1.1 Definitions (continued)

EMERGENCY CORE COOLING SYSTEM (ECCS) RESPONSE TIME	The ECCS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS initiation setpoint at the channel sensor until the ECCS equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. Exceptions are stated in the individual surveillance requirements.
END OF CYCLE RECIRCULATION PUMP TRIP (EOC-RPT) SYSTEM RESPONSE TIME	The EOC-RPT SYSTEM RESPONSE TIME shall be that time interval from initial movement of the associated turbine stop valve or the turbine control valve to complete suppression of the electric arc between the fully open contacts of the recirculation pump circuit breaker. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.
ISOLATION SYSTEM RESPONSE TIME	The ISOLATION SYSTEM RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its isolation initiation setpoint at the channel sensor until the isolation valves travel to their required positions. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. Exceptions are stated in the individual surveillance requirements.
L_a	The maximum allowable primary containment leakage rate, L_a, shall be 0.20% of primary containment air weight per day at the calculated peak containment pressure (P_a).

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.1.1	Perform required visual examinations and leakage rate testing except for primary containment air lock testing, in accordance with ~~10 CFR 50, Appendix J, as modified by approved exemptions.~~ The leakage rate acceptance criterion is $\leq 1.0\ L_a$. However, during the first unit startup following testing performed in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, the leakage rate acceptance criteria are $< 0.6\ L_a$ for the Type B and Type C tests, and $< 0.75\ L_a$ for the Type A test.	-----NOTE----- SR 3.0.2 is not applicable ---------- In accordance with ~~10 CFR 50, Appendix J, as modified by approved exemptions~~ the Primary Containment Leakage Rate Testing Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.2.1	----------NOTES---------- 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. During MODES 1, 2, and 3, results shall be evaluated against acceptance criteria of SR 3.6.1.1.1 in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions. ---------- Perform required primary containment air lock leakage rate testing in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions. The acceptance criteria for air lock testing are: a. Overall air lock leakage rate is ≤ 2.5 scfh when tested at ≥ P_a. b. For each door, leakage rate is ≤ 2.5 scfh when the gap between the door seals is pressurized to ≥ P_a.	-----NOTE----- SR 3.0.2 is not applicable ---------- In accordance with 10 CFR 50, Appendix J, as modified by approved exemptions
SR 3.6.1.2.2	Verify primary containment air lock seal air header pressure is ≥ 90 psig.	7 days

applicable to

the Primary Containment Leakage Rate Testing Program.

(continued)

PCIVs
3.6.1.3

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.6.1.3.9 ----------NOTE---------- Only required to be met in MODES 1, 2, and 3. ---------- Verify the combined leakage rate for all secondary containment bypass leakage paths is ≤ 0.0504 L_a when pressurized to ≥ P_a.	-----NOTE----- SR 3.0.2 is not applicable ---------- In accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, the Primary Containment Leakage Rate Testing Program.
SR 3.6.1.3.10 ----------NOTE---------- Only required to be met in MODES 1, 2, and 3. ---------- Verify leakage rate through each main steam line is ≤ 25 scfh when tested at ≥ P_a. Until the end of Operating Cycle 6, the leakage rate through one main steam line is limited to ≤ 35 scfh when tested at ≥ P_a, as long as the total leakage rate through all four main steam lines is ≤ 100 scfh.	----NOTE----- SR 3.0.2 is not applicable ---------- In accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, the Primary Containment Leakage Rate Testing Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.6.1.3.11 ----------NOTE---------- Only required to be met in MODES 1, 2, and 3. ---------- Verify combined leakage rate of 1 gpm times the total number of PCIVs through hydrostatically tested lines that penetrate the primary containment is not exceeded when these isolation valves are tested at $\geq 1.1\ P_a$.	-----NOTE----- SR 3.0.2 is not applicable ---------- In accordance with 10 CFR 50, Appendix J, as modified by approved exemptions
SR 3.6.1.3.12 ----------NOTE---------- Only required to be met in MODES 1, 2, and 3. ---------- Verify each outboard 42 inch primary containment purge valve is blocked to restrict the valve from opening > 50°.	18 months
SR 3.6.1.3.13 ----------NOTE---------- Not required to be met when the Backup Hydrogen Purge System isolation valves are open for pressure control, ALARA or air quality considerations for personnel entry, or Surveillances or special testing of the Backup Hydrogen Purge System that require the valves to be open. ---------- Verify each 2 inch Backup Hydrogen Purge System isolation valve is closed.	31 days

the Primary Containment Leakage Rate Testing Program.

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.5.1.1	Verify bypass leakage is less than or equal to the bypass leakage limit. However, during the first unit startup following bypass leakage testing performed in accordance with this SR, the acceptance criterion is ≤ 10% of the drywell bypass leakage limit.	------NOTE----- The performance of the drywell bypass leakage test is extended to the sixth refueling outage and need not be performed during the fifth refueling outage. ---------- 18 months
SR 3.6.5.1.2	Visually inspect the exposed accessible interior and exterior surfaces of the drywell.	Once prior to performance of each Type A test required by SR 3.6.1.1.1.

Three times during each 10-year service period, at approximately equal intervals.

5.5 Programs and Manuals

5.5.10 Safety Function Determination Program (SFDP) (continued)

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

5.5.11 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases for these TS.

a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.

b. Licensees may make changes to Bases without prior NRC approval provided the changes do not involve either of the following:

1. a change in the TS incorporated in the license; or

2. a change to the USAR or Bases that involves an unreviewed safety question as defined in 10 CFR 50.59.

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the USAR.

d. Proposed changes that meet the criteria of Specification 5.5.11.b.1 or Specification 5.5.11.b.2 above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

Insert new Section 5.5.12 Primary Containment Leakage Rate Testing Program here (see following page)

NEW SUBSECTION 5.5.12 TO BE INSERTED AT THE END OF PAGE 5.0-15

FOR TECHNICAL SPECIFICATION SECTION 5.5
PROGRAMS AND MANUALS

5.5.12 Primary Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," as modified by the following exceptions:

BN-TOP-1 methodology may be used for Type A tests.

The corrections to NEI 94-01 which are identified on the Errata Sheet attached to the NEI letter, "Appendix J Workshop Questions and Answers," dated March 19, 1996, are considered to be an integral part of NEI 94-01.

The peak calculated primary containment internal pressure for the design basis loss of coolant accident is P_a.

The maximum allowable primary containment leakage rate, L_a, shall be 0.20% of primary containment air weight per day at the calculated peak containment pressure (P_a).

Leakage rate acceptance criteria are:

a. Primary containment leakage rate acceptance criterion is $< 1.0\ L_a$. However, during the first unit startup following testing performed in accordance with this Program, the leakage rate acceptance criteria are $< 0.6\ L_a$ for the Type B and Type C tests, and $\leq 0.75\ L_a$ for the Type A tests;

b. Air lock testing acceptance criteria are:

   1) Overall air lock leakage rate is ≤ 2.5 scfh when tested at $\geq P_a$.

   2) For each door, leakage rate is ≤ 2.5 scfh when the gap between the door seals is pressurized to $\geq P_a$.

The provisions of SR 3.0.2 do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program.

The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

[The remainder of the pages in Section 5.0 should be renumbered, as necessary.]

SR 3.0.2 (continued)

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. The exceptions to SR 3.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Specifications. An example of where SR 3.0.2 does not apply is a Surveillance with a Frequency of "in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions." The requirements of regulations take precedence over the TS. The TS cannot in and of themselves extend a test interval specified in the regulations. Therefore, there is a Note in the Frequency stating, "SR 3.0.2 is not applicable."

Therefore, when a test interval is specified in the regulations, the test interval cannot be extended by the TS, and the Surveillance Requirements will then include a NOTE in the frequency stating "SR 3.0.2 is not applicable." An example of an exception when the test interval is not specified in the regulations is the statement in the Primary Containment Leakage Rate Testing Program that "the provisions of SR 3.0.2 do not apply..." This exception is provided because the Program already includes extension of test intervals.

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% extension to this Completion Time is that such an action usually verifies that no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the inoperable equipment in an alternative manner.

The provisions of SR 3.0.2 are not intended to be used repeatedly merely as an operational convenience to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified.

SR 3.0.3

SR 3.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been completed within the specified Frequency. A delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is less, applies from the point in time that it is discovered that the Surveillance has not been performed in accordance with SR 3.0.2, and not at the time

(continued)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1.1 Primary Containment–Operating

BASES

design basis Loss of Coolant Accident (LOCA)

BACKGROUND

The function of the primary containment is to isolate and contain fission products released from the Reactor Coolant System following a Design Basis Accident (DBA) and to confine the postulated release of radioactive material to within limits. The primary containment consists of a free standing steel cylinder with an ellipsoidal dome, secured to a steel lined reinforced concrete mat, which surrounds the Reactor Coolant System and provides an essentially leak tight barrier against an uncontrolled release of radioactive material to the environment. Additionally, this structure provides shielding from the fission products that may be present in the primary containment atmosphere following accident conditions.

The isolation devices for the penetrations in the primary containment boundary are a part of the primary containment leak tight barrier. To maintain this leak tight barrier:

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

   1. capable of being closed by an OPERABLE primary containment automatic isolation system, or

   2. closed by manual valves, blind flanges, or de-activated automatic valves secured in their closed positions, except as provided in LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)";

b. Primary containment air locks are OPERABLE, except as provided in LCO 3.6.1.2, "Primary Containment Air Locks";

c. The equipment hatch is closed and sealed;

d. The leakage control systems associated with penetrations are OPERABLE, except as provided in LCO 3.6.1.8, "Feedwater Leakage Control System," and LCO 3.6.1.9, "Main Steam Isolation Valve (MSIV) Leakage Control System (LCS)";

(continued)

BASES

BACKGROUND (continued)

e. The containment leakage rates are in compliance with the requirements of Specification 3.6.1.1 and Specification 3.6.1.3;

f. The suppression pool is OPERABLE; and

g. The sealing mechanism associated with each primary containment penetration, e.g., welds, bellows, or O-rings, is functional.

This Specification ensures that the performance of the primary containment, in the event of a DBA, meets the assumptions used in the safety analyses of References 1 and 2. SR 3.6.1.1.1 leakage rate requirements are in conformance with 10 CFR 50, Appendix J, (Ref. 3), as modified by approved exemptions. Option B

APPLICABLE SAFETY ANALYSES

The safety design basis for the primary containment is that it must withstand the pressures and temperatures of the limiting DBA without exceeding the design leakage rate.

The DBA that postulates the maximum release of radioactive material within primary containment is a LOCA. In the analysis of this accident, it is assumed that primary containment is OPERABLE such that release of fission products to the environment is controlled by the rate of primary containment leakage.

Analytical methods and assumptions involving the primary containment are presented in References 1 and 2. The safety analyses assume a nonmechanistic fission product release following a DBA, which forms the basis for determination of offsite doses. The fission product release is, in turn, based on an assumed leakage rate from the primary containment. OPERABILITY of the primary containment ensures that the leakage rate assumed in the safety analyses is not exceeded.

The maximum allowable leakage rate for the primary containment (L_a) is 0.20% by weight of the containment and drywell air per 24 hours at the maximum peak containment pressure (P_a) of 7.80 psig (Ref. 4). design basis LOCA

Primary containment satisfies Criterion 3 of the NRC Policy Statement.

BASES (continued)

LCO

Primary containment OPERABILITY is maintained by limiting leakage to ≤ 1.0 L_a, except prior to the first unit startup after performing a required ~~10 CFR 50, Appendix J~~ leakage test. At this time, the ~~combined Type B and Type C~~ leakage must be ~~≤ 0.6 L_a, and the overall Type A leakage must be ≤ 0.75 L_a~~. Compliance with this LCO will ensure a primary containment configuration, including the equipment hatch, that is structurally sound and that will limit leakage to those leakage rates assumed in the safety analysis. Individual leakage rates specified for the primary containment air locks are addressed in LCO 3.6.1.2.

in accordance with the Primary Containment Leakage Rate Testing Program.

applicable

met

limits

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, primary containment leakage limits are not required to be met in MODES 4 and 5 to prevent leakage of radioactive material from primary containment, (refer to B 3.6.1.10, "Primary Containment-Shutdown").

ACTIONS

A.1

In the event that primary containment is inoperable, primary containment must be restored to OPERABLE status within 1 hour. The 1 hour Completion Time provides a period of time to correct the problem that is commensurate with the importance of maintaining primary containment OPERABILITY during MODES 1, 2, and 3. This time period also ensures that the probability of an accident (requiring primary containment OPERABILITY) occurring during periods when primary containment is inoperable is minimal.

B.1 and B.2

If primary containment cannot be restored to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1.1

Maintaining the primary containment OPERABLE requires compliance with the visual examinations and leakage rate test requirements of 10 CFR 50, Appendix J (Ref. 3), as modified by approved exemptions. Failure to meet air lock leakage testing (SR 3.6.1.2.1 and SR 3.6.1.2.4), secondary containment bypass leakage (SR 3.6.1.3.9), resilient seal primary containment purge valve leakage testing (SR 3.6.1.3.6), main steam isolation valve leakage (SR 3.6.1.3.10), or hydrostatically tested valve leakage (SR 3.6.1.3.11) does not necessarily result in a failure of this SR. The impact of the failure to meet these SRs must be evaluated against the Type A, B, and C acceptance criteria of 10 CFR 50, Appendix J (Ref. 3) as modified by approved exemptions. The Frequency is required by 10 CFR 50, Appendix J, as modified by approved exemptions. Thus, SR 3.0.2 (which allows Frequency extensions) does not apply.

the Primary Containment Leakage Rate Testing Program.

, Option A

The Appendix J exemptions approved to date are listed below. Additionally, Bechtel Topical Report BN-TOP-1 may be utilized for ILRTs with a duration of less than 24 hours in accordance with Section 7.6 of ANSI N45.4-1972 (Reference 5).

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 6). [Note: This is performed per SR 3.6.1.2.1.b.]

b. Section III.D.3 - A one time schedular Exemption was issued to permit Type C testing of certain containment isolation valves to exceed the two year interval, so that these tests could by conducted during the first refueling outage (Reference 7).

(continued)

Appendix J, Option A exemptions that are applicable to Appendix J, Option B, may be utilized for Appendix J, Option B testing, unless they have been specifically revoked by the NRC (Reference 3).

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1 (continued)

c. Sections III.A.1(d), III.A.5(b)(2), III.B.3 and III.C.3 - The main steam lines between the inboard and outboard MSIVs (including the volume up to the outboard MSIV before seat drain line valves) are not required to be vented and drained for Type A testing and the main steam line isolation valve leak rates are exempted from inclusion in the overall integrated primary containment leak rate and the combined local leak rate (Reference 8).

d. Section III.D.1(a) - The third Type A test for each 10-year service period is not required to be conducted when the plant is shutdown for the 10-year plant inservice inspection (Reference 8).

e. Section III.D.3 - Type C local leak rate testing may be performed at other convenient intervals in addition to shutdown during refueling, but at intervals no greater than 2 years (Reference 8).

As left leakage prior to the first startup after performing a required 10 CFR 50, Appendix J leakage test is required to be $< 0.6\ L_a$ for combined Type B and Type C leakage, and $\leq 0.75\ L_a$ for overall Type A leakage. At all other times between required leakage rate tests, the acceptance criteria is based on an overall Type A leakage limit of $\leq 1.0\ L_a$. At $\leq 1.0\ L_a$ the offsite dose consequences are bounded by the assumptions of the safety analysis.

REFERENCES

1. USAR, Section 6.2.
2. USAR, Section 15.6.5.
3. 10 CFR 50, Appendix J, Option B.
4. PY-CEI/NRR-1510L, dated June 24, 1992.
5. Letter from NRC (B.J. Youngblood) to CEI (M.R. Edelman), "Performance of the Preoperational Containment Integrated Leak Rate Test - Perry Nuclear Power Plant, Unit 1," dated June 10, 1985.

(continued)

BASES

REFERENCES
(continued)

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

7. Letter from NRC (T. Colburn) to CEI (A. Kaplan), "Exemption from 10 CFR Part 50, Appendix J", dated January 22, 1988.

8. Letter from NRC (J. Hopkins) to Centerior Services Company (D. Shelton), "Issuance of Exemption from the Requirements of 10 CFR Part 50, Appendix J - Perry Nuclear Power Plant, Unit 1", dated December 4, 1995.

9. Regulatory Guide 1.163, Performance-Based Containment Leak-Test Program.

10. NEI 94-01, Revision 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J, including the Errata Sheet attached to the NEI letter, "Appendix J Workshop Questions and Answers," dated March 19, 1996.

BASES

ACTIONS (continued)

D.1 and D.2

If the inoperable primary containment air lock cannot be restored to OPERABLE status within the associated Completion Time while operating in MODE 1, 2, or 3, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

E.1 and E.2

If the inoperable primary containment air lock cannot be restored to OPERABLE status within the associated Completion Time during operations with a potential for draining the reactor vessel (OPDRVs), or during movement of recently irradiated fuel assemblies in the primary containment, action is required to immediately suspend activities that represent a potential for releasing significant amounts of radioactive material, thus placing the unit in a Condition that minimizes risk. If applicable, movement of recently irradiated fuel assemblies in the primary containment must be immediately suspended. Suspension of these activities shall not preclude completion of movement of a component to a safe position. Also, if applicable, action must be immediately initiated to suspend OPDRVs to minimize the probability of a vessel draindown and subsequent potential for fission product release. Action must continue until OPDRVs are suspended.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.2.1

Maintaining primary containment air locks OPERABLE requires compliance with the leakage rate test requirements of 10 CFR 50, Appendix J (Ref. 2), as modified by approved exemptions when in MODES 1, 2, and 3. This SR reflects the leakage rate testing requirements with regard to air lock leakage (Type B leakage tests). The acceptance criteria were established prior to initial air lock and primary containment OPERABILITY testing. The periodic testing requirements verify that the air lock leakage does not exceed the allowed fraction of the overall primary

The Primary Containment Leakage Rate Testing Program

combined Type B and C

(continued)

BASES

SURVEILLANCE

SR 3.6.1.2.1 (continued)

containment leakage rate. The Frequency is required by ~~10 CFR 50, Appendix J, as modified by approved exemptions.~~ the Primary Containment Leakage Rate Testing Program. Thus, SR 3.0.2 (which allows Frequency extensions) does not apply.

The Appendix J exemption related to air lock testing approved to date for PNPP is:

> 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 lock's sealing capability (Reference 5)

The SR has been modified by two Notes. Note 1 states that an inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. This is considered reasonable since either air lock door is capable of providing a fission product barrier in the event of a DBA. Note 2 has been added to this SR, requiring the results to be evaluated against the acceptance criteria of SR 3.6.1.1.1 during operation in MODES 1, 2, and 3. This ensures that airlock leakage is properly accounted for in determining the overall primary containment leakage rate. Since the overall primary containment leakage rate is only applicable in MODES 1, 2, and 3, the Note 2 requirement is imposed only during these MODES.

applicable to

SR 3.6.1.2.2

combined Type B and C

The Service and Instrument Air System pressure in the header to the primary containment air lock is verified to be at ≥ 90 psig every 7 days to ensure that the seal system remains viable. It must be checked because it could bleed down during or following access through the air lock, which occurs regularly. The 7 day Frequency has been shown to be acceptable through operating experience and is considered adequate in view of the other indications available to operations personnel that the seal pressure is low.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.1.2.3

The air lock interlock mechanism is designed to prevent simultaneous opening of both doors in the air lock. Since both the inner and outer doors of an air lock are designed to withstand the maximum expected post accident primary containment pressure (Ref. 3), closure of either door will support primary containment OPERABILITY. Thus, the interlock feature supports primary containment OPERABILITY while the air lock is being used for personnel transit in and out of the containment. Periodic testing of this interlock demonstrates that the interlock will function as designed and that simultaneous inner and outer door opening will not inadvertently occur. Due to the nature of this interlock, and given that the interlock mechanism is only challenged when the primary containment air lock door is opened, this test is only required to be performed upon entering or exiting a primary containment air lock, but is not required more frequently than once per 184 days. The 184 day Frequency is based on engineering judgment and is considered adequate in view of other administrative controls such as indications of air lock door status available to operations personnel.

SR 3.6.1.2.4

A seal pneumatic system test to ensure that pressure does not decay at a rate equivalent to > 1.5 psig for a period of 24 hours from an initial pressure of 90 psig is an effective leakage rate test to verify system performance The 18 month Frequency is based on the fact that operating experience has shown these components usually pass the Surveillance when performed at the 18 month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

REFERENCES

1. USAR, Section 3.8.
2. 10 CFR 50, Appendix J, Option B.
3. USAR, Table 6.2-1.
4. USAR, Section 15.7.6.
5. PNPP Safety Evaluation Report Supplement 7, Section 6.2.6 "Containment Leakage Testing," November 1985.

SURVEILLANCE REQUIREMENTS

3.6.1.3.7 (continued)

exceed the times assumed in the DBA analyses. The Frequency of this SR is in accordance with the Inservice Testing Program. Additionally, the MSIVs must meet an average stroke time. This average stroke time shall be calculated using the stroke times of the fastest valve in each main steam line, and this average shall be ≥ 3 seconds.

SR 3.6.1.3.8

Automatic PCIVs close on a primary containment isolation signal to prevent leakage of radioactive material from primary containment following a DBA or other accidents. This SR ensures that each automatic PCIV will actuate to its isolation position on a primary containment isolation signal. The LOGIC SYSTEM FUNCTIONAL TEST in SR 3.3.6.1.5 overlaps this SR to provide complete testing of the safety function. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass this Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.6.1.3.9

This SR ensures that the leakage rate of secondary containment bypass leakage paths is less than the specified leakage rate. This provides assurance that the assumptions in the radiological evaluations of Reference (1) are met. The leakage rate of each bypass leakage path is assumed to be the maximum pathway leakage (leakage through the worse of the two isolation valves) unless the penetration is isolated by use of a closed manual valve, a closed and de-activated automatic valve, or a blind flange. In this case, the leakage rate of the isolated bypass leakage path is assumed to be the actual pathway leakage through the isolation device. If both isolation devices in the penetration are closed, the actual leakage rate is the lesser leakage rate of the two devices. ~~This method of quantifying maximum pathway leakage rate is only to be used for this SR (i.e., Appendix J maximum pathway leakage rate limits are to be quantified in accordance with Appendix J).~~

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.9 (continued)

A Note is added to this SR which states that these valves are only required to meet this leakage rate limit in MODES 1, 2 and 3. In the other conditions, the Reactor Coolant System is not pressurized and specific primary leakage rate limits are not required. The Frequency is required by 10 CFR 50, Appendix J (Ref. 4) as modified by approved exemptions; thus, SR 3.0.2 (which allows Frequency extensions) does not apply.

the Primary Containment Leakage Rate Testing Program.

SR 3.6.1.3.10

The analyses in References 2 and 3 are based on leakage that is less than the specified leakage rate. Leakage through each main steam line must be ≤ 25 scfh when tested at P_a. Until the end of Operating Cycle 6, the leakage through one main steam line is limited to ≤ 35 scfh when tested at ≥ P_a, as long as the total leakage rate through all four main steam lines is ≤100 scfh. The MSIV leakage rate must be verified to be in accordance with the leakage test requirements of Reference 4, as modified by approved exemptions. The Frequency is required by 10 CFR 50, Appendix J (Ref. 4), as modified by approved exemptions; thus, SR 3.0.2 (which allows Frequency extensions) does not apply.

1 and 2

A Note is added to this SR which states that these valve are only required to meet this leakage rate limit in MODES 1, 2, and 3. In other conditions, the Reactor Coolant System is not pressurized and specific primary containment leakage rate limits are not required.

the Primary Containment Leakage Rate Testing Program.

SR 3.6.1.3.11

Surveillance of hydrostatically tested lines provides assurance that the calculation assumptions of References 2 and 3 are met. The combined leakage rates must be demonstrated at the frequency of the leakage test requirements of Reference 4, as modified by approved exemptions; thus, SR 3.0.2 (which allows Frequency extensions) does not apply.

the Primary Containment Leakage Rate Testing Program.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.13 (continued)

Purge System (e.g., testing of the containment and drywell ventilation radiation monitors) that require the valves to be open. The 31 day Frequency is consistent with other drywell purge valve requirements.

REFERENCES

1. USAR, Chapter 15.
2. USAR, Section 6.2.
3. USAR, Table 6.2-32.
4. 10 CFR 50, Appendix J, Option B.

SURVEILLANCE REQUIREMENTS

SR 3.6.5.1.1 (continued)

least every nine months until two consecutive tests meet the limit, at which time the 18 months Frequency may be resumed.

This Surveillance ensures that the actual drywell bypass leakage is less than or equal to the acceptable $A/\sqrt{k}$ design value of 1.68 ft^2 assumed in the safety analysis. As left drywell bypass leakage, prior to the first startup after performing a required drywell bypass leakage test, is required to be ≤ 10% of the drywell bypass leakage limit. At all other times between required drywell leakage rate tests, the acceptance criteria is based on design $A/\sqrt{k}$. At the design $A/\sqrt{k}$ the containment temperature and pressurization response are bounded by the assumptions of the safety analysis. The leakage test is performed every 18 months, consistent with the difficulty of performing the test, risk of high radiation exposure, and the remote possibility that a component failure that is not identified by some other drywell or primary containment SR might occur.

Operating experience has shown that these components usually pass the Surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

A Note has been provided to modify the Frequency of this Surveillance. The Note reflects NRC approval of a one-time deferral of this test, from the fifth refueling outage to the sixth refueling outage.

SR 3.6.5.1.2

The exposed accessible drywell interior and exterior surfaces are inspected to ensure there are no apparent physical defects that would prevent the drywell from performing its intended function. This SR ensures that drywell structural integrity is maintained. The Frequency was chosen so that the interior and exterior surfaces of the drywell ~~can~~ be inspected in conjunction with the inspections of the primary containment required by 10 CFR 50, Appendix J ~~(Ref. 2)~~. Due to the passive nature of the

originally
could
(the version currently identified as "Option A")

(continued)

When the primary containment inspections were placed onto a performance-based frequency, the drywell inspections were retained at a frequency of 3 times in a 10-year inservice inspection period. The retention of this frequency was a commitment made to facilitate the placement of the Drywell Bypass Leak Rate Test onto a performance-based frequency.

SURVEILLANCE REQUIREMENTS

SR 3.6.5.1.2 (continued)

drywell structure, the specified Frequency is sufficient to identify component degradation that may affect drywell structural integrity.

REFERENCES

1. USAR, Chapter 6 and Chapter 15.

~~2. 10 CFR 50, Appendix J.~~