

DUKE POWER COMPANY

McGUIRE NUCLEAR STATION

PUMP AND VALVE INSERVICE TESTING

UNIT 2

REVISION # 3

Valve Number	Class	Drawing Number	Coordinates	Valve Category				Test Requirements	Relief Requests	Testing Alternative	System: Containment Spray
				A	B	C	D				Remarks
2NS-33	B	MC-2563-1.0	H-2			X		MT	X	RF	
2NS-4	B	MC-2563-1.0	B-12			X		MT	X	RF	
2NS-3B	B	MC-2563-1.0	B-13		X			CT			30 sec. max. cycle time
2NS-1B	B	MC-2563-1.0	C-13		X			CT			30 sec. max. cycle time
2NS-15B	B	MC-2563-1.0	D-4		X			CT			10 sec. max. cycle time
2NS-16	B	MC-2563-1.0	D-2			X		MT	X	RF	
2NS-12B	B	MC-2563-1.0	C-4		X			CT			10 sec. max. cycle time
2NS-13	B	MC-2563-1.0	B-2			X		MT	X	RF	

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VALVE: 2NS-30, 2NS-33, 2NS-16, 2NS-13, 2NS-46, 2NS-41

CATEGORY: C

CLASS: B

FUNCTION: Open on flow from the Containment Spray Pumps.

TEST REQUIREMENT: Verify proper valve movement once per three months, IWV-3522.

BASIS FOR RELIEF: Full stroke exercising of these check valves is not practical since there is no external indication of disk movement. Full stroke exercising would require for the pumps and spray nozzles to be activated which would require a large scale clean up effort. Provisions for disassembly of these 8 inch valves are not installed, thus subjecting personnel to an extreme hazard due to the valves location up near the containment dome.

ALTERNATE TESTING: These valves will be tested during refueling outages by partial stroke exercising the valves using air.

System: Safety Injection

Valve Number	Class	Drawing Number	Coordinates	Valve Category				Test Requirements	Relief Requests	Testing Alternative	Remarks
				A	B	C	D				
2NI-162A	B	MC-2562-3.1	K-11		X			CT	X	CS	10 sec. max. cycle time
2NI-171	A	MC-2562-3.1	J-7	X		X		MT LT	X	RF	
2NI-169	A	MC-2562-3.1	J-6	X		X		MT LT	X	RF	
2NI-167	A	MC-2562-3.1	J-5	X		X		MT LT	X	RF	
2NI-165	A	MC-2562-3.1	J-3	X		X		MT LT	X	RF	
2NI-173A	B	MC-2562-3.1	I-12		X			CT	X	CS	10 sec. max. cycle time
2NI-175	A	MC-2562-3.1	I-8	X		X		MT LT	X	CS	

Valve Number	Class	Drawing Number	Coordinates	Valve Category				Test Requirements	Relief Requests	Testing Alternative	System: Safety Injection
				A	B	C	D				Remarks
3 2NI-176	A	MC-2562-3.1	H-8	X		X		MT LT	X	CS	
2 2NI-178B	B	MC-2562-3.1	F-12		X			CT	X	CS	10 sec. max. cycle time
2NI-180	A	MC-2562-3.1	F-6	X		X		MT LT	X	CS	
2NI-181	A	MC-2562-3.1	F-5	X		X		MT LT	X	CS	
2NI-184B	B	MC-2562-3.1	D-12		X			CT	X	RF	60 sec. max. cycle time
2NI-185A	B	MC-2562-3.1	B-12		X			CT	X	RF	60 sec. max. cycle time
2NI-358A		MC-2562-4.0	C-12		X			CT			10 sec. max. cycle time
2NI-244B	B	MC-2562-4.0	F-18		X			CT			3 sec. max. cycle time

3| VALVE: 2NI-121A

CATEGORY: B

CLASS: B

FUNCTION: Isolates Train A of Safety Injection to the Hot Legs

TEST REQUIREMENT: Cycle and time valve quarterly

BASIS FOR RELIEF: The valve is normally aligned for safety injection with power removed, as required by McGuire Technical Specification 4.5.2. Cycling the valve with the plant in operation requires that the power be restored to the valve and moved from the event-initiation position. The valve is required for alignment for hot-leg recirculation following an accident. It is not required to automatically actuate on initiation of a safety event. The past test history of the valve is very good.

ALTERNATE TESTING: Valve will be cycled and timed at cold shutdown.

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MC-2562-3.0

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VALVE: 2NI-152B

CATEGORY: B

CLASS: B

FUNCTION: Isolates Train B of Safety Injection to the Hot Legs

TEST REQUIREMENT: Cycle and time valve quarterly.

BASIS FOR RELIEF: The valve is normally aligned for safety injection with power removed, as required by McGuire Technical Specification 4.5.2. Cycling the valve with the plant in operation requires that the power be restored to the valve and moved from the event-initiation position. The valve is required for alignment for hot-leg recirculation following an accident. It is not required to automatically actuate on initiation of a safety event. The past test history of the valve is very good.

ALTERNATE TESTING: Cycle and time the valve at cold shutdown.

MC-2562-3.1

3| VALVE: 2NI-173A

CATEGORY: B

CLASS: B

FUNCTION: Isolate Train A Residual Heat Removal to the cold legs.

TEST REQUIREMENT: Cycle and time valve quarterly.

BASIS FOR RELIEF: The valve is normally aligned for safety injection with power removed, as required by McGuire Technical Specification 4.5.2. Cycling the valve with the plant in operation requires that the power be restored to the valve and moved from the event-initiation position. The valve is required for alignment for hot-leg recirculation following an accident. It is not required to automatically actuate on initiation of a safety event. The past test history of the valve is very good.

ALTERNATE TESTING: Cycle and time the valve at cold shutdown.

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MC-2562-3.1

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VALVE: 2NI-178B

CATEGORY: B

CLASS: B

FUNCTION: Isolates Train B of Residual Heat Removal to the cold legs.

TEST REQUIREMENT: Cycle and time valve quarterly.

BASIS FOR RELIEF: The valve is normally aligned for safety injection with power removed, as required by McGuire Technical Specification 4.5.2. Cycling the valve with the plant in operation requires that the power be restored to the valve and moved from the event-initiation position. The valve is required for alignment for hot-leg recirculation following an accident. It is not required to automatically actuate on initiation of a safety event. The past test history of the valve is very good.

ALTERNATE TESTING: Cycle and time the valve at cold shutdown.

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MC-2562-3.1

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VALVE: 2NI-183B

CATEGORY: B

CLASS: B

FUNCTION: Isolates ND flow to the hot legs.

TEST REQUIREMENT: Cycle and time valve quarterly.

BASIS FOR RELIEF: The valve is normally aligned for safety injection with power removed, as required by McGuire Technical Specification 4.5.2. Cycling the valve with the plant in operation requires that the power be restored to the valve and moved from the event-initiation position. The valve is required for alignment for hot-leg recirculation following an accident. It is not required to automatically actuate on initiation of a safety event. The past test history of the valve is very good.

ALTERNATE TESTING: Cycle and time the valve at cold shutdown.

VALVE: 2NI-248, 2NI-249, 2NI-250, 2NI-251, 2NI-252, 2NI-253

CATEGORY: A, C

CLASS: A

FUNCTION: Open when Reactor Coolant System pressure decreases below 1500 psig during accident conditions.

TEST REQUIREMENT: Verify valves open on flow from upper head injection accumulator.

BASIS FOR RELIEF: The pressure in the UHI accumulator (1500 psig) is not sufficient to open the valves into the Reactor Coolant System (2235 psig). At cold shutdown, the high velocity water could cause damage to reactor internals. This, also, could cause low temperature overpressurization.

ALTERNATE TESTING: Valves will be full stroked at refueling by disassembly.