3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 The containment isolation valves specified in Table 3.6-1 shall be OPERABLE with isolation times as shown in Table 3.6-1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the isolation valve(s) specified in Table 3.6-1 inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate the affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1 The isolation valves specified in Table 3.6-1 shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.

4.6.3.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a CIAS or SIAS test signal, each isolation valve actuates to its isolation position.

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SURVEILLANCE REQUIREMENTS (Continued)

b. Verifying that on a Containment Radiation-High test signal, all containment purge valves actuate to their isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
A. CONTAINMENT ISOLATION (CIAS)			
1	HV-0510	Pressurizer steam space sample	40
1	HV-0511	Pressurizer steam space sample	40
2	TV-9267	Letdown line to letdown heat exchanger	40
2	HV-9205	Letdown line to letdown heat exchanger	40
4	HV-0508	Reactor coolant loops hot leg sample	40
4	HV-0509	Reactor coolant loops hot leg sample	40
4	HV-0517	Reactor coolant loops hot leg sample	40
6	HV-9334	Safety injection drain to RWST	40
7	HV-9217	Reactor coolant pump seal bleed off	40
7	HV-9218	Reactor coolant pump seal bleed off	40
11	HV-7911	Demineralized water to service station and sump pump	40
12	HV-0512	Pressurizer surge line sample	40
12	HV-0513	Pressurizer surge line sample	40
13	HV-5803	Containment sump pump discharge	40
13	HV-5804	Containment sump pump discharge	40
14	HV-5686	Fire protection	40
16C	HV-7805	Containment air radioactivity monitor inlet	1
16C	HV-7810	Containment air radioactivity monitor inlet	1
18	HV-9821	Containment minipurge inlet	5
18	HV-9823	Containment minipurge inlet	5
19	HV-9824	Containment minipurge outlet	5
19	HV-9825	Containment minipurge outlet	5
22	HV-5388	Instrument air supply line	40
23A	HV-5437	N_2 supply to quench tank, reactor coolant drain tank, and steam generators	40
26	HV-7512	Reactor coolant drain tank pump discharge	40
26	HV-7513	Reactor coolant drain tank pump discharge	40
27C	HV-7806	Containment air radioactivity monitor outlet	1
27C	HV-7811	Containment air radioactivity monitor outlet	1

TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
28	HV-4052#	Steam generator feedwater	10
29	HV-4040#	Steam generator feedwater	10
30A	HV-7802	Containment air radioactivity monitor inlet	1
30A	HV-7803	Containment air radioactivity monitor inlet	1
30B	HV-7801	Containment air radioactivity monitor outlet	1
30B	HV-7800	Containment air radioactivity monitor outlet	1
30B	HV-7816	Containment air radioactivity monitor outlet	1
30C	HV-0516	Quench tank and drain tank gas sample	40
30C	HV-0514	Quench tank and drain tank gas sample	40
30C	HV-0515	Quench tank and drain tank gas sample	40
32	HV-8204#	Mainsteam isolation	5
33	HV-8205#	Mainsteam isolation	5
42	HV-6211	Component cooling water inlet	40
43	HV-6216	Component cooling water outlet	40
45	HV-9900	Containment normal A/C chilled water inlet	40
45	HV-9920	Containment normal A/C chilled water inlet	40
46	HV-9971	Containment normal A/C chilled water inlet	40
46	HV-9921	Containment normal A/C chilled water outlet	40
47	HV-7250	Containment waste gas vent header	40
47	HV-7259	Containment waste gas vent header	40
77	HV-5434	Nitrogen supply to safety injection tanks	40
B. CONTAINMENT PURGE (CPIS)			
18	HV-9949**	Containment purge inlet (normal)	12
18	HV-9948**	Containment purge inlet (normal)	12
18	HV-9821	Containment mini-purge inlet	5
18	HV-9823	Containment mini-purge inlet	5
19	HV-9950**	Containment purge outlet (normal)	12
19	HV-9951**	Containment purge outlet (normal)	12
19	HV-9824	Containment mini-purge outlet	5
19	HV-9825	Containment mini-purge outlet	5

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TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
C. MANUAL			
6	2"-099-C-334*	Safety injection drain to RWST	NA
8	HV-9200	Charging line to regenerative heat exchanger	NA
9	HV-9337#@	Shutdown cooling to LPSI pumps	NA
9	HV-9377#@	Shutdown cooling to LPSI pumps	NA
9	HV-9336#@	Shutdown cooling to LPSI pumps	NA
9	HV-9379#@	Shutdown cooling to LPSI pumps	NA
10A	HV-0352A#	Containment pressure detectors	NA
10C	3/4"-038-C-396	Integrated leak rate test pressure sensor	NA
10C	3/4"-039-C-396	Integrated leak rate test pressure sensor	NA
16A	HV-0500*	Post LOCA hydrogen monitor	NA
16A	HV-0501*	Post LOCA hydrogen monitor	NA
16B	HV-0502*	Post LOCA hydrogen monitor	NA
16B	HV-0503*	Post LOCA hydrogen monitor	NA
20	2"-321-C-376*	Quench tank makeup	NA
21	2"-055-C-387	Service air supply line	NA
25	10"-100-C-212	Refueling canal fill and drain	NA
25	10"-101-C-212	Refueling canal fill and drain	NA
27A	HV-0352D#	Containment pressure detectors	NA
31	HV-9946	Containment hydrogen purge inlet	NA
31	HCV-9945	Containment hydrogen purge inlet	NA
40A	HV-0352B#	Containment pressure detectors	NA
67	HV-9434	Hot leg injection	NA
68	2"-130-C-334	Charging line to auxiliary spray	NA
70	2"-037-C-387	Auxiliary steam inlet to utility stations	NA
70	2"-038-C-387	Auxiliary steam inlet to utility stations	NA
71	HV-9420	Hot leg injection	NA
73A	HV-0352C#	Containment pressure detectors	NA
74	HV-9917	Containment hydrogen purge outlet	NA
74	HCV-9918	Containment hydrogen purge outlet	NA

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TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
D. OTHER			
3	3"-018-A-551#	High pressure safety injection	NA
3	HV-9323#	High pressure safety injection	NA
3	HV-9324#	High pressure safety injection	NA
5	3"-019-A-551#	High pressure safety injection	NA
5	HV-9326#	High pressure safety injection	NA
5	HV-9327#	High pressure safety injection	NA
8	2"-122-C-554	Charging line to regenerative heat exchanger	NA
9	PSV-9349#	Shutdown cooling relief	NA
11	3"-236-C-675	Demineralized water to service stations and sump pump	NA
14	4"-061-C-681	Fire protection	NA
17	HV-4050#*	Steam generator secondary coolant sample	NA
20	2"-573-C-611	Quench tank makeup	NA
21	2"-017-C-627	Service air supply line	NA
22	1-1/2"-016-C-617	Instrument air supply line	NA
23A	3/4"-002-C-611	LP N_2 to containment	NA
32	HV-8421#	Mainsteam atmospheric dump	NA
32	PSV-8410#	Mainsteam relief	NA
32	PSV-8411#	Mainsteam relief	NA
32	PSV-8412#	Mainsteam relief	NA
32	PSV-8413#	Mainsteam relief	NA
32	PSV-8414#	Mainsteam relief	NA
32	PSV-8415#	Mainsteam relief	NA
32	PSV-8416#	Mainsteam relief	NA
32	PSV-8417#	Mainsteam relief	NA
32	PSV-8418#	Mainsteam relief	NA
32	HV-8249B#	Mainsteam trap isolation	NA
32	HV-8202#	Mainsteam isolation bypass	NA
32	HV-8200#	Mainsteam to auxiliary feedwater turbine	NA
33	HV-8419#	Mainsteam atmospheric dump	NA
33	PSV-8401#	Mainsteam relief	NA

TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
33	PSV-8402#	Mainsteam relief	NA
33	PSV-8403#	Mainsteam relief	NA
33	PSV-8404#	Mainsteam relief	NA
33	PSV-8405#	Mainsteam relief	NA
33	PSV-8406#	Mainsteam relief	NA
33	PSV-8407#	Mainsteam relief	NA
33	PSV-8408#	Mainsteam relief	NA
33	PSV-8409#	Mainsteam relief	NA
33	HV-8248B#	Mainsteam trap isolation	NA
33	HV-8203#	Mainsteam isolation bypass	NA
33	HV-8201#	Mainsteam to auxiliary feedwater turbine	NA
36	HV-4054#*	Steam generator blowdown	NA
37	HV-4053#*	Steam generator blowdown	NA
39	3"-020-A-551#	High pressure safety injection	NA
39	HV-9329#	High pressure safety injection	NA
39	HV-9330#	High pressure safety injection	NA
41	3"-021-A-551#	High pressure safety injection	NA
41	HV-9332#	High pressure safety injection	NA
41	HV-9333#	High pressure safety injection	NA
42	HV-6223	Component cooling water inlet	NA
43	HV-6236	Component cooling water inlet	NA
44	HV-4057#*	Steam generator secondary coolant sample	NA
48	8"-072-A-552#@	Low pressure safety injection	NA
48	HV-9322#@	Low pressure safety injection	NA
49	8"-073-A-552#@	Low pressure safety injection	NA
49	HV-9325#@	Low pressure safety injection	NA
50	8"-074-A-552#@	Low pressure safety injection	NA
50	HV-9328#@	Low pressure safety injection	NA
51	8"-075-A-552#@	Low pressure safety injection	NA
51	HV-9331#@	Low pressure safety injection	NA
52	8"-004-C-406	Containment spray inlet	NA
52	HV-9367	Containment spray inlet	NA

TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
53	8"-006-C-406	Containment spray inlet	NA
53	HV-9368	Containment spray inlet	NA
54	HV-9304#	Containment emergency sump recirculation	NA
54	HV-9302#	Containment emergency sump recirculation	NA
55	HV-9305#	Containment emergency sump recirculation	NA
55	HV-9303#	Containment emergency sump recirculation	NA
56	HV-6366	Containment emergency A/C cooling water inlet	NA
57	HV-6372	Containment emergency A/C cooling water inlet	NA
58	HV-6368	Containment emergency A/C cooling water inlet	NA
59	HV-6370	Containment emergency A/C cooling water inlet	NA
60	HV-6369	Containment emergency A/C cooling water inlet	NA
61	HV-6371	Containment emergency A/C cooling water inlet	NA
62	HV-6367	Containment emergency A/C cooling water inlet	NA
63	HV-6373	Containment emergency A/C cooling water inlet	NA
67	3"-157-A-551	Hot leg injection	NA
68	2"-129-A-554	Charging line to auxiliary spray	NA
71	3"-158-A-551	Hot leg injection	NA
75	HV-4715#	Steam generator auxiliary feedwater	NA
75	HV-4731#	Steam generator auxiliary feedwater	NA
77	2"-108-C-627	Nitrogen supply to safety injection tanks	NA
78	HV-4714#	Steam generator auxiliary feedwater	NA
78	HV-4730#	Steam generator auxiliary feedwater	NA

*May be opened on an intermittent basis under administrative control.

**Power to the valve removed in accordance with Specification 3.6.1.7.

#Not subject to Type C leakage tests.

@Shutdown cooling valves may be opened in MODE 4.

3/4.6.2.2 IODINE REMOVAL SYSTEM

The OPERABILITY of the iodine removal system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH volume and concentration ensure that the solution recirculated within containment after a LOCA has a pH value between 8.0 and 10.0 at the end of the NaOH injection period. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

The 5 year Surveillance testing is intended to verify that no crystallization of the NaOH or other obstruction has occurred in the piping from the spray additive tank ot the suction of the containment spray pumps.

3/4.6.2.3 CONTAINMENT COOLING SYSTEM

The OPERABILITY of the containment cooling system ensures that 1) the containment air temperature will be maintained within limits during normal operation, and 2) adequate heat removal capacity is available when operated in conjunction with the containment spray systems during post-LOCA conditions.

The containment cooling system and the containment spray system are redundant to each other in providing post accident cooling of the containment atmosphere. As a result of this redundancy in cooling capability, the allowable out of service time requirements for the containment cooling system have been appropriately adjusted. However, the allowable out of service time requirements for the containment spray system have been maintained consistent with that assigned other inoperable ESF equipment since the containment spray system also provides a mechanism for removing iodine from the containment atmosphere.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

Attachment "B"

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 The containment isolation valves specified in Table 3.6-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

1. With one or more of the isolation valve(s) specified in Section A, B and C of Table 3.6-1 inoperable, maintain at least one isolation valve OPERABLE in each affected penetration* that is open and either:

   a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

   b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured** in the isolation position, or one closed manual valve or blind flange, or

   c. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

2. With one or more of the valves specified in Section D of Table 3.6-1 inoperable, the appropriate ACTION statement(s) of those Limiting Conditions for Operation pertaining to the valve(s) or system in which it is installed shall be applicable.

SURVEILLANCE REQUIREMENTS

4.6.3.1 The isolation valves specified in Section A and B of Table 3.6-1 shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of testing pursuant to Specification 4.0.5. Valves secured** in their actuated position are considered OPERABLE pursuant to this specification.

4.6.3.2 Each isolation valve specified in Section A and B of Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by verifying that on a ESFAS test signal, each isolation valve actuates to its isolation position.

---

* Any flow path from the atmosphere or a piping system inside of containment to the atmosphere or a piping system outside of containment. Each flow path is considered as a separate "penetration".

** Locked, sealed or otherwise prevented from unintentional operation.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.3 The isolation time of each power operated or automatic valve in Section A and B of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The manual isolation valves specified in Section C of Table 3.6-1 shall be demonstrated OPERABLE as required by 10 CFR 50, Appendix J and at least once per 31 days by verifying each valve# is secured** closed or blind flanged. Check valves specified in Section C of Table 3.6-1 shall be demonstrated OPERABLE pursuant to 10 CFR 50, Appendix J.

4.6.3.5 The isolation valves specified in Section D of Table 3.6-1 shall be demonstrated OPERABLE as required by Specification 4.0.5 and surveillance requirements associated with those Limiting Conditions for Operation pertaining to each valve or system in which it is installed. Valves secured** in their actuated position are considered OPERABLE pursuant to this specification.

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

** Locked, sealed or otherwise prevented from unintentional operation.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
A. CONTAINMENT ISOLATION (CIAS)			
1	HV-0510	Pressurizer steam space sample	40
1	HV-0511	Pressurizer steam space sample	40
2	TV-9267	Letdown line to letdown heat exchanger	40
2	HV-9205	Letdown line to letdown heat exchanger	40
4	HV-0508	Reactor coolant loops hot leg sample	40
4	HV-0509	Reactor coolant loops hot leg sample	40
4	HV-0517	Reactor coolant loops hot leg sample	40
6	HV-9334	Safety injection drain to RWST	40
7	HV-9217	Reactor coolant pump seal bleed off	40
7	HV-9218	Reactor coolant pump seal bleed off	40
11	HV-7911	Demineralized water to service station and sump pump	40
12	HV-0512	Pressurizer surge line sample	40
12	HV-0513	Pressurizer surge line sample	40
13	HV-5803	Containment sump pump discharge	40
13	HV-5804	Containment sump pump discharge	40
14	HV-5686	Fire protection	40
16C	HV-7805	Containment air radioactivity monitor inlet	1
16C	HV-7810	Containment air radioactivity monitor inlet	1
22	HV-5388	Instrument air supply line	40
23A	HV-5437	N_2 supply to quench tank, reactor coolant drain tank, and steam generators	40
26	HV-7512	Reactor coolant drain tank pump discharge	40
26	HV-7513	Reactor coolant drain tank pump discharge	40
27C	HV-7806	Containment air radioactivity monitor outlet	1
27C	HV-7811	Containment air radioactivity monitor outlet	1
30A	HV-7802	Containment air radioactivity monitor outlet	1
30A	HV-7803	Containment air radioactivity monitor outlet	1
30B	HV-7801	Containment air radioactivity monitor outlet	1
30B	HV-7800	Containment air radioactivity monitor outlet	1
30B	HV-7816	Containment air radioactivity monitor outlet	1
30C	HV-0516	Quench tank and drain tank gas sample	40
30C	HV-0514	Quench tank and drain tank gas sample	40
30C	HV-0515	Quench tank and drain tank gas sample	40
42	HV-6211	Component cooling water inlet	40
42	HV-6223	Component cooling water inlet	40
43	HV-6236	Component cooling water outlet	40
43	HV-6216	Component cooling water outlet	40
45	HV-9900	Containment normal A/C chilled water inlet	40
45	HV-9920	Containment normal A/C chilled water inlet	40
46	HV-9971	Containment normal A/C chilled water outlet	40
46	HV-9921	Containment normal A/C chilled water outlet	40
47	HV-7258	Containment waste gas vent header	40
47	HV-7259	Containment waste gas vent header	40
77	HV-5434	Nitrogen supply to safety injection tanks	40

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
B. CONTAINMENT PURGE (CPIS)			
18	HV-9949**	Containment purge inlet (normal)	12
18	HV-9948**	Containment purge inlet (normal)	12
18	HV-9821	Containment mini-purge inlet	5
18	HV-9823	Containment mini-purge inlet	5
19	HV-9950**	Containment purge outlet (normal)	12
19	HV-9951**	Containment purge outlet (normal)	12
19	HV-9824	Containment mini-purge outlet	5
19	HV-9825	Containment mini-purge outlet	5
C. MANUAL*			
6	2"-099-C-334	Safety injection drain to RWST	NA
9	HV-9337	Shutdown cooling to LPSI pumps	NA
9	HV-9377	Shutdown cooling to LPSI pumps	NA
9	HV-9336	Shutdown cooling to LPSI pumps	NA
9	HV-9379	Shutdown cooling to LPSI pumps	NA
9	PSV-9349	Shutdown cooling relief	NA
10B	3/4"-038-C-396	Integrated leak rate test pressure sensor	NA
10B	3/4"-039-C-396	Integrated leak rate test pressure sensor	NA
11	3"-236-C-675	Demineralized water to service stations and sump pump	NA
14	4"-061-C-681	Fire protection	NA
16A	HV-0500	Post LOCA hydrogen monitor	NA
16A	HV-0501	Post LOCA hydrogen monitor	NA
16B	HV-0502	Post LOCA hydrogen monitor	NA
16B	HV-0503	Post LOCA hydrogen monitor	NA
20	2"-321-C-376	Quench tank makeup	NA
20	2"-573-C-611	Quench tank makeup	NA
21	2"-055-C-387	Service air supply line	NA
21	2"-017-C-627	Service air supply line	NA
22	1-1/2"-016-C-617	Instrument air supply line	NA
23A	3/4"-002-C-611	LP N_2 to containment	NA
25	10"-100-C-212	Refueling canal fill and drain	NA
25	10"-101-C-212	Refueling canal fill and drain	NA
31	HV-9946	Containment hydrogen purge inlet	NA
31	HCV-9945	Containment hydrogen purge inlet	NA

**
Power to the valve removed in accordance with Specification 3.6.1.7.

*
Manual valves may be opened on an intermittent basis under administrative control.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
C. MANUAL* (Cont.)			
68	2"-130-C-334	Charging line to auxiliary spray	NA
68	2"-129-A-554	Charging line to auxiliary spray	NA
70	2"-037-C-387	Auxiliary steam inlet to utility stations	NA
70	2"-038-C-387	Auxiliary steam inlet to utility stations	NA
74	HV-9917	Containment hydrogen purge outlet	NA
74	HCV-9918	Containment hydrogen purge outlet	NA
77	2"-108-C-627	Nitrogen supply to safety injection tanks	NA

*
Manual valves may be opened on an intermittent basis under administrative control.

D. OTHER***			
3	3"-018-A-551	High pressure safety injection	NA
3	HV-9323	High pressure safety injection	NA
3	HV-9324	High pressure safety injection	NA
5	3"-019-A-551	High pressure safety injection	NA
5	HV-9326	High pressure safety injection	NA
5	HV-9327	High pressure safety injection	NA
8	2"-122-C-554	Charging line to regenerative heat exchanger	NA
8	HV-9200	Charging line to regenerative heat exchanger	NA
10A	HV-0352A	Containment pressure detectors	NA
27A	HV-0352D	Containment pressure detectors	NA
39	3"-020-A-551	High pressure safety injection	NA
39	HV-9329	High pressure safety injection	NA
39	HV-9330	High pressure safety injection	NA
40A	HV-0352B	Containment pressure detectors	NA
41	3"-021-A-551	High pressure safety injection	NA
41	HV-9332	High pressure safety injection	NA
41	HV-9333	High pressure safety injection	NA
48	8"-072-A-552	Low pressure safety injection	NA
48	HV-9322	Low pressure safety injection	NA
49	8"-073-A-552	Low pressure safety injection	NA
49	HV-9325	Low pressure safety injection	NA

***
Valves secured in the open (ESFAS actuated position) are considered OPERABLE pursuant to this specification.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
D. OTHER*** (Cont.)			
50	8"-074-A-552	Low pressure safety injection	NA
50	HV-9328	Low pressure safety injection	NA
51	8"-075-A-552	Low pressure safety injection	NA
51	HV-9331	Low pressure safety injection	NA
52	8"-004-C-406	Containment spray inlet	NA
52	HV-9367	Containment spray inlet	NA
53	8"-006-C-406	Containment spray inlet	NA
53	HV-9368	Containment spray inlet	NA
54	HV-9304	Containment emergency sump recirculation	NA
54	HV-9302	Containment emergency sump recirculation	NA
55	HV-9305	Containment emergency sump recirculation	NA
55	HV-9303	Containment emergency sump recirculation	NA
56	HV-6366	Containment emergency A/C cooling water inlet	NA
57	HV-6372	Containment emergency A/C cooling water inlet	NA
58	HV-6368	Containment emergency A/C cooling water inlet	NA
59	HV-6370	Containment emergency A/C cooling water inlet	NA
60	HV-6369	Containment emergency A/C coling water outlet	NA
61	HV-6371	Containment emergency A/C cooling water outlet	NA
62	HV-6367	Containment emergency A/C cooling water outlet	NA
63	HV-6373	Containment emergency A/C cooling water outlet	NA
67	3"-157-A-550	Hot leg injection	NA
67	HV-9434	Hot leg injection	NA
71	3"-158-A-550	Hot leg injection	NA
71	HV-9420	Hot leg injection	NA
73A	HV-0352C	Containment pressure detectors	NA

***
Valves secured in the open (ESFAS actuated position) are considered OPERABLE pursuant to this specification.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere and is consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA. Such valves are listed in Sections A and B of Table 3.6-1 and Surveillance requirements to verify OPERABILITY of these valves are explicitly stated in 4.6.3.1 thru 4.6.3.3. Check valves located inside containment are considered OPERABLE provided their leak rate is within limits when tested pursuant to 10 CFR 50 Appendix J.

Section C of Table 3.6-1 contains a listing of manual and self actuated (check) valves that are normally closed and assumed to be closed under design basis accident conditions, but which may be opened intermittently for service, maintenance or test during normal operation provided adequate administrative controls are implemented to ensure operator action is taken to close such valves in the event of an accident.

All valves in Section A, B or C are considered OPERABLE for containment isolation purpose if they are indeed locked, sealed or otherwise secured in the closed position and leakage through the affected flow path is shown to be within limits when tested pursuant to 10 CFR 50 Appendix J.

Section D of Table 3.6-1 contains a listing of valves assumed to be open or to open automatically on an ESFAS signal to prevent or mitigate the consequences of the design basis accident. Surveillance requirement 4.6.1.1.a is not applicable to such valves. The OPERABILITY of such valves is determined by ESFAS response time testing of specification 3/4.3.2. Valves in Section D that are locked, sealed or otherwise secured in their open position will permit performance of their safety function and are, therefore, considered OPERABLE pursuant to this specification.

Attachment "C"

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 The containment isolation valves specified in Table 3.6-1 shall be OPERABLE with isolation times as shown in Table 3.6-1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the isolation valve(s) specified in Table 3.6-1 inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate the affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1 The isolation valves specified in Table 3.6-1 shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.

4.6.3.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a CIAS or SIAS test signal, each isolation valve actuates to its isolation position.

SURVEILLANCE REQUIREMENTS (Continued)

b. Verifying that on a Containment Radiation-High test signal, all containment purge valves actuate to their isolation position.

4.6.3.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
A. CONTAINMENT ISOLATION (CIAS)			
1	HV-0510	Pressurizer steam space sample	40
1	HV-0511	Pressurizer steam space sample	40
2	TV-9267	Letdown line to letdown heat exchanger	40
2	HV-9205	Letdown line to letdown heat exchanger	40
4	HV-0508	Reactor coolant loops hot leg sample	40
4	HV-0509	Reactor coolant loops hot leg sample	40
4	HV-0517	Reactor coolant loops hot leg sample	40
6	HV-9334	Safety injection drain to RWST	40
7	HV-9217	Reactor coolant pump seal bleed off	40
7	HV-9218	Reactor coolant pump seal bleed off	40
11	HV-7911	Demineralized water to service station and sump pump	40
12	HV-0512	Pressurizer surge line sample	40
12	HV-0513	Pressurizer surge line sample	40
13	HV-5803	Containment sump pump discharge	40
13	HV-5804	Containment sump pump discharge	40
14	HV-5686	Fire protection	40
16C	HV-7805	Containment air radioactivity monitor inlet	1
16C	HV-7810	Containment air radioactivity monitor inlet	1
18	HV-9821	Containment minipurge inlet	5
18	HV-9823	Containment minipurge inlet	5
19	HV-9824	Containment minipurge outlet	5
19	HV-9825	Containment minipurge outlet	5
22	HV-5388	Instrument air supply line	40
23A	HV-5437	N_2 supply to quench tank, reactor coolant drain tank, and steam generators	40
26	HV-7512	Reactor coolant drain tank pump discharge	40
26	HV-7513	Reactor coolant drain tank pump discharge	40
27C	HV-7806	Containment air radioactivity monitor outlet	1
27C	HV-7811	Containment air radioactivity monitor outlet	1

TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
28	HV-4052#	Steam generator feedwater	10
29	HV-4048#	Steam generator feedwater	10
30A	HV-7802	Containment air radioactivity monitor inlet	1
30A	HV-7803	Containment air radioactivity monitor inlet	1
30B	HV-7801	Containment air radioactivity monitor outlet	1
30B	HV-7800	Containment air radioactivity monitor outlet	1
30B	HV-7816	Containment air radioactivity monitor outlet	1
30C	HV-0516	Quench tank and drain tank gas sample	40
30C	HV-0514	Quench tank and drain tank gas sample	40
30C	HV-0515	Quench tank and drain tank gas sample	40
32	HV-8204#	Mainsteam isolation	5
33	HV-8205#	Mainsteam isolation	5
42	HV-6211	Component cooling water inlet	40
43	HV-6216	Component cooling water outlet	40
45	HV-9900	Containment normal A/C chilled water inlet	40
45	HV-9920	Containment normal A/C chilled water inlet	40
46	HV-9971	Containment normal A/C chilled water inlet	40
46	HV-9921	Containment normal A/C chilled water outlet	40
47	HV-7258	Containment waste gas vent header	40
47	HV-7259	Containment waste gas vent header	40
77	HV-5434	Nitrogen supply to safety injection tanks	40
B. CONTAINMENT PURGE (CPIS)			
18	HV-9949**	Containment purge inlet (normal)	12
18	HV-9948**	Containment purge inlet (normal)	12
18	HV-9821	Containment mini-purge inlet	5
18	HV-9823	Containment mini-purge inlet	5
19	HV-9950**	Containment purge outlet (normal)	12
19	HV-9951**	Containment purge outlet (normal)	12
19	HV-9824	Containment mini-purge outlet	5
19	HV-9825	Containment mini-purge outlet	5

TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
C. MANUAL			
6	2"-099-C-334*	Safety injection drain to RWST	NA
8	HV-9200	Charging line to regenerative heat exchanger	NA
9	HV-9337#@	Shutdown cooling to LPSI pumps	NA
9	HV-9377#@	Shutdown cooling to LPSI pumps	NA
9	HV-9336#@	Shutdown cooling to LPSI pumps	NA
9	HV-9379#@	Shutdown cooling to LPSI pumps	NA
10A	HV-0352A#	Containment pressure detectors	NA
10C	3/4"-038-C-396	Integrated leak rate test pressure sensor	NA
10C	3/4"-039-C-396	Integrated leak rate test pressure sensor	NA
16A	HV-0500*	Post LOCA hydrogen monitor	NA
16A	HV-0501*	Post LOCA hydrogen monitor	NA
16B	HV-0502*	Post LOCA hydrogen monitor	NA
16B	HV-0503*	Post LOCA hydrogen monitor	NA
20	2"-321-C-376*	Quench tank makeup	NA
21	2"-055-C-387	Service air supply line	NA
25	10"-100-C-212	Refueling canal fill and drain	NA
25	10"-101-C-212	Refueling canal fill and drain	NA
27A	HV-0352D#	Containment pressure detectors	NA
31	HV-9946	Containment hydrogen purge inlet	NA
31	HCV-9945	Containment hydrogen purge inlet	NA
40A	HV-0352B#	Containment pressure detectors	NA
67	HV-9434	Hot leg injection	NA
68	2"-130-C-334	Charging line to auxiliary spray	NA
70	2"-037-C-387	Auxiliary steam inlet to utility stations	NA
70	2"-038-C-387	Auxiliary steam inlet to utility stations	NA
71	HV-9420	Hot leg injection	NA
73A	HV-0352C#	Containment pressure detectors	NA
74	HV-9917	Containment hydrogen purge outlet	NA
74	HCV-9918	Containment hydrogen purge outlet	NA

TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
D. OTHER			
3	3"-018-A-551#	High pressure safety injection	NA
3	HV-9323#	High pressure safety injection	NA
3	HV-9324#	High pressure safety injection	NA
5	3"-019-A-551#	High pressure safety injection	NA
5	HV-9326#	High pressure safety injection	NA
5	HV-9327#	High pressure safety injection	NA
8	2"-122-C-554	Charging line to regenerative heat exchanger	NA
9	PSV-9349#	Shutdown cooling relief	NA
11	3"-236-C-675	Demineralized water to service stations and sump pump	NA
14	4"-061-C-681	Fire protection	NA
17	HV-4058#*	Steam generator secondary coolant sample	NA
20	2"-573-C-611	Quench tank makeup	NA
21	2"-017-C-627	Service air supply line	NA
22	1-1/2"-016-C-617	Instrument air supply line	NA
23A	3/4"-002-C-611	LP N_2 to containment	NA
32	HV-8421#	Mainsteam atmospheric dump	NA
32	PSV-8410#	Mainsteam relief	NA
32	PSV-8411#	Mainsteam relief	NA
32	PSV-8412#	Mainsteam relief	NA
32	PSV-8413#	Mainsteam relief	NA
32	PSV-8414#	Mainsteam relief	NA
32	PSV-8415#	Mainsteam relief	NA
32	PSV-8416#	Mainsteam relief	NA
32	PSV-8417#	Mainsteam relief	NA
32	PSV-8418#	Mainsteam relief	NA
32	HV-8249B#	Mainsteam trap isolation	NA
32	HV-8202#	Mainsteam isolation bypass	NA
32	HV-8200#	Mainsteam to auxiliary feedwater turbine	NA
33	HV-8419#	Mainsteam atmospheric dump	NA
33	PSV-8401#	Mainsteam relief	NA

TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
33	PSV-8402#	Mainsteam relief	NA
33	PSV-8403#	Mainsteam relief	NA
33	PSV-8404#	Mainsteam relief	NA
33	PSV-8405#	Mainsteam relief	NA
33	PSV-8406#	Mainsteam relief	NA
33	PSV-8407#	Mainsteam relief	NA
33	PSV-8408#	Mainsteam relief	NA
33	PSV-8409#	Mainsteam relief	NA
33	HV-8248B#	Mainsteam trap isolation	NA
33	HV-8203#	Mainsteam isolation bypass	NA
33	HV-8201#	Mainsteam to auxiliary feedwater turbine	NA
36	HV-4054#*	Steam generator blowdown	NA
37	HV-4053#*	Steam generator blowdown	NA
39	3"-020-A-551#	High pressure safety injection	NA
39	HV-9329#	High pressure safety injection	NA
39	HV-9330#	High pressure safety injection	NA
41	3"-021-A-551#	High pressure safety injection	NA
41	HV-9332#	High pressure safety injection	NA
41	HV-9333#	High pressure safety injection	NA
42	HV-6223	Component cooling water inlet	NA
43	HV-6236	Component cooling water inlet	NA
44	HV-4057#*	Steam generator secondary coolant sample	NA
48	8"-072-A-552#@	Low pressure safety injection	NA
48	HV-9322#@	Low pressure safety injection	NA
49	8"-073-A-552#@	Low pressure safety injection	NA
49	HV-9325#@	Low pressure safety injection	NA
50	8"-074-A-552#@	Low pressure safety injection	NA
50	HV-9328#@	Low pressure safety injection	NA
51	8"-075-A-552#@	Low pressure safety injection	NA
51	HV-9331#@	Low pressure safety injection	NA
52	8"-004-C-406	Containment spray inlet	NA
52	HV-9367	Containment spray inlet	NA

TABLE 3.6-1 (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
53	8"-006-C-406	Containment spray inlet	NA
53	HV-9368	Containment spray inlet	NA
54	HV-9304#	Containment emergency sump recirculation	NA
54	HV-9302#	Containment emergency sump recirculation	NA
55	HV-9305#	Containment emergency sump recirculation	NA
55	HV-9303#	Containment emergency sump recirculation	NA
56	HV-6366	Containment emergency A/C cooling water inlet	NA
57	HV-6372	Containment emergency A/C cooling water inlet	NA
58	HV-6368	Containment emergency A/C cooling water inlet	NA
59	HV-6370	Containment emergency A/C cooling water inlet	NA
60	HV-6369	Containment emergency A/C cooling water inlet	NA
61	HV-6371	Containment emergency A/C cooling water inlet	NA
62	HV-6367	Containment emergency A/C cooling water inlet	NA
63	HV-6373	Containment emergency A/C cooling water inlet	NA
67	3"-157-A-551	Hot leg injection	NA
68	2"-129-A-554	Charging line to auxiliary spray	NA
71	3"-158-A-551	Hot leg injection	NA
75	HV-4715#	Steam generator auxiliary feedwater	NA
75	HV-4731#	Steam generator auxiliary feedwater	NA
77	2"-108-C-627	Nitrogen supply to safety injection tanks	NA
78	HV-4714#	Steam generator auxiliary feedwater	NA
78	HV-4730#	Steam generator auxiliary feedwater	NA

*May be opened on an intermittent basis under administrative control.

**Power to the valve removed in accordance with Specification 3.6.1.7.

#Not subject to Type C leakage tests.

@Shutdown cooling valves may be opened in MODE 4.

3/4.6.2.2 IODINE REMOVAL SYSTEM

The OPERABILITY of the iodine removal system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH volume and concentration ensure that the solution recirculated within containment after a LOCA has a pH value between 8.0 and 10.0 at the end of the NaOH injection period. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

The 5-year Surveillance testing is intended to verify that no crystallization of the NaOH or other obstruction has occurred in the piping from the spray additive tank to the suction of the containment spray pumps.

3/4.6.2.3 CONTAINMENT COOLING SYSTEM

The OPERABILITY of the containment cooling system ensures that 1) the containment air temperature will be maintained within limits during normal operation, and 2) adequate heat removal capacity is available when operated in conjunction with the containment spray systems during post-LOCA conditions.

The containment cooling system and the containment spray system are redundant to each other in providing post-accident cooling of the containment atmosphere. As a result of this redundancy in cooling capability, the allowable out-of-service time requirements for the containment cooling system have been appropriately adjusted. However, the allowable out-of-service time requirements for the containment spray system have been maintained consistent with that assigned other inoperable ESF equipment since the containment spray system also provides a mechanism for removing iodine from the containment atmosphere.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

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Attachment "D"

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 The containment isolation valves specified in Table 3.6-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

1. With one or more of the isolation valve(s) specified in Section A, B and C of Table 3.6-1 inoperable, maintain at least one isolation valve OPERABLE in each affected penetration* that is open and either:

   a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

   b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured** in the isolation position, or one closed manual valve or blind flange, or

   c. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

2. With one or more of the valves specified in Section D of Table 3.6-1 inoperable, the appropriate ACTION statement(s) of those Limiting Conditions for Operation pertaining to the valve(s) or system in which it is installed shall be applicable.

SURVEILLANCE REQUIREMENTS

4.6.3.1 The isolation valves specified in Section A and B of Table 3.6-1 shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of testing pursuant to Specification 4.0.5. Valves secured** in their actuated position are considered OPERABLE pursuant to this specification.

4.6.3.2 Each isolation valve specified in Section A and B of Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by verifying that on a ESFAS test signal, each isolation valve actuates to its isolation position.

---

* Any flow path from the atmosphere or a piping system inside of containment to the atmosphere or a piping system outside of containment. Each flow path is considered as a separate "penetration".

** Locked, sealed or otherwise prevented from unintentional operation.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.3 The isolation time of each power operated or automatic valve in Section A and B of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.4 The manual isolation valves specified in Section C of Table 3.6-1 shall be demonstrated OPERABLE as required by 10 CFR 50, Appendix J and at least once per 31 days by verifying each valve# is secured** closed or blind flanged. Check valves specified in Section C of Table 3.6-1 shall be demonstrated OPERABLE pursuant to 10 CFR 50, Appendix J.

4.6.3.5 The isolation valves specified in Section D of Table 3.6-1 shall be demonstrated OPERABLE as required by Specification 4.0.5 and surveillance requirements associated with those Limiting Conditions for Operation pertaining to each valve or system in which it is installed. Valves secured** in their actuated position are considered OPERABLE pursuant to this specification.

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

** Locked, sealed or otherwise prevented from unintentional operation.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
A. CONTAINMENT ISOLATION (CIAS)			
1	HV-0510	Pressurizer steam space sample	40
1	HV-0511	Pressurizer steam space sample	40
2	TV-9267	Letdown line to letdown heat exchanger	40
2	HV-9205	Letdown line to letdown heat exchanger	40
4	HV-0508	Reactor coolant loops hot leg sample	40
4	HV-0509	Reactor coolant loops hot leg sample	40
4	HV-0517	Reactor coolant loops hot leg sample	40
6	HV-9334	Safety injection drain to RWST	40
7	HV-9217	Reactor coolant pump seal bleed off	40
7	HV-9218	Reactor coolant pump seal bleed off	40
11	HV-7911	Demineralized water to service station and sump pump	40
12	HV-0512	Pressurizer surge line sample	40
12	HV-0513	Pressurizer surge line sample	40
13	HV-5803	Containment sump pump discharge	40
13	HV-5804	Containment sump pump discharge	40
14	HV-5686	Fire protection	40
16C	HV-7805	Containment air radioactivity monitor inlet	1
16C	HV-7810	Containment air radioactivity monitor inlet	1
22	HV-5388	Instrument air supply line	40
23A	HV-5437	N_2 supply to quench tank, reactor coolant drain tank, and steam generators	40
26	HV-7512	Reactor coolant drain tank pump discharge	40
26	HV-7513	Reactor coolant drain tank pump discharge	40
27C	HV-7806	Containment air radioactivity monitor outlet	1
27C	HV-7811	Containment air radioactivity monitor outlet	1
30A	HV-7802	Containment air radioactivity monitor outlet	1
30A	HV-7803	Containment air radioactivity monitor outlet	1
30B	HV-7801	Containment air radioactivity monitor outlet	1
30B	HV-7800	Containment air radioactivity monitor outlet	1
30B	HV-7816	Containment air radioactivity monitor outlet	1
30C	HV-0516	Quench tank and drain tank gas sample	40
30C	HV-0514	Quench tank and drain tank gas sample	40
30C	HV-0515	Quench tank and drain tank gas sample	40
42	HV-6211	Component cooling water inlet	40
42	HV-6223	Component cooling water inlet	40
43	HV-6236	Component cooling water outlet	40
43	HV-6216	Component cooling water outlet	40
45	HV-9900	Containment normal A/C chilled water inlet	40
45	HV-9920	Containment normal A/C chilled water inlet	40
46	HV-9971	Containment normal A/C chilled water outlet	40
46	HV-9921	Containment normal A/C chilled water outlet	40
47	HV-7258	Containment waste gas vent header	40
47	HV-7259	Containment waste gas vent header	40
77	HV-5434	Nitrogen supply to safety injection tanks	40

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
B. CONTAINMENT PURGE (CPIS)			
18	HV-9949**	Containment purge inlet (normal)	12
18	HV-9948**	Containment purge inlet (normal)	12
18	HV-9821	Containment mini-purge inlet	5
18	HV-9823	Containment mini-purge inlet	5
19	HV-9950**	Containment purge outlet (normal)	12
19	HV-9951**	Containment purge outlet (normal)	12
19	HV-9824	Containment mini-purge outlet	5
19	HV-9825	Containment mini-purge outlet	5
C. MANUAL*			
6	2"-099-C-334	Safety injection drain to RWST	NA
9	HV-9337	Shutdown cooling to LPSI pumps	NA
9	HV-9377	Shutdown cooling to LPSI pumps	NA
9	HV-9336	Shutdown cooling to LPSI pumps	NA
9	HV-9379	Shutdown cooling to LPSI pumps	NA
9	PSV-9349	Shutdown cooling relief	NA
10C	3/4"-038-C-396	Integrated leak rate test pressure sensor	NA
10C	3/4"-039-C-396	Integrated leak rate test pressure sensor	NA
11	3"-236-C-675	Demineralized water to service stations and sump pump	NA
14	4"-061-C-681	Fire protection	NA
16A	HV-0500	Post LOCA hydrogen monitor	NA
16A	HV-0501	Post LOCA hydrogen monitor	NA
16B	HV-0502	Post LOCA hydrogen monitor	NA
16B	HV-0503	Post LOCA hydrogen monitor	NA
20	2"-321-C-376	Quench tank makeup	NA
20	2"-573-C-611	Quench tank makeup	NA
21	2"-055-C-387	Service air supply line	NA
21	2"-017-C-627	Service air supply line	NA
22	1-1/2"-016-C-617	Instrument air supply line	NA
23A	3/4"-002-C-611	LP N_2 to containment	NA
25	10"-100-C-212	Refueling canal fill and drain	NA
25	10"-101-C-212	Refueling canal fill and drain	NA
31	HV-9946	Containment hydrogen purge inlet	NA
31	HCV-9945	Containment hydrogen purge inlet	NA

**
Power to the valve removed in accordance with Specification 3.6.1.7.

*
Manual valves may be opened on an intermittent basis under administrative control.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
C. MANUAL* (Cont.)			
68	2"-130-C-334	Charging line to auxiliary spray	NA
68	2"-129-A-554	Charging line to auxiliary spray	NA
70	2"-037-C-387	Auxiliary steam inlet to utility stations	NA
70	2"-038-C-387	Auxiliary steam inlet to utility stations	NA
74	HV-9917	Containment hydrogen purge outlet	NA
74	HCV-9918	Containment hydrogen purge outlet	NA
77	2"-108-C-627	Nitrogen supply to safety injection tanks	NA
D. OTHER***			
3	3"-018-A-551	High pressure safety injection	NA
3	HV-9323	High pressure safety injection	NA
3	HV-9324	High pressure safety injection	NA
5	3"-019-A-551	High pressure safety injection	NA
5	HV-9326	High pressure safety injection	NA
5	HV-9327	High pressure safety injection	NA
8	2"-122-C-554	Charging line to regenerative heat exchanger	NA
8	HV-9200	Charging line to regenerative heat exchanger	NA
10A	HV-0352A	Containment pressure detectors	NA
27A	HV-0352D	Containment pressure detectors	NA
39	3"-020-A-551	High pressure safety injection	NA
39	HV-9329	High pressure safety injection	NA
39	HV-9330	High pressure safety injection	NA
40A	HV-0352B	Containment pressure detectors	NA
41	3"-021-A-551	High pressure safety injection	NA
41	HV-9332	High pressure safety injection	NA
41	HV-9333	High pressure safety injection	NA
48	8"-072-A-552	Low pressure safety injection	NA
48	HV-9322	Low pressure safety injection	NA
49	8"-073-A-552	Low pressure safety injection	NA
49	HV-9325	Low pressure safety injection	NA

*
Manual valves may be opened on an intermittent basis under administrative control.

***
Valves secured in the open (ESFAS actuated position) are considered OPERABLE pursuant to this specification.

TABLE 3.6-1
CONTAINMENT ISOLATION VALVES (Continued)

PENETRATION NUMBER	VALVE NUMBER	FUNCTION	MAXIMUM ISOLATION TIME (SEC)
D. OTHER*** (Cont.)			
50	8"-074-A-552	Low pressure safety injection	NA
50	HV-9328	Low pressure safety injection	NA
51	8"-075-A-552	Low pressure safety injection	NA
51	HV-9331	Low pressure safety injection	NA
52	8"-004-C-406	Containment spray inlet	NA
52	HV-9367	Containment spray inlet	NA
53	8"-006-C-406	Containment spray inlet	NA
53	HV-9368	Containment spray inlet	NA
54	HV-9304	Containment emergency sump recirculation	NA
54	HV-9302	Containment emergency sump recirculation	NA
55	HV-9305	Containment emergency sump recirculation	NA
55	HV-9303	Containment emergency sump recirculation	NA
56	HV-6366	Containment emergency A/C cooling water inlet	NA
57	HV-6372	Containment emergency A/C cooling water inlet	NA
58	HV-6368	Containment emergency A/C cooling water inlet	NA
59	HV-6370	Containment emergency A/C cooling water inlet	NA
60	HV-6369	Containment emergency A/C coling water outlet	NA
61	HV-6371	Containment emergency A/C cooling water outlet	NA
62	HV-6367	Containment emergency A/C cooling water outlet	NA
63	HV-6373	Containment emergency A/C cooling water outlet	NA
67	3"-157-A-550	Hot leg injection	NA
67	HV-9434	Hot leg injection	NA
71	3"-158-A-550	Hot leg injection	NA
71	HV-9420	Hot leg injection	NA
73A	HV-0352C	Containment pressure detectors	NA

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Valves secured in the open (ESFAS actuated position) are considered OPERABLE pursuant to this specification.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere and is consistent with the requirements of GDC 54 through 57 of Appendix A to 10 CFR 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA. Such valves are listed in Sections A and B of Table 3.6-1 and Surveillance requirements to verify OPERABILITY of these valves are explicitly stated in 4.6.3.1 thru 4.6.3.3. Check valves located inside containment are considered OPERABLE provided their leak rate is within limits when tested pursuant to 10 CFR 50 Appendix J.

Section C of Table 3.6-1 contains a listing of manual and self actuated (check) valves that are normally closed and assumed to be closed under design basis accident conditions, but which may be opened intermittently for service, maintenance or test during normal operation provided adequate administrative controls are implemented to ensure operator action is taken to close such valves in the event of an accident.

All valves in Section A, B or C are considered OPERABLE for containment isolation purpose if they are indeed locked, sealed or otherwise secured in the closed position and leakage through the affected flow path is shown to be within limits when tested pursuant to 10 CFR 50 Appendix J.

Section D of Table 3.6-1 contains a listing of valves assumed to be open or to open automatically on an ESFAS signal to prevent or mitigate the consequences of the design basis accident. Surveillance requirement 4.6.1.1.a is not applicable to such valves. The OPERABILITY of such valves is determined by ESFAS response time testing of specification 3/4.3.2. Valves in Section D that are locked, sealed or otherwise secured in their open position will permit performance of their safety function and are, therefore, considered OPERABLE pursuant to this specification.