Attachment 2

Iowa Electric Light and Power Company
Duane Arnold Energy Center

ASME INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES FOR THE PERIOD June 1, 1978 to July 1, 1982

Docket No. 50-331		March 1, 1978
	Rev 1	October 1, 1978
	Rev 2	May 1, 1980
	Rev 3	November 1, 1980

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INTRODUCTION

The ASME Inservice Testing Program for Pumps and Valves provides a comprehensive component operability testing as required by 10 CFR 50.55 a (g). The program is based on the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, 1974 Edition through the Summer 1975 Addenda. This ASME pump and valve testing program will be in affect as of June 1, 1978, continuing for twenty consecutive months through January 31, 1980. This program is applicable to the safety related, ASME Code Class I, II and III components at the Duane Arnold Energy Center (Unit 1), as specified herein. Where testing of an applicable component in accordance with the requirements of Section XI is not possible or is impractical a request for relief has been provided, including associated justification(s) and proposed alternate testing requirements.

PART I

PUMP TESTING PROGRAM

PUMP TEST PROGRAM

Pump	Pump Number	P&ID	TEST PARAMETERS						Test Interval (1)
			Speed N	Inlet Pressure P_i	Differential Pressure P	Flow Rate Q	Vibration Amplitude V	Bearing Temperature T_b (1)	
RCIC System	IP-226	M-125	YES	YES	YES	YES	NO*	NO*	MONTHLY
Emergency Service Water System	IP-99A IP-99B	M-146 M-146	NO NO	NO* NO*	YES YES	YES YES	YES YES	YES YES	MONTHLY MONTHLY
River Water System	IP-117A IP-117B IP-117C IP-117D	M-129	NO NO NO NO	NO* NO* NO* NO*	YES YES YES YES	YES YES YES YES	YES YES YES YES	YES YES YES YES	MONTHLY MONTHLY MONTHLY MONTHLY
Diesel Fuel Oil System	IP-44A IP-44B	M-132	NO NO	NO* NO*	YES YES	YES YES	NO* NO*	NO* NO*	MONTHLY MONTHLY

(1) Bearing temperature measured annually per Section XI.

* Relief Request

PUMP TEST PROGRAM

Pump	Pump Number	P&ID	TEST PARAMETERS						Test Interval (1)
			Speed N	Inlet Pressure P_i	Differential Pressure P	Flow Rate Q	Vibration Amplitude V	Bearing Temperature T_b (1)	
RHR Service Water	IP-022A	M-146	NO	NO*	YES	YES	YES	YES	MONTHLY
	IP-022B	M-146	NO	NO*	YES	YES	YES	YES	MONTHLY
	IP-022C	M-146	NO	NO*	YES	YES	YES	YES	MONTHLY
	IP-022D	M-146	NO	NO*	YES	YES	YES	YES	MONTHLY
RHR System	IP-229A	M-120	NO	YES	YES	YES	YES	YES	MONTHLY
	IP-229B	M-119	NO	YES	YES	YES	YES	YES	MONTHLY
	IP-229C	M-120	NO	YES	YES	YES	YES	YES	MONTHLY
	IP-229D	M-119	NO	YES	YES	YES	YES	YES	MONTHLY
Core Spray System	IP-211A	M-121	NO	YES	YES	YES	YES	YES	MONTHLY
	IP-211B	M-121	NO	YES	YES	YES	YES	YES	MONTHLY
Standby Liquid Control System	IP-230A	M-126	NO	YES	YES	YES	YES	YES	MONTHLY
	IP-230B	M-126	NO	YES	YES	YES	YES	YES	MONTHLY
HPCI System	IP-216	M-123	YES	YES	YES	YES	NO*	NO*	MONTHLY

(1) Bearing temperature measured annually per Section XI.

* Relief Request

PART II

VALVE TESTING PROGRAM

A. Valve Testing Program Data Sheets

B. Requests and Justifications for Testing Relief

A. VALVE TESTING PROGRAM DATA SHEETS

i. Abbreviations

ii. Legend for Valve Testing

iii. Valve Testing Data Sheets

ABBREVIATIONS

Valve Types

Relief:	REL
Check:	CK
Stop Check:	SCK
Butterfly:	BF
Gate:	GA
Globe:	GL
Angle:	ANG

Actuator Types

Self Actuating:	SA
Motor:	MO
Air/Solenoid:	AS
Manual:	M
Solenoid:	S
Explosive:	EXP
Hydraulic:	H

Valve Position

Open:	NO
Closed:	NC
Locked Open:	LO
Locked Closed:	LC

LEGEND FOR VALVE TESTING

Q	-	Exercise valve (full stroke) for operability every (3) months.
LT	-	Valves are leak tested per Section XI, Article IWV-3420.*
MT	-	Stroke time measurements are taken and compared to the strike time limiting value per Section XI, Article IWV 3410.**
CV	-	Exercise check valves to the position required to fulfill their function every (3) months.
SRV	-	Safety and relief valves are tested per Section XI, Article IWV-3510.
DT	-	Test category D valves per Section XI, Article IWV-3600.
ET	-	Verify and record valve position before operations are performed and after operations are completed, and verify that valve is locked or sealed.
CS	-	Exercise valve for operability at cold shutdowns (in the case of frequent cold shutdowns these valves need not be exercised more often than once every three months).
RR	-	Exercise valve for operability each refueling.
PI	-	Exercise valve (with remote position indicator inaccessible for direct observation) for verification of valve position during each refueling.
*	-	Leak test method used is indicated in the "Remarks" column.
**	-	Assigned stroke time is indicated in the "Remarks" column. Applicable stroke times "to be determined" will be identified as the test procedure(s) for the associated valve is being prepared.

SYSTEM NAME: Reactor Building Cooling Water System

P&ID#: M-112

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. MO-4841A	2	E-3	X					4	GA	MO	NO	LT Q MT	X	CS	Tested using 54 lbs N_2/air using flow meter to determine leakage amount Maximum of 20 seconds.
2. MO-4841B	2	F-3	X					4	GA	MO	NO	LT Q MT	X	CS	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 20 seconds.

SYSTEM NAME: RHR Service Water System

P&ID#: M-113

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. MO-1947	3	C-6		X				14	GA	MO	NC	Q,MT			Stroke time will be determined by measuring the time required to achieve rated flow.
2. MO-2046	3	C-5		X				14	GA	MO	NC	Q,MT			Stroke time will be determined by measuring the time required to achieve rated flow.
3. PSV-1988	3	E-7			X			3/4	REL	SA	NC	SRV			
4. PSV-2068	3	E-6			X			3/4	REL	SA	NC	SRV			

SYSTEM NAME: RHR Service Water System

P&ID#: M-113

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
7. MO-1942	3	E-8		X				12	GA	MO	LC	Q,MT			
8. MO-1943A	3	G-8		X				12	GA	MO	LC	Q,MT			
9. MO-1943B	3	G-8		X				12	GA	MO	LC	Q,MT			

SYSTEM NAME: RHR Service Water System

P&ID#: M-113

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
10. V-13-1	3	F-7					X	16	GA	M	LO	ET			
11. V-13-2	3	E-7					X	16	GA	M	LO	ET			
12. V-13-3	3	E-6					X	16	GA	M	LO	ET			
13. V-13-23	3	F-6					X	16	GA	M	LO	ET			
14. V-13-24	3	E-6					X	16	GA	M	LO	ET			
15. V-13-25	3	E-5					X	16	GA	M	LO	ET			

SYSTEM NAME: Emergency Service Water System

P&ID#: M-113

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. V-13-34	3	G-5					X	6	GL	M	LO	ET			
2. V-13-35	3	G-5					X	6	GL	M	LO	ET			
3. CV-2080	3	G-5		X				6	GL	AS	NC	Q,MT			
4. CV-2081	3	G-5		X				6	GL	AS	NC	Q,MT			
5. MO-2039A	3	H-4		X				4	GA	MO	NO	Q,MT			
6. MO-2039B	3	H-3		X				4	GA	MO	NO	Q,MT			
7. MO-2077	3	H-3		X				4	GA	MO	NO	Q,MT			
8. MO-2078	3	H-2		X				4	GA	MO	NO	Q,MT			
9. CV-1956A	3	H-3		X				4	GA	AS	NC	Q,MT			
10. CV-1956B	3	H-2		X				4	GA	AS	NC	Q,MT			

SYSTEM NAME: Nuclear Boiler System

P&ID#: M-114

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. CV-4421	1	E-8	X					20	GL	AS	NO	Q MT LT			MSIV Timing: 3 < T < 5 (sec's) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
2. CV-4416	1	C-8	X					20	GL	AS	NO	Q MT LT			MSIV Timing: 3 < T < 5 (sec's) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
3. CV-4413	1	E-2	X					20	GL	AS	NO	Q MT LT			MSIV Timing: 3 < T < 5 (sec's) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
4. CV-4419	1	C-2	X					20	GL	AS	NO	Q MT LT			MSIV Timing: 3 < T < 5 (sec's) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
5. CV-4420	1	E-7	X					20	GL	AS	NO	Q MT LT			MSIV Timing: 3 < T < 5 (sec's) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.

SYSTEM NAME: Nuclear Boiler System

P&ID#: M-114

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. CV-4415	1	C-7	X					20	GL	AS	NO	Q MT LT			MSIV Timing: 3 < T < 5 (sec's) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
7. CV-4412	1	E-3	X					20	GL	AS	NO	Q MT LT			MSIV Timing: 3 < T < 5 (sec's) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
8. CV-4418	1	C-3	X					20	GL	AS	NO	Q MT LT			MSIV Timing: 3 < T < 5 (sec's) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
9. MO-4423	1	B-3	X					3	GA	MO	NO	Q MT LT PI			Maximum of 15 seconds Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
0. MO-4424	1	B-3	X					3	GA	MO	NO	Q MT LT PI			Maximum of 15 seconds Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.

SYSTEM NAME: Nuclear Boiler System

P&ID#: M-114

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
11. MO-4442	1	B-7	X		X			16	SCK	MO/SA	NO	Q MT CV LT PI	X X	CS CS	To be determined Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
12. MO-4441	1	B-3	X		X			16	SCK	MO/SA	NO	Q MT CV LT PI	X X	CS CS	To be determined Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
13. V-14-1	1	B-6	X		X			16	CK	SA	NO	LT CV	 X	 RR	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
14. V-14-3	1	B-4	X		X			16	CK	SA	NO	LT CV	 X	 RR	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount.
15. V-14-2	1	B-6					X	16	GA	M	NO	RR/ET			

SYSTEM NAME: Nuclear Boiler System

P&ID#: M-114

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
16. V-14-4	1	B-4					X	16	GA	NO	M	RR/ET			
17. PSV-4407	1	E-6			X			6	REL	AS/ SA	NC	SRV			
18. PSV-4406	1	E-6			X			6	REL	AS/ SA	NC	SRV			
19. PSV-4400	1	E-5			X			6	REL	AS/ SA	NC	SRV			
20. PSV-4401	1	E-4			X			6	REL	AS/ SA	NC	SRV			

SYSTEM NAME: Nuclear Boiler System

P&ID#: M-114

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
21. PSV-4402	1	C-6			X			6	REL	AS/SA	NC	SRV			
22. PSV-4403	1	C-6			X			6	REL	SA	NC	SRV			
23. PSV-4404	1	C-5			X			6	REL	SA	NC	SRV			
24. PSV-4405	1	C-4			X			6	REL	AS/SA	NC	SRV			
25. PSV-4439A	3	B-4			X			6	REL	SA	NC	SRV			

SYSTEM NAME: Nuclear Boiler System

P&ID#: M-114

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
26. PSV-4439B	3	B-4			X			6	REL	SA	NC	SRV			
27. PSV-4439C	3	A-5			X			6	REL	SA	NC	SRV			
28. PSV-4439D	3	B-4			X			6	REL	SA	NC	SRV			
29. PSV-4439E	3	A-5			X			6	REL	SA	NC	SRV			
30. PSV-4439F	3	A-4			X			6	REL	SA	NC	SRV			

SYSTEM NAME: Reactor Recirculation System

P&ID#: M-116

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. CV-4639	1	F-6	X					1	GL	AS	NC	Q LT MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
2. CV-4640	1	F-6	X					1	GL	AS	NC	Q LT MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
3. MO-4627	1	C-2		X				22	GA	MO	NO	Q MT PI	X	CS	To be determined
4. MO-4628	1	C-8		X				22	GA	MO	NO	Q MT PI	X	CS	To be determined
5. MO-4629	1	C-3		X				4	GA	MO	NC	Q MT PI	X	CS	To be determined

SYSTEM NAME: Reactor Recirculation System

P&ID#: M-116

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. MO-4630	1	C-7		X				4	GA	MO	NC	Q MT PI	X	CS	To be determined
7. MO-4601	1	B-5		X				22	GA	MO	NO	Q MT PI	X	CS	To be determined
8. MO-4602	1	B-5		X				22	GA	MO	NO	Q MT PI	X	CS	To be determined

SYSTEM NAME: Control Rod Drive Hydraulic System

P&ID#: M-117

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. CV-1804A	1	A-5	X					3/4	GA	AS	NO	Q,MT, LT			Tested using 54# N_2 or air using flow meter to determine leakage amount. Maximum of 5 seconds.
2. CV-1804B	1	A-5	X					3/4	GA	AS	NO	Q,MT, LT			Tested using 54# N_2 or air using flow meter to determine leakage amount. Maximum of 5 seconds.
3. V-17-83	1	A-6	X		X			1	CK	SA	NO	CV,LT	X	RR	Tested using 54# N_2 or air using flow meter to determine leakage amount.

SYSTEM NAME: Control Rod Drive Hydraulic System

P&ID#: M-117

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
4. V-17-96	1	A-4	X		X			1	CK	SA	NO	CV,LT	X	RR	Tested using 54# N_2 or air using flow meter to determine leakage amount.
								D	E	L	E	T	E	D	
								D	E	L	E	T	E	D	

SYSTEM NAME: Control Rod Drive Hydraulic System

P&ID#: M-118

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. CV-1849	1	D-7		X				3/4	GA	AS	NC	Q,MT	X	RR	
2. CV-1850	1	D-6		X				3/4	GA	AS	NC	Q,MT	X	RR	
3. CV-1859	1	G-4		X				1	GA	AS	NO	Q,MT			
4. CV-1867	1	E-5		X				2	GA	AS	NO	Q,MT			

SYSTEM NAME: Control Rod Drive Hydraulic System

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P&ID#: M-118

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
								D	E	L	E	T	E	D	

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-119

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. MO-1900	1	H-8	X					4	GA	MO	NC	Q,MT, PI,LT	X	CS	
2. MO-1901	1	H-7	X					4	GA	MO	NC	Q,MT LT	X	CS	
3. ZS-1907	1	E-7					X	20	GA	M	LO	ET			
4. MO-1932	2	F-5		X				12	GA	MO	LC	Q,MT			
5. MO-1933	2	F-5		X				4	GL	MO	NC	Q,MT, PI			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-119

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. MO-1934	2	F-5		X				12	GL	MO	NC	Q,MT, PI			
7. MO-1940	2	E-4		X				18	GL	MO	NO	Q,MT			
8. MO-1941	2	E-3		X				18	GA	MO	LO	Q,MT			
9. MO-1970	2	E-3		X				4	GA	MO	NC	Q,MT			
10. MO-1967	2	E-2		X				4	GA	MO	NC	Q,MT			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-119

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
11. MO-1936	2	D-6		X				4	GL	MO	NC	Q,MT			
12. MO-1989	2	D-7		X				24	GA	MO	LO	Q,MT			
13. PSV-1911	2	D-8			X			1	REL	SA	NC	SRV			
14. MO-1909	2	E-8	X					18	GA	MO	NC	Q,MT, LT	X	CS	
15. MO-1908	2	E-8	X					18	GA	MO	NC	Q,MT, LT,PI	X	CS	

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-119

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
16. MO-1920	2	C-8		X				14	GA	MO	NC	Q,MT			
17. MO-1912	2	C-7		X				14	GA	MO	NC	Q,MT			
18. MO-1921	2	C-7		X				14	GA	MO	LO	Q,MT			
19. MO-1913	2	C-7		X				14	GA	MO	LO	Q,MT			
20. MO-1935	2	C-5		X				3	GA	MO	NO	Q,MT			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-119

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
21. MO-1902	2	G-7		X				10	GA	MO	NC	Q,MT			
22. MO-1903	2	G-6		X				10	GL	MO	LC	Q,MT			
23. MO-1939	2	D-4		X				12	GA	MO	LO	Q,MT			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-119

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
24. V-19-7	2	A-8					X	4	GA	M	LC	ET			
25. V-19-15	2	B-8					X	3	GA	M	LO	ET			
26. V-19-12	2	A-7					X	4	GA	M	LC	ET			
27. V-19-02	2	B-7					X	12	GA	M	LO	ET			
28. V-19-10	2	A-6					X	4	GA	M	LC	ET			
29. V-19-17	2	B-5					X	3	GA	M	LO	ET			
30. V-19-04	2	B-5					X	12	GA	M	LO	ET			
31. V-19-13	2	A-5					X	4	GA	M	LC	ET			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-119

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
32. V-19-01	2	A-7			X			12	CK	SA	NO	CV			Check valve operability verified by proper LPCI system operation (flow rate and pump ΔP.)
33. V-19-03	2	A-5			X			12	CK	SA	NO	CV			Check valve operability verified by proper LPCI system operation (flow rate and pump ΔP.)
34. V-19-14	2	B-8			X			3	CK	SA	NO	CV			Check valve operability verified by proper LPCI system operation (flow rate and pump ΔP.)
35. V-19-16	2	B-5			X			3	CK	SA	NO	CV			Check valve operability verified by proper LPCI system operation (flow rate and pump ΔP.)
36. PSV-1952	2	D-4			X			4	REL	SA	NC	SRV			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-119

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
37. CV-1906	2	E-7			X			20	CK	AS	NC	CV,PI	X	CS	
38. MO-1904	1	E-6		X				20	ANG	MO	NO	Q,MT	X	CS	
39. MO-1905	1	E-6		X				20	GA	MO	NC	Q,MT	X	CS	
40. MO-1937	2	D-6		X				4	GA	MO	NC	Q,MT			
41. CV-1963	2	D-3		X				6	GA	AS	NC	Q,MT			
42. CV-1964	2	D-2		X				6	GA	AS	NC	Q,MT			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-120

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. MO-2000	2	G-2		X				10	GA	MO	NC	Q,MT			
2. MO-2001	2	G-4		X				10	GL	MO	LC	Q,MT			
3. MO-2006	2	F-4		X				4	GL	MO	NC	Q,MT			
4. ZS-2008	1	F-2					X	20	GA	M	LO	ET			
5. MO-2069	2	D-3		X				24	GA	MO	LO	Q,MT, PI			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-120

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. MO-2009	2	C-4		X				3	GA	MO	NO	Q,MT			
7. MO-2007	2	F-5		X				12	GL	MO	NC	Q,MT			
8. MO-2011	2	C-3		X				14	GA	MO	NC	Q,MT			
9. MO-2016	2	C-2		X				14	GA	MO	NC	Q,MT			
10. MO-2012	2	C-3		X				14	GA	MO	LO	Q,MT			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-120

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
11. MO-2015	2	C-3		X				14	GA	MO	LO	Q,MT			
12. MO-2038	2	E-7		X				4	GA	MO	NC	Q,MT			
13. MO-2030	2	E-5		X				18	GL	MO	NO	Q,MT			
14. MO-2003	1	F-4		X				20	GA	MO	NC	Q,MT			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-120

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
15. V-20-02	2	B-3					X	12	GA	M	LO	ET			
16. V-20-4	2	B-5					X	12	GA	M	LO	ET			
17. V-20-7	2	B-4					X	3	GA	M	LO	ET			
18. V-20-09	2	B-2					X	3	GA	M	LO	ET			
19. V-20-11	2	B-4					X	4	GA	M	LC	ET			
20. V-20-12	2	A-5					X	4	GA	M	LC	ET			
21. V-20-13	2	B-2					X	4	GA	M	LC	ET			
22. V-20-14	2	A-3					X	4	GA	M	LC	ET			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-120

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
23. V-20-1	2	B-3			X			12	CK	SA	NO	CV			Check valve operability verified by observing normal LPCI system operation (flow rate & pump ΔP).
24. V-20-03	2	A-5			X			12	CK	SA	NO	CV			Check valve operability verified by observing normal LPCI system operation (flow rate & pump ΔP).
25. V-20-06	2	B-4			X			3	CK	SA	NO	CV			Check valve operability verified by proper LPCI system operation (flow rate and pump ΔP).
26. V-20-08	2	B-2			X			3	CK	SA	NO	CV			Check valve operability verified by proper LPCI system operation (flow rate and pump ΔP).
27. PSV-2043	2	D-6			X			4	REL	SA	NC	SRV			

SYSTEM NAME: Residual Heat Removal System

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P&ID#: M-120

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
28. CV-2002	2	F-3			X			20	CK	AS	NC	CV	X	CS	
29. MO-2004	2	F-4		X				20	ANG	MO	NO	Q,MT			
30. MO-2029	2	D-5		X				12	GA	MO	LO	Q,MT			
31. MO-2031	2	E-7		X				12	GA	MO	LO	Q,MT			
32. MO-2036	2	E-8		X				4	GA	MO	NC	Q,MT			
33. MO-2005	2	G-4		X				12	GA	MO	LC	Q,MT			

SYSTEM NAME: Residual Heat Removal System

P&ID#: M-120

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
34. CV-2033	2	D-7		X				6	GA	AS	NC	Q,MT			
35. CV-2034	2	D-7		X				6	GA	AS	NC	Q,MT			

SYSTEM NAME: Core Spray System

P&ID#: M-121

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. V-21-1	2	B-3					X	12	GA	M	LC	ET			

SYSTEM NAME: Core Spray System

P&ID#: M-121

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
2. V-21-2	2	C-4					X	10	GA	M	LC	ET			
3. MO-2124	2	D-4		X				2	GA	MO	NO	Q,MT			
4. MO-2104	2	D-3		X				2	GA	MO	NO	Q,MT			
5. PSV-2109	2	G-4			X			2	REL	SA	NC	SRV			
6. PSV-2129	2	E-4			X			2	REL	SA	NC	SRV			

SYSTEM NAME: Core Spray System

P&ID#: M-121

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
7. MO-2112	2	F-5		X				8	GL	MO	NC	Q,MT			
8. MO-2132	2	E-5		X				8	GL	MO	NC	Q,MT			
9. MO-2115	2	G-5		X				8	GA	MO	NO	Q,MT			
10. MO-2117	2	G-6	X					8	GA	MO	NC	Q,MT LT			
11. MO-2135	2	E-5		X				8	GA	MO	NO	Q,MT			

SYSTEM NAME: Core Spray System

P&ID#: M-121

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
12. MO-2137	2	E-6	X					8	GA	MO	NC	Q,MT LT			
13. ZS-2142	1	F-7					X	8	GA	M	LO	ET			
14. ZS-2143	1	E-7					X	8	GA	M	LO	ET			
15. CV-2118	1	F-6			X			8	CK	AS	NO	CV	X	CS	
16. CV-2138	1	E-6			X			8	CK	AS	NO	CV	X	CS	

SYSTEM NAME: Core Spray System

P&ID#: M-121

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
17. V-21-07	2	D-3			X			10	CK	SA	NO	CV			Check valve operability verified by proper core spray operation (flow rate and pump ΔP).
18. V-21-10	2	D-4			X			10	CK	SA	NO	CV			Check valve operability verified by proper core spray operation (flow rate and pump ΔP).
19. V-21-09	2	D-3			X			2	CK	SA	NC	CV			Check valve operability verified by proper core spray operation (flow rate and pump ΔP).
20. V-21-12	2	D-4			X			2	CK	SA	NC	CV			Check valve operability verified by proper core spray operation (flow rate and pump ΔP).
21. V-21-05	2	B-3					X	2	GA	M	LC	ET			

SYSTEM NAME: Core Spray System

P&ID#: M-121

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
22. V-21-03	2	B-4					X	2	GA	M	LC	ET			
23. V-21-08	2	C-3					X	2	GL	M	LO	ET			
24. V-21-11	2	C-4					X	2	GL	M	LO	ET			

SYSTEM NAME: HPCI - Steam Side

P&ID#: M-122

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. MO-2239	1	G-5	X					10	GA	MO	NO	Q,MT, LT	X	CS	Tested using 54# N_2 or air using flow meter to determine leakage amount.
2. MO-2238	1	G-6	X					10	GA	MO	NO	Q,MT, LT,PI	X	CS	Tested using 54# N_2 or air using flow meter to determine leakage amount.
3. MO-2202	2	E-3		X				10	GA	MO	NC	Q,MT			
4. HV-2200	2	E-3		X				10	GA	H	NC	Q,MT			
5. HV-2201	2	E-3		X				10	GA	H	NC	Q,MT			

SYSTEM NAME: HPCI - Steam Side

P&ID#: M-122

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. CV-2206	2	E-2		X				1	GA	AS	NC	Q,MT			Max shutting time shall be 5 seconds.
7. CV-2211	2	C-2		X				1	GA	AS	NO	Q,MT			
8. CV-2212	2	C-2		X				1	GA	AS	NO	Q,MT			
9. SV-2219	2	C-4		X				1	GL	S	NC	Q	X	NONE	Valve operability verified by proper system operation.
10. PSV-2223	2	C-3			X			1¼	REL	SA	NC	SRV			

SYSTEM NAME: HPCI - Steam Side

P&ID#: M-122

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
11. V-22-24	2	B-3			X			2	CK	SA	NO	CV			Check valve operability verified by observing that HPCI system performs properly.
12. V-22-28	2	B-4			X			2	CK	SA	NO	CV			Check valve operability verified by observing that the HPCI system performs properly.
13. PSV-2228	2	C-4			X			1	REL	SA	NC	SRV			
14. MO-2247	2	D-5		X				2	GL	MO	NC	Q,MT			
15. V-22-21	2	B-7	X		X			2	CK	SA	NO	CV,LT	X	CS	Tested using 54# N_2 or air using flow meter to determine leakage amount.

SYSTEM NAME: HPCI - Steam Side

P&ID#: M-122

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
16. V-22-16	2	B-7	X		X			16	CK	SA	NO	CV,LT	X	CS	Tested using 54# N_2 or air using flow meter to determine leakage amount.
17. V-22-60	2	B-8					X	2	GA	M	LO	ET			
18. MO-2290A	2	B-8	X					2	GA	MO	NO	Q,MT, LT			Tested using 54# N_2 or air using flow meter to determine leakage amount.
19. MO-2290B	2	B-8	X					2	GA	MO	NO	Q,MT, LT			Tested using 54# N_2 or air using flow meter to determine leakage amount.
20. V-22-17	2	B-7				X	X	16	SCK	SA	NO	CV,ET			Valve operability verified by observir that the HPCI system performs properly

SYSTEM NAME: HPCI - Steam Side

P&ID#: M-122

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
21. V-22-54	2	C-4					X	1	GL	M	LO	ET			
22. V-22-55	2	D-5					X	2	GA	M	LO	ET			
23. V-22-62	2	C-7					X	2	GA	M	LO	ET			
24. V-22-65	2	C-8					X	2	GL	M	LO	ET			
25. V-22-26	2	B-3			X			2	CK	SA	NO	CV			Check valve operability verified by observing that the HPCI system performs properly.

SYSTEM NAME: HPCI - Steam Side

P&ID#: M-122

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
26. V-22-29	2	B-5			X			2	CK	SA	NO	CV			Check valve operability verified by observing proper operation of the HPCI system.
27. V-22-63	2	B-8			X			3	CK	SA	NO	CV	X	CS	Check valve operability verified by proper operation of the HPCI system.
28. V-22-64	2	B-8			X			3	CK	SA	NO	CV	X	CS	Check valve operability verified by proper operation of the HPCI system.

SYSTEM NAME: HPCI - Water Side

P&ID#: M-123

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. CV-2313	1	C-7			X			12	CK	AS	NO	CV	X	CS	
2. MO-2312	2	C-7	X					12	GA	MO	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 20 seconds
3. MO-2311	2	C-6		X				12	GA	MO	NO	Q MT			To be determined
4. MO-2315	2	D-6		X				8	GL	MO	NC	Q MT			To be determined
5. MO-2316	2	E-6		X				8	GA	MO	NC	Q MT			To be determined

SYSTEM NAME: HPCI - Water Side

P&ID#: M-123

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. V-23-14	2	C-4			X			4	CK	SA	NO	CV			Check valve operability verified by observing normal operation of the HPCI system (i.e., flow rate and pressure).
7. MO-2318	2	C-5		X				4	GL	MO	NC	O,MT			
8. MO-2321	2	A-7		X				14	GA	MO	NC	O,MT, PI			
9. MO-2322	2	F-4		X				14	GA	MO	NC	O,MT			
10. MO-2300	2	F-4		X				14	GA	MO	NO	O,MT			

SYSTEM NAME: HPCI - Water Side

P&ID#: M-123

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
11. V-23-4	2	F-4			X			14	CK	SA	NO	CV			Check valve operability verified by observing normal operation (flow rate and pressure) of the HPCI system.
12. PSV-2301	2	F-3			X			1½	REL	SA	NC	SRV			

SYSTEM NAME: HPCI - Water Side

P&ID#: M-123

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
13. V-23-1	2	A-6			X			14	CK	SA	NC	CV	X	RR	

SYSTEM NAME: RCIC - Steam Side

P&ID#: M-124

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. MO-2401	1	G-5	X					4	GA	MO	NO	Q,MT, LT			Tested using 54# air or N_2 using flow meter to determine leakage amount.
2. MO-2400	1	G-6	X					4	GA	MO	NO	Q,MT, LT,PI			Tested using 54# N_2 or air using flow meter to determine leakage amount.
3. MO-2404	2	G-3		X				4	GL	MO	NC	Q,MT			
4. MO-2405	2	F-3		X				3	GA	MO	NO	Q,MT			
5. HV-2406	2	F-4		X				3	ANG	H	NO	Q,MT	X		Partial stroke during operation only. Turbine to be rated speed in < 25 seconds.

SYSTEM NAME: RCIC - Steam Side

P&ID#: M-124

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. CV-2411	2	D-3		X				1	GA	AS	NO	Q,MT			Maximum operating time shall be 5 seconds.
7. CV-2410	2	D-3		X				1	GA	AS	NO	Q,MT			Maximum operating time shall be 5 seconds.
8. PSV-2474	2	C-3			X			1¼	REL	SA	NC	SRV			

SYSTEM NAME: RCIC- Steam Side

P&ID#: M-124

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
9. MO-2426	2	D-6		X				2	GL	MO	NC	Q,MT			
10. V-24-9	2	B-3			X			1¼	CK	SA	NO	CV			Check valve operability verified by proper operation of RCIC system.
11. V-24-10	2	B-4			X			1¼	CK	SA	NO	CV			Check valve operability verified by proper operation of RCIC system.
12. V-24-12	2	C-6			X			2	CK	SA	NO	CV			Check valve operability verified by proper operation of RCIC system.
13. CV-2435	2	B-5		X				1	GA	AS	NC	Q,MT			Maximum operating time shall be 5 seconds.

SYSTEM NAME: RCIC - Steam Side

P&ID#: M-124

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
14. CV-2436	2	B-5		X				1	GA	AS	NO	Q,MT			Maximum operating time shall be 5 seconds.
15. V-24-8	2	D-7			X		X	10	SCK	M	LO	CV,ET			Valve operability verified by observing proper operation of the RCIC system.
16. V-24-51	2	D-7					X	2	GL	M	LO	ET			
17. V-24-23	2	D-7	X		X			10	CK	SA	NO	CV,LT	X	CS	Tested using 54# N_2 or air using flow meter to determine leakage amount.

SYSTEM NAME: RCIC - Steam Side

P&ID#: M-124

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
18. V-24-41	2	D-6					X	2	GL	M	LO	ET			
19. V-24-45	2	D-7					X	2	GA	M	LO	ET			
20. V-24-46	2	D-7			X			2	CK	SA	NO	CV	X	CS	Check valve operability verified by observing proper operation of the RCIC system.
21. V-24-47	2	D-7			X			2	CK	SA	NO	CV	X	CS	Check valve operability verified by observing proper operation of the RCIC system.
22. CV-2409	2	E-2		X				1	GA	AS	NC	Q,MT			Maximum operating time shall be 5 seconds.

SYSTEM NAME: RCIC - Water Side

P&ID#: M-125

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. CV-2513	1	D-6			X			4	CK	AS	NO	CV	X	CS	
2. MO-2512	2	D-5	X					4	GA	MO	NC	Q,MT, LT			Tested using 54# N_2 or air using flow meter to determine leakage amount.
3. MO-2511	2	D-5		X				4	GA	MO	NO	Q,MT			
4. MO-2515	2	E-5		X				4	GL	MO	NC	Q,MT			
5. V-25-03	2	F-4			X			6	CK	SA	NO	CV			Check valve operability verified by normal operation of the RCIC system.

SYSTEM NAME: RCIC - Water Side

P&ID#: M-125

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. V-25-06	2	C-4			X			2	CK	SA	NO	CV			Check valve operability verified by observing normal RCIC system operation (normal flow rate and ΔP).
7. PSV-2501	2	E-4			X			1	REL	SA	NC	SRV			
8. MO-2517	2	F-4		X				6	GA	MO	NC	Q,MT			
9. MO-2500	2	F-4		X				6	GA	MO	NC	Q,MT			

SYSTEM NAME: RCIC- Water Side

P&ID#: M-125

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
10. MO-2510	2	C-4		X				2	GL	MO	NC	Q MT			To be determined
11. MO-2516	2	A-5		X				6	GA	MO	NC	Q MT PI			To be determined

SYSTEM NAME: RCIC - Water Side

P&ID#: M-125

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
12. V-25-02	2	E-4					X	6	GA	M	LO	ET			
13. V-25-29	2	C-4					X	2	GL	M	LO	ET			
14. V-25-01	2	A-5			X			6	CK	SA	NC	CV	X	RR	

SYSTEM NAME: Stand-by Liquid Control System

P&ID#: M-126

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. V-26-01	2	F-3					X	3	GA	M	LO	ET			
2. ZS-2615	2	D-8					X	1½	GA	M	LO	ET			
3. PSV-2607	2	E-5			X			1	REL	SA	NC	SRV			
4. PSV-2609	2	B-5			X			1	REL	SA	NC	SRV			
5. V-26-08	1	F-7			X			1½	CK	SA	NO	Q	X	RR	

SYSTEM NAME: Stand-by Liquid Control System

P&ID#: M-126

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. V-26-09	1	D-8			X			1½	CK	SA	NO	CV	X	RR	
7. XS-2618A	2	F-6				X		1½	GA	EXP	NC	DT			
8. XS-2618B	2	D-6				X		1½	GA	EXP	NC	DT			

SYSTEM NAME: Stand-by Liquid Control System

P&ID#: M-126

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
9. V-26-04	2	D-5			X			1½	CK	SA	NO	CV			Check valve operability verified by normal system operation.
10. V-26-06	2	C-5			X			1½	CK	SA	NO	CV			Check valve operability verified by normal system operation.
11. V-26-02	2	D-5					X	3	GA	M	LO	ET			
12. V-26-03	2	C-5					X	3	GA	M	LO	ET			
13. V-26-05	2	D-5					X	1½	GA	M	LO	ET			

SYSTEM NAME: Stand-by Liquid Control System

P&ID#: M-126

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
14. V-26-07	2	C-5					X	1½	GA	M	LO	ET			
15. V-26-16	2	F-6					X	1½	GL	M	LC	ET			
16. V-26-18	2	D-4					X	3	GA	M	LC	ET			
17. V-26-19	2	E-6					X	3/4	GA	M	LC	ET			
18. V-26-21	2	C-4					X	1	GA	M	LC	ET			

SYSTEM NAME: Reactor Water Cleanup System

P&ID#: M-127

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. MO-2700	1	F-8	X					4	GA	MO	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 20 seconds
2. MO-2701	1	F-7	X					4	GA	MO	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 20 seconds
3. MO-2740	1	G-4	X					4	GL	MO	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 10 seconds

SYSTEM NAME: Radwaste Sump System

P&ID#: M-137

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. CV-3704	3	H-7	X					3	GA	AS	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 4 seconds
2. CV-3705	3	H-7	X					3	GA	AS	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 4 seconds
3. CV-3728	3	D-6	X					3	GA	AS	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 4 seconds
4. CV-3729	3	D-6	X					3	GA	AS	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 4 seconds

SYSTEM NAME: Containment Atmosphere Control System

P&ID#: M-143

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. CV-4304	2	B-7	X					20	BF	AS	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
2. CV-4305	2	B-7	X					20	BF	AS	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
3. CV-4300	2	C-7	X					18	BF	AS	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 5 seconds
4. CV-4301	2	C-8	X					18	BF	AS	C	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 5 seconds
5. CV-4302	2	D-7	X					18	BF	AS	C	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 5 seconds

SYSTEM NAME: Containment Atmosphere Control System

P&ID#: M-143

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. CV-4303	2	D-7	X					18	BF	AS	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 5 seconds
7. CV-4306	2	E-1	X					18	BF	AS	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 5 seconds
8. CV-4307	2	E-3	X					18	BF	AS	C	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 5 seconds
9. CV-4308	2	E-3	X					18	BF	AS	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 5 seconds
10. V-43-168	2	A-7	X		X			20	REL	SA	NC	CV LT			(Vacuum Breaker) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount

SYSTEM NAME: Containment Atmosphere Control System

P&ID#: M-143

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
11. V-43-169	2	A-7	X		X			20	REL	SA	NC	CV LT			(Vacuum Breaker) Tested using 54 lbs. N_2/air using flow meter to determine leakage amount
12. CV-4310	2	D-7	X					2	GA	AS	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 5 seconds
13. CV-4309	2	D-7	X					2	GA	AS	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 5 seconds
14. CV-4378A	2	E-5	X					2	GA	AS	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 25 seconds
15. CV-4378B	2	E-5	X					2	GA	AS	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount Maximum of 25 seconds

SYSTEM NAME: Containment Atmosphere Control System

P&ID#: M-143

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
16. CV-4371A	2	E-5	X					2	GA	AS	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
17. CV-4371B	2	F-4	X					2	GA	AS	NO	LT MT Q			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
18. CV-4371C	2	F-5	X					2	GA	AS	NO	LT MT Q			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
19. CV-4311	2	F-3	X					6	GA	AS	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
20. CV-4312	2	F-3	X					6	GA	AS	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined

SYSTEM NAME: Containment Atmosphere Control System

P&ID#: M-143

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
21. CV-4313	2	F-3	X					6	GA	AS	NC	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
22. MO-4323A	2	B-3		X				2	GL	MO	NC	Q MT			To be determined
23. MO-4323B	2	B-4		X				2	GL	MO	NC	Q MT			To be determined
24. MO-4320A	2	C-3		X				2	GA	MO	NC	Q MT			To be determined
25. MO-4320B	2	C-4		X				2	GA	MO	NC	Q MT			To be determined

SYSTEM NAME: Containment Atmosphere Control System

P&ID#: M-143

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
26. CV-4327A	2	C-7			X			1	CK	AS	NC	CV			
27. CV-4327B	2	C-7			X			1	CK	AS	NC	CV			
28. CV-4327C	2	C-7			X			1	CK	AS	NC	CV			
29. CV-4327D	2	C-7			X			1	CK	AS	NC	CV			
30. CV-4327F	2	C-7			X			1	CK	AS	NC	CV			

SYSTEM NAME: Containment Atmosphere Control System

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P&ID#: M-143

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
31. CV-4327G	2	C-7			X			1	CK	AS	NC	CV			
32. CV-4327H	2	C-7			X			1	CK	AS	NC	CV			
33. SV-4331A	2	C-2	X					2	GA	S	NC	Q,MT, LT			
34. SV-4331B	2	C-2	X					2	GA	S	NC	Q,MT, LT			
35. SV-4332A	2	C-2	X					2	GA	S	NC	Q,MT, LT			
36. SV-4332B	2	C-2	X					2	GA	S	NC	Q,MT, LT			
37. SV-4333A	2	C-2	X					2	GA	S	NC	Q,MT, LT			
38. SV-4333B	2	C-2	X					2	GA	S	NC	Q,MT LT			
39. SV-4334A	2	B-2	X					2	GA	S	NC	Q,MT, LT			
40. SV-4334B	2	B-2	X					2	GA	S	NC	Q,MT, LT			

SYSTEM NAME: Drywell Cooling Water System

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P&ID#: M-157

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. CV-5704A	2	H-6	X					4	GL	AS	NO	LT Q MT	X	RR	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
2. CV-5704B	2	H-6	X					4	GL	AS	NO	LT Q MT	X	RR	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
3. CV-5703A	2	G-7	X					3	GL	AS	NC	LT Q MT	X	RR	Tested using 54 lbs N_2/air using flow meter to determine leakage amount To be determined
4. CV-5703B	2	F-7	X					3	GL	AS	NC	LT Q MT	X	RR	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
5. CV-5718A	2	B-8	X					4	GL	AS	NO	LT Q MT	X	RR	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined

SYSTEM NAME: Drywell Cooling Water System

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P&ID#: M-157

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
6. CV-5718B	2	A-8	X					4	GL	AS	NO	LT Q MT	X	RR	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
7. CV-5719A	2	B-7	X					3	GL	AS	NC	LT Q MT	X	RR	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined
8. CV-5719B	2	A-7	X					3	GL	AS	NC	LT Q MT	X	RR	Tested using 54 lbs. N_2/air using flow meter to determine leakage amount To be determined

SYSTEM NAME: Containment Atmosphere Monitoring System

P&ID#: M-181

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
SV-8101 A & B through SV-8110 A & B (Total of 20 valves)	2	G-5/F-4 D-5/D-4	X					1	GA	S	NO	LT Q MT			Tested using 54 lbs. N_2/air using flow meter to determine leakage amount

SYSTEM NAME: MSIV Leakage Control

P&ID#: M-184

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
MO-8401 A, B, C & D	2	F-3/4		X				2	GA	MO	NC	Q MT			To be determined
MO-8402 A, B, C & D	2	F-3/4		X				2	GA	MO	NC	Q MT			To be determined
MO-8403 A, B, C & D	2	F-3/4		X				2	GA	MO	NC	Q MT			To be determined

SYSTEM NAME: Excess Flow Check Valves

P&ID#: Various

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
XFV-2119	1/2	Various			X			Var.	XFV	SA	NO	CV	X	RR	
2139															
2246 A															
2246 B															
2246 C															
2246 D															
2443 A															
2443 B															
2443 C															
2443 D															
4453 A															
4453 B															
4454 A															
4454 B															
4455 A															
4455 B															
4457 A															
4457 B															
4458 A															

SYSTEM NAME: Excess Flow Check Valves

P&ID#: Various

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
XFV-4458 B	1/2	Various			X			Var.	XFV	SA	NO	CV	X	RR	
4459 A															
4459 B															
4460 A															
4460 B															
4501 A															
4501 B															
4503 A															
4503 B															
4504 A															
4504 B															
4505 A															
4505 B															
4506 A															
4506 B															
4510 A															
4510 B															
4511 A															
4511 B															

SYSTEM NAME: Excess Flow Check Valves

P&ID#: Various

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
XFV-4518	1/2	Various			X			Var.	XFV	SA	NO	CV	X	RR	
4519															
4528															
4562															
4578															
4579															
4580															
4581															
4582															
4583															
4584															
4585															
4586															
4587															
4588															
4589															
4590															
4591															
4637															

SYSTEM NAME: Excess Flow Check Valves

P&ID#: Various M-114, M-116

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
XFV 4607	1/2	Various			X			Var.	XFV	SA	NO	CV	X	RR	
4608		A-5													
4611															
4612															
4637		E-6													
4456 A		C-3													
4456 B															

SYSTEM NAME: Excess Flow Check Valves

P&ID#: Various

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
XFV-4638	1/2	Various			X			Var.	XFV	SA	NO	CV	X	RR	
4641 A															
4641 B															
4642 A															
4642 B															
4643 A															
4643 B															
4644 A															
4644 B															
4663															
4664															
4665															
4666															
4667															
4668															
4669															
4670															
4671															
4672															

SYSTEM NAME: Excess Flow Check Valves

P&ID#: Various

Valve Number	Class	Coordinates	Valve Category (ASME)					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
			A	B	C	D	E								
XFV-4673	1/2	Various			X			Var.	XFV	SA	NO	CV	X	RR	
4674															
4675															
4676															
4677															
4678															
4679															
4680															
4681															
4682															

SYSTEM NAME: Diesel Generator Systems

P&ID#: M-132

Valve Number	Class	Coordinates	Valve Category (ASME) A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	Remarks
1. V-32-6	2	B-3					X	1½	GA	M	LO	ET			
2. V-32-7	2	C-4					X	1½	GA	M	LO	ET			
3. V-32-11	2	B-2					X	1½	GA	M	LO	ET			
4. V-32-12	2	F-4					X	1½	GA	M	LO	ET			
5. V-32-05	2	B-3			X			1½	CK	SA	NO	CV			Check valve operability verified by normal operation of diesel fuel oil system.
6. V-32-10	2	B-2			X			1½	CK	SA	NO	CV			Check valve operability verified by normal operation of diesel fuel oil system.

B. REQUESTS AND JUSTIFICATIONS FOR TESTING RELIEF

RELIEF REQUEST BASIS

System: Reactor Building Closed Cooling Water

1.	Valve:	MO-4841A
	Category:	A
	Class:	2
	Function:	Cooling water return containment isolation valve.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT)
	Basis for Relief:	To test this valve would cause interruption of the supply of cooling water to the reactor recirculation pump's motor cooling coils. Should this valve then fail in the shut position, cooling water could not be resupplied to the coils. This would then require that the recirculation pump be tripped (stopped) to avoid motor damage. This would then cause a severe circulation water flow and pressure transient in the reactor, probably resulting in a reactor SCRAM.
	Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages. (CS,RR)
2.	Valve:	MO-4841B
	Category:	A
	Class:	2
	Function:	Cooling water supply containment isolatio valve.
	Test Requirement:	Exercise valve (full stroke) for operabil ity every three (3) months. Time the operability. (Q,MT)
	Basis for Relief:	To test this valve would cause interruption of the supply of cooling water to the reactor recirculation pump's motor cooling coils. Should this valve then fail in the shut position, cooling water could not be resupplied to the coils. This would then require that the recirculation pump be tripped (stopp to avoid motor damage. This would then cause a severe circulation water flow and pressure transient in the reactor, probably resulting in a reactor SCRAM.
	Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages (CS,RR).

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RELIEF REQUEST BASIS

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RELIEF REQUEST BASIS

System: Nuclear Boiler System

1.	Valve:	MO-4441
	Category:	C
	Class:	1
	Function:	Reactor feed water containment isolation.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability. (Q,MT).
	Basis for Relief:	Exercising this valve would shut-off feed water flow through its line. When feed water is restored (ie, the valve reopened) the line's feed water nozzles and feed water spargers would undergo a severe thermal shock. This shock can cause cracking and possible failure of the sparger and nozzles.
	Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages. (CS,RR).
2.	Valve:	MO-4442
	Category:	C
	Class:	1
	Function:	Reactor feed water containment isolation.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	Exercising this valve would shut off feed water flow through its line. When feed water is restored (ie, the valve reopened) the line's feed water nozzles and feed water spargers would undergo a severe thermal shock. This shock can cause cracking in, and possible failure of, the sparger and nozzles.
	Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: Nuclear Boiler System (Cont.)

3.

Valve:	V-14-1
Category:	A/C
Class:	1
Function:	Prevent back flow and back pressure from the reactor vessel to the feed water header when feed water pressure is less than that of the reactor vessel.
Test Requirement:	Exercise valve every three (3) months (CV).
Basis for Relief:	This valve must be shut to fulfill the requirements of its testing category (CV). Shutting this valve would shut off feed water flow thru its line. When feed water is restored, (ie, the valve reopened), the line's feed water nozzles and feed water spargers would undergo a severe thermal shock. This shock can cause cracking in, and possible failure of, the sparger and nozzles. The only practical means to verify valve closure is by conducting a leak rate test. Leak rate tests are beyond the scope of normal cold shutdown testing, but are routinely performed during refueling outages.
Alternate Testing:	Exercize valve for operability each refueling outage (RR).

System: Nuclear Boiler System (Cont.)

4.	Valve:	V-14-3
	Category:	A/C
	Class:	1
	Function:	Prevent back flow and back pressure from the reactor vessel to the feed water header when feed water pressure is less than that of the reactor vessel.
	Test Requirement:	Exercise valve every three (3) months (CV
	Basis for Relief:	This valve must be shut to fulfill the requirements of its testing category (CV) Shutting this valve would shut off feed water flow thru its line. When feed water is restored, (ie, the valve reopened), the line's feed water nozzles and feed water spargers would undergo a severe thermal shock. This shock can cause cracking in, and possible failure of, the sparger and nozzles. The only practical means to verify valve closure is by conducting a leak rate test. Leak rate tests are beyond the scope of normal cold shutdown testing, but are routinely performed during refueling outages.
	Alternate Testing:	Exercise valve for operability each refueling outage (RR).

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RELIEF REQUEST BASIS

System: Reactor Recirculation System

1.

Valve:	MO-4627
Category:	B
Class:	1
Function:	Reactor recirculation pump discharge isolation valve.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
Basis for Relief:	To test this valve would shut off all recirculation water flow in that loop, and, due to an electrical interlock, trip the associated recirculation pump. This would cause a severe circulation water flow and pressure transient in the reactor, probably resulting in a reactor SCRAM.
Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages (CS,RR).

2.

Valve:	MO-4628
Category:	B
Class:	1
Function:	Reactor recirculation pump discharge isolation valve.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
Basis for Relief:	To test this valve would shut off all recirculation water flow in that loop, and, due to an electrical interlock, trip the associated recirculation pump. This would cause a severe circulation water flow and pressure transient in the reactor, probably resulting in a reactor SCRAM.
Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: Reactor Recirculation System (Cont)

3.

Valve:	MO-4629
Category:	B
Class:	1
Function:	Reactor recirculation pump discharge bypass valve.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months (Q).
Basis for Relief:	This valve is normally shut during reactor operation, allowing stagnant water in the associated bypass line to cool. Cycling this valve during reactor operation would severely thermal shock the bypass line and connecting weld joints. This valve could be safely cycled during each cold shutdown since the recirculation loop and bypass line temperatures are essentially equalized.
Alternate Testing:	Exercise valve for operability during cold shutdowns (CS).

4.

Valve:	MO-4630
Category:	B
Class:	1
Function:	Reactor recirculation pump discharge bypass valve.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months (Q).
Basis for Relief:	This valve is normally shut during reactor operation, allowing stagnant water in the associated bypass line to cool. Cycling this valve during reactor operation would severely thermal shock the bypass line and connecting weld joints. This valve could be safely cycled during each cold shutdown since the recirculation loop and bypass line temperatures are essentially equalized.
Alternate Testing:	Exercise valve for operability during cold shutdowns (CS).

System: Reactor Recirculation System (Cont.)

5.	Valve:	MO-4601
	Category:	B
	Class:	1
	Function:	Reactor recirculation pump suction isolation valve.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	To test this valve would shut off all recirculation water flow in that loop, and, due to an electrical interlock, trip the associated recirculation pump. This would cause a circulation water flow and pressure transient in the reactor, probably resulting in a reactor SCRAM.
	Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages (CS,RR).
6.	Valve:	MO-4602
	Category:	B
	Class:	1
	Function:	Reactor recirculation pump suction isolation valve.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability. (Q,MT)
	Basis for Relief:	To test this valve would shut off all recirculation water flow in that loop, and, due to an electrical interlock, trip the associated recirculation pump. This would cause a circulation water flow and pressure transient in the reactor, probably resulting in a reactor SCRAM.
	Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

System: Control Rod Drive Hydraulic System

1.

Valve:	V-17-83
Category:	A/C
Class:	1
Function:	Prevent backflow thru the reactor recirculation pump seal purge line. Also functions as a reactor containment isolation valve.
Test Requirement:	Exercise valve every three (3) months (CV).
Basis for Relief:	This valve can not be remotely operated. As it is located inside the containment structure, it is not accessible for testing during reactor operation. Additionally, the reactor containment is inerted with nitrogen during plant operation and is not routinely entered during cold shutdowns. Deinerting and then reinerting of the containment atmosphere each cold shutdown solely for the purpose of conducting valve testing would represent an extreme operational burden. Exercising these valves by utilizing outside drywell test lines would require venting the reactor recirculation pumps, which would, again, require containment entry. These valves can be exercised shut during leak rate testing performed during refueling outages.
Alternate Testing:	Exercise valve for operability during each refueling outage (RR).

RELIEF REQUEST BASIS

D E L E T E D

System: Control Rod Drive Hydraulic System (Cont.)

2.

Valve:	V-17-96
Category:	A/C
Class:	1
Function:	Prevent back flow thru the reactor recirculation pump seal purge line. Also functions as a reactor containment isolation valve.
Test Requirement:	Exercise valve every three (3) months (CV).
Basis for Relief:	This valve can not be remotely operated. As it is located inside the containment structure, it is not accessible for testing during reactor operation. Additionally, the reactor containment is inerted with nitrogen during plant operation and it is not routinely entered during cold shutdowns. Deinerting and then reinerting of the containment atmosphere each cold shutdown solely for the purpose of conducting valve testing would represent an extreme operational burden. Exercising these valves by utilizing outside drywell lines would require venting the reactor recirculation pumps, which would, again, require containment entry. These valves can be exercised shut during leak rate testing performed during refueling outages.
Alternate Testing:	Exercise valve for operability during each refueling outage (RR).

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

D E L E T E D

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RELIEF REQUEST BASIS

D E L E T E D

System: Control Rod Drive Hydraulic System (Cont.)

5.

Valve:	CV-1849
Category:	B
Class:	1
Function:	Typical of 89 scram supply header isolation control (scram) valves.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months (Q).
Basis for Relief:	a. Testing of these valves during reactor operation would cause the associated rod to scram. b. Testing of 89 valves each cold shutdown would require excessive shutdown time solely to accomplish testing.
Alternate Testing:	Exercise valve for operability during individual control rod scram timing.

RELIEF REQUEST BASIS

System: Control Rod Drive Hydraulic System (Cont.)

6.

Valve:	CV-1850
Category:	B
Class:	1
Function:	Typical of 89 scram discharge header isolation control (scram) valves.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months (Q).
Basis for Relief:	a. Testing of these valves during reactor operation would cause the associated rod to scram. b. Testing of 89 valves each cold shutdown would require excessive shutdown time solely to accomplish testing.
Alternate Testing:	Exercise valve for operability during individual control rod scram timing.

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

System: RHR System

1.	Valve:	MO-1908
	Category:	A
	Class:	1
	Function:	RHR long term cooldown isolation.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months (Q).
	Basis for Relief:	This valve is interlocked to remain closed if reactor vessel pressure is greater than 135#; therefore, this valve cannot be tested during normal plant operation. Pressure would be less than 135# in cold shutdown, allowing the valve to be tested at that time.
	Alternate Testing:	Exercise valve for operability during cold shutdowns (CS).
2.	Valve:	MO-1909
	Category:	A
	Class:	2
	Function:	RHR long term cooldown isolation.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months (Q).
	Basis for Relief:	This valve is interlocked to remain closed if reactor vessel pressure is greater than 135#; therefore, this valve cannot be tested during normal plant operation. Pressure would be less than 135# in cold shutdown, allowing the valve to be tested at that time.
	Alternate Testing:	Exercise valve for operability during cold shutdowns (CS).

RELIEF REQUEST BASIS

System: RHR System (Cont.)

3.	Valve:	MO-1900
	Category:	A
	Class:	1
	Function:	Outboard head spray isolation valve.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	This valve's motor operator is interlocked with reactor pressure to prevent the valve from opening when reactor pressure is > 135 psig. Thus, the valve can not be operated with the reactor plant on line or in hot stand-by.
	Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages (CS,RR).
4.	Valve:	MO-1901
	Category:	A
	Class:	1
	Function:	Inboard head spray isolation valve.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	This valve's motor operator is interlocked with reactor pressure to prevent the valve from opening when reactor pressure is > 135 psig. Thus, the valve can not be operated with the reactor plant on line, or in hot stand-by.
	Alternate Testing:	Exercise valve for operability and time it during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: RHR System (Cont.)

5.	Valve:	CV-1906
	Category:	C
	Class:	2
	Function:	'B' Side RHR testable check valve.
	Test Requirement:	Exercise valve every three (3) months (CV)
	Basis for Relief:	The air solenoid that operates this valve can not open the valve if the reactor coolant system is pressurized. As such, the valve can not be operated when the reactor is on line or in hot stand-by.
	Alternate Testing:	Exercise the valve to prove operability during cold shutdowns and refueling outages (CS,RR).
6.	Valve:	MO-1904
	Category:	B
	Class:	1
	Function:	Inboard LPCI injection valve.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	LPCI logic system in this plant is set up with the 'B' loop prefered (ie, if the leak detection system can not figure out where a pipe break has occurred, water will be injected into the 'B' recirculation water loop via these LPCI valves). As such, if during exercising this valve, should it fail in the shut position, the entire LPCI system would become inoperable. Thus, operation of this valve on line would represent an excessive operating burden.
	Alternate Testing:	Exercise the valve for operability and time it during cold shutdowns and refueling outages (CS,RR)

RELIEF REQUEST BASIS

System: RHR System (Cont.)

7.	Valve:	MO-1905
	Category:	B
	Class:	1
	Function:	Outboard LPCI injection valve.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	LPCI logic system in this plant is set up with the 'B' loop preferred (ie, if the leak detection system can not figure out where a pipe break has occurred water will be injected into the 'B' recirculation water loop via these LPCI valves.) As such, if during exercising this valve, should it fail in the shut position, the entire LPCI system would become inoperable. Thus, operation of this valve on line would represent an excessive operating burden.
	Alternate Testing:	Exercise the valve for operability and time it during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

System:	RHR System (Cont.)	
8.	Valve:	CV-2002
	Category:	C
	Class:	2
	Function:	'A' Side RHR testable check valve.
	Test Requirement:	Exercise valve every three (3) months (CV
	Basis for Relief:	The air solenoid that operates this valve can not open the valve if the reactor coolant system is pressurized. As such, the valve can not be operated when the reactor is on line or in hot stand-by.
	Alternate Testing:	Exercise the valve to prove operability during cold shutdowns and refueling outages (CS, RR).

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

System: Core Spray System

1.

Valve:	CV-2118
Category:	C
Class:	1
Function:	Prevents back flow/ back pressure from the reactor vessel into the core spray system piping.
Test Requirements:	Exercise valve every three (3) months (CV)
Basis for Relief:	The air solenoid which operates this valve can not open the valve if the reactor coolant system is pressurized. Additionally, the core spray pumps can not develop enough pressure to open the valve with the RCS pressurized, either. As such, the valve can not be opened with the reactor on line or in hot stand-by.
Alternate Testing:	Exercise the valve for operability during cold shutdown.

RELIEF REQUEST BASIS

System:	Core Spray System (Cont.)	
2.	Valve:	CV-2138
	Category:	C
	Class:	1
	Function:	Prevents backflow/back pressure from the reactor vessel into the core spray syste piping.
	Test Requirements:	Exercise valve every three (3) months (CV)
	Basis for Relief:	The air solenoid which operates this valve can not open the valve if the reactor coolant system is pressurized. Additionally, the core spray pumps can not develop enough pressure to open the valve with the RCS pressurized, either. As such, the valve can not be opened wit the reactor on line, or in hot stand-by.
	Alternate Testing:	Exercise the valve for operability durin cold shutdown.

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

System: HPCI - Steam Side

1.	Valve:	MO-2239
	Category:	A
	Class:	1
	Function:	Outboard HPCI Steam Supply Valve.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	This valve is normally open. Should it fail in the shut position during testing, the entire HPCI system would become inoperable. As such, the valve should not be exercised with the reactor on line or in hot stand-by (ie, whenever the HPCI system would be required.)
	Alternate Testing:	Exercise the valve for operability and time it during cold shutdowns and refueling outages (CS,RR).
2.	Valve:	MO-2238
	Category:	A
	Class:	1
	Functon:	Inboard HPCI steam supply valve.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	This valve is normally open. Should it fail in the shut position during testing, the entire HPCI system would become inoperable. As such, the valve should not be exercised with the reactor on line or in hot stand-by (ie, whenever the HPCI system would be required.)
	Alternate Testing:	Exercise the valve for operability and time it during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: HPCI - Steam side (Cont.)

3.

Valve:	SV-2219
Category:	B
Class:	2
Function:	HPCI Steam drain pot level control valve.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
Basis for Relief:	This valve has no separate handswitch to operate it, but is operated automatically by a local controller. Also, it does not have any indication lights. As such, the valve can not be directly operated to verify operability. However, during HPCI operation, indirect verification of its operability can be made by observi that the HPCI Drain Pot High Level Alarm comes in and then goes back out. This would mean the valve is actually opening and closing as required to maintain proper drain pot level. Stroke timing, however, can not be done.
Alternate Testing:	Verify valve operability in the manner described above.

RELIEF REQUEST BASIS

System: HPCI Steam Side (Cont.)

4.

Valve:	V-22-21
Category:	A/C
Class:	2
Function:	Outboard Drain Pot Drain Line Check Valve
Test Requirement:	Exercise valve every three (3) months (CV
Basis for Relief:	Testing of this valve requires use of the leakage test valves downstream of it, and the shutting of stop check valve V-22-22. For the safety of the test personnel, then, the steam supply valve (MO-2238) must be shut for the duration of the test (HPCI initiation with V-22-22 shut would blow steam rupture discs in the HPCI Room and blow steam out an open leakage test valve, so endangering test personnel.) This would then require declaring the HPCI system inoperable for the duration of the test, which, just for the sake of testing this one check valve, would impose an excessive burden on plant operation.
Alternate Testing:	Exercise the valve during cold shutdowns (C

RELIEF REQUEST BASIS

System: HPCI - Steam side (Cont.)

5.

Valve:	V-22-16
Category:	A/C
Class:	2
Function:	Outboard HPCI Steam Line Exhaust Check Valve.
Test Requirement:	Exercise valve every three (3) months (CV
Basis for Relief:	Testing of this valve requires use of the leakage test valves downstream of it, and the shutting of stop check valve V-22-17. For the safety of the test personnel, then, the steam supply valve (MO-2238) must be shut for the duration of the test (HPCI initiation with V-22-17 shut would blow steam rupture discs in the HPCI Room and blow steam out an open leakage test valve, so endangering test personnel.) This would then require declaring the HPCI system inoperable for the duration of the test, which, just for the sake of testing this one check valve, would impose an excessive burden on plant operation.
Alternate Testing:	Exercise valve during cold shutdowns (CS)

RELIEF REQUEST BASIS

System: HPCI - Steam Side (Cont.)

6.

Valve:	V-22-63
Category:	C
Class:	2
Function:	HPCI steam exhaust line vacuum breaker check valve.
Test Requirement:	Exercise valve every three (3) months (cv)
Basis for Relief:	Testing of this valve requires use of leakage test valve V-22-68 downstream of the valve, and the shutting of V-22-62. For the safety of test personnel, then, the steam supply valves of the HPCI system (MO-2338 and -2339) must be shut for the duration of the test (HPCI initiation with V-22-62 shut may cause sucking Torus water back up into the exhaust line, and blow steam out the open leakage test valve, so endangering test personnel.) This, then, would require declaring the HPCI system inoperable for the duration of the test, which, just for the sake of testing this one valve, would impose an excessive burden on plant operation.
Alternate Testing:	Exercise valve during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: HPCI - Steam Side (Cont.)

7.

Valve:	V-22-64
Category:	C
Class:	2
Function:	HPCI Steam exhaust line vacuum breaker check valve.
Test Requirement:	Exercise valve every three (3) months (CV
Basis for Relief:	Testing of this valve requires use of leakage test valve V-22-67 downstream of the valve, and the shutting of V-22-62. For the safety of test personnel, then, the steam supply valves of the HPCI system (MO-2338 and -2339) must be shut for the duration of the test (HPCI initiation with V-22-62 shut may cause sucking Torus water back up into the exhaust line, and blow steam out the open leakage test valve, so endangering test personnel.) This, then, would require declaring the HPCI system inoperable for the duration of the test, which, just for the sake of testing this one valve, would impose an excessive burden on plant operation.
Alternate Testing:	Exercise valve during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: HPCI - Water Side

1.

Valve:	CV-2313
Category:	C
Class:	1
Function:	Prevents backflow/back pressure from the feed water header to HPCI discharge header.
Test Requirements:	Exercise valve every three (3) months (CV)
Basis for Relief:	The air solenoid operator for this valve can not open it when the reactor coolant system is pressurized. The HPCI can of course, develop enough pressure to open the valve. However when the reactor is on line or in hot standby the introduction of cool water would subject the system to a thermal shock and possibly an inadvertent reactivity addition transient.
Alternate Testing:	Exercise the valve for operability during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: HPCI - Water Side

2.

Valve:	V-23-01
Category:	C
Class:	2
Function:	HPCI Torus suction line check valve.
Test Requirement:	Exercise valve every three (3) months (CV
Basis for Relief:	Normal HPCI water supply is from the Condensate Storage Tanks. The valves in the HPCI suction line from the Torus are normally shut. This prevents contaminating the clean HPCI system with the dirty water in the Torus. The entire HPCI system would be contaminated if the HPCI pump were to use the water in the Torus. Also, because the pump discharges to the CST's (which hold reactor grade water), they, too, would become contaminated. As such, to take a suction on the Torus via this line to prove the valve's operability would impose an excessive operating burden on the plant. The only feasible method of verifying this valve's operability is to disassembl it to ensure that it isn't stuck shut, or partially shut. This would necessarily entail that the HPCI pump could not use the Torus as a water supply while the inspection was performed. In order not to deprive the HPCI pump of this supply of water, this inspection should be performed when the HPCI system is not required, i.e., during cold shutdowns or refuelings. Frequent disassembly of the valve (i.e., every cold shutdown) entails the risk of the valve being damaged during assembly/disassembly, or put back together incorrectly.
Alternate Testing:	Disassemble the valve and inspect it to ensure operability every refueling outag (RR).

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

System: RCIC Steam Side

1.

Valve:	HV-2406
Category:	B
Class:	2
Function:	RCIC Steam Governing Valve.
Test Requirement:	Full-stroke exercise the valve every three (3) months (Q).
Basis for Relief:	Position of this valve is controlled by the RCIC Flow Control Circuit. As such, testing of this valve, which could only be done with the system secured, would require the elaborate electrical manipulation of the Flow Control Circuit, which was not designed to afford such manipulation, and, physically, is not readily accessible. Furthermore, testing of this valve would require declaring the RCIC system inoperable since the steam supply valve (MO-240 would have to be shut during testing to prevent the RCIC turbine from running away in the event of an initiation signal with the governor valve fully open. In addition, during normal RCIC turbine operation, the valve is cycled from fully shut to about 80% open, anyway.
Alternate Testing:	Valve operability to be verified by observing that the RCIC turbine attains rated speed within a specific time. This will not then be a full stroke of the valve.

RELIEF REQUEST BASIS

D E L E T E D

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RELIEF REQUEST BASIS

System: RCIC - Steam Side (Cont.)

3.	Valve:	V-24-23
	Category:	C
	Class:	2
	Function:	Outboard RCIC Steam Line Exhaust Check Valve.
	Test Frequency:	Cycle the check valve every three (3) months.
	Basis for Relief:	Testing of this check valve requires use of the leakage test valves, and the shutting of stop check valve V-24-8. For the safety of the test personnel, then, the RCIC steam supply valves (MO-2400 and MO-2401) must be shut for the duration of the test (RCIC initiation with V-24-8 shut would blow steam rupture discs in the RCIC Room and blow steam out an open leakage test valve, so endangering test personnel.) This would then require declaring the RCIC system inoperable during the test, which, just for the sake of testing this one check valve, would impose an excessive burden on plant operation.
	Alternate Testing:	Exercise the valve for operability during cold shutdowns and refueling outages (CS, RR).

RELIEF REQUEST BASIS

System: RCIC - Steam Side (Cont.)

4.

Valve:	V-24-46
Category:	C
Class:	2
Function:	RCIC Steam exhaust line vacuum breaker check valve.
Test Requirement:	Exercise valve every three (3) months(CV)
Basis for Relief:	Testing of this valve requires use of leakage test valve V-24-48 downstream of the valve, and the shutting of V-24-45 For the safety of test personnel, then, the RCIC steam supply valves (MO-2400 and -2401) must be shut for the duration of the test (RCIC initiation with V-24-45 shut may cause sucking Torus water up int the RCIC steam exhaust line, and blow steam out the open leakage test valve, so endangering personnel).This would require declaring the RCIC system inoperable for the duration of the test, which, just for the sake of testing this one valve, would impose an excessive operating burden on the plant.
Alternate Testing:	Exercise valve during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: RCIC - Steam Side (Cont.)

5.

Valve:	V-24-47
Category:	C
Class:	2
Function:	RCIC Steam exhaust line vacuum breaker check valve.
Test Requirement:	Exercise valve every three (3) months (CV
Basis for Relief:	Testing of this valve requires use of leakage test valve V-24-49 downstream of the valve, and the shutting of V-24-45. For the safety of test personnel, then, the RCIC steam supply valves (MO-2400 and -2401) must be shut for the duration of the test (RCIC initiation with V-24-45 shut may cause sucking Torus water up int the RCIC steam exhaust line, and blow steam out the open leakage test valve, so endangering test personnel). This would require declaring the RCIC system inoperable for the duration of the test, which, just for the sake of testing this one valve, would impose an excessive operatin burden on the plant.
Alternate Testing:	Exercise valve during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: RCIC - Water Side

1.

Valve:	CV-2513
Category:	C
Class:	1
Function:	Prevents backflow/back pressure from the reactor vessel to the RCIC system piping.
Test Requirement:	Exercise valve every three (3) months (CV)
Basis for Relief:	The air solenoid operator for this valve can not open it when the reactor coolant system is pressurized. The HPCI can of course, develop enough pressure to open the valve. However when the reactor is on line or in hot standby the introduction of cool water would subject the system to a thermal shock and possibly an inadvertent reactivity addition transient.
Alternate Testing:	Exercise the valve for operability during cold shutdowns and refueling outages (CS,RR).

RELIEF REQUEST BASIS

System: RCIC - Water Side (Cont.)

2.

Valve:	V-25-01
Category:	C
Class:	2
Function:	RCIC Torus suction line check valve.
Test Requirement:	Exercise valve every three (3) months (CV
Basis for Relief:	Normal RCIC water supply is from the Condensate Storage Tanks. The valves in the RCIC suction line from the Torus are normally shut. This prevents contaminating the clean RCIC system with the dirty water in the Torus. The entire RCIC system would be contaminated if the RCIC pump were to use the water in the Torus. Also, because the pump discharges to the CST's (which hold reactor grade water), they, too, would become contaminated. As such, to take a suction on the Torus via this line to prove the valve's operability would impose an excessive operating burden on the plant. The only feasible method of verifying this valve's operability is to disassemble it and inspect it to ensure that it isn't stuck shut, or partially shut. This would necessarily entail that the RCIC pump could not use the Torus as a water supply while the inspection was performed In order not to deprive the RCIC pump of this supply of water for emergencies, this inspection should be performed when the RCIC system is not required, i.e., during cold shutdowns or refuelings. Frequent disassembly of the valve (i.e., every cold shutdown) entails the risk of the valve being damaged during assembl disassembly, or put back together incorrectly.
Alternate Testing:	Disassemble the valve and inspect it to ensure operability every refueling outage (RR).

RELIEF REQUEST BASIS

D E L E T E D

RELIEF REQUEST BASIS

D E L E TE E D

RELIEF REQUEST BASIS

System: Standby Liquid Control System (Cont.)

3.

Valve:	V-26-08
Category:	C
Class:	1
Function:	Prevents backflow/back pressure from the reactor vessel into the Standby Liquid Control System piping.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months (Q).
Basis for Relief:	Testing this valve requires operating th SLCS pumps discharging directly into the reactor vessel, necessitating operation of the explosive system isolation valves This requires draining and flushing the SLCS in order to prevent contaminating the reactor coolant with sodium pentaborate plus the replacement of the explosive isolation valves requires an extensive testing program. The above process takes approximately 2 days to complete and would impose an excessive burden on plant operation.
Alternate Testing:	Exercise valve for operability each refueling (RR).

RELIEF REQUEST BASIS

System: Standby Liquid Control System (Cont)

4.

Valve:	V-26-09
Category:	C
Class:	1
Function:	Prevents backflow/back pressure from the reactor vessel into the Standby Liquid Control System piping.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months (Q).
Basis for Relief:	Testing this valve requires operating the SLCS pumps discharging directly into the reactor vessel, necessitating operation of the explosive system isolation valves. This requires draining and flushing the SLCS in order to prevent contaminating the reactor coolant with sodium pentaborate plus the replacement of the explosive isolation valves requires an extensive testing program. The above process takes approximately 2 days to complete and would impose an excessive burden on plant operation.
Alternate Testing:	Exercise valve for operability each refueling (RR).

RELIEF REQUEST BASIS

System: Drywell Cooling Water

1.

Valve:	CV-5703A
Category:	A
Class:	2
Function:	Drywell cooling water backwash valve
Test Requirement:	Exercise valve (full stroke) for operability every three months. Time the operability (Q,MT).
Basis for Relief:	Failure of this valve to reopen after cycling for testing would cause a partial loss of drywell cooling water which could damage the reactor recirculation pumps and other critical components served since when on line the heat load is more than one loop in the system can handle.
Alternate Testing:	Exercise valve for operability during refuel outages (RR).

RELIEF REQUEST BASIS

System: Drywell Cooling Water

2.

Valve:	CV-5703B
Category:	A
Class:	2
Function:	Drywell cooling water backwash valve
Test Requirement:	Exercise valve (full stroke) for operability every three months. Time the operability (Q,MT).
Basis for Relief:	Failure of this valve to reopen after cycling for testing would cause a partial loss of drywell cooling water which could damage the reactor recirculation pumps and other critical components served since when on line the heat load is more than one loop in the system can handle.
Alternate Testing:	Exercise valve for operability during refuel outages (RR).

RELIEF REQUEST BASIS

System: Drywell Cooling Water

3.

Valve:	CV-5704A
Category:	A
Class:	2
Function:	Drywell cooling water return isolation for containment.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
Basis for Relief:	Failure of this valve to reopen after cycling for testing would cause a partial loss of drywell cooling water which could damage the reactor recirculation pumps and other critical components served since when on line, the heat load is more than one loop in the system can handle.
Alternate Testing:	Exercise valve for operability during refueling outages. (RR).

RELIEF REQUEST BASIS

System: Drywell Cooling Water (Cont.)

4.	Valve:	CV-5704B
	Category:	A
	Class:	2
	Function:	Drywell cooling water return isolation for containment.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief	Failure of this valve to reopen after cycling for testing would cause a partial loss of drywell cooling water which could damage the reactor recirculation pumps and other critical components served since when on line the heat load is more than one loop in the system can handle.
	Alternate Testing:	Exercise valve for operability during refueling outages (RR).

RELIEF REQUEST BASIS

System: Drywell Cooling Water (Cont.)

5.	Valve:	CV-5718A
	Category:	A
	Class:	2
	Function:	Drywell cooling water supply isolation for containment.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	Failure of this valve to reopen after cycling for testing would cause a partial loss of drywell cooling water which could damage the reactor recirculation pumps and other critical components served since when on line the heat load is more than one loop in the system can handle.
	Alternate Testing:	Exercise valve for operability during refueling outages (RR).

RELIEF REQUEST BASIS

System: Drywell Cooling Water (Cont.)

6.	Valve:	CV-5718B
	Category:	A
	Class:	2
	Function:	Drywell cooling water supply isolation for containment.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	Failure of this valve to reopen after cycling for testing would cause a partial loss of drywell cooling water which could damage the reactor recirculation pumps and other critical components served since when on line the heat load is more than one loop in the system can handle.
	Alternate Testing:	Exercise valve for operability during refueling outages (RR).

RELIEF REQUEST BASIS

System: Drywell Cooling Water System (Cont.)

7.

Valve:	CV-5719A
Category:	A
Class:	2
Function:	Drywell cooling water supply line drain isolation for containment.
Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
Basis for Relief:	Failure of this valve to reclose upon cycling open would short cycle the cooling water from the components served, into the radwaste systems causing a loss of cooling and possible damage to components served, since when on line the heat load is more than one loop in the system can handle.
Alternate Testing:	Exercise valve for operability during refueling outages (RR).

RELIEF REQUEST BASIS

System: Drywell Cooling Water System (Cont.)

8.	Valve:	CV-5719B
	Category:	A
	Class:	2
	Function:	Drywell cooling water supply line drain isolation for containment.
	Test Requirement:	Exercise valve (full stroke) for operability every three (3) months. Time the operability (Q,MT).
	Basis for Relief:	Failure of this valve to reclose upon cycling open would short cycle the cooling water from the components served into the radwaste systems causing a loss of cooling and possible damage to components served, since when on line the heat load is more than one loop in the system can handle.
	Alternate Testing:	Exercise valve for operability during refueling outages (RR).

RELIEF REQUEST BASIS

System: Various Reactor Instrumentation

1.	Valve:	Excess Flow Check Valves
	Category:	C
	Class:	1/2
	Function:	Prevent excess flow in reactor instrument lines.
	Test Requirement:	Exercise check valve to the position required to fulfill its function every three (3) months (CV).
	Basis for Relief:	Testing of XFV's necessitates removing the associated instrumentation from service for prolonged periods of time, thus placing the plant in an unsafe condition during normal operation. Additionally, this testing involves a total of 86 valves which would require excessive cold shutdown time solely to accomplish this testing and would greatly increase total personnel radiation exposure.
	Alternate Testing:	Exercise valve for operability each refueling (RR).

RELIEF REQUEST BASIS

System:	HPCI and RCIC Systems	
	Pumps:	HPCI and RCIC Water Pumps
	Function:	Pumps water from various sources to reactor for purposes of accident cooling pressure relief, or other purposes.
	Test Requirement:	Measure pump vibration amplitude monthly and bearing temperature annually.
	Basis for Relief:	To take either of these measurements requires the stationing of a man by the pumps in the HPCI or RCIC rooms. Because of the rooms' layout, the man is in a very confined area far away from the rooms' exits. Consequently, should an accident occur, such as rupturing of the steam line rupture disc (which has occurred previously, see RO 78-02), the man probably could not get out in time to prevent injury. Measurement of the vibration and bearing temperature, then, represents a significant safety hazard.
	Alternate Testing:	None

RELIEF REQUEST BASIS

System: Emergency Service Water

Pump:	1P-99A - Emergency Service Water Pump 1P-99B - Emergency Service Water Pump
Test Requirement:	Measure pump inlet pressure before starting the pump and during the test.
Basis for Relief:	These pumps are submerged and have inlet head that is monitored and recorded.
Alternate Testing:	None

RELIEF REQUEST BASIS

System:	River Water System
Pump:	1P-117A - River Water Supply Pump 1P-117B - River Water Supply Pump 1P-117C - River Water Supply Pump 1P-117D - River Water Supply Pump
Test Requirement:	Measure pump inlet pressure before starting the pump and during the test.
Basis for Relief:	These pumps are submerged and have inlet head that is monitored and recorded.
Alternate Testing:	None

RELIEF REQUEST BASIS

System: Diesel Fuel Oil System

Pump:	1P-44A - Diesel Fuel Oil Transfer Pump 1P-44B - Diesel Fuel Oil Transfer Pump
Test Requirement:	Measure pump inlet pressure before starting the pump and during the test.
Basis for Relief:	These pumps are submerged and have inlet head that is monitored and recorded.
Alternate Testing:	None

RELIEF REQUEST BASIS

System: Diesel Fuel Oil System

Pump: 1P-44A - Diesel Fuel Oil Transfer Pump
1P-44B - Diesel Fuel Oil Transfer Pump

Test Requirement: Measure pump vibration amplitude monthly, and bearing temperature annuall

Basis for Relief: Pump and motor are inaccessible during operation.

Alternate Testing: None