

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

January 12, 2001

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

Serial No. 01-022  
NL&OS/ETS  
Docket Nos. 50-280/281  
50-338/339  
License Nos. DPR-32/37  
NPF-4/7

Gentlemen:

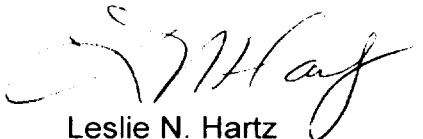
**VIRGINIA ELECTRIC AND POWER COMPANY**  
**NORTH ANNA AND SURRY POWER STATIONS UNITS 1 AND 2**  
**ASME SECTION XI INSERVICE INSPECTION PROGRAM**  
**RELIEF FROM ASME CODE REQUIREMENTS**  
**CLAD-METAL INTERFACE ACCEPTANCE CRITERION**

By letter dated November 7, 2000 (Serial No. 00-497) Virginia Electric and Power Company (Dominion) proposed an alternative to requirements of ASME Section XI, Appendix VIII, Supplement 4, paragraph 3.2(b) which contains the acceptance criterion for ultrasonic examination of the clad/base metal interface of the reactor vessel. Since the submittal, we have identified the need to propose an additional alternative for paragraph 3.2(c) to implement the examinations in accordance with the industry's performance demonstration initiative effort. Therefore, pursuant to 10 CFR 50 55a(a)(3)(i), we propose an alternative to the requirements of ASME Section XI, Appendix VIII, Supplement 4, paragraphs 3.2(b) and 3.2(c). This proposed relief request supercedes the November 7, 2000 submittal.

The use of the proposed alternative acceptance criteria for ultrasonic examination of the clad/base metal interface of the reactor vessel will continue to provide an acceptable level of quality and safety. The proposed alternatives and the basis for alternative for North Anna Units 1 and 2 and Surry Units 1 and 2 are provided in Attachments 1 and 2, respectively. As previously noted in our November 7, 2000 letter, we request approval of this relief request by March 2001 to utilize the alternative acceptance criteria during the reactor vessel examinations planned during the next North Anna refueling outage.

These relief requests have been approved by the Station Nuclear Safety and Operating Committee. If you have any questions or comments, please contact us.

Very truly yours,



Leslie N. Hartz  
Vice President - Nuclear Engineering and Services

Commitments contained in this letter: None

Attachments

A 047

cc: U.S. Nuclear Regulatory Commission  
Region II  
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61 Forsyth St., SW, Suite 23T85  
Atlanta, Georgia 30303

Mr. R. A. Musser  
NRC Senior Resident Inspector  
Surry Power Station

Mr. M. J. Morgan  
NRC Senior Resident Inspector  
North Anna Power Station

Mr. R. Smith  
Authorized Nuclear Inspector  
Surry Power Station

Mr. M. Grace  
Authorized Nuclear Inspector  
North Anna Power Station

Mr. J. A. Reasor  
Old Dominion Electric Cooperative  
Innsbrook Corporate Center  
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Suite 300  
Glen Allen, Virginia 23060

**Proposed Alternative  
Supplement 4 of Appendix VIII of ASME Section XI**

**Virginia Electric & Power Company  
(Dominion)  
North Anna Power Station Units 1 and 2**

**Virginia Electric & Power Company (Dominion)  
North Anna Power Station Unit 1  
Third Inspection Interval**

I. IDENTIFICATION OF COMPONENTS

Class 1 Clad/Base Metal Interface of Reactor Vessel

II. CURRENT CODE REQUIREMENT WHERE ALTERNATIVE APPLIES

ASME Section XI, Supplement 4 of Appendix VIII of ASME Section XI (1995 Edition through 1996 Addenda) paragraph 3.2(b) and (c). The 1989 Edition of ASME Section XI governs North Anna Power Station Unit 1.

III. BASIS FOR ALTERNATIVE

The current requirement of the Code, subparagraph 3.2(b) "flaw lengths estimated by ultrasonics shall be the true length  $-1/4$  in.,  $+1$  in.," is considered extremely difficult to meet in conjunction with the performance demonstration initiative (PDI) effort. The industry, through ASME, identified the requirement as needing an alternative acceptance criteria, which was recently modified by ASME Code Case N-622, "Ultrasonic Examination of RPV and Piping, Bolts, and Studs Section XI, Division 1." Appendix IV of the Code Case offers in paragraph 3.2(a) an alternative acceptance criteria. The alternative criteria is as follows, "(a) The RMS error of the flaw lengths estimated by ultrasonics, as compared with the true lengths, shall not exceed 0.75 in."

The current requirement of subparagraph 3.2(c) contains requirements for statistical parameters that have been identified as being inconsistent with the PDI effort. Code Case N-622, Appendix IV offers the use of the RMS error calculations of 3.2(a) and 3.2(b) in lieu of the statistical parameters of 3.2(c).

The proposed alternative acceptance criteria can be met within the PDI effort and offers an acceptable level of quality and safety. As such, the alternative requirements above are proposed consistent with 10 CFR 50.55a(a)(3)(i).

IV. ALTERNATE PROVISIONS

As an alternative to the Code requirements in Appendix VIII Supplement 4, paragraph 3.2(b) and (c), the following will be applied;

The RMS error of the flaw lengths estimated by ultrasonics, as compared with the true lengths, shall not exceed 0.75 in.

The RMS error of the flaw depths estimated by ultrasonics, as compared with the true depths, shall not exceed 0.15 in.

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

V. IMPLEMENTATION SCHEDULE

This alternative to Code requirements will be followed upon receiving NRC approval for the remainder of the third inspection interval.

**Virginia Electric & Power Company (Dominion)  
North Anna Power Station Unit 2  
Second Inspection Interval**

I. IDENTIFICATION OF COMPONENTS

Class 1 Clad/Base Metal Interface of Reactor Vessel

II. CURRENT CODE REQUIREMENT WHERE ALTERNATIVE APPLIES

ASME Section XI, Supplement 4 of Appendix VIII of ASME Section XI (1995 Edition through 1996 Addenda) paragraph 3.2(b) and (c). The 1986 Edition of ASME Section XI governs North Anna Power Station Unit 2.

III. BASIS FOR ALTERNATIVE

The current requirement of the Code, subparagraph 3.2(b) "flaw lengths estimated by ultrasonics shall be the true length  $-1/4$  in.,  $+1$  in.," is considered extremely difficult to meet in conjunction with the performance demonstration initiative (PDI) effort. The industry, through ASME, identified the requirement as needing an alternative acceptance criteria, which was recently modified by ASME Code Case N-622, "Ultrasonic Examination of RPV and Piping, Bolts, and Studs Section XI, Division 1." Appendix IV of the Code Case offers in paragraph 3.2(a) an alternative acceptance criteria. The alternative criteria is as follows, "(a) The RMS error of the flaw lengths estimated by ultrasonics, as compared with the true lengths, shall not exceed 0.75 in."

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**Virginia Electric & Power Company (Dominion)**  
**North Anna Power Station Unit 2**  
**(continued)**

V. IMPLEMENTATION SCHEDULE

This alternative to Code requirements will be followed upon receiving NRC approval for the remainder of the second inspection interval.

**Proposed Alternative  
Supplement 4 of Appendix VIII of ASME Section XI**

**Virginia Electric & Power Company  
(Dominion)  
Surry Power Station Units 1 and 2**



**Virginia Electric & Power Company (Dominion)  
Surry Power Station Unit 1  
Third Inspection Interval**

I. IDENTIFICATION OF COMPONENTS

Class 1 Clad/Base Metal Interface of Reactor Vessel

II. CURRENT CODE REQUIREMENT WHERE ALTERNATIVE APPLIES

ASME Section XI, Supplement 4 of Appendix VIII of ASME Section XI (1995 Edition through 1996 Addenda) paragraph 3.2(b) and (c). The 1989 Edition of ASME Section XI governs Surry Power Station Unit 1.

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**Virginia Electric & Power Company (Dominion)**  
**Surry Power Station Unit 1**  
**(continued)**

V. IMPLEMENTATION SCHEDULE

This alternative to Code requirements will be followed upon receiving NRC approval for the remainder of the third inspection interval.

**Virginia Electric & Power Company (Dominion)  
Surry Power Station Unit 2  
Third Inspection Interval**

**I. IDENTIFICATION OF COMPONENTS**

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**Virginia Electric & Power Company (Dominion)**  
**Surry Power Station Unit 2**  
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