July 19, 1989

Docket Nos. 50-338
and 50-339

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Mr. W. R. Cartwright
Vice President - Nuclear
Virginia Electric and Power Company
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Dear Mr. Cartwright:

SUBJECT: NORTH ANNA UNITS 1 AND 2 - CORRECTION TO AMENDMENT NOS. 116 AND 99 (TAC NOS. 66348 AND 66349)

On May 8, 1989, the Commission issued Amendment Nos. 116 and 99 for the North Anna Power Station, Units 1 and 2 (NA-1&2). The amendments added additional surveillance requirements for the butterfly-type containment isolation valves in the containment purge lines and the containment vacuum ejector lines.

By letter dated June 21, 1989, you informed us of administrative errors in these amendments. On page 3/4 6-1 for both NA-1&2, the gas test pressure P_a was incorrectly specified as 40.6 psig, instead of the previously approved valve of 44.1 psig (Amendment Nos. 110 and 96). In addition, on page B 3/4 6-1 for NA-1, the first sentence in Section 3/4.6.1.2 should have read, "The limitations on containment leakage rates" rather than "tests." Enclosed are the corrected pages 3/4 6-1 for NA-1&2 and page B 3/4 6-1 for NA-1, as well as the corresponding overleaf pages.

Sincerely,

/s/

Leon B. Engle, Project Manager
Project Directorate II-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
See next page

LA:PD22	PM:PD22	D:PD22
DMiller	LEngle	HBerkow
7/19/89	7/19/89	7/19/89

DFO1
1/1

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3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that all penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except as provided in Table 3.6-1 of Specification 3.6.3.1., and

b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.

c. After each closing of the equipment hatch, by leak rate testing the equipment hatch seals with gas at P_a, greater than or equal to 44.1 psig, and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2.d for all other Type B and C penetrations, the combined leakage rate is less than or equal to 0.60 L_a.

d. Each time containment integrity is established after vacuum has been broken by pressure testing the butterfly isolation valves in the containment purge lines and the containment vacuum ejector line.

*Except valves, blind flanges and deactivated automatic valves which are located inside the containment and are locked sealed or otherwise sealed in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:**

a. An overall integrated leakage rate of:

1. $\leq L_a$, 0.1 percent by weight of the containment air per 24 hours at P_a, $\geq$ 44.1 psig, or

b. A combined leakage rate of $\leq$ 0.60 L_a for all penetrations and valves subject to Type B and C tests, when pressurized to P_a, $\geq$ 44.1 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding 0.75 L_a or (b) with the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding 0.60 L_a, restore the leakage rate(s) to within the limit(s) prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of either ANSI N45.4-1972 for leakage rate point data analysis or ANSI/ANS-56.8-1987 for mass point data analysis with a minimum test duration of 24 hours.**

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 $\pm$ 10 month intervals during shutdown at $P_a \geq$ 44.1 psig during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection.*

*The third test of the first 10-year service period shall be conducted during the 1989 Refueling/10-Year ISI Outage.

**For Specification 3/4.6.1.2 only, P_a shall be 40.6 psig until completion of the Cycle 7 to 8 refueling outage. Following this outage, P_a shall be 44.1 psig.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that all penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except as provided in Table 3.6-1 of Specification 3.6.3.1., and

b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.

c. After each closing of the equipment hatch, by leak rate testing the equipment hatch seals with gas at Pa, greater than or equal to 44.1 psig, and verifying that when the measured leakage rate for these seals is added to the leakage rates determined pursuant to Specification 4.6.1.2.d for all other Type B and C penetrations, the combined leakage rate is less than or equal to 0.60 La.

d. Each time containment integrity is established after vacuum has been broken by pressure testing the butterfly isolation valves in the containment purge lines and the containment vacuum ejector line.

*Except valves, blind flanges and deactivated automatic valves which are located inside the containment and are locked sealed or otherwise sealed in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:**

a. An overall integrated leakage rate of:

1. Less than or equal to L_a, 0.1 percent by weight of the containment air per 24 hours at P_a, greater than or equal to 44.1 psig, or

b. A combined leakage rate of less than or equal to 0.60 L_a for all penetrations and valves subject to Type B and C tests, when pressurized to P_a, greater than or equal to 44.1 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding 0.75 L_a or (b) with the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding 0.60 L_a, restore the overall integrated leakage rate to less than 0.75 L_a and the combined leakage rate for all penetrations subject to Type B and C tests to less than or equal to 0.60 L_a prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of either ANSI N45.4-1972 for leakage rate point data analysis or ANSI/ANS-56.8-1987 for mass point data analysis with a minimum test duration of 24 hours.**

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 $\pm$ 10 month intervals during shutdown at P_a greater than or equal to 44.1 psig during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection.*

*The second test of the first 10-year service period shall be conducted during the 1989 Refueling Outage.

**For Specification 3/4.6.1.2 only, P_a shall be 40.6 psig until completion of the Cycle 6 to 7 refueling outage. Following this outage, P_a shall be 44.1 psig.

2) That the peak clad fuel temperature will remain less than 2200°F for a LOCA and

3) That for either a LOCA or MSLB;

a) The peak containment pressure will be limited to the upper containment design pressure of 45 psig,

b) The containment internal pressure can be returned subatmospheric within 60 minutes, and

c) Safety related equipment within the containment will not experience temperatures greater than those to which they have previously been qualified.

d) It is a design criteria that the containment internal pressure remain subatmospheric after 60 minutes.

The limits shown in Figure 3.6-1 and Specification 3.6.1.5 are consistant with the assumptions of the accident analyses which included consideration of instrument loop uncertainties.

3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the design pressure of 45 psig. The visual examination of the concrete and liner and the Type A leakage tests are sufficient to demonstrate this capability.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 and 3/4.6.2.2 CONTAINMENT QUENCH AND RECIRCULATION SPARY SYSTEMS

The OPERABLILITY of the containment spray systems ensures that containment depressurization and subsequent return to subatmospheric pressure will occur in the event of a LOCA. The pressure reduction and resultant termination of containment leakage are consistent with the assumptions used in the accident analyses.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with the leakage rate limitation, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions.

Leakage integrity tests in the containment purge lines and the containment vacuum ejector system lines is to identify excessive degradation of the resilient seats of these valves. These tests will be performed in addition to the Type C tests required by 10 CFR Part 50, Appendix J and will not relieve the responsibility to conform with Appendix J.

3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure, P_a. As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to $0.75 L_a$ during performance of the periodic test to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix "J" of 10 CFR 50. Due to the increased accuracy of the mass-point method for containment integrated leakage testing, the mass-point method referenced in ANSI/ANS 56.8-1987 can be used in lieu of the methods described in ANSI N45.4-1972.

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

3/4.6.1.4 and 3/4.6.1.5 INTERNAL PRESSURE AND TEMPERATURE

The limitations on containment internal pressure and average air temperature ensure that

1) The containment pressure is prevented from reaching the containment lower design pressure of 5.5 psia for an inadvertent containment spray actuation,