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, $\geq$ 40.6 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, $\geq$ 40.6 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, $\geq$ 40.6 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.

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.

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 $\leq 0.75\ L_a$ 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 an exemption to 10CFR50 Appendix J has been granted. 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,

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, $\geq$ 40.6 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, $\geq$ 40.6 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, $\geq$ 40.6 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.

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.

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 $\leq 0.75\ L_a$ 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 an exemption to 10CFR50 Appendix J has been granted. 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

ATTACHMENT 3

DISCUSSION OF PROPOSED TECHNICAL SPECIFICATION CHANGES
NORTH ANNA UNITS 1 AND 2

SAFETY EVALUATION

The Commission has provided standards in 10 CFR 50.59 for determining whether an unreviewed safety question exists. A proposed amendment to an operating license (Technical Specifications) does not involve an unreviewed safety question if operation of the facility in accordance with the proposed amendment would not: (1) increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report; (2) create the possibility for an accident or malfunction of a different type than previously evaluated in the safety analysis report, or (3) reduce the margin of safety as defined in the basis of any technical specification. Virginia Electric and Power Company has reviewed this request and determined that:

1) The proposed amendment will not involve an increase in the probability or consequences of an accident previously evaluated. The mass-point technique for calculation of the containment leakage rate is a newer, more accurate and NRC staff-endorsed method. It, or any other calculational method used to determine containment leakage rates during testing, is not considered to be an initiator of any accident previously evaluated.

   The mass-point technique is judged to be a superior method for calculating containment leakage rates, and thereby a better method of verifying that leakage from the containment is maintained within allowable limits. By employing a more reliable calculational technique, the assessment of containment integrity, through integrated leak rate testing, is enhanced. As such, the consequences of previously evaluated accidents are not impacted.

2) The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed amendment provides for the use of a newer, more accurate technique for calculation of the leakage rate during a containment integrated leak rate test. No possibility of a new or different kind of accident is created since the technique used to calculate leak rates in itself is not considered to be an initiator of any accident, transient, incident, or event.

3) The proposed amendment does not involve a reduction in the margin of safety. The proposed amendment allows the use of the mass-point method to calculate the leakage rate from the containment when performing a containment integrated leak rate test. The mass-point method is a newer, more accurate method which has been endorsed by the NRC Staff. By adopting this technique, Virginia Electric and Power Company will be able to make more reliable determinations of containment leakage during an integrated leak rate test. As such, the degree of confidence in containment integrity would be enhanced. Therefore, this proposed revision does not impact the margin of safety.

Based on the above reasoning, Virginia Electric and Power Company has determined that the proposed changes will not involve an unreviewed safety question.

SIGNIFICANT HAZARDS ANALYSIS

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. The Virginia Electric and Power Company has reviewed this request and determined that:

1) The proposed amendment will not involve an increase in the probability or consequences of an accident previously evaluated. The mass-point technique for calculation of the containment leakage rate is a newer, more accurate and NRC staff-endorsed method. It, or any other calculational method used to determine containment leakage rates during testing, is not considered to be an initiator of any accident previously evaluated.

   The mass-point technique is judged to be a superior method for calculating containment leakage rates, and thereby a better method of verifying that leakage from the containment is maintained within allowable limits. By employing a more reliable calculational technique, the assessment of containment integrity, through integrated leak rate testing, is enhanced. As such, the consequences of previously evaluated accidents are not impacted.

2) The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed amendment provides for the use of a newer, more accurate technique for calculation of the leakage rate during a containment integrated leak rate test. No possibility of a new or different kind of accident is created since the technique used to calculate leak rates in itself is not considered to be an initiator of any accident, transient, incident, or event.

3) The proposed amendment does not involve a reduction in the margin of safety. The proposed amendment allows the use of the mass-point method to calculate the leakage rate from the containment when performing a containment integrated leak rate test. The mass-point method is a newer, more accurate method which has been endorsed by the NRC Staff. By adopting this technique, Virginia Electric and Power Company will be able to make more reliable determinations of containment leakage during an integrated leak rate test. As such, the degree of confidence in containment integrity would be enhanced. Therefore, this proposed revision does not impact the margin of safety.

Based on the above reasoning, Virginia Electric and Power Company has determined that the proposed changes involve no significant hazards consideration.

ATTACHMENT 4

APPLICATION FEE