VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

January 29, 2001

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

Serial No. 01-024
NL&OS/ETS R0
Docket No. 50-338
License No. NPF-4

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 1
ASME SECTION XI RELIEF REQUEST SPT-9

North Anna Power Station Unit 1 is presently in the third ten year inservice inspection interval and the examinations and system pressures tests are conducted to the requirements of the 1989 Edition of ASME Section XI. Pursuant to 10 CFR 50.55a(a)(3)(ii), relief is requested from certain requirements of the ASME Section XI Code associated with Code required hydrostatic testing and system pressure tests.

The basis for the relief is provided in attached Relief Request SPT-9. This relief request has been approved by the Station Nuclear Safety and Operating Committee.

In order to eliminate Code required hydrostatic test of these piping segments during the next scheduled outage, we request your approval of this relief request by Fall 2001. If you have any questions concerning this request, please contact us. Similar ASME Code relief requests were granted by the NRC in a letter dated January 20, 2000 for the second interval for North Anna 2 and for the third interval for Surry Units 1 and 2.

Very truly yours,

Leslie N. Hartz
Vice President - Nuclear Engineering and Services

Attachment

Commitments made in this letter:

None

A047

cc: U. S. Nuclear Regulatory Commission
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, Georgia 30323

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

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

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

ATTACHMENT

ASME SECTION XI RELIEF REQUEST NO. SPT-9
NORTH ANNA POWER STATION UNIT 1

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

Virginia Electric & Power Company (Dominion)
North Anna Unit 1
Third 10-Year Interval
Request for Relief No. SPT-09

I. IDENTIFICATION OF COMPONENTS

Class 2 piping that penetrates the containment vessel where the piping and isolation valves are part of the containment system but the balance of the piping is outside of the scope of Section XI.

Drawing	Test Boundary	Penetration Number
11715-SPM-096A-3 SH. 1 and 11715-SPM-096B-3 SH. 1	1"-SI-13-602-Q2	20
11715-SPM-106A-3 SH. 1	2-HC-TV-205B, 2-HC-TV-201B, to 2-HC-15	31
13075-SPM-102C-3 SH. 1	3"-SGD-16-601-Q2	32
11715-SPB-102B-3 SH. 1	1-FP-275 to 1-FP-272	34
11715-SPM-082F-3 SH. 1	2"-ASC-20-153A-Q2	42
11715-SPM-082N-3 SH. 3	1"-ARC-1-153A-Q2	43
11715-SPM-082N-3 SH. 3	1"-ARC-2-153A-Q2	44
11715-SPM-093B-3 SH. 2	3"-RC-52-153A-Q2	45
11715-SPM-082A-3 SH. 1 and 11715-SPM-082N-3 SH. 1	2"-ACC-21-153A-Q2	47
11715-SPM-090C-3 SH. 1	1 ½"-VG-6-153A-Q2	48
11715-SPM-096B-3 SH. 1	1"-SI-117-1501-Q2(NSQ)	53
11715-SPM-090C-3 SH. 3	2"-VA-57-154-Q2	54
11715-SPM-092A-3 SH. 1	1-LM-TV-100E to inside containment	55D
11715-SPM-089D-3 SH. 1	3/8"-SS-234-ICN9-Q2	57
11715-SPM-092A-3 SH. 1	1-LM-TV-100G to inside containment	57A
11715-SPM-072A-3 SH. 2	6"-AJA-10-151-Q2	89
11715-SPM-092A-3 SH. 2 and 11715-SPM-106A-3 SH. 4	2"-CV-10-154-Q2	92
11715-SPM-092A-3 SH. 2 and 11715-SPM-106A-3 SH. 4	2"-CV-9-154-Q2	93
11715-SPM-092A-3 SH. 1	1-LM-TV-100A to inside containment	97B
11715-SPM-106A-3 SH. 1	3/8"-HC-445-ICN6-Q2	98A
11715-SPM-106A-3 SH. 3	3/8"-HC-459-ICN9-Q2	98A
13075-SPM-102C-3 SH. 1	3"-SGD-17-601-Q2	100
11715-SPM-088A-3 SH. 2	6"-RP-51-152-Q2	103
11715-SPM-088A-3 SH. 2	6"-RP-23-152-Q2	104
11715-SPM-092A-3 SH. 1	1-LM-TV-100C to inside containment	105A
11715-SPM-106A-3 SH. 2	3/8"-HC-441-ICN6-Q2	105B
11715-SPM-092A-3 SH. 1	1-LM-TV-101A to inside containment	105C
11715-SPM-092A-3 SH. 1	1-LM-TV-101C to inside containment	105D
13075-SPM-102C-3 SH. 1	3"-SGD-18-601-Q2	108
11715-SPM-106A-3 SH. 2	2-HC-TV-207B, 2-HC-TV-203B, to 2-HC-20	109

II. CODE REQUIREMENTS

Table IWC-2500-1, Examination Category C-H, Items C7.30 and C7.70 requires a system pressure test each inspection period and Items C7.40 and C7.80 requires a system hydrostatic test each inspection interval.

III. CODE REQUIREMENT FROM WHICH RELIEF IS REQUESTED

Relief is requested from performing the Code-required hydrostatic test at the end of the inspection interval and the Code-required system pressure test during each period for the containment penetrations listed.

IV. BASIS FOR RELIEF

The sole safety function of the piping and associated valves listed is to provide containment isolation. The components listed are part of the containment system. Containment penetrations are classified as Class 2 per ANSI 18.2, "Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants", section 2.3.1.2 (1). For the subject penetrations the connecting piping beyond the containment isolation valves serves no safety function and is classified as non-class by the classification criteria used by Dominion for North Anna Unit 1.

The ASME Section XI pressure testing requirements have verified leak-tight integrity by an over pressure test every ten years and a nominal operating test every inspection period. The 10-year hydrostatic tests were considered inordinately burdensome for the marginal benefit in safety they assure and have been eliminated by Code Case N-498-1, "Alternative Rules for 10-year Hydrostatic Pressure Testing for Class 1 and 2 Systems, Section XI, Division 1", which has been approved by Regulatory Guide 1.147, Inservice Inspection Code Case Acceptability ASME Section XI Division 1. The 10-Year hydrostatic test is now conducted at nominal operating pressure.

The subject penetrations are Type C pressure tested to a peak containment internal pressure of greater than or equal to 44.1 psig. This test is performed to satisfy Technical Specification Surveillance Requirement 4.6.1.2 which requires all containment penetrations to be leak rate tested as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guideline contained in Regulatory Guide 1.163, dated September 1995. The testing frequency of 10 CFR 50, Appendix J, Option B is performance based and can vary from 2 years to 5 years or three refueling cycles. This frequency does not

IV. BASIS FOR RELIEF (continued)

coincide with the inspection period frequency required in Table IWC-2500-1 for system pressure tests and, therefore, the ASME Code in effect at North Anna requires additional leak tightness testing.

The ASME Section XI Code has acknowledged that testing of these components beyond the requirements of Appendix J is not necessary and issued Code Case N-522, "Pressure Testing of Containment Penetration Piping," to define its position.

NUREG-1493, "Performance-Based Containment Leak Test Program," concluded that prescriptive leak rate testing could be replaced with performance based requirements with only a marginal and acceptable impact on safety. The total cost of testing Type B (electrical penetrations) and Type C containment penetrations (approximately 90 penetrations) was estimated to be $87,500 per outage for North Anna as reported in NUREG-1493. NUREG-1493 estimates that 5% of the total cost of Type B & C testing could be saved if the acceptance criteria were relaxed. The additional cost of performing ASME Section XI pressure testing beyond the requirements of 10 CFR 50, Appendix J, Option B testing is not commensurate with the insignificant gain in operational safety.

V. ALTERNATIVE PROVISION

As an alternative to the testing frequency and pressures required by Table IWC-2500-1, Examination Category C-H, Items C7.30, C7.40, C7.70, and C7.80, the subject penetrations and associated piping and valves, will be pressure tested at peak containment calculated pressures to the requirements of 10 CFR Appendix J, as allowed by Code Case N-522. Testing will be performed in accordance with Technical Specification Surveillance Requirement 4.6.1.2, which requires all containment penetrations to be leak rate tested as required by 10 CFR 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guideline contained in Regulatory Guide 1.163, dated September 1995.

All subject penetrations will be Type C tested at least once every 60 months in accordance with the Technical Specifications. Methods for the detection and location of leakage at containment isolation valves and the pipe segments between the containment isolation valves will be identified in procedures.

VI. STATUS

Pending