

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
INSERVICE TESTING PLAN FOR PUMPS AND VALVES
FIRST INTERVAL

REVISION 7

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COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1 & 2
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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule			Position Indicator Test	Remarks
								Leak Test	Exercise Test	Fail Safe Test		
SI-0047	M1-0261 (F-1) M2-0261 (D-1)	GA/MA	24	2	B	P	O	N/A	N/A	N/A	PIT/ 2YR	ECCS Injection Flowpath
SI-0182	M1-0263-B (B-6) M2-0263-A (B-5)	RE/SA	3/4 X 1	2	C	A	O/C	N/A	SRV/ 10YR	N/A	N/A	8811A Bonnet Overpressure Relief/Containment Isolation
SI-0183	M1-0263-B (B-5) M2-0263-A (B-6)	RE/SA	3/4 X 1	2	C	A	O/C	N/A	SRV/ 10YR	N/A	N/A	8811B Bonnet Overpressure Relief/Containment Isolation
8800A	M1-0261 (F-4) M2-0261 (D-4)	GL/AO	3	2	B	A	C	N/A	MT/Q	FC/Q	PIT/ 2YR	RWST to Non-Safety Purification System Isolation
8800B	M1-0261 (F-4) M2-0261 (D-3)	GL/AO	3	2	B	A	C	N/A	MT/Q	FC/Q	PIT/ 2YR	RWST to Non-Safety Purification System Isolation
8801A	M1-0261 (C-2) M2-0261 (E-4)	GA/MO	4	2	B	A	O/C	N/A	MT/RF (2)	N/A	PIT/ 2YR	ECCS to Cold Legs Flowpath & Boration Flowpath/ Containment Isolation & Passive Pipe Break Isolation
8801B	M1-0261 (C-2) M2-0261 (E-5)	GA/MO	4	2	B	A	O/C	N/A	MT/RF (2)	N/A	PIT/ 2YR	ECCS to Cold Legs Flowpath & Boration Flowpath/ Containment Isolation & Passive Pipe Break Isolation

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks
								Leak Test	Exercise Test			
8802A	M1-0263-A (A-2) M2-0262 (F-2)	GA/MO	4	2	B	A	O/C	N/A	MT/CS (3)	N/A	PIT/ 2YR	ECCS to Hot Legs Flowpath/ ECCS to Cold Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
8802B	M1-0263-A (A-3) M2-0262 (F-5)	GA/MO	4	2	B	A	O/C	N/A	MT/CS (3)	N/A	PIT/ 2YR	ECCS to Hot Legs Flowpath/ ECCS to Cold Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation
8804A	M1-0261 (F-5) M2-0261 (A-6)	GA/MO	8	2	B	A	O/C	N/A	MT/CS (4)	N/A	PIT/ 2YR	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
8804B	M1-0263-A (F-3) M2-0262 (B-4)	GA/MO	8	2	B	A	O/C	N/A	MT/CS (4)	N/A	PIT/ 2YR	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
8806	M1-0263-A (G-2) M2-0262 (A-2)	GA/MO	8	2	B	A	C	N/A	MT/CS (3)	N/A	PIT/ 2YR	ECCS Flowpath Boundary (during Recirculation)
8807A	M1-0261 (E-5) M2-0261 (B-6)	GA/MO	6	2	B	A	O/C	N/A	MT/Q	N/A	PIT/ 2YR	ECCS Recirculation Flowpath/Passive Pipe Break Isolation

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								Leak Test	Exercise Test			
8807B	M1-0261 (E-5) M2-0261 (B-6)	GA/MO	6	2	B	A	O/C	N/A	MT/Q	N/A	PIT/ 2YR	ECCS Recirculation Flowpath/Passive Pipe Break Isolation
8808A	M1-0262 (C-2) M2-0263-B (E-2)	GA/MO	10	2	B	A	O	N/A	MT/CS (3)	N/A	PIT/ 2YR	ECCS from Accumulators to Cold Legs Flowpath
8808B	M1-0262 (C-3) M2-0263-B (E-3)	GA/MO	10	2	B	A	O	N/A	MT/CS (3)	N/A	PIT/ 2YR	ECCS from Accumulators to Cold Legs Flowpath
8808C	M1-0262 (C-5) M2-0263-B (E-5)	GA/MO	10	2	B	A	O	N/A	MT/CS (3)	N/A	PIT/ 2YR	ECCS from Accumulators to Cold Legs Flowpath
8808D	M1-0262 (C-6) M2-0263-B (E-6)	GA/MO	10	2	B	A	O	N/A	MT/CS (3)	N/A	PIT/ 2YR	ECCS from Accumulators to Cold Legs Flowpath
8809A	M1-0263-B (A-2) M2-0263-A (F-1)	GA/MO	10	2	A	A	O/C	LTJ/TS	MT/CS (3)	N/A	PIT/ 2YR	ECCS to Cold Legs Flowpath/ ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation & Contain- ment Isolation
8809B	M1-0263-B (A-4) M2-0263-A (F-3)	GA/MO	10	2	A	A	O/C	LTJ/TS	MT/CS (3)	N/A	PIT/ 2YR	ECCS to Cold Legs Flowpath/ ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation & Contain- ment Isolation

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks
								Leak Test	Exercise Test			
8811A	M1-0263-B (B-6) M2-0263-A (B-5)	GA/MO	14	2	B	A	O/C	N/A	MT/CS (5)	N/A	PIT/ 2YR	ECCS Recirculation Flowpath/Containment Isolation & Passive Pipe Break Isolation
8811B	M1-0263-B (B-5) M2-0263-A (B-6)	GA/MO	14	2	B	A	O/C	N/A	MT/CS (5)	N/A	PIT/ 2YR	ECCS Recirculation Flowpath/Containment Isolation & Passive Pipe Break Isolation
8812A	M1-0263-B (F-2) M2-0263-A (B-2)	GA/MO	14	2	B	A	C	N/A	MT/Q	N/A	PIT/ 2YR	ECCS Recirculation Flowpath Boundary & Shutdown Cooling Flowpath Boundary (during Safety Grade Cold Shutdown)
8812B	M1-0263-B (F-3) M2-0263-A (B-3)	GA/MO	14	2	B	A	C	N/A	MT/Q	N/A	PIT/ 2YR	ECCS Recirculation Flowpath Boundary & Shutdown Cooling Flowpath Boundary (during Safety Grade Cold Shutdown)
8813	M1-0263-A (E-5) M2-0262 (C-3)	GL/MO	2	2	B	A	C	N/A	MT/CS (3)	N/A	PIT/ 2YR	ECCS Recirculation Flowpath Boundary
8814A	M1-0263-A (D-3) M2-0262 (D-3)	GL/MO	1-1/2	2	B	A	C	N/A	MT/Q	N/A	PIT/ 2YR	ECCS Recirculation Flowpath Boundary

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks
								Leak Test	Exercise Test			
8814B	M1-0263-A (D-4) M2-0262 (D-4)	GL/MO	1-1/2	2	B	A	C	N/A	MT/Q	N/A	PIT/ 2YR	ECCS Recirculation Flowpath Boundary
8815	M1-0261 (B-2) M2-0261 (E-4)	CK/SA	3	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Cold Legs Flowpath & Boration Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
8818A	M1-0263 (E-4) M2-0263 (C-4)	CK/SA	6	1	A/C	A	O C	LT/TS (1)	PS/CS CV/RF (9) CV/CS (9)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
8818B	M1-0263 (D-5) M2-0263 (C-5)	CK/SA	6	1	A/C	A	O C	LT/TS (1)	PS/CS CV/RF (9) CV/CS (9)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
8818C	M1-0263 (C-6) M2-0263 (E-6)	CK/SA	6	1	A/C	A	O C	LT/TS (1)	PS/CS CV/RF (9) CV/CS (9)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
8818D	M1-0263 (C-6) M2-0263 (E-6)	CK/SA	6	1	A/C	A	O C	LT/TS (1)	PS/CS CV/RF (9) CV/CS (9)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
SI-8819A	M1-0263 (D-4) M2-0263 (D-4)	CK/SA	2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks
								Leak Test	Exercise Test			
SI-88198	M1-0263 (C-4) M2-0263 (D-4)	CK/SA	2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
SI-8819C	M1-0263 (B-4) M2-0263 (E-4)	CK/SA	2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
SI-8819D	M1-0263 (B-4) M2-0263 (F-4)	CK/SA	2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Cold Legs Flowpath/Reactor Coolant Pressure Boundary & Containment Isolation
8821A	M1-0263-A (C-3) M2-0262 (E-3)	GA/MO	4	2	B	A	O/C	N/A	MT/Q	N/A	PIT/ 2YR	ECCS to Cold Legs Flowpath/ ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation
8821B	M1-0263-A (C-4) M2-0262 (E-4)	GA/MO	4	2	B	A	O/C	N/A	MT/Q	N/A	PIT/ 2YR	ECCS to Cold Legs Flowpath/ ECCS to Hot Legs Flowpath Boundary & Passive Pipe Break Isolation
8823	M1-0263 (E-3) M2-0263 (B-3)	GL/AO	3/4	2	B	A	C	N/A	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation & ECCS Flowpath Boundary

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule			Position Indicator	Remarks	
								Leak Test	Exercise Test	Fail Safe Test			
8824	M1-0263 (E-2) M2-0263 (B-2)	GL/AO	3/4	2	B	A	C	N/A	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation & ECCS Flowpath Boundary	2
8825	M1-0263 (E-1) M2-0263 (B-2)	GL/AO	3/4	2	A	A	C	LTJ/TS	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation & ECCS Flowpath Boundary	
8835	M1-0263-A (A-5) M2-0262 (F-3)	GA/MO	4	2	B	A	O/C	N/A	MT/CS (3)	N/A	PIT/ 2YR	ECCS to Cold Legs Flowpath/ ECCS to Hot Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation	
8840	M1-0263-B (A-3) M2-0263-A (F-2)	GA/MO	10	2	A	A	O/C	LTJ/TS	MT/CS (3)	N/A	PIT/ 2YR	ECCS to Hot Legs Flowpath/ ECCS to Cold Legs Flowpath Boundary & Containment Isolation & Passive Pipe Break Isolation	
8841A	M1-0263 (C-1) M2-0263 (E-1)	CK/SA	6	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation	1
8841B	M1-0263 (C-2) M2-0263 (E-2)	CK/SA	6	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation	
8843	M1-0261 (B-2) M2-0261 (E-4)	GL/AO	3/4	2	B	A	C	N/A	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation & ECCS Flowpath Boundary	2

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks
								Leak Test	Exercise Test			
8871	M1-0262 (B-1) M2-0263-C (D-2)	GL/AO	3/4	2	A	A	C	LTJ/TS	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation
8875A	M1-0262 (E-1) M2-0263-B (C-1)	GL/AO	1	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8875B	M1-0262 (E-2) M2-0263-B (C-2)	GL/AO	1	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8875C	M1-0262 (E-4) M2-0263-B (C-4)	GL/AO	1	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8875D	M1-0262 (E-5) M2-0263-B (C-5)	GL/AO	1	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8877A	M1-0262 (C-2) M2-0263-B (E-2)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule			Position Indicator Test	Remarks
								Leak Test	Exercise Test	Fail Safe Test		
8877B	M1-0262 (C-3) M2-0263-B (E-3)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8877C	M1-0262 (C-5) M2-0263-B (E-5)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8877D	M1-0262 (C-6) M2-0263-B (E-6)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8878A	M1-0262 (E-2) M2-0263-B (C-2)	GL/AO	1	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8878B	M1-0262 (E-3) M2-0263-B (C-3)	GL/AO	1	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8878C	M1-0262 (E-5) M2-0263-B (C-5)	GL/AO	1	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8878D	M1-0262 (E-6) M2-0263-B (C-6)	GL/AO	1	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule			Position Indicator Test	Remarks
								Leak Test	Exercise Test	Fail Safe Test		
8879A	M1-0263 (D-4) M2-0263 (C-4)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8879B	M1-0263 (C-5) M2-0263 (E-5)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8879C	M1-0263 (B-5) M2-0263 (F-5)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8879D	M1-0263 (B-6) M2-0263 (E-6)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary
8880	M1-0262 (G-1) M2-0263-B (A-1)	GL/AO	1	2	A	A	C	LTJ/TS	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation
8881	M1-0263 (E-1) M2-0263 (B-1)	GL/AO	3/4	2	B	A	C	N/A	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation & ECCS Flowpath Boundary

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule			Position Indicator Test	Remarks	
								Leak Test	Exercise Test	Fail Safe Test			
8882	M1-0261 (B-3) M2-0261 (F-3)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary	
8888	M1-0263-A (B-2) M2-0262 (E-2)	GL/AO	3/4	2	A	A	C	LTJ/TS	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation & ECCS Flowpath Boundary	2
8889A	M1-0263 (B-2) M2-0263 (F-2)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary	
8889B	M1-0263 (B-1) M2-0263 (E-1)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary	
8889C	M1-0263 (B-1) M2-0263 (F-1)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary	
8889D	M1-0263 (B-3) M2-0263 (F-3)	GL/AO	3/4	2	B	P	C	N/A	N/A	N/A	PIT/ 2YR	ECCS Flowpath Boundary	
8890A	M1-0263 (E-4) M2-0263 (B-4)	GL/AO	3/4	2	A	A	C	LTJ/TS	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation & ECCS Flowpath Boundary	2

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks
								Leak Test	Exercise Test			
8890B	M1-0263 (E-5) M2-0263 (C-5)	GL/AO	3/4	2	A	A	C	LTJ/TS	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation & ECCS Flowpath Boundary
SI-8900A	M1-0261 (A-2) M2-0261 (G-4)	CK/SA	1-1/2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Cold Legs Flowpath & Boration Flowpath/Reactor Coolant Pressure Boundary
SI-8900B	M1-0261 (A-1) M2-0261 (G-4)	CK/SA	1-1/2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Cold Legs Flowpath & Boration Flowpath/Reactor Coolant Pressure Boundary
SI-8900C	M1-0261 (A-3) M2-0261 (G-5)	CK/SA	1-1/2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Cold Legs Flowpath & Boration Flowpath/Reactor Coolant Pressure Boundary
SI-8900D	M1-0261 (A-2) M2-0261 (G-5)	CK/SA	1-1/2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Cold Legs Flowpath & Boration Flowpath/Reactor Coolant Pressure Boundary
SI-8905A	M1-0263 (C-2) M2-0263 (D-2)	CK/SA	2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation

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								Leak Test	Exercise Test			
SI-8905B	M1-0263 (D-1) M2-0263 (D-1)	CK/SA	2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation
SI-8905C	M1-0263 (D-1) M2-0263 (D-2)	CK/SA	2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation
SI-8905D	M1-0263 (C-3) M2-0263 (D-3)	CK/SA	2	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary & Containment Isolation
SI-8919A	M1-0263-A (D-3) M2-0262 (D-3)	CK/SA	1-1/2	2	C	A	O/C	N/A	CV/Q	N/A	N/A	SI Pump Miniflow Path/ECCS Recirculation Flowpath Boundary
SI-8919B	M1-0263-A (D-4) M2-0262 (D-4)	CK/SA	1-1/2	2	C	A	O/C	N/A	CV/Q	N/A	N/A	SI Pump Miniflow Path/ECCS Recirculation Flowpath Boundary
8922A	M1-0263-A (D-2) M2-0262 (D-2)	CK/SA	4	2	C	A	O/C	N/A	CV/RF (6)	N/A	N/A	ECCS Flowpath/ECCS Flowpath Boundary
8922B	M1-0263-A (D-3) M2-0262 (D-5)	CK/SA	4	2	C	A	O/C	N/A	CV/RF (6)	N/A	N/A	ECCS Flowpath/ECCS Flowpath Boundary

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks
								Leak Test	Exercise Test			
8923A	M1-0263-A (F-2) M2-0262 (A-2)	GA/MO	6	2	B	A	C	N/A	MT/Q	N/A	PIT/ 2YR	Passive Pipe Break Isolation
8923B	M1-0263-A (F-3) M2-0262 (A-5)	GA/MO	6	2	B	A	C	N/A	MT/Q	N/A	PIT/ 2YR	Passive Pipe Break Isolation
8924	M1-0261 (E-4) M2-0261 (B-5)	GA/MO	6	2	B	A	C	N/A	MT/Q	N/A	PIT/ 2YR	Passive Pipe Break Isolation
8926	M1-0263-A (G-2) M2-0262 (A-2)	CK/SA	8	2	C	A	O	N/A	PS/Q CV/RF (6)	N/A	N/A	ECCS Injection Flowpath/ ECCS Recirculation Flowpath Boundary
							C	N/A	CV/RF (6)	N/A	N/A	
8948A	M1-0262 (A-2) M2-0263-B (G-2)	CK/SA	10	1	A/C	A	O	LT/TS (1)	PS/CS CV/RF (9)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
							C		CV/CS (9)			
8948B	M1-0262 (A-3) M2-0263-B (G-3)	CK/SA	10	1	A/C	A	O	LT/TS (1)	PS/CS CV/RF (9)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
							C		CV/CS (9)			

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks	
								Leak Test	Exercise Test				
8948C	M1-0262 (A-5) M2-0263-B (G-5)	CK/SA	10	1	A/C	A	O	LT/TS (1)	PS/CS CV/RF (9) CV/CS (9)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary	4
8948D	M1-0262 (A-6) M2-0263-B (G-6)	CK/SA	10	1	A/C	A	O	LT/TS (1)	PS/CS CV/RF (9) CV/CS (9)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary	
8949A	M1-0263 (A-2) M2-0263 (F-2)	CK/SA	6	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary	
8949B	M1-0263 (A-1) M2-0263 (G-1)	CK/SA	6	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary	1
8949C	M1-0263 (A-1) M2-0263 (G-2)	CK/SA	6	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary	
8949D	M1-0263 (A-3) M2-0263 (F-3)	CK/SA	6	1	A/C	A	O/C	LT/TS (1)	CV/RF (6)	N/A	N/A	ECCS to Hot Legs Flowpath/ Reactor Coolant Pressure Boundary	
1-8956A	M1-0262 (B-2)	CK/SA	10	1	A/C	A	O/C	LT/TS (1)	CV/RF (8)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary	7
2-8956A	M2-0263-B (E-2)								CVD/RF (8) RR V7				

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks
								Leak Test	Exercise Test			
1-8956B	M1-0262 (B-3)	CK/SA	10	1	A/C	A	O/C	LT/TS (1)	CV/RF (8)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
2-8956B	M2-0263-B (E-3)								CVD/RF (8) RR V7			
1-8956C	M1-0262 (B-5)	CK/SA	10	1	A/C	A	O/C	LT/TS (1)	CV/RF (8)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
2-8956C	M2-0263-B (E-5)								CVD/RF (8) RR V7			
1-8956D	M1-0262 (B-6)	CK/SA	10	1	A/C	A	O/C	LT/TS (1)	CV/RF (8)	N/A	N/A	ECCS to Cold Legs Flowpath/ Reactor Coolant Pressure Boundary
2-8956D	M2-0263-B (E-6)								CVD/RF (8) RR V7			
8958A	M1-0263-B (F-2) M2-0263-A (B-2)	CK/SA	14	2	C	A	O/C	N/A	CV/CS (7)	N/A	N/A	ECCS Injection Flowpath/ ECCS Recirculation Flowpath Boundary
8958B	M1-0263-B (F-4) M2-0263-A (B-3)	CK/SA	14	2	C	A	O/C	N/A	CV/CS (7)	N/A	N/A	ECCS Injection Flowpath/ ECCS Recirculation Flowpath Boundary
8964	M1-0262 (A-1) M2-0263-C (E-2)	GL/AO	3/4	2	A	A	C	LTJ/TS	MT/Q	FC/Q	PIT/ 2YR	Containment Isolation

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Valve Number	Flow Diagram (Coord.)	Valve/ Actuator Type	Size	Code Class	Cate- gory	Func- tion	Safety Func. Pos.	Test Parameters/Schedule		Fail Safe Test	Position Indicator Test	Remarks
								Leak Test	Exercise Test			
SI-8968	M1-0262 (F-1) M2-0263-B (A-1)	CK/SA	1	2	A/C	A	C	LTJ/TS	CV/Q	N/A	N/A	Containment Isolation
8969A	M1-0261 (E-4) M2-0261 (B-5)	CK/SA	8	2	C	A	O/C	N/A	CV/RF (6)	N/A	N/A	ECCS Recirculation Flowpath/ECCS Flowpath Boundary (during Re- circulation with Loss of RHR B)
8969B	M1-0263-A (F-3) M2-0262 (B-4)	CK/SA	8	2	C	A	O/C	N/A	CV/RF (6)	N/A	N/A	ECCS Recirculation Flowpath/ECCS Flowpath Boundary (during Re- circulation with Loss of RHR A)
1SI-8972	M1-0262 (B-1)	RE/SA	3/4 X 1	2	A/C	A	O/C	LTJ/TS	SRV/ 10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation
2SI-8983	M2-0263-C (D-2)	RE/SA	3/4 X 1	2	A/C	A	O/C	LTJ/TS	SRV/ 10YR	N/A	N/A	Containment Penetration Thermal Relief/Containment Isolation

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1. The test frequency requirements of Technical Specification 4.4.5.2.2 apply for leak testing of 8815; 8818A, B, C, D; SI-8819A, B, C, D; 8841A, B; SI-8900A, B, C, D; SI-8905A, B, C, D; 8948A, B, C, D; 8949A, B, C, D; 8956A, B, C, D. The Technical Specification 4.4.5.2.2 test frequency requirements are more restrictive than the test frequency requirements of OM Part 10, para. 4.2.2.3(a).
2. 8801A and B, High Head Safety Injection Isolation/Containment Isolation Valves, are full-stroke exercised at refueling outages. These valves cannot be full-stroke exercised during plant operation because opening the valves results in unnecessary thermal transients on the RCS cold leg nozzles for which they are not designed and imposes hydraulic transients on the charging system and on the Reactor Coolant Pump seals which can cause them to cock. The valves cannot be full-stroke exercised at cold shutdowns because opening the valves admits high flow to the RCS through the relatively low resistance Safety Injection flowpath and could challenge the RCS Cold Overpressure Mitigation System as well as impose hydraulic transients on the Reactor Coolant Pump seals which can cause them to cock. 8801A and B cannot be part-stroke exercised because their control systems are such that the valves are either fully open or fully closed.
3. 8802A & B, SI Pumps to Hot Legs Valves; 8806, SI Pumps Suction from RMST Valve; 8808A, B, C, D, Accumulator Discharge Valves; 8809A & B, RHR Pumps to Cold Legs Valves; 8813, SI Pumps Miniflow Valve; 8835, SI Pumps to Cold Legs Valve; 8840, RHR Pumps to Hot Legs Valve, are full-stroke exercised at cold shutdowns. These valves cannot be full or part-stroke exercised during plant operation because moving the valves from their safe positions causes both trains of an ECCS subsystem to be rendered inoperable. (Consequently, these valves are required by Technical Specification 4.5.2(a) to be in their safe positions with power to their actuators removed at all times during plant operation.)
4. 8804A & B, High Head and Intermediate Head Pumps Suction from the RHR Heat Exchangers Valves, are full-stroke exercised at cold shutdowns. These valves cannot be full or part-stroke exercised during plant operation because they are interlocked to remain closed until the Safety Injection Pumps miniflow line is isolated post-accident. As stated in Note 3 above, isolation of the Safety Injection Pumps miniflow line during plant operation causes both trains of that ECCS subsystem to be rendered inoperable.
5. 8811A & B, Recirculation Sumps to RHR Pumps Isolation/Containment Isolation Valves, are full-stroke exercised at cold shutdowns. Full or part-stroke exercising of these valves during plant operation is not practicable due to the precautions necessary to conduct the test. The exercise test for these valves involves draining a major portion of the respective RHR train (to prevent backfilling the Recirculation Sump) thus creating hundreds of gallons of liquid radwaste and long out-of-service times for the system. The subsequent system fill and vent is best facilitated by running the RHR pump and flowing through flowpaths which are not available during plant operation.

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6. 8815, SI-8900A, B, C, D, 8969A, High Head Safety Injection Flowpath Check Valves; SI-8819A, B, C, D, SI-8905A, B, C, D, 8922A & B, 8926, 8949A, B, C & D and 8969B, Intermediate Head Safety Injection Flowpath Check Valves; 8841A & B, Low Head Safety Injection Flowpath (to the Hot Legs) Check Valves are full-stroke exercised at refueling outages. These valves cannot be full or part-stroke open exercised during plant operation or during cold shutdowns because the flowpaths discharge into the RCS.

In the case of the High Head subsystem, the valves cannot be full-stroke exercised during plant operation because the high RCS pressure will not allow the maximum required injection flowrate to be achieved. Part-stroke exercising during plant operation is not practicable because any flow through the valves results in unnecessary thermal transients on the RCS cold leg nozzles for which they are not designed and imposes hydraulic transients on the charging system and on the Reactor Coolant Pump seals which can cause them to cock. The check valves in the high head injection path cannot be full-stroke exercised at cold shutdowns because the high flowrates could challenge the RCS Cold Overpressure Mitigation System as well as impose hydraulic transients on the charging system and on the Reactor Coolant Pump seals which can cause them to cock. Part-stroke exercising at cold shutdowns is not practicable because the high head injection flowpath is not designed for throttled operation.

In the case of the Intermediate Head and Low Head subsystems, the valves cannot be full or part-stroke exercised during plant operation because the relatively higher pressure of the Reactor Coolant System will not allow forward flow through these paths. (An exception to this is valve 8926 which lies in the SI Pumps' miniflow path and thus is part-stroke open exercised quarterly during pump tests.) Part-stroke exercising certain check valves during plant operation via the SI test header is not practicable because this path yields flowrates too small (approx. 5 gpm) to be meaningful for assessing the operational readiness of these valves. The check valves in the intermediate head injection paths cannot be full-stroke exercised at cold shutdowns using the Safety Injection Pumps because the resulting high flowrates and pressures could challenge the RCS Cold Overpressure Mitigation System. The check valves in the low head injection paths to the hot legs and the check valves in the combined low head and intermediate head injection paths to the hot legs (8949B & C) are not practicable to test at cold shutdowns because forward flow will disturb these Reactor Coolant Pressure Boundary Isolation Valves. Doing so requires leak testing the valves per the Technical Specification requirements identified in Note 1 above. This leak testing is not practicable to perform at cold shutdowns due to its complexity and critical path nature. Such testing would prevent the immediate return of a shutdown unit to power operation which is contrary to the intent of OM Part 10, paragraph 4.3.2.2.g. Part-stroke exercising these valves at cold shutdowns is not practicable because the flowpaths are not designed for throttled operation.

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The subject check valves are full-stroke close exercised at refueling outages at the same frequency as the full-stroke open exercise for the reasons described above. (Close exercising of valve B926 is not practicable following its quarterly part-stroke open exercise. To do so would defeat both trains of the intermediate head subsystem. Therefore valve B926 is also full-stroke close exercised at refueling outages coincident with its full-stroke open exercise.)

7. B958A & B, Low Head Safety Injection Flowpath Check Valves, are full-stroke exercised at cold shutdowns. These valves cannot be full or part-stroke open exercised during plant operation because the relatively higher pressure of the Reactor Coolant System will not allow forward flow through these paths. The flowpath through the RHR to RWST return line can be used at times to full-stroke exercise these valves; however, this path cannot be used during plant operation since opening this line defeats both trains of the Low Pressure Safety Injection System. Part-stroke exercising certain of these check valves during plant operation via the SI test header is not practicable because this path yields flowrates too small (approx. 5 gpm) to be meaningful for assessing the operational readiness of these valves.

The subject check valves are full-stroke close exercised at cold shutdowns at the same frequency as the full-stroke open exercise for the reasons described above.

8. Unit 1 Valves (1-B956A, B, C, and D)

Beginning with the fifth refueling outage for Unit 1, these valves will be tested consistent with guidelines in Section 4.1.2 "Exercising Check Valves with Flow and Nonintrusive Techniques," of NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," dated April 1995. Relief from the ASME Code is not required because this method is considered "other positive means" of verifying disk movement.

Unit 2 Valves (2-B956A, B, C, and D)

2-B956A, B, C, D, Safety Injection Accumulators Flowpath Check Valves, are disassembled at refueling outages to verify operability. These valves cannot be full or part-stroke open exercised during plant operation because the relatively higher pressure of the Reactor Coolant System will not allow forward flow through the valves. Part-stroke exercising during plant operation via the SI test header is not practicable because this path yields flowrates too small (approx. 5 gpm) to be meaningful for assessing the operational readiness of these valves. The check valves cannot be full-stroke exercised at cold shutdowns

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because the resulting high flowrates could challenge the RCS Cold Overpressure Mitigation System. Part-stroke exercising these valves at cold shutdowns is not practicable because the flowpaths are not designed for throttled operation. Full-stroke exercising these valves with flow during refueling outages is not practicable because rapid blowdown of the Safety Injection Accumulators causes a cooling transient to occur in the gas space of the accumulators for which they are not designed.

The subject check valves are not close exercised during plant operation or cold shutdowns for the reasons described above.

9. 8818A, B, C, D, 8948A, B, C, D, Low Head Safety Injection Flowpath Check Valves, are full-stroke exercised at refueling outages to verify operability. These valves cannot be full or part-stroke open exercised during plant operation because the relatively higher pressure of the Reactor Coolant System will not allow forward flow through these paths. Part-stroke exercising of these check valves during plant operation via the SI test header is not practicable because this path yields flowrates too small (approximately 5 gpm) to be meaningful for assessing the operational readiness of these valves. It is not practicable to full stroke exercise these valves at cold shutdowns because the acoustic emission testing needed to verify the valves go full-open requires both Residual Heat Removal Pumps running and all Reactor Coolant Pumps secured to perform a satisfactory test. Both Residual Heat Removal Pumps are required to flow through a single SI header to achieve the hydraulic transient necessary to create the acoustic signature. During the test Residual Heat Removal flow must be secured. The Reactor Coolant Pumps must be secured to lower background noise sufficiently to record the acoustic signature. A partial stroke of these valves could be performed at cold shutdown using the same test lineup with only one Residual Heat Removal Pump running.

Non-intrusive testing techniques, such as the acoustic emission method applied here is considered "other positive means" as defined in ASME/ANSI OH-1987 Part 10, Paragraph 4.3.2.4(a). During the initial acoustic emission testing for these valves, the system flow conditions were established to cause the valves to fully stroke. During subsequent testing, all valves shall be fully stroked at repeatable system conditions. The acoustic emission monitoring of the valves, however, will only be performed on one valve per group per outage on a rotating schedule each time testing is performed (a sampling program). The groups will be four valves each, 8818A, B, C, D, and 8948A, B, C, D. If problems are found with the sample valve, all valves in the affected group must be tested using acoustic emission monitoring during the same outage.

The subject check valves are full-stroke close exercised at cold shutdowns because acoustic emission monitoring is not required for these tests.

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