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 40.6 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.

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 does 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. Tests need not be conducted with the precision required for the Type C isolation valve tests in 10 CFR Part 50, Appendix J. Tests will be performed in addition to the quantitative Type C tests required by 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.

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,

ATTACHMENT 2

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 40.6 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.

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 does 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. Tests need not be conducted with the precision required for the Type C isolation valve tests in 10 CFR Part 50, Appendix J. Tests will be performed in addition to the quantitative Type C tests required by 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.

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

On April 10, 1983, the NRC issued the completion of NRC Generic Item B-24, Containment Purge and Vent and TMI Action Plan II.E.4.2 for North Anna Unit Nos. 1 and 2. As part of the NRC Safety Evaluation, the NRC is requiring that North Anna Units 1 and 2 perform leakage integrity tests on the isolation valves in the containment purge lines and the steam jet air ejector system lines at least once every 6 months. The reason for this testing is the unsatisfactory performance of the resilient seats for the 42" and 6" butterfly-type isolation valves in the containment purge lines and the steam jet air ejector system lines that has occurred in the industry. Tests need not be conducted with the precision required for the Type C isolation valve tests in 10 CFR Part 50, Appendix J. These tests will be performed in addition to the quantitative Type C tests required by Appendix J and will not relieve the responsibility to conform to the requirements of Appendix J.

There are no 42" and 6" butterfly isolation valves at North Anna Units 1 and 2. There are 36", 18" and 8" butterfly isolation valves in the containment purge and containment vacuum systems. It is assumed that this requirement is applicable to these valves. The subject valves for Unit 1 are listed on page 2 of this evaluation, Unit 2 has corresponding valves.

Instead of testing these valves every six months, it is proposed that they be tested each time containment integrity is established after vacuum has been broken. This frequency is consistent with existing operating procedures and in some instances is more conservative than every six months. This will also ensure that each time these valves are cycled they will be leak tested. Testing these valves during power operation may require containment entry which is counter to ALARA and safety concerns. In addition, there is a risk of losing containment vacuum if this test is performed at power.

In addition, the Unit 1 format is being changed to the Unit 2 format for consistency.

This proposed change does not pose a significant hazards consideration. The probability of occurrence or the consequences of a malfunction of equipment important to safety and previously evaluated in the UFSAR is decreased. The possibility of a different type of accident or malfunction than was previously evaluated in the UFSAR has not been created because this additional leakage integrity tests on the purge and vent isolation valves will identify excessive degradation to the resilient seats of these valves. The margin of safety as described in the BASES section of any part of the Technical Specifications is increased by adding the requirement to perform leakage integrity tests on the containment purge and vent isolation valves each time containment integrity is established.

TV.CV.100	08.00" AO BFLY ********** CONTAINMENT VACUUM EJECTOR- INSIDE CONTAINMENT ISOLATION VALVE
MOV.HV.100A	36.00" MO BFLY ********** CONTAINMENT PURGE SUPPLY- INSIDE CONTAINMENT ISOLATION VALVE
MOV.HV.100B	36.00" MO BFLY ********** CONTAINMENT PURGE SUPPLY- OUTSIDE CONTAINMENT ISOLATION VALVE
MOV.HV.100C	36.00" MO BFLY ********** CONTAINMENT PURGE EXHAUST- INSIDE CONTAINMENT ISOLATION VALVE
MOV.HV.100D	36.00" MO BFLY ********** CONTAINMENT PURGE EXHAUST- OUTSIDE CONTAINMENT ISOLATION VALVE
MOV.HV.101	08.00" MO BFLY ********** CONTAINMENT PURGE BYPASS- OUTSIDE CONTAINMENT ISOLATION VALVE
MOV.HV.102	18.00" MO BFLY ********** CONTAINMENT PURGE ALTERNATE SUPPLY-OUTSIDE CONTAINMENT ISOLATION VALVE