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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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CHANNEL FUNCTIONAL TEST

1.6 A CHANNEL FUNCTIONAL TEST shall be:

a. Analog channels - the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions.

b. Bistable channels - the injection of a simulated signal into the sensor to verify OPERABILITY including alarm and/or trip functions.

c. Digital channels - the injection of a simulated signal into the channel as close to the sensor input to the process racks as practicable to verify OPERABILITY including alarm and/or trip functions. R145

CONTAINMENT INTEGRITY

1.7 CONTAINMENT INTEGRITY shall exist when:

a. All penetrations required to be closed during accident conditions are either:
   1) Capable of being closed by an OPERABLE containment automatic isolation valve system, or
   2) Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except as provided in Table 3.6-2 of Specification 3.6.3.

b. All equipment hatches are closed and sealed.

c. Each air lock is in compliance with the requirements of Specification 3.6.1.3,

d. The containment leakage rates are within the limits of Specification ~~3~~4.6.1.~~2~~1.c, and

e. The sealing mechansim associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE, and

f. Secondary containment bypass leakage is within the limits of Specification 3.6.1.2.

CONTROLLED LEAKAGE

1.8 CONTROLLED LEAKAGE shall be that seal water flow supplied to the reactor coolant pump seals.

CORE ALTERATION

1.9 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

CORE OPERATING LIMIT REPORT

1.10 The CORE OPERATING LIMITS REPORT (COLR) is the unit-specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Specification 6.9.1.14. Unit operation within these operating limits is addressed in individual specifications. R159

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Perform required visual examinations and leakage rate testing ~~except the containment air lock testing~~ (at P_a) in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions. The maximum allowable leakage rate, L_a, is 0.25 % of containment air weight per day at the calculated peak containment pressure P_a, 12 psig

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY 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 3.6-2 of Specification 3.6.3. R16

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3. R134

c. ~~After each closing of each penetration subject to Type B testing, except the containment air locks, if opened following a Type A or B test, by leak rate testing the seal with gas at P_a, 12 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.~~ R16

*Except valves, blind flanges, and deactivated automatic valves which are located inside the annulus or containment and are locked, sealed or otherwise secured 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.

~~CONTAINMENT~~ LEAKAGE (SECONDARY CONTAINMENT BYPASS)

LIMITING CONDITION FOR OPERATION

3.6.1.2 (Secondary) Containment (bypass) leakage rates shall be limited to:

~~a. An overall integrated leakage rate of less than or equal to L_a, 0.25 percent by weight of the containment air per 24 hours at P_a, 12 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.~~

A combined bypass leakage rate of less than or equal to 0.25 L_a for all penetrations identified in Table 3.6-1 as secondary containment BYPASS LEAKAGE PATHS TO THE AUXILIARY BUILDING when pressurized to P_a. R75

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 Types B and C tests exceeding 0.60 L_a, or (c)~~ With the combined bypass leakage rate exceeding 0.25 L_a for BYPASS LEAKAGE PATHS TO THE AUXILIARY BUILDING, restore ~~the overall integrated leakage rate to less than or equal to 0.75 L_a, the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than or equal to 0.60 L_a,~~ the combined bypass leakage rate from BYPASS LEAKAGE PATHS TO THE AUXILIARY BUILDING to less than or equal to 0.25 L_a within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. ~~prior to increasing the Reactor Coolant System temperature above 200°F.~~ R75 R75 R75

4.6.1.2 The secondary containment b le ,hall be demonstrated; ~~at the following test schedule and shall be c in conformance with the criteria specified in Appendix J of 10 C the methods and provisions of ANSI N45.4-1972; however, the m ANSI/ANS 56.8-1987 for mass point data analysis may be used in l thods specified in ANSI N45.4-1972.~~ R106

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10 month intervals* during shutdown at P_a (12 psig) during each 10-year service period. R131

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.

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

   1. Confirms the accuracy of the Type A test by verifying that the difference between supplemental and Type A test data is within 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.
   3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage at P_a (12 psig).

d. Type B and C tests shall be conducted with gas at P_a (12 psig) at intervals no greater than 24 months except for tests involving:

   1. Air locks,
   2. Penetrations using continuous leakage monitoring systems, and
   3. Valves pressurized with fluid from a seal system.

*A one-time extension of the test interval is allowed for the third Type A test within the first 10-year service period provided unit shutdown occurs no later than May 1, 1990 and performance of Type A testing occurs prior to unit restart following Unit 1 Cycle 4 refueling. R131

SURVEILLANCE REQUIREMENTS (Continued)

a ~~e~~. The combined bypass leakage rate to the auxiliary building shall be determined to be less than or equal to 0.25 L_a by applicable Type B and C tests at least once per 24 months except for penetrations which are not individually testable; penetrations not individually testable shall be determined to have no detectable leakage when tested with soap bubbles while the containment is pressurized to P_a (12 psig) during each Type A test.* R75

~~f. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.~~ R134

b ~~g~~. Leakage from isolation valves that are sealed with fluid from a seal system may be excluded, subject to the provisions of Appendix J, Section III.C.3, when determining the combined leakage rate provided the seal system and valves are pressurized to at least 1.10 P_a (13.2 psig) and the seal system capacity is adequate to maintain system pressure (or fluid head for the containment spray system and RHR spray system valves at penetrations 48A, 48B, 49A and 49B) for at least 30 days. R105

~~h. Type B tests for penetrations employing a continuous leakage monitoring system shall be conducted at P_a (12 psig) at intervals no greater than once per 3 years.~~

~~i. All test leakage rates shall be calculated using observed data converted to absolute values. Error analyses shall be performed to select a balanced integrated leakage measurement system.~~

c ~~h~~. The provisions of Specification 4.0.2 are not applicable.

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* Results shall be evaluated against the acceptance criteria of Specification 4.6.1.1.c in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions. R106

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

a. After each opening, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying seal leakage less than or equal to 0.01 L_a as determined by precision flow measurements when measured for at least two minutes with the volume between the door seals at a pressure greater than or equal to 6 psig, R52

b. By conducting an overall air lock leakage test at not less than P_a (12 psig) and by verifying the overall air lock leakage rate is within ~~its~~ the limit:#

1. At least once per six months, and

2. Prior to establishing CONTAINMENT INTEGRITY if opened when CONTAINMENT INTEGRITY was not required when maintenance has been performed on the air lock that could affect the air lock sealing capability.*

c. At least once per 6 months by verifying that only one door in each air lock can be opened at a time.

of 3.6.1.3.b and the results evaluated in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions.

#The provisions of Specification 4.0.2 are not applicable.

*Exemption to Appendix "J" of 10 CFR 50.

CONTAINMENT VESSEL STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment vessel shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment vessel not conforming to the above requirements, restore the structural integrity to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.6 The structural integrity of the containment vessel shall be determined during the shutdown for each Type A containment leakage rate test (Specification 4.6.1.2) by a visual inspection of the exposed accessible interior and exterior surfaces of the vessel. This inspection shall be performed prior to the Type A containment leakage rate test to verify no apparent changes in appearance of the surfaces or other abnormal degradation. Any abnormal degradation of the containment vessel detected during the above required inspections shall be reported to the Commission pursuant to Specification 6.6.1. R40

1.c

SHIELD BUILDING STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.7 The structural integrity of the shield building shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.7.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the shield building not conforming to the above requirements, restore the structural integrity to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.7 The structural integrity of the shield building shall be determined during the shutdown for each Type A containment leakage rate test (~~reference~~ Specification 4.6.1.2) by a visual inspection of the exposed accessible interior and exterior surfaces of the shield building and verifying no apparent changes in appearance of the concrete surfaces or other abnormal degradation. Any abnormal degradation of the shield building detected during the above required inspections shall be reported to the Commission pursuant to Specification 6.6.1. R40

1.c

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.9 One pair (one purge supply line and one purge exhaust line) of containment purge system lines may be open; the containment purge supply and exhaust isolation valves in all other containment purge lines shall be closed. Operation with purge supply or exhaust isolation valves open for either purging or venting shall be limited to less than or equal to 1000 hours per 365 days. The 365 day cumulative time period will begin every January 1. R22

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With a purge supply or exhaust isolation valve open in excess of the above cumulative limit, or with more than one pair of containment purge system lines open, close the isolation valve(s) in the purge line(s) within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. R124

b. With a containment purge supply and/or exhaust isolation valve having a measured leakage rate in excess of 0.05 L_a, restore the inoperable valve to OPERABLE status within 24 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. R124

SURVEILLANCE REQUIREMENTS

4.6.1.9.1 The position of the containment purge supply and exhaust isolation valves shall be determined at least once per 31 days.

4.6.1.9.2 The cumulative time that the purge supply and exhaust isolation valves are open over a 365 day period shall be determined at least once per 7 days.

4.6.1.9.3 At least once per 3 months, each containment purge supply and exhaust isolation valve shall be demonstrated OPERABLE by verifying that the measured leakage rate is less than or equal to 0.05 L_a.* ~~and by verifying that when the measured leakage rate 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.~~ R124

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* Results shall be evaluated against the acceptance criteria of Specification 4.6.1.1.c in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions.

TABLE 3.6-2 (Continued)

CONTAINMENT ISOLATION VALVES

VALVE NUMBER		FUNCTION	MAXIMUM ISOLATION TIME (Seconds)	
C. PHASE "A" CONTAINMENT VENT ISOLATION (Cont.)				
13.	FCV-30-50	Upper Compt Purge Air Exh	4*	
14.	FCV-30-51	Upper Compt Purge Air Exh	4*	
15.	FCV-30-52	Upper Compt Purge Air Exh	4*	
16.	FCV-30-53	Upper Compt Purge Air Exh	4*	
17.	FCV-30-56	Lower Compt Purge Air Exh	4*	
18.	FCV-30-57	Lower Compt Purge Air Exh	4*	
19.	FCV-30-58	Inst Room Purge Air Exh	4*	
20.	FCV-30-59	Inst Room Purge Air Exh	4*	
21.	FCV-90-107	Cntmt Bldg LWR Compt Air Mon	5*	
22.	FCV-90-108	Cntmt Bldg LWR Compt Air Mon	5*	R74
23.	FCV-90-109	Cntmt Bldg LWR Compt Air Mon	5*	
24.	FCV-90-110	Cntmt Bldg LWR Compt Air Mon	5*	
25.	FCV-90-111	Cntmt Bldg LWR Compt Air Mon	5*	
26.	FCV-90-113	Cntmt Bldg UPR Compt Air Mon	5*	
27.	FCV-90-114	Cntmt Bldg UPR Compt Air Mon	5*	
28.	FCV-90-115	Cntmt Bldg UPR Compt Air Mon	5*	
29.	FCV-90-116	Cntmt Bldg UPR Compt Air Mon	5*	
30.	FCV-90-117	Cntmt Bldg UPR Compt Air Mon	5*	
D. OTHER				
1.	FCV-30-46	Vacuum Relief Isolation Valve	25	
2.	FCV-30-47	Vacuum Relief Isolation Valve	25	
3.	FCV-30-48	Vacuum Relief Isolation Valve	25	
4.	FCV-62-90	Normal Charging Isolation Valve	12	R105

*Provisions of LCO 3.0.4 are not applicable if valve is secured in its isolated position with power removed and leakage limits of ~~Surveillance Requirement 4.6.3.4~~ Specification 4.6.1.1.c are satisfied. For purge valves, leakage limits under Surveillance Requirement 4.6.1.9.3 must also be satisfied. R41

#Provisions of LCO 3.0.4 are not applicable if valve is secured in its isolated position with power removed and either FCV-62-73 or FCV-62-74 is maintained operable.

**This valve is required after completion of the associated modification. R86

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1 PRIMARY CONTAINMENT

INSERT A

~~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 100 during accident conditions.~~

3/4.6.1.2 ~~CONTAINMENT~~ SECONDARY CONTAINMENT BYPASS LEAKAGE

INSERT B

~~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 tests 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 with the following exemption. The third Type A test of each 10-year service period need not be conducted when the plant is shutdown for the 10-year plant inservice inspection. Due to the increased accuracy of the mass point method for containment integrated leakage testing, 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.~~ R131 R106

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 provide assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

3/4.5.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the annulus atmosphere of 0.5 psig and 2) the

INSERT A

The safety design basis for primary containment is that the containment must withstand the pressures and temperatures of the limiting design basis accident (DBA) without exceeding the design leakage rates.

The DBAs that result in a challenge to containment OPERABILITY from high pressures and temperatures are a loss of coolant accident (LOCA), a steam line break, and a rod ejection accident (REA). In addition, release of significant fission product radioactivity within containment can occur from a LOCA or REA. In the DBA analyses, it is assumed that the containment is OPERABLE such that, for the DBAs involving release of fission product radioactivity, release to the environment is controlled by the rate of containment leakage. This leakage rate limitation will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions. The containment was designed with an allowable leakage rate of 0.25 percent of containment air weight per day. This leakage rate, used in the evaluation of offsite doses resulting from accidents, is defined in 10 CFR 50, Appendix J, as L_a: the maximum allowable containment leakage rate at the calculated peak containment internal pressure (P_a) resulting from the limiting DBA. The allowable leakage rate represented by L_a forms the basis for the acceptance criteria imposed on all containmemt leakage rate testing. L_a is assumed to be 0.25 percent per day in the safety analysis at P_a = 12.0 psig. 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 tests to account for possible degradation of the containment leakage barriers between tests.

Primary containment INTEGRITY or operability is maintained by limiting leakage to within the acceptance criteria of 10 CFR 50, Appendix J.

Individual leakage rates specified for the containment air lock (LCO 3.6.1.3), purge valves (LCO 3.6.1.9) and secondary bypass leakage (LCO 3.6.1.2) are not specifically part of the acceptance criteria of 10 CFR 50, Appendix J. Therefore, leakage rates exceeding these individual limits do not result in the primary containment being inoperable unless the leakage, when combined with other Type B and C test leakages, exceeds the acceptance criteria of Appendix J.

INSERT B

The safety design basis for containment leakage assumes that 75 percent of the leakage from the primary containment enters the shield building annulus for filtration by the emergency gas treatment system. The remaining 25 percent of the primary containment leakage, which is considered to be bypassed to the auxiliary building, is assumed to exhaust directly to the atmosphere without filtration during the first 5 minutes of the accident. After 5 minutes, any bypass leakage to the auxiliary building is filtered by the auxiliary building gas treatment system. A tabulation of potential secondary containment bypass leakage paths to the auxiliary building is provided in Table 3.6-1. Restricting the leakage through the bypass leakage paths in Table 3.6-1 to 0.25 L_a provides assurance that the leakage fraction assumptions used in the evaluation of site boundary radiation doses remain valid.

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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CHANNEL FUNCTIONAL TEST

1.6 A CHANNEL FUNCTIONAL TEST shall be:

a. Analog channels - the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions.

b. Bistable channels - the injection of a simulated signal into the sensor to verify OPERABILITY including alarm and/or trip functions.

c. Digital channels - the injection of a simulated signal into the channel as close to the sensor input to the process racks as practicable to verify OPERABILITY including alarm and/or trip functions. R132

CONTAINMENT INTEGRITY R63

1.7 CONTAINMENT INTEGRITY shall exist when:

a. All penetrations required to be closed during accident conditions are either:

1) Capable of being closed by an OPERABLE containment automatic isolation valve system, or

2) Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except as provided in Table 3.6-2 of Specification 3.6.3.

b. All equipment hatches are closed and sealed,

c. Each air lock is in compliance with the requirements of Specification 3.6.1.3, R117

d. The containment leakage rates are within the limits of Specification 4 3.6.1.2, and 1.c

e. The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE, and

f. Secondary containment bypass leakage is within the limits of Specification 3.6.1.2.

CONTROLLED LEAKAGE R63

1.8 CONTROLLED LEAKAGE shall be that seal water flow supplied to the reactor coolant pump seals.

CORE ALTERATION R63

1.9 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATION shall not preclude completion of movement of a component to a safe conservative position.

CORE OPERATING LIMITS REPORT

1.10 The CORE OPERATING LIMITS REPORT (COLR) is the unit-specific document that provides core operating limits for the current operating reload cycle. These cycle-specific core operating limits shall be determined for each reload cycle in accordance with Specification 6.9.1.14. Unit operation within these operating limits is addressed in individual specifications. R146

Perform required visual examination and leakage rate testing ~~except the containment air lock testing~~ at P_a in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions. The maximum allowable leakage rate, L_a, is 0.25% of containment air weight per day at the calculated peak containment pressure P_a, 12 psig.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY 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 3.6-2 of Specification 3.6.3.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3. R117

c. ~~After each closing of each penetration subject to Type B testing, except the containment air locks, if opened following a Type A or B test, by leak rate testing the seal with gas at P_a, 12 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.~~

*Except valves, blind flanges, and deactivated automatic valves which are located inside the annulus or containment and are locked, sealed or otherwise secured 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.

~~CONTAINMENT~~ LEAKAGE (SECONDARY CONTAINMENT BYPASS)

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment (Secondary) leakage (bypass) rates shall be limited to:

~~a. An overall integrated leakage rate of less than or equal to L_a, 0.25 percent by weight of the containment air per 24 hours at P_a, 12 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.~~

A combined bypass leakage rate of less than or equal to 0.25 L_a for all penetrations identified in Table 3.6-1 as secondary containment BYPASS LEAKAGE PATHS TO THE AUXILIARY BUILDING when pressurized to P_a. R63

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 Types B and C tests exceeding 0.60 L_a, or~~

(c) With the combined bypass leakage rate exceeding 0.25 L_a for BYPASS LEAKAGE PATHS TO THE AUXILIARY BUILDING, restore ~~the overall integrated leakage rate to less than or equal to 0.75 L_a, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than or equal to 0.60 L_a, and~~ the combined bypass leakage rate from BYPASS LEAKAGE PATHS TO THE AUXILIARY BUILDING to less than or equal to 0.25 L_a within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours ~~prior to increasing the Reactor Coolant System temperature above 200°F.~~ R63 R63

SECONDARY CONTAINMENT BYPASS LEAKAGE

SURVEILLANCE REQUIREMENTS

4.6.1.2 The secondary containment bypass 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 ANSI N45.4-1972; however, the methods of ANSI/ANS 56.8-1987 for mass point data analysis may be used in lieu of the methods specified in ANSI N45.4-1972.~~ R91

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 ± 10-month intervals during shutdown at P_a, 12 psig, during each 10-year service period. R13

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.* R126

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

1. Confirms the accuracy of the Type A test by verifying that the difference between supplemental and Type A test data is within 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.

3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage at P_a, 12 psig.

d. Type B and C tests shall be conducted with gas at P_a, 12 psig, at intervals no greater than 24 months except for tests involving:

1. Air locks,

2. Penetrations using continuous leakage monitoring systems, and

3. Values pressurized with fluid from a seal system.

*An exemption from the 18-month accelerated frequency requirement is allowed for the Type A test failures conducted during the Unit 2 Cycle 2 and Unit 2 Cycle 3 refueling outages. R126

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SURVEILLANCE REQUIREMENTS (Continued)

a. ~~e.~~ The combined bypass leakage rate to the auxiliary building shall be determined to be less than or equal to 0.25 L_a by applicable Type B and C tests at least once per 24 months except for penetrations which are not individually testable; penetrations not individually testable shall be determined to have no detectable leakage when tested with soap bubbles while the containment is pressurized to P_a, 12 psig, during each Type A test.* R63 R104

~~f. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.~~ R117

b. ~~g.~~ Leakage from isolation valves that are sealed with fluid from a seal system may be excluded, subject to the provisions of Appendix J, Section III.C.3, when determining the combined leakage rate provided the seal system and valves are pressurized to at least 1.10 P_a, 13.2 psig, and the seal system capacity is adequate to maintain system pressure (or fluid head for the containment spray system and RHR spray system valves at penetrations 48A, 48B, 49A and 49B) for at least 30 days.

~~h. Type B tests for penetrations employing a continuous leakage monitoring system shall be conducted at P_a, 12 psig, at intervals no greater than once per 3 years.~~

~~i. All test leakage rates shall be calculated using observed data converted to absolute values. Error analyses shall be performed to select a balanced integrated leakage measurement system.~~

c. ~~j.~~ The provisions of Specification 4.0.2 are not applicable.

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* Results shall be evaluated against the acceptance criteria of Specification 4.6.1.1.c in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions.

R126

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

a. After each opening, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying seal leakage less than or equal to 0.01 L_a as determined by precision flow measurements when measured for at least two minutes with the volume between the door seals at a pressure greater than or equal to 6 psig, R40

b. By conducting an overall air lock leakage test at not less than P_a (12 psig) and by verifying the overall air lock leakage rate is within ~~its~~ the limit:#

1. At least once per six months, and

2. Prior to establishing CONTAINMENT INTEGRITY if opened when CONTAINMENT INTEGRITY was not required when maintenance has been performed on the air lock that could affect the air lock sealing capability.*

c. At least once per 6 months by verifying that only one door in each air lock can be opened at a time.

of 3.6.1.3.b and the results evaluated in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions.

#The provisions of Specification 4.0.2 are not applicable.

*Exemption to Appendix "J" of 10 CFR 50.

CONTAINMENT VESSEL STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment vessel shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment vessel not conforming to the above requirements, restore the structural integrity to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.6 The structural integrity of the containment vessel shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.~~2~~1.c) by a visual inspection of the exposed accessible interior and exterior surfaces of the vessel. This inspection shall be performed prior to the Type A containment leakage rate test to verify no apparent changes in appearance of the surfaces or other abnormal degradation. Any abnormal degradation of the containment vessel detected during the above required inspections shall be reported to the Commission pursuant to Specification 6.6.1. R28

SHIELD BUILDING STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.7 The structural integrity of the shield building shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.7.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the shield building not conforming to the above requirements, restore the structural integrity to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.7 The structural integrity of the shield building shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of the exposed accessible interior and exterior surfaces of the shield building and verifying no apparent changes in appearance of the concrete surfaces or other abnormal degradation. Any abnormal degradation of the shield building detected during the above required inspections shall be reported to the Commission pursuant to Specification 6.6.1. R28

1.c

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.9 One pair (one purge supply line and one purge exhaust line) of containment purge system lines may be open; the containment purge supply and exhaust isolation valves in all other containment purge lines shall be closed. Operation with purge supply or exhaust isolation valves open for either purging or venting shall be limited to less than or equal to 1000 hours per 365 days The 365 day cumulative time period will begin every January 1. R9

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With a purge supply or exhaust isolation valve open in excess of the above cumulative limit, or with more than one pair of containment purge system lines open, close the isolation valve(s) in the purge line(s) within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. R109

b. With a containment purge supply and/or exhaust isolation valve having a measured leakage rate in excess of 0.05 L_a, restore the inoperable valve to OPERABLE status within 24 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. R109

SURVEILLANCE REQUIREMENTS

4.6.1.9.1 The position of the containment purge supply and exhaust isolation valves shall be determined at least once per 31 days.

4.6.1.9.2 The cumulative time that the purge supply and exhaust isolation valves are open over a 365 day period shall be determined at least once per 7 days. R9

4.6.1.9.3 At least once per 3 months, each containment purge supply and exhaust isolation valve shall be demonstrated OPERABLE by verifying that the measured leakage rate is less than or equal to 0.05 L_a.* ~~and by verifying that when the measured leakage rate 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.~~ R109

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* Results shall be evaluated against the acceptance criteria of Specification 4.6.1.1.c in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions.

TABLE 3.6-2 (Continued)
CONTAINMENT ISOLATION VALVES

VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (Seconds)	
C. PHASE "A" CONTAINMENT VENT ISOLATION (Cont.)			
13. FCV-30-50	Upper Compt Purge Air Exh	4*	
14. FCV-30-51	Upper Compt Purge Air Exh	4*	
15. FCV-30-52	Upper Compt Purge Air Exh	4*	
16. FCV-30-53	Upper Compt Purge Air Exh	4*	
17. FCV-30-56	Lower Compt Purge Air Exh	4*	
18. FCV-30-57	Lower Compt Purge Air Exh	4*	
19. FCV-30-58	Inst Room Purge Air Exh	4*	R62
20. FCV-30-59	Inst Room Purge Air Exh	4*	
21. FCV-90-107	Cntmt Bldg LWR Compt Air Mon	5*	
22. FCV-90-108	Cntmt Bldg LWR Compt Air Mon	5*	
23. FCV-90-109	Cntmt Bldg LWR Compt Air Mon	5*	
24. FCV-90-110	Cntmt Bldg LWR Compt Air Mon	5*	
25. FCV-90-111	Cntmt Bldg LWR Compt Air Mon	5*	
26. FCV-90-113	Cntmt Bldg UPR Compt Air Mon	5*	
27. FCV-90-114	Cntmt Bldg UPR Compt Air Mon	5*	
28. FCV-90-115	Cntmt Bldg UPR Compt Air Mon	5*	
29. FCV-90-116	Cntmt Bldg UPR Compt Air Mon	5*	
30. FCV-90-117	Cntmt Bldg UPR Compt Air Mon	5*	
D. OTHER			
1. FCV-30-46	Vacuum Relief Isolation Valve	25	
2. FCV-30-47	Vacuum Relief Isolation Valve	25	
3. FCV-30-48	Vacuum Relief Isolation Valve	25	
4. FCV-62-90	Normal Charging Isolation Valve	12	R90

Specification 4.6.1.1c

*Provisions of LCO 3.0.4 are not applicable if valve is secured in its isolated position with power removed and leakage limits of ~~Surveillance Requirement 4.6.3.4~~ are satisfied. For purge valves, leakage limits under Surveillance Requirement 4.6.1.9.3 must also be satisfied. R29

#Provisions of LCO 3.0.4 are not applicable if valve is secured in its isolated position with power removed and either FCV-62-73 or FCV-62 74 is maintained operable.

**The valve is required after completion of the associated modification. R73

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1 PRIMARY CONTAINMENT

INSERT A

~~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 100 during accident conditions.~~

3/4.6.1.2 SECONDARY CONTAINMENT BYPASS ~~CONTAINMENT~~ LEAKAGE

INSERT B

~~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 tests 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 with the following exemption: the third Type A test of each 10-year inservice interval need not be conducted when the plant is shut down for the 10-year plant inservice inspection. Due to the increased accuracy of the mass point method for containment integrated leakage testing, 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.~~ R139 R91

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 provide 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 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the annulus atmosphere of 0.5 psig and 2) the

INSERT A

The safety design basis for primary containment is that the containment must withstand the pressures and temperatures of the limiting design basis accident (DBA) without exceeding the design leakage rates.

The DBAs that result in a challenge to containment OPERABILITY from high pressures and temperatures are a loss of coolant accident (LOCA), a steam line break, and a rod ejection accident (REA). In addition, release of significant fission product radioactivity within containment can occur from a LOCA or REA. In the DBA analyses, it is assumed that the containment is OPERABLE such that, for the DBAs involving release of fission product radioactivity, release to the environment is controlled by the rate of containment leakage. This leakage rate limitation will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions. The containment was designed with an allowable leakage rate of 0.25 percent of containment air weight per day. This leakage rate, used in the evaluation of offsite doses resulting from accidents, is defined in 10 CFR 50, Appendix J, as L_a: the maximum allowable containment leakage rate at the calculated peak containment internal pressure (P_a) resulting from the limiting DBA. The allowable leakage rate represented by L_a forms the basis for the acceptance criteria imposed on all containmemt leakage rate testing. L_a is assumed to be 0.25 percent per day in the safety analysis at P_a = 12.0 psig. 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 tests to account for possible degradation of the containment leakage barriers between tests.

Primary containment INTEGRITY or operability is maintained by limiting leakage to within the acceptance criteria of 10 CFR 50, Appendix J.

Individual leakage rates specified for the containment air lock (LCO 3.6.1.3), purge valves (LCO 3.6.1.9) and secondary bypass leakage (LCO 3.6.1.2) are not specifically part of the acceptance criteria of 10 CFR 50, Appendix J. Therefore, leakage rates exceeding these individual limits do not result in the primary containment being inoperable unless the leakage, when combined with other Type B and C test leakages, exceeds the acceptance criteria of Appendix J.

INSERT B

The safety design basis for containment leakage assumes that 75 percent of the leakage from the primary containment enters the shield building annulus for filtration by the emergency gas treatment system. The remaining 25 percent of the primary containment leakage, which is considered to be bypassed to the auxiliary building, is assumed to exhaust directly to the atmosphere without filtration during the first 5 minutes of the accident. After 5 minutes, any bypass leakage to the auxiliary building is filtered by the auxiliary building gas treatment system. A tabulation of potential secondary containment bypass leakage paths to the auxiliary building is provided in Table 3.6-1. Restricting the leakage through the bypass leakage paths in Table 3.6-1 to 0.25 L_a provides assurance that the leakage fraction assumptions used in the evaluation of site boundary radiation doses remain valid.