

SURVEILLANCE REQUIREMENTS (Continued)

- c. The accuracy of each Type A test shall be verified by a supplemental test which:
- 1) Confirms the accuracy of the test by verifying that the supplemental test result, L_c , minus the sum of the Type A and the superimposed leak, L_o , is equal to or less than $0.25 L_a$.
 - 2) Has a duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test, and
 - 3) Requires that the rate at which gas is injected into the containment or bled from the containment during the supplemental test is between $0.75 L_a$ and $1.25 L_a$.
- d. Type B and C tests shall be conducted with gas at a pressure not less than P_a , 48 psig, at intervals no greater than 24 months except for tests involving:
- 1) Air locks, and
 - 2) Purge supply and exhaust isolation valves with resilient material seals.
- INSERT A*
- e. Air locks shall be tested and demonstrated OPERABLE by the requirements of Specification 4.6.1.3;
- f. Purge supply and exhaust isolation valves with resilient material seals shall be tested and demonstrated OPERABLE by the requirements of Specifications 4.6.1.7.2 and 4.6.1.7.4, as applicable; and
- g. The provisions of Specification 4.0.2 are not applicable.

INSERT B

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3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Primary 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 safety analyses. This restriction, in conjunction with the leakage rate limitation, will limit the SITE BOUNDARY radiation doses to within the dose guideline values of 10 CFR Part 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 less than or equal to $0.75 L_a$ or $0.75 L_t$, as applicable, 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 Part 50.

INSERT C

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.

atmosphere into the secondary side of the steam generators. This requirement will be included in the Emergency Operating Instructions.

The test equipment to be used during the Type C tests will consist of a connection to an air supply source, a holding vessel, a pressure regulator, an ~~absolute~~ pressure gage, a flow indicator, and associated valving.

Isolation valves will be positioned to their post-accident position by the normal method with no accompanying adjustments. Fluid systems are properly drained and vented with the valves aligned to provide a test volume and atmospheric air back pressure on the isolation valve(s) being tested.

The test volume and holding vessel are pressurized to the test pressure Pa, as specified in Chapter 16.0. The pressure regulator(s) maintain the test volume at a minimum of Pa. The air flow rate into the test volume is recorded, as is the pressure reading, at the intervals specified on the data form. These records are utilized to determine the leakage rate in ^{Standard} cubic centimeters per minute.

Insert D

For larger test volumes, a pressure decay method may be utilized to determine the leakage rate.

The total leakage rate for Type B and C tests must be less than $0.6 L_a$.

The criteria for determining the direction in which the test pressure is applied to the isolation valves are as follows:

Gate Valves

- | | | |
|---------------|----|---|
| Parallel disc | a. | Test in the DBA direction. |
| | b. | Testing can be performed between the discs if a test connection or drain is provided in the valve design. |

- | | | |
|----------------|----|--|
| Flexible wedge | a. | Test in the DBA direction. |
| | b. | Testing can be performed between the wedge sections if a test connection or drain is provided in the valve design. |

- | | | |
|-------------|----|----------------------------|
| Solid wedge | a. | Test in the DBA direction. |
|-------------|----|----------------------------|

Globe Valves

If the DBA flow direction is over the disc (flow to close), the valve may be tested in the

INSERT A ATTACHMENT FOUR

- 3) Essential service water valves EF-HV-33, 34, 45, and -46 sealed by the volume of water in the piping from these valves to, but not including, the containment coolers that they serve.

INSERT B ATTACHMENT FOUR

- h. Leakage from isolation valves EF-HV-33, 34, 45, and -46 may be excluded, subject to the provisions of Appendix J, Section III.C.3, when determining the combined leakage rate provided the water volume serving the sealing function is adequate to maintain the seal for at least 30 days.
- i. Valves EF-HV-33, 34, 45, and -46 shall be hydrostatically tested for leakage (using a water medium pressurized to 1.1 Pa) and demonstrated OPERABLE by exhibiting leak rates \leq 7000 ml/hr.

INSERT C ATTACHMENT FOUR

The Essential Service Water Penetrations are tested as valves which have seal water applied. The system acts as a passive source of seal water and is consistent with the requirements of Appendix J of 10 CFR Part 50, Paragraph III.C.3. This supply is a 30 day supply for leak rates \leq 7000 ml/hr.

INSERT D ATTACHMENT FOUR

The essential service water penetrations are tested as valves which have seal water applied, using a water replacement method which is similar to the method described above. The system acts as a passive source of seal water and is consistent with the requirements of Appendix J of 10 CFR Part 50, Paragraph III.C.3. This supply is a 30 day supply for leak rates less than or equal to 7000 ml/hr.