

TABLE 7.2-1 (CONT'D)

<u>Line Isolated</u>	<u>Number of Lines</u>	<u>Approximate Pipe Size, In.</u>	<u>Valves Per Line</u>	<u>Group</u>	<u>Valve Location Relative to Primary Containment</u>	<u>Valve and/or Operator Type (6)</u>	<u>Power to Open(5,6)</u>	<u>Power to Close(5,6)</u>	<u>Isolation Signal</u>	<u>Closing Time(7,11,12)</u>	<u>Normal Status(9,10)</u>	<u>Remarks</u>
Primary containment sample return	2	1/2	1	B	Inside	SO valve	A-c	Spring	A,F,Z		Open	
			1	B	Outside	SO valve	D-c	Spring	A,F,Z		Open	
MSLIV water seal system	2	2	1	A	Inside	MO	A-c	A-c	RM	Standard	Closed	
			1	A	Outside	MO	D-c	D-c	RM	Standard	Closed	

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NOTES

These notes are keyed by number to correspond to parentheses.

- Main steam isolation valves will require that both solenoid pilots be de-energized to close valves. Accumulator air pressure plus spring set together to close valves when both pilots are de-energized. Voltage failure at only one pilot will not cause valve closure. The valves will be designed to fully close in less than 10 seconds.
- Containment spray and suppression cooling valves will have interlocks that allow them to be manually reopened after automatic closure. This setup will permit containment spray, for high dry well pressure conditions, and/or suppression water cooling. When automatic signals are not present these valves may be opened for test or operating convenience.
- Testable check valves will be designed for remote opening with zero differential pressure across the valve seat. The valves will close on reverse flow even though the test switches may be positioned for open. The valves will open when pump pressure exceeds reactor pressure even though the test switch may be for close.
- Control rod hydraulic lines can be isolated by the solenoid valves outside the primary containment. Lines that extend outside the primary containment will be small and terminate in a system that is designated to prevent out-leakage. Solenoid valves normally will be closed, but they will open on rod movement and during reactor scram.
- A-c motor operated valves required for isolation functions shall be powered from the a-c stand-by power buses. D-c operated isolation valves will be powered from the station batteries.
- All motor operated isolation valves will remain in the last position upon failure of valve power. All air operated valves will close on motive air failure.
- The standard minimum closing rate for automatic isolation valves will be based on a nominal line size of 12 in. Using the standard closing rate, - 12 in. line will be isolated in 60 seconds. Conversion to closing time can be made on this basis using the actual size of the line in which the valve is installed.
- Refueling floor** exhaust high radiation signal "Z" will be generated by two trip channels; each channel will have two trip units. This will require one unit at high trip or one unit at downscale (instrument failure) trip, on one trip channel and one unit at high trip or one unit at downscale trip on the other trip channel in order to initiate isolation.
- Valve can be opened or closed by remote manual switch for operating convenience during any mode of reactor operation except when automatic signal is present.
- Normal status position of valve (open or closed) is the position during normal power operation of the reactor (see "Normal Status" column).
- The specified closure rates are as required for containment isolation only.
- Minimum closing rate is based on valve and line size.

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