

## 3/4.6 CONTAINMENT SYSTEMS

### 3/4.6.1 CONTAINMENT

#### CONTAINMENT INTEGRITY

#### LIMITING CONDITION FOR OPERATION

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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

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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 for valves that are open under administrative control as permitted by Specification 3.6.3.1.
- 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. Results shall be evaluated against the criteria of Specification 3.6.1.2.b in accordance with the 10 CFR 50, Appendix J, Option B, as modified by approved exemptions and Regulatory Guide 1.163.
- 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.

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\* 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 surveillance need not be performed more often than once per 92 days.

## CONTAINMENT SYSTEMS

### CONTAINMENT LEAKAGE

#### LIMITING CONDITION FOR OPERATION

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3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of less than or equal to  $L_a$ , 0.1 percent by weight of the containment air per 24 hours, at the calculated peak containment pressure  $P_a$ , greater than or equal to 44.1 psig.
- 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

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4.6.1.2 The containment and containment penetrations leakage rates shall be demonstrated by performing leakage rate testing in accordance with 10 CFR 50, Appendix J, Option B, as modified by approved exemptions and Regulatory Guide 1.163. The provisions of Specification 4.0.2 are not applicable.

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## CONTAINMENT SYSTEMS

### CONTAINMENT AIR LOCKS

#### LIMITING CONDITION FOR OPERATION

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3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to  $0.05 L_a$  at  $P_a$  greater than or equal to 44.1 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

#### ACTION:

- a. With one containment air lock door inoperable:
  1. Maintain at least the OPERABLE air lock door closed and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed.+
  2. Operation may then continue until performance of the next required overall air lock leakage test provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.
  3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
  4. The provisions of Specification 3.0.4 are not applicable.
- b. With a containment air lock inoperable, except as the result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a. By performing leakage rate testing in accordance with 10 CFR 50, Appendix J, Option B, as modified by approved exemptions and Regulatory Guide 1.163. The provisions of Specification 4.0.2 are not applicable.
- b. At least once per refueling outage by verifying that only one door in each air lock can be opened at a time.

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+ Entry to repair the inner air lock door, if inoperable, is allowed.

## CONTAINMENT SYSTEMS

### CONTAINMENT STRUCTURAL INTEGRITY

#### LIMITING CONDITIONS FOR OPERATION

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3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.6.1 Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of the containment, including the liner plate shall be determined by performing visual examinations in accordance with 10 CFR 50, Appendix J, Option B, as modified by approved exemptions and Regulatory Guide 1.163. The provisions of Specification 4.0.2 are not applicable.

## ADMINISTRATIVE CONTROLS

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### 6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of facility operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. ALL REPORTABLE EVENTS and Special Reports.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of changes made to Operating Procedures.
- f. Records of radioactive shipments.
- g. Records of sealed source leak tests and results.
- h. Records of annual physical inventory of all sealed source material of record.
- i. Records of the Station Emergency Plan and implementing procedures audits.
- j. Records of the Station Security Plan and implementation procedures audits.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

**Attachment 3**

**Technical Specifications Change**

**North Anna Power Station - Unit 2**

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ACTION:

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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 for valves that are open under administrative control as permitted by Specification 3.6.3.1.
- 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. Results shall be evaluated against the criteria of Specification 3.6.1.2.b in accordance with the 10 CFR 50, Appendix J, Option B, as modified by approved exemptions and Regulatory Guide 1.163.
- 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.

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\* 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 surveillance need not be performed more often than once per 92 days.



## CONTAINMENT SYSTEMS

### CONTAINMENT LEAKAGE

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3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of less than or equal to  $L_a$ , 0.1 percent by weight of the containment air per 24 hours, at the calculated peak containment pressure  $P_a$ , greater than or equal to 44.1 psig.
- 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

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4.6.1.2 The containment and containment penetrations leakage rates shall be demonstrated by performing leakage rate testing in accordance with 10 CFR 50, Appendix J, Option B, as modified by approved exemptions and Regulatory Guide 1.163. The provisions of Specification 4.0.2 are not applicable.

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## CONTAINMENT SYSTEMS

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3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of less than or equal to  $0.05 L_a$  at  $P_a$  greater than or equal to 44.1 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

#### ACTION:

- a. With one containment air lock door inoperable:
  1. Maintain at least the OPERABLE air lock door closed and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed.+
  2. Operation may then continue until performance of the next required overall air lock leakage test provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.
  3. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
  4. The provisions of Specification 3.0.4 are not applicable.
- b. With a containment air lock inoperable, except as the result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

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- b. At least once per refueling outage by verifying that only one door in each air lock can be opened at a time.

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## CONTAINMENT SYSTEMS

### CONTAINMENT STRUCTURAL INTEGRITY

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3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.1.6.1 Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of the containment, including the liner plate shall be determined by performing visual examinations in accordance with 10 CFR 50, Appendix J, Option B, as modified by approved exemptions and Regulatory Guide 1.163. The provisions of Specification 4.0.2 are not applicable.

## ADMINISTRATIVE CONTROLS

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### SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator, Region II, within the time period specified for each report. These reports shall be submitted pursuant to the requirement of the applicable specification:

- a. Inservice Inspection Reviews, Specification 4.0.5, shall be reported within 90 days of completion.
- b. MODERATOR TEMPERATURE COEFFICIENT. Specification 3.1.1.4.
- c. Deleted.
- d. RADIATION MONITORING INSTRUMENTATION. Specification 3.3.3.1, Table 3.3-6, Action 35.
- e. Deleted.
- f. LOW-TEMPERATURE OVERPRESSURE PROTECTION. Specification 3.4.9.3.
- g. EMERGENCY CORE COOLING SYSTEMS. Specification 3.5.2 and 3.5.3.
- h. SETTLEMENT OF CLASS 1 STRUCTURES. Specification 3.7.12.
- i. GROUND WATER LEVEL - SERVICE WATER RESERVOIR. Specification 3.7.13.
- j. Deleted.
- k. Deleted.
- l. RADIOACTIVE EFFLUENTS. As required by the ODCM.
- m. RADIOLOGICAL ENVIRONMENTAL MONITORING. As required by the ODCM.
- n. SEALED SOURCE CONTAMINATION. Specification 4.7.11.1.3.
- o. REACTOR COOLANT SYSTEM STRUCTURAL INTEGRITY. Specification 4.4.10. For any abnormal degradation of the structural integrity of the reactor vessel or the Reactor Coolant System pressure boundary detected during the performance of Specification 4.4.10, an initial report shall be submitted within 10 days after detection and a detailed report submitted within 90 days after the completion of Specification 4.4.10.
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**Attachment 4**

**Significant Hazards Consideration Determination**

**North Anna Power Station**

## 10 CFR 50.92 EVALUATION - BASIS FOR NO SIGNIFICANT HAZARDS DETERMINATION

The Nuclear Regulatory Commission has amended its regulations to provide a performance-based option for leakage-rate testing of containments. This testing option is available in lieu of compliance with the prescriptive requirements contained in Appendix J regulations. In order to implement the performance-based leakage-rate testing option the Technical Specifications must be changed to eliminate reference to the prescriptive Appendix J requirements. Therefore, Virginia Electric and Power Company (Virginia Power) is proposing a change to the North Anna Technical Specifications to eliminate the current prescriptive requirements for leakage rate testing of the containment and reference Option B to 10 CFR 50 Appendix J and NRC Regulatory Guide 1.163, "Performance-Based Containment Leakage-Test Program." This change will permit use of the performance-based surveillance testing, Option B, of 10 CFR 50 Appendix J. Specifically, operation of North Anna Power Station with the proposed change will not:

1. Involve a significant increase in either the probability of occurrence or consequences of any accident or equipment malfunction scenario which is important to safety and which has been previously evaluated in the Updated Final Safety Analysis Report (UFSAR).

Plant systems and components will not be operated in a different manner as a result of the proposed Technical Specifications change. The proposed change permits a performance-based approach to determining the leakage-rate test frequency for the containment and containment penetrations (Type A, B, and C tests). Since the proposed change only affects the test frequency for containment and the containment penetrations, the probability of occurrence of an accident is not affected by the proposed changes in the leak-rate test interval.

The proposed change increases the probability of a malfunction due to the longer intervals between leakage tests. It has been estimated that the longer test intervals will increase the overall accident risk to the public by approximately 0.7% and 2.2% (for changes in the frequency of Type A tests and Type B and C tests, respectively). However, this increase in accident risk has been judged to be insignificant. This increase has been reviewed and judged to be acceptable by the NRC as documented in NUREG-1493 and the recent rulemaking to 10 CFR 50 Appendix J.

The Limiting Conditions for Operation are not being changed for the containment or any other safety system. The containment and other safety system remain operable as assumed in the accident analysis. Since the proposed change does not affect the Limiting Conditions for Operation for the containment, the containment penetrations, or the other safety systems, the consequences of an accident are not affected by the changes in test frequency.

Therefore, the probability of an accident or consequences of an accident are not adversely affected as a result of this change.



2. Create the possibility of a new or different type of accident than those previously evaluated in the UFSAR.

Implementing the proposed Technical Specifications change to remove the prescriptive testing requirements and permit use of Appendix J, Option B, performance-based testing of containment and its penetrations do not create the possibility of an accident of a different type than was previously evaluated in the UFSAR. Plant systems and components will not be operated in a different manner as a result of the proposed Technical Specifications change. Thus, the proposed Technical Specifications change in leakage-rate test frequency does not introduce any new accident precursors or modes of operation. The containment and containment penetrations will not be operated any differently as a result of the proposed change.

Therefore, the possibility for an accident of a different type than was previously evaluated in the Safety Analysis Report is not created by the proposed Technical Specifications change.

3. Involve a significant reduction in a margin of safety.

The proposed change, which replace the present prescriptive testing requirements with Appendix J, Option B, performance-based testing of containment and its penetrations, will continue to ensure that the existing accident analysis assumptions are maintained. The containment and containment penetrations will not be operated or tested any differently. Only the leakage rate test frequency is being changed as a result of the proposed change. The operational leakage-rate test acceptance criteria and the operability requirements are not being changed.

Therefore, the margin of safety as defined in the Technical Specifications bases is unaffected.