

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

February 19, 2002

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

Serial No. 02-112
NLOS/ETS
Docket No. 50-339
License No. NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 2
ASME SECTION XI INSERVICE INSPECTION PROGRAM
RELIEF REQUEST PARTIAL 1

During the Spring 2001 refueling outage, North Anna Power Station Unit 2 completed examinations in the third period of the second ten-year interval. Examinations were conducted to the requirements of the 1986 Edition of ASME Section XI. Interferences prohibited the complete examination of three reactor nozzle-to-vessel welds.

Pursuant to 10 CFR 50.55a(g)(5), relief is requested from certain requirements of ASME Section XI Code associated with examinations where only partial coverage could be obtained. Relief Request Partial 1 is attached and provides the basis of this request. A similar relief was approved by the NRC for North Anna Unit 1 on June 15, 2001 (TAC MB0555).

This relief request has been approved by the Station Nuclear Safety and Operating Committee. If you have any additional questions concerning this request, please contact us.

Very truly yours,



Leslie N. Hartz
Vice President – Nuclear Engineering

Attachment

Commitments made in this letter: None

A047

cc: U. S. Nuclear Regulatory Commission
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Attachment

Relief Request Partial-1

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

Virginia Electric and Power Company
North Anna Power Station, Unit 2
Second Ten Year Interval
Request for Relief Partial 1

I. IDENTIFICATION OF COMPONENTS

<u>Mark/Weld #</u>	<u>Line #</u>	<u>Drawing #</u>	<u>Class</u>
10	2-RC-R-1	12050-WMKS-RC-R-1.1	1
12	2-RC-R-1	12050-WMKS-RC-R-1.1	1
14	2-RC-R-1	12050-WMKS-RC-R-1.1	1

II. CODE REQUIREMENTS

The 1986 edition of ASME Section XI, Table IWB-2500-1, Examination B-D, Item Number B3.90, does not permit any reduction in the required volumetric examination coverage. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, allows a reduction in coverage if it is less than 10%.

III. CODE REQUIREMENTS FROM WHICH RELIEF IS REQUESTED

Pursuant to 10 CFR 50.55a(g)(5), relief is requested from the volumetric examination coverage requirements of the 1986 edition of ASME Section XI, Table IWB-2500-1, Examination B-D, Item Number B3.90 for the identified reactor vessel outlet nozzle to shell welds.

IV. BACKGROUND

Outlet nozzles to shell welds 10, 12, and 14 were initially examined during the September 1990 refueling outage using the immersion technique and credit was taken for an examination that had less than 10% reduction in coverage. These welds were re-examined during the March 2001 refueling outage to permit these examinations to be performed during the last period of future intervals. However, the immersion technique used in the 1990 examination has been replaced with the contact technique. Although the contact technique, which is the current standard examination method for vessel inspections, provides better sensitivity and improved control of the examination, it further reduces the available examination coverage.

Virginia Electric and Power Company
North Anna Power Station, Unit 2
Second Ten Year Interval
Request for Relief Partial 1 (continued)

V. BASIS FOR RELIEF

Reactor vessel outlet nozzles to shell welds 10, 12, and 14 have been examined to the extent practical as required by the Code. Due to weld joint geometry, the reduction in coverage for the listed components was greater than 10%. The protrusion of the nozzle beyond the shell physically restricted access for 100% coverage of the clockwise and counter-clockwise scans from the vessel shell. One hundred percent of the weld volume was covered from the nozzle bore. Table Partial-1 is provided detailing the limitations experienced during the March 2001 examination. An amplifying sketch is also provided. Although less than the Code required coverage was obtained, this examination provides an acceptable level of quality and safety.

VI. ALTERNATE PROVISIONS

It is proposed that the examinations already completed at the reduced coverage during the March 2001 refueling outage be counted as meeting the Code requirements.

Table Partial 1
North Anna Unit 2
Reactor Vessel Outlet Nozzle to Shell Welds 10, 12, and 14
Aggregate Coverage Percentage Estimates
Category B-D, Item B-3.90

Beam Direction	10 Degrees		45 Degrees		50 Degrees		60 Degrees		70 Degrees		80 Degrees	
	Weld	Volume	Weld	Volume	Weld	Volume	Weld	Volume	Weld	Volume	Weld	Volume
CCW			100	60.5			100	60.5	100	60.5	100	60.5
CW			100	60.5			100	60.5	100	60.5	100	60.5
Bore Axial	100	100			100	100						
Average of All ¹	Weld = 100% Volume = 60.5% Combined Average 80.25%											

¹ The bore exams provide 100% coverage for the axial scan direction, which accounts for 50% of the required scans. These bore exams combined with the transverse scan average of 60.5% results in a combined coverage for the volume of 80.25%. Weld coverage of 100% was calculated separately.

Sketch Partial 1
North Anna Unit 2
Reactor Vessel Outlet Nozzle to Shell Welds 10, 12, and 14

