992 for Unit 1 and a letter dated November 5, 1992 for Unit 2. The first interval code of record (1974 Edition and 1975 Addenda of the ASME Section XI Code) did not require examination of these pump welds.

A review of our maintenance records indicates that one Unit 2 pump, 2-SI-P-1A, was disassembled for maintenance in 1993 during the second ISI interval when this inspection was a code requirement. The pump was inspected in accordance with the relief request, NDE-3, which has now been identified as specifying incorrect welds for inspection. This constituted a non-conforming condition in accordance with Generic Letter 91-18. An evaluation and operability determination of the non-conforming condition for the second interval was completed and it was determined that the pump was operable. Further, during the third interval, both Units 1 and 2 remain in compliance with code inspection regarding these pump-casing welds. Therefore, consistent with ASME Section XI Code requirements and our interpretation of the 1995-96 Edition of Section XI Code definition of "inaccessible welds" in paragraph IWC-1223, Dominion plans to perform the required pump casing welds the next time a safety injection or recirculation spray pump is disassembled for maintenance.

In accordance with 10 CFR 50.55a(g)(4)(iv), Dominion requests approval of Relief Requests NDE-1 Rev. 1 and NDE-2 Rev. 1 for the remainder of the North Anna Unit 1 third ISI interval. In addition, Dominion withdraws previously approved Relief Requests NDE-2 and NDE-3 for North Anna Unit 2 third ISI interval.

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

Very truly yours,



Eugene S. Grecheck  
Vice President – Nuclear Support Services

Attachment

Commitments made in this letter: None

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**Attachment 1**

**Revised Relief Requests  
Outside Recirculation Spray Pumps  
Safety Injection Pumps Casing Welds  
NDE-1 Rev. 1 and NDE-2 Rev. 1**

**North Anna Power Station  
Unit 1  
Virginia Electric and Power Company  
(Dominion)**

Virginia Electric and Power Company  
North Anna Power Station Unit 1  
Third Ten Year Interval

RELIEF REQUEST NDE-1 REV 1

I. Identification of Components:

Systems: Outside Recirculation Spray Pumps (1-RS-P-2A and 1-RS-P-2B)

Components: Pump casing welds

<u>Component</u>	<u>Drawing</u>	<u>Weld No.</u>
1-RS-P-2A	11715-WMKS-RS-P-2A	Pump casing welds*
1-RS-P-2B	11715-WMKS-RS-P-2B	Pump casing welds*

\* Welds will be visually identified and assigned weld numbers upon inspection. Drawings will be changed accordingly.

II. Code Requirements:

Section XI of the ASME Boiler and Pressure Vessel Code, 1989 Edition, Category C-G, Item Number C6.10, requires that a surface examination be performed on 100% of the welds each inspection interval. For a ten-year interval the examination can be limited to one pump in the case of multiple pumps of similar design, size, function and service in a system. The examination may be performed from either the inside or outside surface of the component.

III. Basis for Relief:

In the 1995 Edition of the ASME Section XI Code, paragraph IWC-1223 in section IWC-1220 "Components Exempt From Examination" was changed to read "Welds or portions of welds that are inaccessible due to being encased in concrete, buried underground, located inside a penetration, or encapsulated by guard pipe" in the definition of "Inaccessible Welds".

The pumps in question are vertical, two-stage, centrifugal pumps with an extended shaft and casing that allows suction from the containment sump. This pump casing extends subgrade for more than 40 feet. The pump column consists of bolted flange sections of pipe. Circumferential welds exist at the pipe to flange locations. The pump is suspended in a suction can container, which

renders the welds inaccessible while the pump is in operational standby. Only when the pump is pulled out of the suction can the pressure retaining casing welds become accessible.

The 1995-96 edition of the ASME Section XI Code requires that a surface examination is performed when the pump is removed from the suction can for maintenance; thus, allowing accessibility to the welds. The 1995-96 edition of the code does not require disassembly of the pump for the sole purpose of performing the code specified surface examination. To remove the pumps for North Anna Unit 1 only to perform the Section XI examination is inconsistent with the requirements of the later code edition which governs Unit 2 and would be considered an unnecessary burden.

#### IV. Proposed Alternate Examination

In accordance with 10 CFR 50.55a(g)(4)(iv), Dominion requests approval to use paragraph IWC-1223 of the 1995-96 edition of the ASME Section XI Code. When the pump is removed for maintenance activities, the code required surface examination of 100% of the accessible welds will be performed in accordance with Table IWC 2500-1 Category C-G, Item C6.10. All related requirements of the 1995-96 code edition in regards to the Category C-G, Item C6.10 will be met.

As detailed in Note (1) of Table IWC-2500-1, examination of only one pump in a group is required per interval. Thus, when one recirculation spray pump receives examination, the ten-year interval code requirement will be met. Only one examination per pump group is required, regardless of number of times the pumps are disassembled.

As accepted in the more recent 1995-96 code edition, the proposed alternative will not compromise the overall level of plant quality and safety.

Virginia Electric and Power Company  
North Anna Power Station Unit 1  
Third Ten Year Interval

RELIEF REQUEST NDE-2 REV 1

II. Identification of Components:

Systems: Low Head Safety Injection Pumps (1-SI-P-1A and 1-SI-P-1B)

Components: Pump casing welds

<u>Component</u>	<u>Drawing</u>	<u>Weld No.</u>
1-SI-P-1A	11715-WMKS-SI-P-1A	Pump casing welds*
1-SI-P-1B	11715-WMKS-SI-P-1B	Pump casing welds*

\* Welds will be visually identified and assigned weld numbers upon inspection. Drawings will be changed accordingly.

II. Code Requirements:

Section XI of the ASME Boiler and Pressure Vessel Code, 1989 Edition, Category C-G, Item Number C6.10, requires that a surface examination be performed on 100% of the welds each inspection interval. For a ten year interval, the examination can be limited to one pump in the case of multiple pumps of similar design, size, function and service in a system. The examination may be performed from either the inside or outside surface of the component.

III. Basis for Relief:

In the 1995 Edition of the ASME Section XI Code, paragraph IWC-1223 in section IWC-1220 "Components Exempt From Examination" was changed to read "Welds or portions of welds that are inaccessible due to being encased in concrete, buried underground, located inside a penetration, or encapsulated by guard pipe" in the definition of "Inaccessible Welds".

The pumps in question are vertical, two-stage, centrifugal pumps with an extended shaft and casing that allows suction from the containment sump. This pump casing extends subgrade for more than 40 feet. The pump column consists of bolted flange sections of pipe. Circumferential welds exist at the pipe to flange locations. The pump is suspended in a suction can container, which

renders the welds inaccessible while the pump is in operational standby. Only when the pump is removed from the suction can do the pressure retaining casing welds become accessible.

The 1995-96 edition of the ASME Section XI Code requires that a surface examination be performed when the pump is removed from the suction can for maintenance; thus, allowing accessibility to the welds. The 1995-96 edition of the code does not require disassembly of the pump for the sole purpose of performing the code specified surface examination. To remove the pumps for North Anna Unit 1 only to perform the Section XI examination is inconsistent with the requirements of the later code edition which governs Unit 2 and would be considered an unnecessary burden.

#### IV. Proposed Alternate Examination

In accordance with 10 CFR 50.55a(g)(4)(iv), Dominion requests approval to use paragraph IWC-1223 of the 1995-96 edition of the ASME Section XI Code. When the pump is removed for maintenance activities, the code required surface examination of 100% of the accessible welds will be performed in accordance with Table IWC 2500-1 Category C-G, Item C6.10. All related requirements of the 1995-96 code edition in regards to the Category C-G, Item C6.10 will be met.

As detailed in Note (1) of Table IWC-2500-1, examination of only one pump in a group is required per interval. Thus, when one safety injection pump receives examination, the ten-year interval code requirement will be met. Only one examination per pump group is required, regardless of number of times the pumps are disassembled.

As accepted in the more recent 1995-96 code edition, the proposed alternative will not compromise the overall level of plant quality and safety.