ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more penetration flow paths with one or more MSIVs not within leakage limits.	D.1 Restore leakage to within limits.	8 hours
E. One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.	E.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	24 hours
	AND E.2 --------NOTE-------- Isolation devices in high radiation areas may be verified by use of administrative means. ---------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment
	AND E.3 Perform SR 3.6.1.3.4 for the resilient seal purge valves closed to comply with Required Action E.1.	Once per 92 days

AND
E.2 ----NOTE----
Only required to be performed if a purge valve with resilient seal is used to satisfy Required Action E.1.

Restore leakage to within limits. 72 hours

(continued)

3.7 PLANT SYSTEMS

3.7.9 Control Building/Standby Gas Treatment (CB/SBGT) Instrument Air System

LCO 3.7.9 Two CB/SBGT Instrument Air subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One CB/SBGT Instrument Air subsystem inoperable.	A.1.	Declare required feature(s), supported by the inoperable CB/SBGT Instrument Air subsystem, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of Condition A concurrent with inoperability of redundant required feature(s)
		AND		
		A.2.	Restore the CB/SBGT Instrument Air subsystem to OPERABLE status.	7 days
B.	Required Action and Associated Completion Time of Condition A not met. OR Both CB/SBGT Instrument Air subsystems inoperable.	B.1.	Be in MODE 3.	12 hours
		AND		
		B.2.	Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.9.1	Operate each CB/SBGT Instrument Air compressor for ≥ 20 minutes.	31 days
SR 3.7.9.2	Verify each CB/SBGT Instrument Air subsystem actuates on an actual or simulated initiation signal and maintains air pressure ≥ 75 psig in the receiver.	92 days

BASES

ACTIONS

A.1 and A.2 (continued)

automatic valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available valve, flange, etc., to the primary containment. In addition, for the valve or flange to be acceptable for use as the OPERABLE isolation device, it must meet all the design requirements for the PCIV it is replacing, such as, 10 CFR 50, Appendix J leakage testing, seismic qualifications, piping code class provisions, etc. The Required Action must be completed within the 4 hour Completion Time (8 hours for main steam lines). The Completion Time of 4 hours is reasonable considering the time required to isolate the penetration and the relative importance of supporting primary containment OPERABILITY during MODES 1, 2, and 3. For main steam lines, an 8 hour Completion Time is allowed. The Completion Time of 8 hours for the main steam lines allows a period of time to restore the MSIVs to OPERABLE status given the fact that MSIV closure will result in isolation of the main steam line(s) and a potential for plant shutdown.

add ft (see attached INSERT)

For affected penetrations that have been isolated in accordance with Required Action A.1, the affected penetration flow path(s) must be verified to be isolated on a periodic basis. This is necessary to ensure that primary containment penetrations required to be isolated following an accident, and no longer capable of being automatically isolated, will be in the isolation position should an event occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification that those devices outside containment and capable of potentially being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside primary containment" is appropriate because the devices are operated under administrative controls and the probability of their misalignment is low. For the devices inside primary containment, the time period specified "prior to entering MODE 2 or 3 from MODE 4, if primary containment was de-inerted while in 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 devices and other administrative controls ensuring that device misalignment is an unlikely possibility.

(continued)

INSERT for A.1

The 18 inch primary containment purge valves are equipped with resilient seals that require compressed air to ensure leak tightness. Therefore, both inboard and outboard 18 inch containment purge valves for the affected penetration are required to have functional resilient seals in order to provide an isolation barrier that cannot be affected by a single active failure. Thus, an acceptable isolation barrier is established when both inboard and outboard purge valves are de-activated in the closed position, with the resilient seals pressurized to ensure leak tightness of both purge valves.

BASES

ACTIONS
(continued)

~~E.1, E.2, and E.3~~

In the event one or more containment purge valves are not within the purge valve leakage limits, purge valve leakage must be restored to within limits or the affected penetration must be isolated. The method of isolation must be by 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 and de-activated automatic valve, closed manual valve, and blind flange. In addition, for the valve or flange to be acceptable for use as the OPERABLE isolation device, it must meet all the design requirements for the PCIV it is replacing, such as, 10 CFR 50, Appendix J leakage testing, seismic qualifications, piping code class provisions, etc. ~~If a purge valve with resilient seals is utilized to satisfy Required Action E.1, it must have been demonstrated to meet the leakage requirements of SR 3.6.1.3.4.~~ The specified Completion Time is reasonable, ~~considering that one containment purge valve remains closed so that a gross breach of containment does not exist~~.

will maintain leak tightness under LOOP-LOCA Conditions.

to take the ACTIONS or return the purge valve leakage to within limits, given the low probability of an event during this short period of time.

see attached for E.2

~~E.3~~ B

In accordance with Required Action E.2, this penetration flow path must be verified to be isolated on a periodic basis. The periodic verification is necessary to ensure that containment penetrations required to be isolated following an accident, which are no longer capable of being automatically isolated, will be in the isolation position should an event occur. This Required Action does not require any testing or valve manipulation. Rather, it involves verification that those isolation devices outside containment and potentially capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate because the devices are operated under administrative controls and the probability of their misalignment is low. ~~For the containment purge valve with resilient seal that is isolated in accordance with Required Action E.1, SR 3.6.1.3.4 must be performed at least once every 92 days. This provides assurance that degradation of the resilient seal is detected and confirms that the leakage rate of the containment purge valve does not increase during the time the penetration is isolated. The normal Frequency for SR 3.6.1.3.4 is 184 days. Since more reliance is placed on a single valve while in this Condition, it is prudent to perform the SR more often.~~

H Required Action E.3 is modified by a Note that applies to isolation devices located in high radiation areas, and allows them to be verified by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of these devices, once they have been verified to be in the proper position, is low

(continued)

BASES

ACTIONS

E.1 E.2 and E.3 (continued)

Therefore, a Frequency of once per 92 days was chosen and has been shown to be acceptable based on operating experience.

F.1 and F.2

If any Required Action and associated Completion Time cannot be met 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.

G.1 and G.2

If any Required Action and associated Completion Time cannot be met for PCIVs required to be OPERABLE in MODES 4 or 5, the unit must be placed in a condition in which the LCO does not apply. Action must be immediately initiated to suspend operations with a potential for draining the reactor vessel (OPDRVs) within the RHR Shutdown Cooling System boundary to minimize the probability of a vessel draindown and subsequent potential for fission product release. Actions must continue until OPDRVs are suspended and valve(s) are restored to OPERABLE status. If suspending an OPDRV would result in closing the residual heat removal (RHR) shutdown cooling isolation valves, an alternative Required Action is provided to immediately initiate action to restore the valve(s) to OPERABLE status. This allows RHR shutdown cooling to remain in service while actions are being taken to restore the valve.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.3.1

This SR ensures that the primary containment purge valves are closed as required or, if open, open for an allowable reason. If a purge valve is open in violation of this SR, the valve is considered inoperable.

(continued)

E.2

If a purge valve with resilient seal is utilized to satisfy Required Action E.1, unlimited operation is not permitted as this method of isolating the penetration is susceptible to single failures that could compromise the leak tightness of the entire penetration (e.g., loss of air compressor, DG failure, etc.). Thus, per the Note to Required Action E.1, if this method of isolation is used, the containment purge valve leakage must be restored to within limits within 72 hours. The specified Completion Time is reasonable, considering that one containment purge valve remains sealed so that primary containment integrity is maintained, although not single failure tolerant and the low probability of an event occurring during this time period.

Required Action E.2 is modified by a Note indicating this Required Action is only required to be performed if a purge valve with resilient seal is used to satisfy Required Action E.1. If the method of isolation is by the use of at least one isolation barrier that cannot be adversely affected by a single active failure, then Required Action E.2 is not required because the integrity of the affected penetration flow path is being maintained by a passive device and unlimited operation is permitted.

B 3.7 PLANT SYSTEMS

B 3.7.9 Control Building/Standby Gas Treatment (CB/SBGT) Instrument Air System

BASES

BACKGROUND

The CB/SBGT Instrument Air System is designed to provide compressed air to support:

- closure of the reactor building-to-suppression chamber vacuum breaker butterfly valves
- leak tightness of the reactor building-to-suppression chamber vacuum breaker butterfly valves (by pressurizing the T-ring seals) when closed
- leak tightness of the primary containment purge system isolation valves (by pressurizing the T-ring seals) when closed
- closure of the drywell cooling water containment isolation valves
- SBGT flow control and filter cooler bypass damper opening
- Standby Filter Unit (SFU) flow control
- ventilation flow path and temperature control for the Control Building Chiller (CBC) System, which is also the ventilation flow path for the SFU System

These systems and components function to limit fission product release and control the environment from which the unit can be safely operated following a Design Basis Accident (DBA).

The CB/SBGT Instrument Air System consists of two independent and redundant subsystems. Each of the two CB/SBGT Instrument Air subsystems is made up of a compressor, air receiver, associated instrumentation, and piping. The air receivers are normally supplied by the plant instrument air system. If the pressure in the air receiver decreases below 78 psig (nominal), then the CB/SBGT Instrument Air compressor will automatically start. With the air receiver pressure higher than the plant instrument air system, check valves will close to provide isolation of each

	CB/SBGT Instrument Air subsystem. Either of the two subsystems is capable of providing compressed air to support the required systems. The two subsystems are separated from each other so failure of one subsystem will not affect the OPERABILITY of the other subsystem.
APPLICABLE SAFETY ANALYSES	The ability of the CB/SBGT Instrument Air System to provide compressed air is an implicit assumption in evaluations of the equipment required to limit fission product release and control the environment from which the unit can be safely operated following a DBA. The CB/SBGT Instrument Air System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).
LCO	The CB/SBGT Instrument Air subsystems are independent of each other to the degree that each has separate controls, power supplies, and the operation of one does not depend on the other. In the event of a DBA, one subsystem of CB/SBGT Instrument Air is required to support operation of SBGT, SFU, CBC, and containment isolation assumed in the safety analyses. To ensure this requirement is met, two subsystems of CB/SBGT Instrument Air must be OPERABLE. At least one subsystem will operate if the worst single active failure occurs coincident with the loss of offsite power. The isolation of the CB/SBGT Instrument Air System to components or systems may render those components or systems inoperable, but does not affect the OPERABILITY of the CB/SBGT Instrument Air System.
APPLICABILITY	In MODES 1, 2, and 3, the CB/SBGT Instrument Air System is required to be OPERABLE to support OPERABILITY of the equipment serviced by the CB/SBGT Instrument Air System. Therefore, the CB/SBGT Instrument Air System is required to be OPERABLE in these MODES. In MODES 4 and 5, the OPERABILITY requirements of the CB/SBGT Instrument Air System are determined by the systems it supports, and therefore, the requirements are not the same for all facets of operation in MODES 4 and 5. Thus, the LCOs of the systems supported by the CB/SBGT Instrument Air System will govern OPERABILITY requirements in MODES 4 and 5.

ACTIONS

A.1

Required Action A.1 is intended to provide assurance that a loss of the plant instrument air system, during the period that a CB/SBGT Instrument Air subsystem is inoperable, does not result in a complete loss of safety function of critical systems.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowable out of service time "clock." In this Required Action the Completion Time only begins on discovery that both:

a. An inoperable CB/SBGT Instrument Air subsystem exists; and

b. A required feature on the other division is inoperable.

If, at any time during the existence of this Condition (one CB/SBGT Instrument Air subsystem inoperable), a required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

Discovering one required CB/SBGT Instrument Air subsystem inoperable coincident with one or more inoperable required support or supported features, or both, that are associated with the OPERABLE CB/SBGT Instrument Air subsystem results in starting the Completion Time for the Required Action. Four hours from the discovery of these events existing concurrently is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown. Additionally, the 4 hour Completion Time takes in to account the capability of the OPERABLE CB/SBGT Instrument Air subsystem, reasonable time for repairs, and low probability of a DBA during this period.

A.2

With one CB/SBGT Instrument Air subsystem inoperable, the CB/SBGT Instrument Air subsystem must be restored to OPERABLE status within 7 days. With the unit in this condition, the remaining OPERABLE CB/SBGT Instrument Air subsystem is adequate to support the SBGT, SFU, CBC, and containment isolation functions. However, the overall reliability is reduced because a single failure in the

OPERABLE CB/SBGT Instrument Air subsystem could result in a loss of the supported functions.

The 7 day Completion Time is based on the redundant CB/SBGT Instrument Air System capabilities afforded by the OPERABLE subsystem, the low probability of an accident occurring during this time period, and is consistent with the allowed Completion Time for restoring an inoperable DG or ESW subsystem.

B.1 and B.2

If the CB/SBGT Instrument Air subsystem cannot be restored to OPERABLE status within the associated Completion Time or both CB/SBGT Instrument Air subsystems are inoperable, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS	SR 3.7.9.1 Operating each CB/SBGT Instrument Air compressor for ≥ 20 minutes allows the oil and other components to reach their operating temperature. This periodic operation removes condensation which may cause rusting in the cylinders, if it were to accumulate. The 31 day Frequency and the operating time are based on vendor recommendations. SR 3.7.9.2 This SR verifies that each CB/SBGT Instrument Air subsystem has the capability to deliver sufficient quantity of compressed air to support the SBGT, SFU, CBC, and containment isolation functions. This SR takes into account both the compressor capacity and the integrity of the distribution system. This SR also verifies the automatic start capability of the CB/SBGT Instrument Air compressor in each subsystem. This is demonstrated by the use of an actual or simulated initiation signal. The 92 day Frequency is consistent with the Frequency for pump testing in accordance with the Inservice Testing Program requirements. Therefore, this Frequency was concluded to be acceptable from a reliability standpoint.
REFERENCES	1. UFSAR, Section 9.3.1. 2. UFSAR, Section 6.2.4. 3. UFSAR, Section 6.2.5. 4. UFSAR, Section 6.5.3.3. 5. UFSAR, Section 6.4.2. 6. UFSAR, Section 9.4.4.