

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

November 7, 2000

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

Serial No. 00-497  
NL&OS/ETS R0  
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**  
**REQUEST FOR RELIEF FROM ASME CODE REQUIREMENTS**

Pursuant to 10 CFR 50.55a(a)(3)(i), Virginia Electric and Power Company proposes an alternative to requirements of ASME Section XI, Appendix VIII, Supplement 4, paragraph 3.2(b) for the remainder of the current inservice inspection interval for both North Anna and Surry Power Stations. North Anna Unit 2 is currently in the second inservice inspection interval. Surry Units 1 and 2 and North Anna Unit 1 are currently in the third inservice inspection interval. The use of the proposed alternative acceptance criterion 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 alternative 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. In order to utilize the alternative acceptance criteria during the reactor vessel examinations planned during the next North Anna refueling outage, we request approval of this alternative by March 2001.

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

A047

cc: U.S. Nuclear Regulatory Commission  
Region II  
Sam Nunn Atlanta Federal Center  
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

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

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

**Virginia Electric & Power Company  
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).

III. BASIS FOR ALTERNATIVE

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

IV. ALTERNATE PROVISIONS

As an alternative to the Code requirements in Appendix VIII Supplement 4, paragraph 3.2(b), 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.

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  
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).

III. BASIS FOR ALTERNATIVE

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

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

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  
Surry Power Station Units 1 and 2**

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

I. IDENTIFICATION OF COMPONENTS

Class 1 Clad/Base Metal Interface of Reactor Vessel

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ASME Section XI, Supplement 4 of Appendix VIII of ASME Section XI (1995 Edition through 1996 Addenda) paragraph 3.2(b).

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V. IMPLEMENTATION SCHEDULE

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**Virginia Electric & Power Company  
Surry Power Station Unit 2  
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).

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