

Component	Function	Failure Modes	Failure Causes	Failure Effects	Failure Detection	Comments
ABPSE0001, ABPSE0002, ABPSE0003, ABPSE0004 (1" Rupture Disks)	Modes 1, 2, and 3 - For main steam isolation signal generated by low steam lines pressure, high steam line negative pressure rate, or High-2 containment pressure, MSIVs close and rupture disk is credited to burst.	Rupture disk is leaking	The rupture disk has been fatigued and is cracking along the edges due to cycling.	Minor amounts of steam will be leaking into the equipment drain. The disk may rupture at lower pressure.	The temperature at the drain outlet can be taken to ensure integrity is maintained.	
		Rupture disk bursts at lower pressure	The rupture disk has been degraded after being exposed to high temperatures and differential pressure (90% of burst pressure).	Upon Main Steam Isolation Signal, the MSIV closes faster than required.	The temperature of the leakage through the leak off lines can be monitored. The disc can be tested after it is removed.	
		Rupture disk bursts at higher pressure	Temperatures during the accident scenario are lower than the design temperatures.	The valve may fail to close if the disc is not ruptured.	Not Applicable.	
		Rupture disk is leaking	The rupture disk has been fatigued and is cracking along the edges due to cycling.	Minor amounts of steam will be leaking into the equipment drain. The disk may rupture at lower pressure.	The temperature at the drain outlet can be taken to ensure integrity is maintained.	
	Modes 1, 2, and 3 - For loss of actuation power, the MSIVs fail closed and rupture disk is credited to burst.	Rupture disk bursts at lower pressure	The rupture disk has been degraded after being exposed to high temperatures and differential pressure (90% of burst pressure).	Upon Main Steam Isolation Signal, the MSIV closes faster than required.	The temperature of the leakage through the leak off lines can be monitored. The disc can be tested after it is removed.	
		Rupture disk bursts at higher pressure	Temperatures during the accident scenario are lower than the design temperatures.	The valve may fail to close if the disc is not ruptured.	Not Applicable.	
		None. The rupture is not required to function.	Not Applicable.	Not Applicable.	Not Applicable.	
	Modes 1, 2, and 3 - For loss of control signal, the MSIVs fail as is and rupture disk has no function.					