LIMITING CONDITION FOR OPERATION

3.6.1.2 Primary containment leakage rates shall be limited to:

a. An overall as-left integrated leakage rate of less than or equal to 0.75 L_a, where La is 0.20 percent by weight of the primary containment air per 24 hours at P_a, 11.31 psig.

b. A combined leakage rate of less than or equal to 0.60 L_a for all penetrations and all valves, except for main steam line isolation valves and valves which are hydrostatically leak tested, subject to Type B and C tests when pressurized to P_a, 11.31 psig.

c. Less than or equal to 25 scf per hour for any one main steam line through the isolation valves when tested at P_a, 11.31 psig.

d. A combined leakage rate of less than or equal to 0.0504 L_a for all penetrations that are secondary containment bypass leakage paths when pressurized to the required test pressure.

e. A combined leakage rate of less than or equal to 1 gpm times the total number of containment isolation valves in hydrostatically tested lines which penetrate the primary containment, when tested at 1.10 P_a, 12.44 psig. greater than or equal to

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3, with the reactor coolant system temperature greater than 200°F.

ACTION:

With:

a. The measured overall as-left integrated primary containment leakage rate exceeding 0.75 L_a, or

b. The measured combined leakage rate for all penetrations and all valves except for main steam line isolation valves and valves which are hydrostatically leak tested, subject to Type B and C tests exceeding 0.60 L_a, or

c. The measured leakage rate exceeding 25 scf per hour for any one main steam line through the isolation valves, or

d. The combined leakage rate for all penetrations that are secondary containment bypass leakage paths exceeding 0.0504 L_a, or

e. The measured combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment exceeding 1 gpm times the total number of such valves:

~~*See Special Test Exception 3.10.1.~~

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

Restore the leakage rate to less than or equal to the above limit(s) within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

restore:

a. The overall integrated leakage rate(s) to less than or equal to 0.75 L_a, and

b. The combined leakage rate for all penetrations and all valves, except for main steam line isolation valves and valves which are hydrostatically leak tested, subject to Type B and C tests to less than or equal to 0.60 L_a, and

c. The leakage rate to less than 25 scf per hour for any one main steam line through the isolation valves, and

d. The combined leakage rate for all penetrations that are secondary containment bypass leakage paths to less than or equal to 0.0504 L_a, and

e. The combined leakage rate for all containment isolation valves in hydrostatically tested lines which penetrate the primary containment to less than or equal to 1 gpm times the total number of such valves,

Prior to increasing reactor coolant system temperature above 200°F.

SURVEILLANCE REQUIREMENTS

overall as-left and as-found integrated ... and approved exemptions,

4.6.1.2 The primary 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 Part 50 using the methods and provisions of ANSI N45.4-1972 and BN-TOP-1; test results shall also be reported based on the Mass Point Methodology described in ANSI/ANS N56.8-1981:

a. Three Type A Overall Integrated Containment Leakage Rate tests shall be conducted at 40 ± 10 month intervals during shutdown at P_a, 11.31 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 overall as-left integrated primary containment leakage rate shall be less than or equal to 0.75 La.

b. If any periodic Type A test fails to meet 0.75 L_a, the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet 0.75 L_a, a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet 0.75 L_a, at which time the above test schedule may be resumed.

as-found ... exceeds ... as-found ... exceed ... as-found

c. The accuracy of each Type A test shall be verified by a supplemental test which:

3/4.10 SPECIAL TEST EXCEPTIONS

3/4.10.1 PRIMARY CONTAINMENT INTEGRITY/DRYWELL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.10.1 The provisions of Specifications 3.6.1.1.1, ~~3.6.1.2,~~ 3.6.1.3, 3.6.2.1, 3.6.2.3, 3.6.5.1, 3.6.5.2, 3.9.1 and 3.9.3 and Table 1.2 may be suspended to permit the reactor pressure vessel closure head and the drywell head to be removed and the drywell air lock door to be open when the reactor mode switch is in the Startup position during low power PHYSICS TESTS with THERMAL POWER less than 1% of RATED THERMAL POWER and reactor coolant temperature less than 200°F.

APPLICABILITY: OPERATIONAL CONDITIONS 2 and 5, during low power PHYSICS TESTS or shutdown margin demonstrations.

ACTION:

With THERMAL POWER greater than or equal to 1% of RATED THERMAL POWER or with the reactor coolant temperature greater than or equal to 200°F, immediately place the reactor mode switch in the Shutdown position.

SURVEILLANCE REQUIREMENTS

4.10.1 The THERMAL POWER and reactor coolant temperature shall be verified to be within the limits at least once per hour during low power PHYSICS TESTS or shutdown margin demonstrations.

3/4.6.1 CONTAINMENT

3/4.6.1.1 PRIMARY 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 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 Part 100 during accident conditions.

During shutdown when irradiated fuel is being handled in the primary containment, and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel, the # footnote permits the opening of six vent and drain pathways for the purpose of performing containment isolation valve leak rate surveillance testing provided the reactor has been subcritical for at least seven days. Offsite doses were calculated assuming the postulated fuel handling accident inside primary containment after a seven day decay time, and assuming all the airborne activity existing inside containment after the accident is immediately discharged directly to the environment (i.e., no containment). Although this analysis would indicate that no restriction on the number of vent and drain pathways was required, the number of open pathways was restricted to six for conservatism.

The "as-found" leakage rate for Type A leakage tests is 1.0 L_a, which corresponds to the design basis value of the overall integrated leakage rate.

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 of 11.31 psig, P_a. As an added conservatism, the ~~measured~~ "as-left" overall integrated leakage rate is further limited to less than or equal to 0.75 L_a during performance of the periodic tests to account for possible degradation of the containment leakage barriers between leakage tests.

Type A

Overall integrated leakage rate means the leakage rate which obtains from a summation of leakage through all potential leakage paths. Where a leakage path contains more than one valve, fitting, or component in series, the leakage for that path will be that leakage of the worst leaking valve, fitting, or component and not the summation of the leakage of all valves, fittings, or components in that leakage path.

Insert A

Operating experience with the main steam line isolation valves has indicated that degradation has occasionally occurred in the leak tightness of the valves; therefore the special requirement for testing these valves.

Bases: Insert A

Where a leakage path contains more than one valve, fitting, or component in series, the leakage for that path will be the minimum pathway leakage and not the summation of the leakage of all valves, fittings, or components in that leakage path.

The Type B and C leakage rates (and the secondary containment bypass leakage rate) are obtained from a summation of the leakage rates (for each type of leakage) through all the applicable containment leakage paths. For these types of leakages,

3/4.6.1 CONTAINMENT (Continued)

3/4.6.1.2 CONTAINMENT LEAKAGE (Continued)

Replace with Insert B

The surveillance testing for measuring leakage rates is consistent with the requirements of Appendix J to 10 CFR 50 with the exception of exemptions granted for testing the airlocks after each opening.

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 PRIMARY CONTAINMENT INTEGRITY and the containment leakage rate given in Specifications 3.6.1.1 and 3.6.1.2. The specification makes allowances for the fact that there may be long periods of time when the air locks will be in a closed and secured position during reactor operation. Only one closed door in each air lock is required to maintain the integrity of the containment.

The air supply to the containment air lock and seal system is the service and instrument air system. The system consists of two 100% capacity air compressors per unit and can be cross-connected. This system is redundant and extremely reliable and provides system pressure indication in the control room.

3/4.6.1.4 MSIV LEAKAGE CONTROL SYSTEM

Calculated doses resulting from the maximum leakage allowance for the main steam line isolation valves in the postulated LOCA situations would be a small fraction of the 10 CFR 100 guidelines, provided the main steam line system from the isolation valves up to and including the turbine condenser remains intact. Operating experience has indicated that degradation has occasionally occurred in the leak tightness of the MSIV's such that the specified leakage requirements have not always been maintained continuously. The requirement for the leakage control system will reduce the untreated leakage from the MSIV's when isolation of the primary system and containment is required.

3/4.6.1.5 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 unit. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 15 psig in the event of a LOCA. A visual inspection in conjunction with Type A leakage tests is sufficient to demonstrate this capability.

Bases: Insert B

The surveillance testing for measuring leakage rates is consistent with the requirements of Appendix J to 10 CFR 50 with the exception of the following exemptions:

a) Section III.D.2(b)(ii) - The air lock seal leakage test of Section III.D.2(b)(iii) of Appendix J may be substituted (following normal air lock door opening) for the full-pressure test provided that no maintenance has been performed that would affect the air locks sealing capability (Reference 1).

b) Section III.A.5(b) - The design basis allowable leakage rate L_a (rather than the as-left acceptance criterion of 0.75 percent of L_a), is designated as the value against which the as-found Type A test results are compared when scheduling for future periodic Type A tests in accordance with Section III.A.6 of Appendix J (Reference 2).

References

(1) PNPP Safety Evaluation Report Supplement 7, Section 6.2.6 "Containment Leakage Testing", November 1985.

(2) [Exemption approval letter from the NRC.]