ATTACHMENT 3

REVISED TECHNICAL SPECIFICATIONS

CONTAINMENT SYSTEMS

3/4.6.2 DRYWELL

DRYWELL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.2.1 DRYWELL INTEGRITY shall be maintained.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2* and 3.

ACTION:

Without DRYWELL INTEGRITY, restore DRYWELL INTEGRITY within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 DRYWELL INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that all drywell penetrations** not capable of being closed by OPERABLE drywell automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in position.

b. By verifying the drywell air lock is in compliance with the requirements of Specification 3.6.2.3.

c. By verifying the suppression pool is in compliance with the requirements of Specification 3.6.3.1.

d. By verifying the drywell bypass leakage is in compliance with the requirements of Specification 3.6.2.2.

INSERT 3/4 6-15A

*See Special Test Exception 3.10.1.

**Except valves, blind flanges, and deactivated automatic valves which are located inside the drywell or containment, and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except such verification need not be performed more often than once per 92 days.

INSERT 3/4 6-15 A

e. Within 72 hours following each drywell air lock closing, except when the air lock is being used for multiple entries, then at least once per 72 hours, by quantifying seal leakage rate when the gap between the drywell air lock door seals is pressurized to 2.5 psig.

f. By conducting an air lock barrel leakage test at 2.5 psig and quantifying the leakage rate:

1. At least once per 24 months.

2. Prior to establishing DRYWELL INTEGRITY when maintenance has been performed on the air lock that could affect the air lock sealing capability.

CONTAINMENT SYSTEMS

DRYWELL BYPASS LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.2.2 Drywell bypass leakage shall be less than or equal to 10% of the minimum acceptable $A/\sqrt{k}$ design value of 1.68 ft.^{2}

APPLICABILITY: When DRYWELL INTEGRITY is required per Specification 3.6.2.1.

ACTION:

With the drywell bypass leakage greater than 10% of the minimum acceptable $A/\sqrt{k}$ design value of 1.68 ft.^{2}, restore the drywell bypass leakage to within the limit prior to increasing reactor coolant system temperature above 200°F.

SURVEILLANCE REQUIREMENTS

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4.6.2.2 The drywell bypass leakage rate test shall be conducted at least once per ~~18 months~~ at an initial differential pressure of 2.5 psi and the $A/\sqrt{k}$ shall be calculated from the measured leakage. One drywell air lock door shall remain open during the drywell leakage test such that each drywell door is leak tested during at least every other leakage rate test. If any drywell bypass leakage test fails to meet the specified limit, the schedule for subsequent tests shall be reviewed and approved by the Commission. If two consecutive tests fail to meet the limit, a test shall be performed at least every 9 months until two consecutive tests meet the limit, at which time the 18 month test schedule may be resumed.

INSERT 3/4 6-16B

INSERT 3/4 6-16 A

: 24 months following 2 consecutive tests with bypass leakage greater than the bypass leakage limit; or

48 months following a test with bypass leakage greater than the bypass leakage limit; or

120 months.

The drywell bypass leakage test shall be conducted

INSERT 3/4 6-16B

Surveillance Requirement 4.0.2 extensions are limited to 12 months. During the first unit startup following bypass leakage testing performed in accordance with this Surveillance Requirement, the acceptance criterion is $\leq$10 % of the drywell bypass leakage limit.

CONTAINMENT SYSTEMS

DRYWELL AIR LOCK

LIMITING CONDITION FOR OPERATION

3.6.2.3 The drywell air lock shall be OPERABLE with:

a. Both doors closed except when the air lock is being used for normal transit entry and exit through the drywell, then at least one air lock door shall be closed, ~~and~~

~~b. An overall air lock leakage rate of less than or equal to 2.5 scf per hour at 2.5 psig.~~

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2* and 3.

ACTION:

a. With one drywell air lock door inoperable:

1. Maintain at least the OPERABLE air lock door closed** and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed.

2. Operation may then continue provided that the OPERABLE air lock door is verified to be locked closed** at least once per 31 days.

3. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

4. The provisions of Specification 3.0.4 are not applicable.

b. With the drywell air lock inoperable, except as a result of an inoperable air lock door, maintain at least one air lock door closed; restore the inoperable air lock to OPERABLE status within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

*See Special Test Exception 3.10.1.

**Except during entry to repair an inoperable inner door, for a cumulative time not to exceed 1 hour per year.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.2.3 The drywell air lock shall be demonstrated OPERABLE:

a. Within 72 hours following each closing, except when the air lock is being used for multiple entries, then at least once per 72 hours, by verifying seal leakage rate less than or equal to 2.5 scf per hour when the gap between the door seals is pressurized to 2.5 psig.

b. By verifying at least once per 7 days that the service and instrument air system pressure in the header to the drywell air lock is $\geq$ 60 psig. DELETED

c. By conducting an overall air lock leakage test at 2.5 psig and verifying that the overall air lock leakage rate is within its limit:

   1. Each COLD SHUTDOWN if not performed within the previous 6 months.

   2. Prior to establishing DRYWELL INTEGRITY when maintenance has been performed on the air lock that could affect the air lock sealing capability.

d. By verifying that only one door in the air lock can be opened at a time prior to drywell entry, if not performed in the previous ~~18~~ 24 months.

e. By verifying the door inflatable seal system OPERABLE at least once per ~~18~~ 24 months by conducting a seal pneumatic system leak test and verifying that system pressure does not decay more than 3 psig from 60 psig within 24 hours.

3.6 CONTAINMENT SYSTEMS

3.6.5.1 Drywell

LCO 3.6.5.1 The drywell shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Drywell inoperable.	A.1	Restore drywell to OPERABLE status.	1 hour
B. Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	12 hours
	AND		
	B.2	Be in MODE 4.	36 hours

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 $\leq$ 10% of the drywell bypass leakage limit.	~~18 months~~ INSERT 3.6-59A

(continued)

INSERT 3.6-59 A

24 months following 2 consecutive tests with bypass leakage greater than the bypass leakage limit

AND

48 months following a test with bypass leakage greater than the bypass leakage limit

AND

----------NOTE----------
SR 3.0.2 extensions are limited to 12 months
---

120 months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
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.

INSERT
3.6-60A

INSERT 3.6-60A

SR 3.6.5.1.3	Quantify air lock door seal leakage rate when the gap between the door seals is pressurized to ≥ 2.5 psig.	Once within 72 hours after each drywell air lock door closing.
SR 3.6.5.1.4	----------NOTE---------- An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. ---------- Quantify drywell air lock leakage by performing an air lock barrel leakage test at ≥ 2.5 psig.	24 months

3.6 CONTAINMENT SYSTEMS

3.6.5.2 Drywell Air Lock

LCO 3.6.5.2 The drywell air lock shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

NOTE

1. Entry and exit is permissible to perform repairs of the affected air lock components.

2. Enter applicable Conditions and Required Actions of LCO 3.6.5.1, "Drywell," when air lock leakage results in exceeding overall drywell bypass leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One drywell air lock door inoperable.	NOTES 1. Required Actions A.1, A.2, and A.3 are not applicable if both doors in the air lock are inoperable and Condition C is entered. 2. Entry and exit is permissible for 7 days under administrative controls. A.1 Verify the OPERABLE door is closed. AND	1 hour (continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
C. Drywell air lock inoperable for reasons other than Condition A or B.	C.1	Initiate action to evaluate drywell overall leakage rate per LCO 3.6.5.1, "Drywell," using current air lock test results.	~~Immediately~~
	AND		
	C.2	Verify a door is closed.	1 hour
	AND		
	C.~~3~~ 2	Restore air lock to OPERABLE status.	24 hours
D. Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	12 hours
	AND		
	D.2	Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.5.2.1	Quantify air lock door ~~Verify~~ seal leakage rate ~~≤ 2.5 scfh~~ when the gap between the door seals is pressurized to ≥ 2.5 psig.	Once within 72 hours after each drywell air lock door closing.
SR 3.6.5.2.2	Verify drywell air lock seal air header pressure is ≥ 60 psig.	7 days
SR 3.6.5.2.3	----------NOTE---------- Only required to be performed upon entry into drywell. ---------- Verify only one door in the drywell air lock can be opened at a time.	24 ~~18~~ months
SR 3.6.5.2.4	----------NOTE---------- An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. ---------- ~~Verify overall~~ Quantify drywell air lock leakage rate ~~is ≤ 2.0 scfh~~ by performing an ~~overall~~ air lock leakage test at ≥ 2.5 psig.	24 ~~18~~ months
SR 3.6.5.2.5	Verify, from an initial pressure of 60 psig, the drywell air lock seal pneumatic system pressure does not decay at a rate equivalent to > 3 psig for a period of 24 hours.	24 ~~18~~ months

3.6 CONTAINMENT SYSTEMS

3.6.5.3 Drywell Isolation Valves

LCO 3.6.5.3 Each drywell isolation valve, except for Drywell Vacuum Relief System valves, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

----------NOTES----------

1. Penetration flow paths, except for the 24 inch and 36 inch purge supply and exhaust valve penetration flow path, may be unisolated intermittently under administrative controls.

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for systems made inoperable by drywell isolation valves.

4. Enter applicable Conditions and Required Actions of LCO 3.6.5.1, "Drywell," when drywell isolation valve leakage results in exceeding overall drywell bypass leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more penetration flow paths with one drywell isolation valve inoperable.	A.1 Isolate the affected penetration flow path by use of at least one close and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	8 hours (continued)

ATTACHMENT 4

REVISED TECHNICAL SPECIFICATION BASES

B 3.6 CONTAINMENT SYSTEMS

B 3.6.5.1 Drywell

BASES

BACKGROUND

The drywell houses the reactor pressure vessel (RPV), the reactor coolant recirculating loops, and branch connections of the Reactor Coolant System (RCS), which have isolation valves at the primary containment boundary. The function of the drywell is to maintain a pressure boundary that channels steam from a loss of coolant accident (LOCA) to the suppression pool, where it is condensed. Air forced from the drywell is released into the primary containment through the suppression pool. The pressure suppression capability of the suppression pool assures that peak LOCA temperature and pressure in the primary containment are within design limits. The drywell also protects accessible areas of the containment from radiation originating in the reactor core and RCS.

To ensure the drywell pressure suppression capability, the drywell bypass leakage must be minimized to prevent overpressurization of the primary containment during the drywell pressurization phase of a LOCA. This requires periodic testing of the drywell bypass leakage, confirmation that the drywell air lock is leak tight, OPERABILITY of the drywell isolation valves, confirmation that the drywell equipment hatch is closed and sealed, confirmation that the drywell hatch is installed and sealed, and confirmation that the drywell vacuum relief valves are closed.

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B 3.6.5.1-120A →

The isolation devices for the drywell penetrations are a part of the drywell barrier. To maintain this barrier:

a. The drywell air lock is OPERABLE except as provided in LCO 3.6.5.2, "Drywell Air Lock";

b. The drywell penetrations required to be closed during accident conditions are either:

   1. capable of being closed by an OPERABLE automatic drywell isolation valve, or

   2. closed by a manual valve, blind flange, or de-activated automatic valve secured in the closed position except as provided in LCO 3.6.5.3, "Drywell Isolation Valves";

(continued)

INSERT B 3.6.5.1-120A

BACKGROUND

The drywell air lock forms part of the drywell pressure boundary. Not maintaining air lock OPERABILITY may result in degradation of the pressure suppression capability, which is assumed to be functional in the unit safety analyses. The drywell air lock does not need to meet the requirements of 10 CFR 50, Appendix J (Ref. 1), since it is not part of the primary containment leakage boundary. However, it is prudent to specify a leakage rate requirement for the drywell air lock. A seal leakage rate limit and a barrel leakage rate limit have been established in plant procedures to assure the integrity of the air lock.

ACTIONS

A.1

In the event the drywell is inoperable, it must be restored to OPERABLE status within 1 hour. The 1 hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining the drywell OPERABLE during MODES 1, 2, and 3. This time period also ensures that the probability of an accident (requiring drywell OPERABILITY) occurring during periods when the drywell is inoperable is minimal. Also, the Completion Time is the same as that applied to inoperability of the primary containment in LCO 3.6.1.1, "Primary Containment - Operating."

B.1 and B.2

If the drywell cannot be restored to OPERABLE status within the required 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.

SURVEILLANCE REQUIREMENTS

SR 3.6.5.1.1

The analyses in Reference 1 are based on a maximum drywell bypass leakage. This Surveillance ensures that the actual drywell bypass leakage is $\leq$ ~~10% of~~ 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 $\leq$ 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

Insert B 3.6-122A

(continued)

INSERT B 3.6-122A

This Surveillance is performed at least once every 10 years (120 months) on a performance based frequency. The Frequency is consistent with the difficulty of performing the test, risk of high radiation exposure, and the remote possibility that sufficient component failures will occur such that the drywell bypass leakage limit will be exceeded. If during the performance of this required Surveillance the drywell bypass leakage is greater than the leakage limit, the Surveillance Frequency is increased to every 48 months. If during the performance of the subsequent consecutive Surveillance the drywell bypass leakage is less than or equal to the drywell bypass leakage limit the 10 year Frequency may be resumed. If during the performance of the subsequent consecutive Surveillance the drywell bypass leakage is greater than the drywell bypass leakage limit the Surveillance Frequency is increased to at least once every 24 months. The 24 month Frequency will be maintained until during the performance of two consecutive Surveillances the drywell bypass leakage is less than or equal to the leakage limit, at which time the 10 year Frequency may be resumed. For two Surveillances to be considered consecutive, the Surveillances must be performed at least 12 months apart.

Since the Frequency is performance based,

SURVEILLANCE REQUIREMENTS

SR 3.6.5.1.1 (continued)

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.

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

Insert B 3.6-123A

REFERENCES

1. USAR, Chapter 6 and Chapter 15.
2. 10 CFR 50, Appendix J.

INSERT B 3.6-123A

SR 3.6.5.1.3

This SR requires a test be performed to quantify seal leakage of the drywell air lock doors at pressures $\geq$ 2.5 psig. An administrative seal leakage rate limit has been established in plant procedures to ensure the integrity of the seals.

The Surveillance is only required to be performed once within 72 hours after each closing. The Frequency of 72 hours is based on operating experience and is considered adequate in view of the other indications available to plant operations personnel that the seal is intact.

SR 3.6.5.1.4

This SR requires a test to be performed to quantify air lock barrel leakage at pressures $\geq$ 2.5 psig. An administrative barrel leakage rate limit has been established in plant procedures to ensure the integrity of the air lock.

The 24 month frequency is based on the need to perform this Surveillance under conditions that apply during a plant outage. Operating experience has shown that these components usually pass the Surveillance when performed. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR has been modified by a Note indicating that an inoperable air lock door does not invalidate the previous successful performance of an overall (barrel) 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.

BASES

BACKGROUND (continued)

move to B 3.6.5.1

The drywell air lock forms part of the drywell pressure boundary. Not maintaining air lock OPERABILITY may result in degradation of the pressure suppression capability, which is assumed to be functional in the unit safety analyses. The drywell air lock does not need to meet the requirements of 10 CFR 50, Appendix J (Ref. 1), since it is not part of the primary containment leakage boundary. However, it is prudent to specify a leakage rate requirement for the drywell air lock. A seal leakage rate limit ~~of ≤ 2.5 scfh~~ and an air lock overall leakage rate limit ~~of ≤ 2.5 scfh, at pressure ≥ 2.5 psig,~~ have been established to assure the integrity of the seals. in plant procedures

APPLICABLE SAFETY ANALYSES

Analytical methods and assumptions involving the drywell are presented in Reference 2. The safety analyses assume that for a high energy line break inside the drywell, the steam is directed to the suppression pool through the horizontal vents where it is condensed. Since the drywell air lock is part of the drywell pressure boundary, its design and maintenance are essential to support drywell OPERABILITY, which assures that the safety analyses are met.

The drywell air lock satisfies Criterion 3 of the NRC Policy Statement.

LCO

The drywell air lock forms part of the drywell pressure boundary. The air lock safety function assures that steam resulting from a DBA is directed to the suppression pool. Thus, the air lock's structural integrity is essential to the successful mitigation of such an event.

The drywell air lock is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock interlock mechanism must be OPERABLE, ~~air lock leakage must be within limits,~~ and both air lock doors must be OPERABLE. The interlock allows only one air lock door to be opened at a time. This provision ensures that a gross breach of the drywell does not exist when the drywell is required to be OPERABLE.

INSERT B 3.6-125A

Closure of a single door in the air lock is sufficient to support drywell OPERABILITY following postulated events. Nevertheless, both doors are kept closed when the air lock is not being used for entry into and exit from the drywell.

(continued)

INSERT B 3.6-125A

Airlock leakage is excluded from this specification. The air lock leakage rate is part of the drywell leakage rate and is controlled as part of OPERABILITY of the drywell in LCO 3.6.5.1.

BASES (continued)

APPLICABILITY In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to the primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, the drywell air lock is not required to be OPERABLE in MODES 4 and 5.

ACTIONS The ACTIONS are modified by Note 1 that allows entry and exit to perform repairs of the affected air lock component. If the outer door is inoperable, then it may be easily accessed for most repairs. If the inner door is inoperable, however, then there is a short time during which the drywell boundary is not intact (during access through the outer door). The ability to open the OPERABLE door, even if it means the drywell boundary is temporarily not intact, is acceptable due to the low probability of an event that could pressurize the drywell during the short time in which the OPERABLE door is expected to be open. The OPERABLE door must be immediately closed after each entry and exit.

The ACTIONS are modified by a second Note, which ensures appropriate remedial actions are taken when necessary. Pursuant to LCO 3.0.6, ACTIONS are not required even if the drywell is exceeding its bypass leakage limit. Therefore, the Note is added to require ACTIONS for LCO 3.6.5.1, "Drywell," to be taken in this event.

A.1, A.2, and A.3

With one drywell air lock door inoperable, the OPERABLE door must be verified closed (Required Action A.1). This ensures that a leak tight drywell barrier is maintained by the use of an OPERABLE air lock door. This action must be completed within 1 hour. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.5.1 which requires that the drywell be restored to OPERABLE status within 1 hour.

In addition, the air lock penetration must be isolated by locking closed the OPERABLE air lock door within the 24 hour Completion Time (Required Action A.2). The Completion Time is considered reasonable for locking the OPERABLE air lock door, considering that the OPERABLE door is being maintained closed.

(continued)

ACTIONS (continued)

B.1, B.2, and B.3

With the drywell air lock interlock mechanism inoperable, the Required Actions and associated Completion Times are consistent with these specified in Condition A.
The Required Actions are modified by two Notes. Note 1 ensures that only the Required Actions and associated Completion Times of Condition C are required if both doors in the air lock are inoperable. With both doors in the air lock inoperable, an OPERABLE door is not available to be closed. Required Actions C.1 and C.2 promote the appropriate remedial actions. The exception of NOTE 1 does not affect tracking the completion times from the initial entry into Condition B, only the requirement to comply with Required Actions. Note 2 allows entry into and exit from the drywell under the control of a dedicated individual stationed at the air lock to ensure that only one door is opened at a time (i.e., the individual performs the function of the interlock). Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of the door, once it has been verified to be in the proper position, is small.

C.1, C.2, and C.3

With the drywell air lock inoperable for reasons other than those described in Condition A or B, Required Action C.1 requires action to be immediately initiated to evaluate drywell bypass leakage using current air lock test leakage results. An evaluation is acceptable, since it is overly conservative to immediately declare the drywell inoperable if both doors in an air lock have failed a seal test or the overall air lock leakage is not within limits. In many instances (e.g., only one seal per door has failed), drywell remains OPERABLE, yet only 1 hour (per LCO 3.6.5.1) would be provided to restore the air lock door to OPERABLE status prior to requiring a plant shutdown. In addition, even with both doors failing the seal test, the overall drywell leakage rate can still be within limits.

Required Action C.2 requires that one door in the drywell air lock must be verified closed. This Required Action must be completed within the 1 hour Completion Time. This specified time period is consistent with the ACTIONS of LCO 3.6.5.1, which requires that the drywell be restored to OPERABLE status within 1 hour.

(continued)

ACTIONS

~~C.1, C.2, and C.3 (continued)~~

Additionally, the air lock must be restored to OPERABLE status within 24 hours. The 24 hour Completion Time is reasonable for restoring an inoperable air lock to OPERABLE status, considering that at least one door is maintained closed in the air lock.

D.1 and D.2

If the inoperable drywell air lock cannot be restored to OPERABLE status within the required 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.

SURVEILLANCE REQUIREMENTS

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SR 3.6.5.2.1 ^ DELETED

This SR requires a test be performed to ~~verify~~ quantify seal leakage of the drywell air lock doors at pressures ≥ 2.5 psig. ~~A seal leakage rate limit of ≤ 2.5 scfh has been established to ensure the integrity of the seals.~~ The Surveillance is only required to be performed once within 72 hours after each closing. The Frequency of 72 hours is based on operating experience and is considered adequate in view of the other indications available to plant operations personnel that the seal is intact.

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SR 3.6.5.2.2

Every 7 days the Service and Instrument Air System pressure in the header to the drywell air lock is verified to be ≥ 60 psig 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, based on operating experience, and is considered adequate in view of the other indications to the plant operations personnel that the seal pressure is low.

(continued)

INSERT B 3.6-129A

An administrative seal leakage rate limit has been established in plant procedures to ensure the integrity of the seals.

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.5.2.3

The air lock door interlock mechanism is designed to prevent simultaneous opening of both doors in the air lock. Since both the inner and outer doors of the air lock are designed to withstand the maximum expected post accident drywell pressure, closure of either door will support drywell OPERABILITY. Thus, the door interlock feature supports drywell OPERABILITY while the air lock is being used for personnel transit in and out of the drywell. 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 a drywell air lock door is opened, this test is only required to be performed once every ~~18~~ months. The ~~18~~ month Frequency is based on the need to perform this Surveillance under the reduced reactivity conditions that apply during a plant outage and the potential for violating the drywell boundary. 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.

The Surveillance is modified by a Note requiring the Surveillance to be performed only upon entry into the drywell.

SR 3.6.5.2.4

~~This~~ SR requires a test to be performed to ~~verify overall~~ quantify air lock leakage of the drywell air lock at pressures ≥ 2.5 psig. 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 violating the drywell boundary~~. 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.

This SR has been modified by a Note indicating that an inoperable air lock door does not invalidate the previous successful performance of an 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.

(continued)

INSERT B 3.6-130A

An administrative barrel leakage rate limit has been established in plant procedures to ensure the integrity of the air lock.

BACKGROUND (continued)

valves. The drywell air is exhausted through a line also containing two drywell purge exhaust isolation valves and is then exhausted into the exhaust portion of the Containment Vessel and Drywell Purge System. The system is used to remove trace radioactive airborne products prior to personnel entry. The drywell purge mode is not used in MODE 1, 2, or 3; therefore, the drywell purge supply and exhaust isolation valves are sealed shut during power operation.

APPLICABLE SAFETY ANALYSES

This LCO is intended to ensure that releases from the core do not bypass the suppression pool so that the pressure suppression capability of the drywell is maintained. Therefore, as part of the drywell boundary, drywell isolation valve OPERABILITY minimizes drywell bypass leakage. Therefore, the safety analysis of any event requiring isolation of the drywell is applicable to this LCO.

The limiting DBA resulting in a release of steam, water, or radioactive material within the drywell is a LOCA. In the analysis for this accident, it is assumed that drywell isolation valves are either closed or function to close within the required isolation time following event initiation.

The drywell isolation valves and drywell purge supply and exhaust isolation valves satisfy Criterion 3 of the NRC Policy Statement.

LCO

The drywell isolation valve safety function is to form a part of the drywell boundary.

The power operated drywell isolation valves are required to have isolation times within limits. Power operated automatic drywell isolation valves are also required to actuate on an automatic isolation signal. Additionally, drywell purge supply and exhaust isolation valves are required to be closed. While the Drywell Vacuum Relief System valves isolate drywell penetrations, they are excluded from this Specification. Controls on their isolation function are adequately addressed in LCO 3.6.5.6, "Drywell Vacuum Relief System."

INSERT B 3.6-133A

(continued)

INSERT B 3.6-133A

Drywell isolation valve leakage is also excluded from this Specification. The drywell isolation valve leakage rates are part of the drywell leakage rate and are controlled as part of OPERABILITY of the drywell in LCO 3.6.5.1.

LCO (continued)

The normally closed drywell isolation valves or blind flanges are considered OPERABLE when, as applicable, manual valves are closed or opened in accordance with applicable administrative controls, automatic valves are de-activated and secured in their closed position, check valves with flow through the valve secured, or blind flanges are in place. The valves covered by this LCO are included (with their associated stroke time, if applicable, for automatic valves) in Reference 2.

APPLICABILITY

In MODES 1, 2, and 3, a DBA could cause a release of radioactive material to the primary containment. In MODES 4 and 5, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Therefore, the drywell isolation valves are not required to be OPERABLE in MODES 4 and 5.

ACTIONS

The ACTIONS are modified by ~~four~~ two three Notes. The first Note allows penetration flow paths, except for the 24 and 36 inch purge supply and exhaust valve penetration flow paths, to be unisolated intermittently under administrative controls. These controls consist of stationing a dedicated operator, who is in continuous communication with the control room, at the controls of the valve. In this way, the penetration can be rapidly isolated when a need for drywell isolation is indicated.

The second Note provides clarification that, for the purpose of this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable drywell isolation valve. Complying with the Required Actions may allow for continued operation, and subsequent inoperable drywell isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

INSERT B 3.6-134A

The ACTIONS are modified by Notes 3 and 4. These notes ensure appropriate remedial actions are taken, if necessary, if the affected system (s) are rendered inoperable by an inoperable drywell isolation valve, or when the drywell bypass leakage limits are exceeded.

(continued)

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The third NOTE requires the OPERABILITY of affected systems to be evaluated when a drywell isolation valve is inoperable. This ensures appropriate remedial actions are taken, if necessary, if the affected system(s) are rendered inoperable by an inoperable drywell isolation valve.

ACTIONS (continued)

Pursuant to LCO 3.0.6, these ACTIONS are not required even when the associated LCO is not met. Therefore, Notes 3 ~~and 4 are~~ added to require the proper actions to be taken. The term "penetration" refers to piping/ductwork lines that pass through the drywell boundary; these lines are isolable by automatic isolation valves. This use of the term is separate and distinct from the Civil/Structural term "penetration" used to describe the larger opening that multiple lines may pass through an which is sealed by welded steel plate or environmentally qualified material everywhere except where the lines pass through. When a drywell isolation valve becomes inoperable within a line, and the Required Action directs the operator to "isolate the affected penetration flowpath", the intent is to isolate only the line with the inoperable drywell isolation valve. It is not the intent to close off other lines that are unaffected by the inoperable valve.

A.1 and A.2

With one or more penetration flow paths with one drywell isolation valve inoperable, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed manual valve and a closed and de-activated automatic valve, a check valve with flow through the valve secured, and a blind flange. The 8 hour Completion Time is acceptable since if the drywell design bypass leakage $A/\sqrt{k}$ of 1.68 ft^2 were exceeded, ACTIONS NOTE 4 will ensure appropriate conservative actions are implemented. In addition, the Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting drywell OPERABILITY during MODES 1, 2, and 3.

Insert B 3.6-135A

For affected penetration flow paths that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that drywell penetrations that are required to be isolated following an accident, and are no longer capable of being automatically isolated, will be isolated should an event occur. This Required Action does not require any testing or isolation device manipulation. Rather, it involves verification that

(continued)

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due to the low probability of the inoperable valve resulting in excessive drywell leakage and the low probability of the limiting event for drywell leakage occurring during this short time frame.

BASES

ACTIONS

A.1 and A.2 (continued)

those devices outside drywell and capable of being mispositioned are in the correct position. Since these isolation devices are inside primary containment, the specified time period of "prior to entering MODE 2 or 3 from MODE 4, if not performed within the previous 92 days," is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and the existence of other administrative controls, ensuring that isolation device misalignment is an unlikely possibility. Also, this Completion Time is consistent with the Completion Time specified for PCIVs in LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)." Required Action A.2is modified by a Note that applies to isolation devices located in high radiation areas and allows them to be verified by use of administrative controls. Allowing verification by administrative controls is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment, once they have been verified to be in the proper position, is low.

B.1

With one or more penetration flow paths with two drywell isolation valves inoperable, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed manual valve, a de-activated automatic valve, a check valve with flow through the valve secured, and a blind flange. The 4 hour Completion Time is acceptable, since if the drywell design bypass leakage A/√k of 1.68 ft² were exceeded, ACTIONS NOTE 4 will ensure appropriate conservative actions are implemented. The Completion Time is reasonable, considering the time required to isolate the penetration, and the probability of a DBA, which requires the drywell isolation valves to close, occurring during this short time is very low.

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C.1 and C.2

If any Required Action and associated Completion Time cannot be met, the plant must be placed in a MODE in which the LCO

(continued)

INSERT B 3.6-136A

due to the low probability of the inoperable valves resulting in excessive drywell leakage and the low probability of the limiting event for drywell leakage occurring during this short time frame.

ATTACHMENT 5

REFERENCES

REFERENCES

1. Perry Nuclear Power Plant Current and Improved Technical Specifications, updated through Amendment 72.

2. Perry Nuclear Power Plant Updated Safety Analysis Report, Updated through Rev. 7.

3. NEDO-10977, General Electric Company, Drywell Integrity Study: Investigation of Potential Cracking for BWR-6 Mark III Containment, August 1973.

4. NEI 94-01, Revision 0, Nuclear Energy Institute, Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J, July 26, 1995.