VIRGINIA ELECTRIC AND POWER COMPANY

RICHMOND, VIRGINIA 23261

June 10, 1996

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

Serial No.: 95-602A
Docket No.: 50-338
50-339
License No.: NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 & 2
SECOND INTERVAL INSERVICE INSPECTION PROGRAMS
REQUEST FOR ADDITIONAL INFORMATION

By letter dated December 7, 1995 (Serial No. 95-602), Virginia Electric and Power Company requested the use of Code Cases N-522, "Pressure Testing of Containment Penetration Piping," and N-535, "Alternative Requirements for Inservice Inspection Intervals." In addition, by letter dated February 7, 1996 (Serial No. 96-031), we submitted Revision 1 of relief request NDE-16 for the North Anna Unit 2 pressurizer nozzle inner radius examination for NRC review and approval.

Several aspects of these submittals were discussed by telephone with the NRC staff and its contractor, Idaho National Engineering Laboratory, on March 28, 1996. As a result of the telephone conference call, relief request NDE-16 for Unit 2 and our request for use of Code Case N-535 for Units 1 and 2 are being withdrawn. The request for use of Code Case N-522 has been revised, and is being submitted as relief request SPT-16 for Unit 2. Relief request SPT-16 for Unit 2 is provided as Attachment 1. The similar request for use of N-522 for Unit 1 was determined not to be neccessary for the third period and is being withdrawn.

Should you have any questions or require additional information, please contact us.

Very truly yours,

James P. O'Hanlon

James P. O'Hanlon
Senior Vice President - Nuclear

Attachment

A047

cc: United States Nuclear Regulatory Commission
Regional Administrator
Region II
101 Marietta Street, N. W.
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Mr. R. D. McWhorter
NRC Senior Resident Inspector
North Anna Power Station

Attachment 1
North Anna Unit 2

Relief Request SPT-16

Virginia Electric & Power Company
North Anna Unit 2
Second 10-Year Interval
Request for Relief No. SPT-16

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-SPB-006A-2 SH. 2	36"-AR-491-151-Q2 between 1-HV-MOV-202, 1-HV-MOV-200A, and 1-HV-MOV-200B	91
11715-SPB-006A-2 SH. 2	36"-AR-490-151-Q2 between 1-HV-MOV-201, 1-HV-MOV-200C, and 1-HV-MOV-200D	90
11715-SPM-106A-2 SH. 1	M-HC-75-ICN6-Q2 between 2-HC-TV-200A and 2-HC-TV-200B	93
11715-SPM-106A-2 SH. 1	M-HC-411-ICN6-Q2 between 2-HC-TV-201B and 2"-HC-2-154-Q2 and 2"-HC-2-154-Q2 between 2-HC-TV-205B and 2-HC-15	31
11715-SPM-106A-2 SH. 2	M-HC-461-ICN6-Q2 between 2-HC-TV-202A and 2-HC-TV-202B	105
11715-SPM-106A-2 SH. 2	M-HC-413-ICN6-Q2 between 2-HC-TV-203B and 2-HC-3-154-Q2, and 2½-HC-440-154-Q2 between 2"-HC-3-154-Q2 and 2-HC-TV-207B, and 2-HC-3-154-Q2	109
11715-SPM-106A-2 SH. 3	M-HC-467-ICN9-Q2 between 2-HC-TV-208A and 2-HC-TV-208B	98
12050-SPB-104B-2 SH. 1	4" line between 2-FP-79 and 2-FP-82	34

Drawing	Test boundary	Penetration Number
12050-SPM-072A-2 SH. 2	6"-AJA-410-151-Q2 between 2-VP-24 and 2-SV-TV-202-1	89
12050-SPM-082A-2 SH. 1	2"-ACC-421-153A-Q2 between penetration 47 and 2-IA-250	47
12050-SPM-082B-2 SH. 1	2"-ACC-421-153A-Q2 between penetration 47 and 2-IA-TV-202B	47
12050-SPM-082B-2 SH. 2	1"-ARC-402-153A-Q2 between 2-RM-TV-200B and 2-RM-TV-200C	44
12050-SPM-082B-2 SH. 2	1"-ARC-401-153A-Q2 between 2-RM-TV-200D and 2-IA-428	43
11715-SPM-088A-2 SH. 3	6"-RP-454-152-Q2 and 6"-RP-444-153A-Q2	103
11715-SPM-088A-2 SH. 3	6"-RP-449-152-Q2	104
12050-SPM-090A-2 SH. 1	1½"-VG-406-153A-Q2 between 2-VG-TV-200A and 2-VG-TV-200B	48
12050-SPM-090A-2 SH. 3	2"-VA-457-154-Q2 between 2-DA-7 and 2-DA-9	54
12050-SPM-090A-2 SH. 3	2"-DA-449-153A-Q2, ¾"-DA-450-153A-Q2, ¾"-DA-451-153A-Q2, 2"-DA-452-153A-Q2, between 2-DA-48 and 2-DA-TV-203B	111
12050-SPM-090B-2 SH. 1	2"-DA-445-153A-Q2 between 2-DA-TV-200A and penetration 38	38
12050-SPM-092A-2 SH. 2	2"-CV-410-154-Q2 between 2-CV-TV-250D and 2-CV-15, 2"-HC-433-154-Q2, and 2½-HC-434-154-Q2 to 2-HC-TV-204B	92
12050-SPM-092A-2 SH. 2	2"-CV-409-154-Q2 between 2-CV-TV-250B and 2-CV-8, 2"-HC-437-154-Q2, and 2½-HC-438-154-Q2 to 2-HC-TV-206B	93
12050-SPM-092A-2 SH. 2	8"-CV-411-151-Q2 between 2-CV-4 and 2-CV-TV-100	94

Drawing	Test boundary	Penetration Number
12050-SPM-093B-2 SH. 2	3"-RC-452-153A-Q2 between 2-RC-2519A to 2-RC-162	45
12050-SPM-096A-2 SH. 1	1"-SI-413-602-Q2 between penetration 20 and 2-SI-47	20
12050-SPM-096B-2 SH. 1	1"-SI-413-602-Q2 between 2-SI-136 and penetration 20	20
12050-SPM-096B-2 SH. 1	1"-SI-498-601-Q2 between 2-SI-HCV-2936 and 2-SI-TV-201	50
12050-SPM-096B-2 SH. 1	1"-SI-517-1501-Q2 between 2-SI-132 and 2-SI-TV-200	53
12050-SPM-102B-2 SH.1	3"-SGD-413-601-Q2, 2"-SGD-422-601-Q2, and 2"-SGD-425-601-Q2	32
13075-SPM-102C-2 SH.1	3"-SGD-414-601-Q2, 2"-SGD-423-601-Q2, and 2"-SGD-426-601-Q2	100
13075-SPM-102C-2 SH.1	3"-SGD-415-601-Q2, 2"-SGD-424-601-Q2, and 2"-SGD-427-601-Q2	108

II. IMPRACTICABLE 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 C7.60 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. The 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 nonclass by the classification criteria used by Virginia Electric and Power Company for North Anna Unit 2.

The ASME Section XI pressure testing requirements verify leak-tight integrity by an over pressure test every ten years and a nominal operating test every inspection period. The 10-year hydrostatic tests are considered inordinately burdensome for the marginal benefit in safety they provide and have been eliminated by Code Case N-498, "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 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 will not coincide with the inspection period frequency required in Table IWC-2500-1 for system pressure tests. Therefore, the ASME Code in effect at North Anna will require 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 Type B (electrical penetrations) and Type C testing all 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 marginal benefits of performing ASME Section XI pressure testing in excess of the requirements of 10 CFR 50, Appendix J, Option B testing are not commemsurate with the cost of the additional testing.

V. PROPOSED ALTERNATIVE

As an alternative to the testing frequency and pressures required by Table IWC-2500-1, Examination Category C-H, Items C7.30, C7.40, C7.60, and C7.70, the subject penetrations and associated piping and valves, will be pressure tested 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.

VI. IMPLEMENTATION SCHEDULE

The Technical Specifications were revised on 2/9/96 to incorporate 10 CFR 50, Appendix J, Option B. The subject containment penetrations will be Type C tested in the second period. The last refueling outage of the second period is scheduled to start on 9/7/96. The third period starts on 12/14/97. Test intervals for valves having two consecutive periodic "as-found" Type C tests where the results are within the allowable administrative limits may be increased up to a maximum of 60 months. Some valves demonstrating adequate performance after testing during the 1996 refueling outage may not require additional testing during the third period.