



PENETRATION	CONTAINMENT ISOLATION VALVES		BRANCH/SYSTEM	LINE SIZE	FLUID	TEMP.		CLASS
	INSIDE	OUTSIDE				HOT > 200	COLD < 200	
1	CLOSED SYS.	MS-227	ATMOSPHERIC STEAM DUMP/MS	6'	G	HOT		4
.	.	.	.	.	.	.	.	.
.	CLOSED SYS.	MS-2018	STEAM TO TURBINE/MS	30'	G	HOT		4
.	CLOSED SYS.	MS-234	MSIV BYPASS/MS	3'	G	HOT		4
.	CLOSED SYS.	MS-228	STEAM LINE DRAIN TO BLOWDOWN TANK AND CONDENSER/MS	2'	G	HOT		4
.	.	.	.	.	.	.	.	.
.	CLOSED SYS.	MS-235	AUXILIARY FEED PUMP AND RADWASTE STEAM/MS	3'	G	HOT		4

FOR FURTHER INFORMATION REFER TO FSAR CHAPTER 10 & FIG. 10.2-1 SHT. 1

**NOTE:**

- 1) ATMOSPHERIC STEAM DUMP- THIS IS AN OUTGOING LINE CONNECTED TO A CLOSED SYSTEM INSIDE CONTAINMENT. THE MANUAL ISOLATION REQUIREMENT IS MET BY MS-227.
- 2) STEAM TO TURBINE- THIS IS AN OUTGOING LINE CONNECTED TO A CLOSED SYS. INSIDE CONTAINMENT. IT THEREFORE SATISFIES CLASS 4 PENETRATION CRITERIA BECAUSE REMOTE STOP VALVE MS-2018 PROVIDES A DEGREE OF ISOLATION WHICH EXCEEDS THAT OF A MANUAL VALVE SINCE IT CAN BE REMOTELY OPERATED.
- 3) MSIV BYPASS- THIS IS AN OUTGOING LINE CONNECTED TO A CLOSED SYSTEM INSIDE CONTAINMENT. THE MANUAL ISOLATION REQUIREMENT IS SATISFIED BY MS-234.
- 4) STEAMLINE DRAIN TO STEAM GENERATOR BLOWDOWN TANK AND CONDENSER- THIS IS AN OUTGOING LINE CONNECTED TO A CLOSED SYSTEM INSIDE CONTAINMENT. THE MANUAL ISOLATION REQUIREMENT IS SATISFIED BY MS-228.
- 5) AUXILIARY FEED PUMP AND RADWASTE STEAM SUPPLY- THIS IS AN OUTGOING LINE CONNECTED TO A CLOSED SYSTEM INSIDE CONTAINMENT. THE MANUAL ISOLATION VALVE IS SATISFIED BY MS-235.

FIG. 5.2-1  
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**3.6 CONTAINMENT SYSTEMS**

**3.6.3 Containment Isolation Valves**

**LCO 3.6.3**      Each containment isolation valve shall be OPERABLE.

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

**ACTIONS**

-----NOTES-----

1. Penetration flow path(s) except for the purge supply and exhaust flow paths 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 containment isolation valves.
  4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria.
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CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE-----                      Only applicable to penetration flow paths with two containment isolation valves.                      -----                      One or more penetration flow paths with one containment isolation valve inoperable.</p>	<p>A.1      Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.</p> <p style="text-align: center;"><u>AND</u></p>	<p>4 hours</p> <p style="text-align: right;">(continued)</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. -----NOTE----- Only applicable to penetration flow paths with only one containment isolation valve and a closed system. ----- One or more penetration flow paths with one containment isolation valve inoperable.</p>	<p>C.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.</p> <p><u>AND</u></p> <p>C.2 -----NOTES----- 1. Isolation devices in high radiation areas may be verified by use of administrative means.  2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ----- Verify the affected penetration flow path is isolated.</p>	<p>72 hours</p> <p>Once per 31 days for isolation devices outside containment</p> <p><u>AND</u></p> <p>Prior to entering Mode 4 from Mode 5 if not performed within the previous 92 days for isolation devices inside containment</p>

(continued)

## ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	D.2 Be in MODE 5.	36 hours

## SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.3.1      Verify each purge supply and exhaust valve is closed with the control switch locked, except for one purge valve in a penetration flow path to perform leakage rate corrective maintenance.	31 days
SR 3.6.3.2      -----NOTE----- Valves and blind flanges in high radiation areas may be verified by use of administrative controls. ----- Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	31 days

(continued)

3. Manual and remotely operated isolation valves that are locked closed or otherwise closed and under administrative control during power operation qualify as automatic trip valves.
4. A check valve qualifies as an automatic trip valve in certain incoming lines.
5. The double disk type of gate valve is used to isolate certain lines.
6. Isolation lines between the containment and the second outside isolation barrier (valve or closed system) are designed to the same seismic criteria as the containment vessel and are assumed to be an extension of containment.
7. The first outside isolation valve is located as close to the containment as possible unless a more remote location is dictated by equipment isolation requirements.

#### Class 1 (Outgoing Lines, Reactor Coolant System)

Normally operating outgoing lines connected to the reactor coolant system are provided with two automatic trip valves in series, one located inside containment and one located outside containment.

#### Class 2 (Outgoing Lines)

Normally operating outgoing lines not connected to the reactor coolant system and not protected from missiles throughout their length are provided with either (1) two automatic trip valves in series or (2) a closed system outside containment and either a remotely operated stop valve or an automatic trip valve in series.

#### Class 3 (Incoming Lines)

Incoming lines connected to open systems outside containment are provided with two automatic trip valves in series, one of which may be located inside containment. Incoming lines connected to closed systems outside containment are provided with one automatic trip valve located inside containment.

#### Class 4 (Missile Protected)

Normally operating incoming and outgoing lines which penetrate the containment and are connected to closed systems inside the containment and protected from missiles and the dynamic effects of High Energy Line Breaks (HELB's) throughout their length are provided with at least one manual isolation valve located outside the containment.