PUMPS AND VALVES IST PLAN

REVISION M

REVIEWED David D. Mielke DATE 8-20-97
Plant Operations Supervisor

APPROVED Charles A. Schrock DATE 8-21-97
Manager - Kewaunee Plant

The Inservice Testing (IST) Plan has been prepared for the Kewaunee Nuclear Power Plant to address the test requirements for the third 120-month testing interval. The Kewaunee Plant, which is located nine miles south of Kewaunee, Wisconsin on the western shore of Lake Michigan, is operated by the Wisconsin Public Service Corporation. It is jointly owned by the Wisconsin Public Service Corporation, the Wisconsin Power & Light Company, and the Madison Gas & Electric Company. The Kewaunee Plant is a 535 megawatt electric, Westinghouse design, two loop pressurized water reactor which was placed into commercial operation in June 1974. The third testing interval begins June 16, 1994.

This Inservice Testing (IST) Plan was prepared in accordance with the requirements of the Code of Federal Regulations 10 CFR 50.55a(f).

As specified in 10 CFR 50.55a(f)(4)(ii), the ASME Boiler and Pressure Vessel Code edition and addenda selected for the preparation and use of this Plan during the third 120-month interval is the latest version incorporated by reference in 10 CFR 50.55a(b)(2) twelve months prior to the start of the third interval. On June 16, 1993, addenda through the 1988 Addenda and editions through the 1989 Edition were the latest versions of Section XI of the ASME Boiler and Pressure Vessel Code referenced in 10 CFR 50.55a(b)(2). The 1989 Edition of Section XI of the ASME Boiler and Pressure Vessel Code further references ASME/ANSI OM, Parts 6 and 10. Thus, in accordance with 10 CFR 50.55a(b)(2)(viii), the ASME/ANSI OMa-1988 Addenda to ASME/ANSI OM-1987 Edition will be referred to as "the Code." In addition, Generic Letter 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," was used as guidance in the development of the Plan.

This Plan consists of tables which delineate the ASME Section XI Code Class 1, 2 and 3 pumps and valves subject to the testing requirements of Part 6 and Part 10 of the Code. The scope statements in Part 6 and Part 10 of the Code require that components (pumps and valves) be included in the Plan that are required "...in shutting down a reactor to the cold shutdown condition, maintaining the cold shutdown condition, or mitigating the consequences of an accident." However, the Plan includes components (pumps and valves) which are required to perform a specific function in shutting down a reactor to the hot shutdown condition and only where those components are utilized under accident conditions. The components which support achievement of hot or cold

shutdown under non-accident conditions, and which are not required to achieve hot shutdown following an accident, are not required to be included in the Plan. A Licensing Basis Document has been created to identify the valves required to be included in the Plan. The pumps included in the Plan were identified using the hot shutdown criteria above. Components important to safety which are outside this Plan are tested to demonstrate that they will perform satisfactorily in service as part of the Kewaunee Preventative Maintenance and Surveillance Programs. To include components outside the scope of the original licensing basis would involve the inclusion of components which were originally designed, built and subsequently controlled as non-safety related components.

To address tests that differ from the requirements specified in the Code, references to notes and relief requests are included in the tables. Relief requests are written for those tests determined to be impractical and for which Nuclear Regulatory Commission approval is required. Notes are used to further define the testing method or to reference an exception that is allowed by the Code or Generic Letter 89-04.

The tabulation of pumps, Table 1, identifies the pumps to be tested, ASME Section XI Code Class, parameters to be measured, test procedures and intervals, and relief requests.

The tabulation of valves, Table 2, identifies the valves to be tested, flow drawing on which the valve appears, ASME Section XI Code Class, ASME valve category as defined by paragraph 1.4 of Part 10 of the Code, a description of the valve function, test procedures and frequency, and relief requests.

Valves which are not required to change position to perform their required function are considered "passive" valves and do not require exercise testing. Category "A" valves which also serve as containment isolation valves, but do not have reactor coolant system pressure isolation functions are tested in accordance with 10 CFR 50, Appendix J to meet the requirements of this Plan. These valves are analyzed and corrective actions taken, however, in accordance with paragraphs 4.2.2.3(e) and 4.2.2.3(f) of Part 10 of the Code. Category "A" and "B" valves which also serve as containment isolation valves and provide a reactor coolant system pressure isolation function are additionally tested in accordance with paragraph 4.2.2.3 of Part 10 of the

Code. Valves which are passive and for which seat leakage in the closed position is inconsequential for fulfillment of their function are not included in this IST Plan.

The NRC Safety Evaluation Report dated September 30, 1982, concluded that the combination of system design and the performance of hydrostatic testing is sufficient to assure that certain containment boundary valves are not relied upon to prevent the escape of containment air to the auxiliary building atmosphere. Therefore, several valves which might appear to be containment isolation valves and thus require leak testing (category "A"), are categorized as category "B" valves since their leakage is inconsequential for fulfillment of their function. Technical Specifications Amendment #69 describes and approves the testing method.

In accordance with paragraph 4.2.1.6 of Part 10 of the Code, valves with fail-safe actuators are tested by observing the operation of the valves upon loss of actuation power. Placing the control switch in the proper position during normal exercising of the fail-safe valves will result in removing actuating power to these valves and will adequately test their fail-safe feature.

A Program has been established in accordance with paragraph 4.1 of Part 10 of the Code which requires valves with remote position indicators to be observed at least once every two years to verify that valve position is accurately indicated. This is accomplished through the individual exercise test procedures, SP 87-273 "Biennial Validation of AOV Remote Position Indication" or SP 87-274 "Biennial Validation of MOV Remote Postion Indication."

TABLE 1 - ASME SECTION XI CODE CLASS 1, 2 AND 3 PUMPS
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PUMP DESCRIPTION	SECTION XI CODE CLASS	TEST PARAMETERS	TEST PROCEDURE	TEST INTERVAL	NOTES/RELIEF REQUEST
High Head Safety Injection Pumps A and B	2	1. Speed (if variable)	N/A	N/A	Note 27
		2. Differential Pressure	SP 33-098	3 months	Note 29
			SP 33-191*	Refueling	Note 32
		3. Discharge Pressure	N/A	N/A	Note 28
		4. Flow Rate	SP 33-191*	Refueling	RR-5
		5. Vibration	SP 55-177	3 months/ Refueling	Note 30
			*Full Flow Test		
Residual Heat Removal Pumps A and B	2	1. Speed (if variable)	N/A	N/A	Note 27
		2. Differential Pressure	SP 34-099	3 months	RR-28
			SP 34-285*	Cold Shutdown	RR-28 Note 31
		3. Discharge Pressure	N/A	N/A	Note 28
		4. Flow Rate	SP 34-099	3 months	
			SP 34-285*	Cold Shutdown	
		5. Vibration	SP 55-177	3 months/ Cold Shutdown	Note 30
			*Full Flow Test		
Service Water Pumps A1 A2 B1 B2	3	1. Speed (if variable)	N/A	N/A	Note 27
		2. Differential Pressure	SP 02-138	3 months	Note 40
		3. Discharge Pressure	N/A	N/A	Note 28
		4. Flow Rate	SP 02-138	3 months	RR-27
		5. Vibration	SP 55-177	3 months	Note 30

TABLE 1 - ASME SECTION XI CODE CLASS 1, 2 AND 3 PUMPS
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PUMP DESCRIPTION	SECTION XI CODE CLASS	TEST PARAMETERS	TEST PROCEDURE	TEST INTERVAL	NOTES/RELIEF REQUEST
Component Cooling Pumps A and B	3	1. Speed (if variable)	N/A	N/A	Note 27
		2. Differential Pressure	SP 31-168	3 months	
		3. Discharge Pressure	N/A	N/A	Note 28
		4. Flow Rate	SP 31-168	3 months	RR-11
		5. Vibration	SP 55-177	3 months	Note 30
Auxiliary Feedwater Pumps (Motor Driven) A and B	3	1. Speed (if variable)	N/A	N/A	Note 27
		2. Differential Pressure	SP 05B-104	3 months	RR-28 Note 29
			SP 05B-283*	Cold Shutdown	RR-28 Note 31
		3. Discharge Pressure	N/A	N/A	Note 28
		4. Flow Rate	SP 05B-283*	Cold Shutdown	RR-5
		5. Vibration	SP 55-177	3 months/ Cold Shutdown	Note 30
			*Full Flow Test		

TABLE 1 - ASME SECTION XI CODE CLASS 1, 2 AND 3 PUMPS
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PUMP DESCRIPTION	SECTION XI CODE CLASS	TEST PARAMETERS	TEST PROCEDURE	TEST INTERVAL	NOTES/RELIEF REQUEST
Auxiliary Feedwater Pump (Turbine Driven) C	3	1. Speed (if Variable)	SP 05B-105	3 months	
			SP 05B-284*	Cold Shutdown	Note 31
		2. Differential Pressure	SP 05B-105	3 months	RR-28 Note 29
			SP 05B-284*	Cold Shutdown	RR-28 Note 31
		3. Discharge Pressure	N/A	N/A	Note 28
		4. Flow Rate	SP 05B-284*	Cold Shutdown	RR-5
		5. Vibration	SP 55-177	3 months/ Cold Shutdown	Note 30
			*Full Flow Test		
Containment Spray Pumps Aand B	2	1. Speed (if variable)	N/A	N/A	Note 27
		2. Differential Pressure	SP 23-100	3 months	Note 41
		3. Discharge Pressure	N/A	N/A	Note 28
		4. Flow Rate	SP 23-100	3 months	
		5. Vibration	SP 55-177	3 months	Note 30
Diesel Generator Fuel Oil Transfer Pumps A and B	Note 4B	1. Speed (if variable)	N/A	N/A	Note 27
		2. Differential Pressure	N/A	N/A	RR-23
		3. Discharge Pressure	N/A	N/A	Note 28
		4. Flow Rate	N/A	N/A	RR-23
		5. Vibration	N/A	N/A	RR-23

TABLE 2 - ASME SECTION XI CODE CLASS 1, 2 AND 3 VALVES
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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
1	IA-101	M-213-6	Note 4B	B	1-inch, AOV Inst. air to Cntmt	SP55-167-6	N/A Note 34	Cold Shutdown Note 15	N/A Note 34	
1	IA-102 IA-103	M-213-6	Note 4B	A/C	1-inch, check Inst. air to Cntmt	SP56A-090	SP56A-090	Refueling	Refueling	Note 23
1	SA-471 SA-472	M-213	Note 4B	A/C	2-inch, manual/check Service air to Cntmt	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	Note 36
1	SA-471-1 SA-471-2	M-213	Note 4B	A	3/4-inch, manual Service air to Cntmt Annulus	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	Note 39
1	SA-7004A SA-7004B	M-403	Note 4B	A/C	2-inch, check Air Supply to Containment	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
1	SA-7003A SA-7003B	M-403	Note 4B	A	2-inch, MOV Air Supply to Containment	SP55-167-4	SP56A-090	3 months	Refueling Note 24	
2	SW-1A1 SW-1A2 SW-1B1 SW-1B2	M-202	3	C	14-inch, check SW pump discharge	SP02-138	N/A Note 33	3 months	N/A Note 33	
2	SW-3A SW-3B	M-202	3	B	24-inch, AOV SW pump disch. cross connect	SP02-138	N/A Note 34	3 months	N/A Note 34	
2	SW-4A SW-4B	M-202	3	B	20-inch, AOV SW supply to Turbine Bldg.	SP02-138	N/A Note 34	3 months	N/A Note 34	
2	SW-301A SW-301B	M-202	3	B	4-inch, AOV SW return from D/G Coolers	SP42-047A/B or SP42-312A/B	N/A Note 34	3 months	N/A Note 34	

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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
2	SW-501A SW-501B	M-202	3	C	3-inch, check SW to AFW pumps	SP05B-105	N/A Note 33	3 months Note 21	N/A Note 33	RR-24
2	SW-502 SW-601A SW-601B	M-202	3	B	4-inch, MOV SW supply to AFW pumps	SP05B-105 SP05B-104	N/A Note 34	3 months	N/A Note 34	
2	SW-901A SW-901B SW-901C SW-901D	M-547	3	C	8-inch, check SW supply to Cntmt F/C units	SP02-138	N/A Note 33	3 months	N/A Note 33	
2	SW-901A-1 SW-901B-1 SW-901C-1 SW-901D-1	M-547	3	B	8-inch, AOV Shroud Cooling Coil Bypass	SP02-138	N/A Note 34	3 months	N/A Note 34	
2	SW-903A SW-903B SW-903C SW-903D	M-547	3	B	8-inch, MOV SW return from Cntmt F/C units	SP02-138	N/A Note 34	3 months	N/A Note 34	
2	SW-910A SW-910B SW-910C SW-910D	M-547	3	B	3-inch, AOV Shroud Cooling Coil Supply	SP02-138	N/A Note 34	3 months	N/A Note 34	
2	SW-913AB-2 SW-913CD-2	M-547	3	C	1-inch, relief Shroud Cooling Coil Return Header	To be determined	N/A Note 33	Note 3	N/A Note 33	
2	SW-914A SW-914B SW-914C SW-914D	M-547	3	B	3-inch, AOV Shroud Cooling Coil Discharge	SP02-138	N/A Note 34	3 months	N/A Note 34	
2	SW-1300A SW-1300B	M-202	3	B	10-inch, MOV SW to CC Heat Exchanger	SP31-168	N/A Note 34	3 months	N/A Note 34	

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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
2	SW-1400	X-K100-19	3	B	2-inch, MOV CCW Emergency Makeup SW	SP31-168	N/A Note 34	3 months	N/A Note 34	
2	SW-1501	M-218	3	C	6-inch, check SW to Spent Fuel Pool	N/A Note 22	N/A Note 33	N/A Note 22	N/A Note 33	RR-25
2	SW-1610	M-202	3	C	1-inch, relief SFP Heat Exchanger Shell Side Relief	To be determined	N/A Note 33	Note 3	N/A Note 33	
2	SW-6010	M-202	Note 4B	A	2-inch, manual SW to Cntmt Hose Stations	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
2	SW-6011	M-202	Note 4B	A/C	2-inch, check SW to Cntmt Hose Stations	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
5A	FW-7A FW-7B	M-205	Note 4B	B	12-inch, AOV Main FW to S/G Regulating Valve	SP05A-202	N/A Note 34	Refueling Note 42	N/A Note 34	
5A	FW-10A FW-10B	M-205	Note 4B	B	4-inch, AOV Main FW to S/G Reg. Valve Bypass Valve	SP05A-202	N/A Note 34	Refueling Note 42	N/A Note 34	
5A	FW-12A FW-12B	M-205	2	B	16-inch, MOV Main FW to S/G Isol. Valves	SP55-167-8	N/A Note 34	Cold Shutdown Note 11	N/A Note 34	
5A	FW-13A FW-13B	M-205	2	C	16-inch, check Main FW to S/G	SP55-167-8	N/A Note 33	Cold Shutdown Note 11	N/A Note 33	
5B	AFW-1A AFW-1B	M-205	3	C	3-inch, check AFW pumps discharge	SP05B-283	N/A Note 33	Cold Shutdown Note 12	N/A Note 33	
	AFW-1C					SP05B-284				
5B	AFW-4A AFW-4B	M-205	2	C	3-inch, check AFW to Steam Generators	SP05B-283	N/A Note 33	Cold Shutdown Note 12	N/A Note 33	

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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
5B	AFW-10A AFW-10B	M-205	2	B	3-inch, MOV TD AFW pump cross connects	SP05B-105	N/A Note 34	3 months	N/A Note 34	
6	MS-1A MS-1B	M-203	2	B/C	30-inch, AOV/check Main Steam Isolation Valves	SP55-167-8	N/A Note 33 Note 34	Hot Shutdown Note 10	N/A Note 33 Note 34	
6	MS-100A MS-100B	M-203	2	B	3-inch, MOV MS to TD AFW pump	SP05B-105	N/A Note 34	3 months	N/A Note 34	
6	MS-101A MS-101B	M-203	3	C	3-inch, check MS to TD AFW pump	SP05B-105 SP05B-284	N/A Note 33	3 months/ Cold Shutdown Note 16	N/A Note 33	
6	MS-102	M-203	3	B	3-inch, MOV MS to TD AFW pump	SP05B-105	N/A Note 34	3 months	N/A Note 34	
6	SD-1A1 SD-1A2 SD-1A3 SD-1A4 SD-1A5 SD-1B1 SD-1B2 SD-1B3 SD-1B4 SD-1B5	M-203	2	C	6-inch, safety relief Main Steam Line S/V	SP06-077	N/A Note 33	Note 3	N/A Note 33	
7	BT-2A BT-2B BT-3A BT-3B	M-203	2	B	2-inch, MOV S/G Blowdown Isol. Valves	SP55-167-1	NEP 14.18	3 months	Refueling Note 38	

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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
7	BT-31A BT-31B BT-32A BT-32B	M-219	2	B	3/8-inch, AOV SGBT sample lines	SP55-167-1	N/A Note 34	3 months	N/A Note 34	
10	SA-2002A-P SA-2002B-P	M-213-9	Note 5	Note 5	1½-inch, check Station Air to D/G Air Start Motors	SP42-047A/B or SP42-312A/B	N/A Note 5	3 months Note 20	N/A Note 5	
10	SA-2005A-1 SA-2005A-2 SA-2006A-1 SA-2006A-2 SA-2005B-1 SA-2005B-2 SA-2006B-1 SA-2006B-2	M-213-9	Note 5	Note 5	Air Start Valves to D/G A & B Air Start Motors	SP42-047A/B or SP42-312A/B	N/A Note 5	3 months	N/A Note 5	RR-4A
18	LOCA-2A LOCA-2B	M-403	Note 4B	A	2-inch, MOV H_2 Control Post LOCA Cntmt Sample	SP55-167-4	SP56A-090	3 months	Refueling Note 24	
18	LOCA-3A LOCA-3B	M-403	Note 4B	A	1-inch, AOV H_2 Control Post LOCA Cntmt Sample	SP55-167-4	SP56A-090	3 months	Refueling Note 24	
18	LOCA-10A LOCA-10B	M-403	Note 4B	A	1-inch, AOV H_2 Control Post LOCA Cntmt Sample	SP55-167-4	SP56A-090	3 months	Refueling Note 24	
18	LOCA-100A LOCA-100B	M-403	Note 4B	A	2-inch, AOV H_2 Control Post LOCA to H_2 Recombiners	SP55-167-4	SP56A-090	3 months	Refueling Note 24	

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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
18	LOCA-201A LOCA-201B	M-403	Note 4B	A	2-inch, AOV H_2 Control Post LOCA Return from H_2 Recombiners	SP55-167-4	SP56A-090	3 months	Refueling Note 24	
18	RBV-1 RBV-2 RBV-3 RBV-4	M-602	Note 4B	A	36-inch, AOV Cntmt Purge & Vent	SP55-167-6	SP56A-090/ SP18-092	Cold Shutdown Note 6	Refueling/ 6 months Note 24	
18	RBV-150A RBV-150B RBV-150C RBV-150D	M-602	Note 19	Note 19	48x48-inch, AOD F/C Unit Emergency Discharge Dampers	SP55-167-9	N/A Note 19	Refueling	N/A Note 19	
16	VB-10A VB-10B	M-602	Note 4B	A	18-inch, AOV Cntmt Vacuum Breaker	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
18	VB-11A VB-11B	M-602	Note 4B	A/C	21-inch, check Cntmt Vacuum Breaker	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
21	FPC70	M-218	3	C	1-inch, relief Spent Fuel Pool Heat Exchanger	To be determined	N/A Note 33	Note 3	N/A Note 33	
23	ICS-2A ICS-2B	M-217	2	B	8-inch, MOV RWST supply to ICS pumps	SP23-100	N/A Note 34	3 months	N/A Note 34	
23	ICS-3A ICS-3B	M-217	2	C	8-inch, check RWST supply to ICS pumps	SP23-100	N/A Note 33	3 months	N/A Note 33	
23	ICS-4A ICS-4B	M-217	2	C	6-inch, check ICS pump discharge	SP23-100	N/A Note 33	3 months	N/A Note 33	

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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
23	ICS-5A ICS-5B ICS-6A ICS-6B	M-217	2	B	6-inch, MOV ICS pump discharge	SP23-100	N/A Note 34	3 months	N/A Note 34	
23	ICS-8A ICS-8B	M-217	2	A/C	6-inch, check/manual ICS discharge line spray header outside Cntmt	SP23-100	SP56A-090	3 months	Refueling Note 24	
23	ICS-9A ICS-9B	M-217	2	A/C	6-inch, check/manual ICS discharge line spray header inside Cntmt	SP23-100	SP56A-090	3 months	Refueling Note 24	
23	ICS-20A ICS-20B	M-217	2	C	1-inch, relief Containment Spray Pump inlet	To be determined	N/A Note 33	Note 3	N/A Note 33	
23	ICS-201 ICS-202	M-217	2	B	2-inch, AOV ICS recirc. to RWST	SP23-100	N/A Note 34	3 months	N/A Note 34	
23	CI-1001A CI-1001B	M-217	Note 4B	B	2-inch, AOV Caustic Additive to Cntmt Spray	SP55-167-9	N/A Note 34	Refueling Note 43	N/A Note 34	
23	CI-1003	M-217	2	C	2-inch, check Caustic Additive to Cntmt Spray	N/A RR-26	N/A Note 33	N/A RR-26	N/A Note 33	RR-26
27A	MU-301	M-205	Note 4B	C	6-inch, check CST supply to AFW pumps	SP05B-104 & SP05B-105 SP05B-283 & SP05B-284	N/A Note 33	3 months/ Cold Shutdown Note 16	N/A Note 33	
27A	MU-311A MU-311B MU-311C	M-205	3	C	4-inch, check CST supply to AFW pumps	SP05B-104 & SP05B-105 SP05B-283 & SP05B-284	N/A Note 33	3 months/ Cold Shutdown Note 16	N/A Note 33	

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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
27A	MU-320A MU-320B MU-320C	M-205	3	C	1-inch, relief Makeup Water supply to AFW Pumps	To be determined	N/A Note 33	Note 3	N/A Note 33	
27A	MU-1011	X-K100-10	Note 4B	A/C	2-inch, check Rx Make-up to PRT	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	RR-6
27A	MU-1010-1	X-K100-10	Note 4B	A	2-inch, AOV Rx Make-up to PRT	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
30	MD(R)-323A MD(R)-323B	M-539	Note 4B	A	3-inch, MOV Deaerated drain pumps to Cntmt	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
30	MD(R)-324	M-539	Note 4B	A	3-inch, check Deaerated drain pumps to Cntmt	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
30	WG-310	M-539	Note 4B	A	2-inch, solenoid Deaerated drain tank Vent to Cntmt	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
30	WG-311	M-539	Note 4B	A	1-inch, solenoid Deaerated drain tank Vent to Cntmt	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
31	CC-3A CC-3B	X-K100-19	3	C	10-inch, check Component Cooling pump discharge	SP31-168	N/A Note 33	3 months	N/A Note 33	
31	CC-201	X-K100-19	3	C	3/4-inch, relief CCW to Seal Water Heat Exchanger	To be determined	N/A Note 33	Note 3	N/A Note 33	

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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
31	CC-301	X-K100-19	3	C	3/4-inch, relief CCW to Letdown Heat Exchanger	To be determined	N/A Note 33	Note 3	N/A Note 33	
31	CC-312	X-K100-19	3	C	3/4-inch, relief CCW to RCS High Rad Sample Heat Exchangers	To be determined	N/A Note 33	Note 3	N/A Note 33	
31	CC-400A CC-400B	X-K100-19	3	B	10-inch, MOV CC water to RHR Hx	SP31-168	N/A Note 34	3 months	N/A Note 34	
31	CC-401A CC-401B	X-K100-19	3	C	1-inch, relief CCW to RHR Heat Exchanger	To be determined	N/A Note 33	Note 3	N/A Note 33	
31	CC-501	X-K100-20	3	C	3/4-inch, relief CCW to Primary Sample Heat Exchangers	To be determined	N/A Note 33	Note 3	N/A Note 33	
31	CC-611A CC-611B	X-K100-20	3	C	3-inch, safety RXCP CCW return header	To be determined	N/A Note 33	Note 3	N/A Note 33	
31	CC-630A CC-630B	X-K100-20	3	C	3/4-inch, relief CCW to RXCP A(B) Thermal Barrier	To be determined	N/A Note 33	Note 3	N/A Note 33	
31	CC-652	X-K100-20	3	C	3/4-inch, relief CCW Return from Excess Letdown Heat Exchanger	To be determined	N/A Note 33	Note 3	N/A Note 33	
31	CC-653	X-K100-20	3	B	3-inch, MOV CCW from Excess Letdown Hx	SP31-168	N/A Note 34	3 months Note 4	N/A Note 34	
31	CC-803	X-K100-20	3	C	3/4-inch, relief CCW to Boric Acid Evaporator Package	To be determined	N/A Note 33	Note 3	N/A Note 33	

TABLE 2 - ASME SECTION XI CODE CLASS 1, 2 AND 3 VALVES
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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
31	CC-907	X-K100-20	3	C	3/4-inch, relief CCW to Waste Evaporator	To be determined	N/A Note 33	Note 3	N/A Note 33	
31	CC-1003A CC-1003B	X-K100-20	3	C	3/4-inch, relief CCW to Waste Gas Compressor A(B)	To be determined	N/A Note 33	Note 3	N/A Note 33	
32A	MD(R)-134 MD(R)-135	X-K100-131	Note 4B	A	3-inch, AOV Cntmt sump pump discharge	SP55-167-3	SP56A-090	3 months	Refueling Note 24	
32B	MG(R)-503 MG(R)-504	X-K100-131	Note 4B	A	3/8-inch, AOV RCDT Vent to Gas Analyzer	SP55-167-3	SP56A-090	3 months	Refueling Note 24	
32B	MG(R)-509 MG(R)-510	X-K100-131	Note 4B	A	1-inch, AOV RCDT to vent header	SP55-167-3	SP56A-090	3 months	Refueling Note 24	
32B	MG(R)-513 MG(R)-512	X-K100-10	Note 4B	A	3/8-inch, AOV PRT to Gas Analyzer	SP55-167-3	SP56A-090	3 months	Refueling Note 24	
33	SI-5A SI-5B	X-K100-29	2	B	6-inch, MOV HPSI pump suction	SP33-098	N/A Note 34	3 months	N/A Note 34	
33	SI-6A SI-6B	X-K100-29	2	C	4-inch, check HPSI pump discharge	SP33-191	N/A Note 33	Refueling Note 35	N/A Note 33	
33	SI-9B	X-K100-28	2	B	3-inch, MOV HPSI to RX Vessel Core Flood	SP33-098	N/A Note 34	3 months	N/A Note 34	
33	SI-12A SI-12B	X-K100-28	1	C	2-inch, check HPSI to Cold Legs	SP33-191	N/A Note 33	Refueling Note 35	N/A Note 33	
33	SI-13A SI-13B	X-K100-28	1	C	6-inch, check HPSI to Cold Legs	SP33-191	SP33-297	Refueling Note 35	Refueling Note 37	

TABLE 2 - ASME SECTION XI CODE CLASS 1, 2 AND 3 VALVES
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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
33	SI-15A SI-15B	X-K100-28	2	B	2-inch, MOV HPSI to Rx Vessel Core Flood	SP33-098	N/A Note 34	3 months	N/A Note 34	
33	SI-16A SI-16B	X-K100-28	1	C	2-inch, check HPSI to Rx Vessel Core Flood	SP33-191	N/A Note 33	Refueling Note 35	N/A Note 33	
33	SI-21A SI-21B	X-K100-28	1	C	12-inch, check Accum. disch. Stop Valves	SP33-144	N/A Note 33	Cold Shutdown Note 18	N/A Note 33	RR-10A
33	SI-22A	X-K100-28	1	C	12-inch, check Accum. disch to Cold Leg	SP33-144	N/A Note 33	Cold Shutdown Note 18	N/A Note 33	RR-10A
33	SI-22B	X-K100-28	1	A/C	12-inch, check Accum. disch to Cold Leg	SP33-144	SP34-204 or SP34-204A	Cold Shutdown Note 18	Note 2	RR-10A
33	SI-106A SI-106B	X-K100-28	2	C	1-inch, relief Accumulator A(B)	To be determined	N/A Note 33	Note 3	N/A Note 33	
33	SI-206A SI-206B	X-K100-29	2	C	2-inch, check Test line to RWST	SP33-098	N/A Note 33	3 months Note 17	N/A Note 33	
33	SI-208 SI-209	X-K100-29	2	B	2-inch, MOV Test line to RWST	SP34-099	N/A Note 34	3 months	N/A Note 34	
33	SI-300A SI-300B	X-K100-29	2	B	10-inch, MOV RWST Supply to RHR Pumps	SP34-099	N/A Note 34	3 months	N/A Note 34	
33	SI-301A SI-301B	X-K100-29	2	B	10-inch, check RWST Supply to RHR Pumps	SP55-167-9	N/A Note 34	Refueling Note 35	N/A Note 34	
33	SI-303A SI-303B	X-K100-28	1	A/C	6-inch, check LPSI to Rx Vessel	SP55-167-9	SP34-203	Refueling Note 35	Note 2	

TABLE 2 - ASME SECTION XI CODE CLASS 1, 2 AND 3 VALVES
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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
33	SI-304A SI-304B	X-K100-28	1	A/C	6-inch, check HPSI and LPSI to Rx Vessel	SP55-167-9	SP34-203	Refueling Note 35	Note 2	
33	SI-312	X-K100-28	2	C	3/4-inch, relief Reactor Vessel Low Head Injection Line B	To be determined	N/A Note 33	Note 3	N/A Note 33	
33	SI-350A SI-350B SI-351A SI-351B	X-K100-28	2	B	12-inch, MOV Cntmt Sump Recirc to RHR	SP34-099	NEP 14.18	3 months	Refueling Note 38	
34	RHR-1A RHR-1B	X-K100-18	1	B	8-inch, MOV RHR suction from Hot Legs	SP55-167-6	SP34-298	Cold Shutdown Note 7	Refueling Note 38	
34	RHR-2A RHR-2B	X-K100-18	1	B	8-inch, MOV RHR suction from Hot Legs	SP55-167-6	N/A Note 34	Cold Shutdown Note 7	N/A Note 34	
34	RHR-3A RHR-3B	X-K100-18	2	C	8-inch, check RHR pump suction from Hot Legs	SP34-285	N/A Note 33	Cold Shutdown Note 7	N/A Note 33	
34	RHR-5A RHR-5B	X-K100-18	2	C	8-inch, check RHR pump discharge	SP34-099 SP34-285	N/A Note 33	3 months/ Cold Shutdown Note 9	N/A Note 33	
34	RHR-11	X-K100-18	1	B	10-inch, MOV RHR to Loop B Cold Leg	SP55-167-6	N/A Note 34	Cold Shutdown Note 8	N/A Note 34	
34	RHR-33	X-K100-18	2	C	2-inch, relief valve RHR suction relief valve	SP34-192	N/A Note 33	Note 3	N/A Note 33	
34	RHR-33-1	X-K100-18	2	C	6-inch, safety relief RHR Suction LTOP protection	SP34-192	N/A Note 33	Note 3	N/A Note 33	

TABLE 2 - ASME SECTION XI CODE CLASS 1, 2 AND 3 VALVES
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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
34	RHR-300A RHR-300B	X-K100-29	2	B	6-inch, MOV HPSI pump suction from RHR	SP33-098	N/A Note 34	3 months	N/A Note 34	
34	RHR-400A RHR-400B	M-217	2	B	6-inch, MOV RHR supply to ICS pumps	SP34-099	N/A Note 34	3 months	N/A Note 34	
34	RHR-401A RHR-401B	M-217	2	C	6-inch, check RHR supply to ICS pumps	SP34-099	N/A Note 33	3 months	N/A Note 33	
35	CVC-7	X-K100-36	2	A	2-inch, control Charging to Regen. Hx	SP55-167-6	SP56A-090	Cold Shutdown	Refueling Note 24	RR-12
35	CVC-9	X-K100-36	2	A	2-inch, manual Charging to Regen. Hx	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
35	CVC-10	X-K100-35	2	A/C	2-inch, check Charging to Regen. Hx	SP56A-090	SP56A-090	Refueling Note 23	Refueling Note 24	
35	CVC-40	X-K100-36	2	C	3 inch, relief Volume Control Tank Relief	To be determined	N/A Note 33	Note 3	N/A Note 33	
35	CVC-54	M-539	Note 4B	A	2-inch, solenoid VCT offgas vent to Cntmt	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
35	CVC-55	M-539	Note 4B	A/C	2-inch, check VCT offgas vent to Cntmt	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	
35	CVC-101A CVC-101B CVC-101C	X-K100-36	2	C	3/4-inch, relief Charging Pump A(B)(C) discharge	To be determined	N/A Note 33	Note 3	N/A Note 33	
35	CVC-205A CVC-205B CVC-206A CVC-206B	X-K100-35	1	A/C	2-inch, check RXCP seal injection	SP56A-090	SP56A-090	Refueling	Refueling	Note 23

TABLE 2 - ASME SECTION XI CODE CLASS 1, 2 AND 3 VALVES
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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
35	CVC-211 CVC-212	X-K100-35	2	A	3-inch, MOV RXCP seal return	SP55-167-6	SP56A-090	Cold Shutdown/ Refueling Note 26	Refueling Note 24	
35	CVC-261	X-K100-35	2	C	2-inch, relief Seal Leakoff Return Line	To be determined	N/A Note 33	Note 3	N/A Note 33	
35	CVC-440	X-K100-36	3	B	2-inch, MOV Emergency Boration	SP55-167-5	N/A Note 34	3 months	N/A Note 34	
35	LD-4A LD-4B LD-4C	X-K100-35	2	A	2-inch, AOV Outlet from Letdown Orifices	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
35	LD-5	X-K100-35	2	C	2-inch, relief Letdown Line	To be determined	N/A Note 33	Note 3	N/A Note 33	
35	LD-6	X-K100-35	2	A	2-inch, AOV Letdown to Heat Exchanger	SP55-167-6	SP56A-090	Cold Shutdown Note 13	Refueling Note 24	
35	LD-13	X-K100-36	2	C	2- inch, relief Letdown Line	To be determined	N/A Note 33	Note 3	N/A Note 33	
36	PR-1A PR-1B	X-K100-10	1	B	3-inch, MOV Przr Relief Block Valve	SP55-167-5	N/A Note 34	3 months	N/A Note 34	
36	PR-2A PR-2B	X-K100-10	1	B	3-inch, AOV Przr Relief Valves	SP55-167-8	N/A Note 34	Hot Shutdown Note 4A	N/A Note 34	
36	PR-3A PR-3B	X-K100-10	1	C	6-inch, safety Przr Safety Valves	SP36-076B	N/A Note 33	Note 3	N/A Note 33	
36	PR-33A PR-33B	X-K100-10	2	B	1-inch, solenoid Przr Steam Space Vent	SP55-167-9	N/A Note 34	Refueling Note 25	N/A Note 34	RR-18

TABLE 2 - ASME SECTION XI CODE CLASS 1, 2 AND 3 VALVES
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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
36	RC-45A RC-45B	X-K100-10	2	B	1-inch, solenoid Rx Head Vent	SP55-167-9	N/A Note 34	Refueling Note 25	N/A Note 34	RR-18
36	RC-46	X-K100-10	2	B	1-inch, solenoid Przr and Rx Vent to PRT	SP55-167-9	N/A Note 34	Refueling Note 25	N/A Note 34	RR-18
36	RC-49	X-K100-10	2	B	1-inch, solenoid Przr and Rx Vent to Cntmt	SP55-167-9	N/A Note 34	Refueling Note 25	N/A Note 34	RR-18
36	RC-507 RC-508	X-K100-131	Note 4B	A	3-inch, AOV RCDT pump discharge	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
37	RC-402 RC-403	X-K100-44	1	A	3/8-inch, AOV Przr Steam Space Sample	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
37	RC-412 RC-413	X-K100-44	1	A	3/8-inch, AOV Przr liquid space Sample	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
37	RC-422 RC-423	X-K100-44	1	A	3/8-inch, solenoid RC Hot Leg Sample	SP55-167-5	SP56A-090	3 months	Refueling Note 24	RR-18
45	AS-1 AS-2	M-602	Note 4B	A	1-inch, AOV Cntmt Air Sample to Rad. Monitors	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
45	AS-32	M-602	Note 4B	A	1-inch, AOV Cntmt Air Sample Return	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
45	AS-33	M-602	Note 4B	A/C	1-inch, chock Cntmt Air Sample Return	SP55-167-5	SP56A-090	3 months	Refueling Note 24	RR-2A

TABLE 2 - ASME SECTION XI CODE CLASS 1, 2 AND 3 VALVES
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SYSTEM	VALVE IDENT. OPS. NO	FLOW DIAGRAM	SECTION XI CODE CLASS	VALVE CAT.	DESCRIPTION	TEST PROCEDURE EXERCISE / LEAKAGE		TEST FREQUENCY EXERCISE / LEAKAGE		RELIEF REQUEST
51	NG-107	X-K100-28	Note 4B	A	1-inch, AOV N_2 supply to Accum.	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
51	NG-107-1	X-K100-28	Note 4B	A/C	1-inch, check N_2 supply to Accum.	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	RR-6
51	NG-302	X-K100-10	Note 4B	A	3/4-inch, AOV N_2 supply to PRT	SP55-167-5	SP56A-090	3 months	Refueling Note 24	
51	NG-304	X-K100-10	Note 4B	A/C	3/4-inch, check N_2 supply to PRT	N/A Note 1	SP56A-090	N/A Note 1	Refueling Note 24	RR-6

Biennial verification of AOV and MOV remote position indication per paragraph 4.1 of Part 10 of the Code is performed by the individual exercise test procedures, SP87-273 or SP87-274.

APPENDIX A

Inservice Testing Plan

Relief Request Index

Relief Request IST-RR-2A

Components Affected

Valve #	Flow Diagram
AS-33	M-602

Code Requirement

Sections 4.2.1 and 4.3.2 of Part 10 of the Code requires that this active check valve be exercised to the position required to fulfill its function at least once every 3 months.

Basis for Requesting Relief

The safeguard function required for this valve is to provide containment isolation. It does not provide reactor coolant system pressure isolation. Quarterly exercise tests on the air operated sample isolation valve (AS-32) does exercise this valve in the closed direction during plant operation; however due to lack of position indication, full closure cannot be verified.

Alternate Method of Testing

The category "A" and category "C" exercise tests will be completed on a quarterly basis as discussed above, without verification of position indication. The category "A" and category "C" exercise tests will also be completed with full closure verification during 10 CFR 50, Appendix J testing. The category "A" leakage test is also satisfied by the 10 CFR 50, Appendix J testing, in accordance with paragraph 4.2.2.2 of Part 10 of the Code. The analysis of leakage rates and corrective actions will be in accordance with paragraphs 4.2.2.3(e) and 4.2.2.3(f) of Part 10 of the Code.

Note: A similar relief request was previously granted by NRC SER dated 9/13/90 as Relief Request 2. This component is outside the ASME code class 1,2, and 3 boundary and therefore NRC review and approval is not required.

Relief Request IST-RR-4A

Components Affected

Valve #	Flow Diagram
SA-2005A-1	M-213-9
SA-2005A-2	
SA-2006A-1	
SA-2006A-2	
SA-2005B-1	M-213-9
SA-2005B-2	
SA-2006B-1	
SA-2006B-2	

Code Requirement

Section 4.2.1 of Part 10 of the Code requires that these valves be exercised to the position required to fulfill their function at least once every 3 months. Paragraph 4.2.1.4 of Part 10 of the Code requires that the limiting value of full-stroke time of each power-operated valve shall be specified by the Owner.

Basis for Requesting Relief

These valves open as part of the diesel generator (D/G) start sequence. Their function is to supply air to the air start motors on the diesels. The D/Gs are tested monthly and the #1 and #2 air start motors on each diesel are alternated between tests. Alternating the air start motors assures that each valve is exercised at least once every three months. There is no operator action necessary to open these valves nor is there any remote indication that would allow stroke time measurement. The proposed alternate method of testing will ensure valve operability.

Alternate Methods of Testing

Operation of these valves is instrumental in starting the D/Gs. Failure of the D/G to reach rated speed in the normal time may be an indication of valve degradation. Therefore, monitoring D/G start time will ensure operability of these valves.

Note: A similar relief request was previously granted by NRC SERs dated 9/13/90 and 1/6/92 as Relief Request 4. This component is outside the ASME code class 1,2, and 3 boundary and therefore NRC review and approval is not required.

Relief Request IST-RR-5

Components Affected

Safety Injection Pumps A and B
Auxiliary Feedwater Pump A, B and C

Code Requirement

Paragraph 5.2 of Part 6 of the Code details the pump parameters that must be measured or observed at least once every 3 months with the pump operating. Included in the parameters to be measured is flow rate.

Basis for Requesting Relief

As allowed by paragraph 3.2 of Part 6 of the Code, a pump can be tested in a bypass loop. These pumps are operated at least once every 3 months and tested using a fixed resistance recirculation path. In each case the recirculation bypasses the installed system flow instrumentation; therefore, measuring flow rate through the bypass loop is not possible.

Since each pump is tested using a fixed resistance flow path, the flow rate is not a variable during test performance. In addition, if the characteristics of the recirculation line were to change (causing a change in flow rate), the pump differential pressure measurement will indicate the change in the pump/test loop system. Appropriate corrective actions will then be initiated.

Alternate Methods of Testing

The Auxiliary Feedwater pumps are tested in a configuration that allows flow measurement under full-flow conditions on a cold shutdown frequency. The high head Safety Injection pumps are tested in a configuration that allows flow measurement under full-flow conditions on a refueling shutdown frequency. These tests will not be repeated each cold shutdown/refueling shutdown if the interval between tests is less than 3 months.

Note: This relief request was previously granted by NRC SER dated 9/13/90.

Relief Request IST-RR-6

Components Affected

Valve #	Flow Diagram
NG-304	X-K100-10
MU-1011	X-K100-10
NG-107-1	X-K100-28

Code Requirement

Section 4.3.2 of Part 10 of the Code requires that active check valves be exercised to the position required to fulfill their function at least once every 3 months.

Basis for Requesting Relief

These valves are normally closed check valves whose safety function is to remain closed post-accident to provide containment isolation (i.e. passive). They are not reactor coolant system pressure isolation valves. Infrequent periodic opening of these valves during power operation may be necessary to maintain desired pressurizer relief tank level, temperature and pressure or SI accumulator pressure. If these valves are opened during power operation, they are opened for short duration only. Opening of these valves would necessitate reclassifying these valves as active, however, no practical means exist to verify full closure of these check valves following their usage.

Alternate Method of Testing

These valves will be categorized as passive valves, and therefore no exercise tests will be required. These valves do act as containment isolation valves and will be tested in accordance with 10 CFR 50, Appendix J. This testing meets the requirements for Category "A" leakage testing in accordance with paragraph 4.2.2.2 of Part 10 of the Code. This test will verify full closure capability. The analysis of leakage rates and corrective actions will be in accordance with paragraphs 4.2.2.3(e) and 4.2.2.3(f) of Part 10 of the Code.

Note: This relief request was previously granted by NRC SER dated 9/13/90. This component is outside the ASME code class 1,2, and 3 boundary and therefore NRC review and approval is not required.

Relief Request IST-RR-10A

Components Affected

Valve #	Flow Diagram
SI-21A	X-K100-28
SI-21B	X-K100-28
SI-22A	X-K100-28
SI-22B	X-K100-28

Code Requirement

Section 4.3.2 of Part 10 of the Code requires that active check valves be exercised to the position required to fulfill their function at least once every 3 months.

Basis for Requesting Relief

These check valves will be part-stroke exercised during cold shutdowns (see Note 18). It is never feasible to exercise these check valves at the design basis LOCA flow rate (approximately 14,000 gpm). Further, frequent disassembly and inspection of these valves is particularly burdensome because:

1. It requires defueling,
2. it requires draining of the reactor vessel,
3. frequent disassembly is inconsistent with ALARA principles, with radiation dose rates as high as 1400 mRem/hr,
4. all previous inspections have found no degradation that could lead to the inability of the valves to open to their full flow position,
5. all previous inspections have found that the valves could open to the full-stroke position,
6. a large number of man-hours are required for planning the disassembly/inspection, attaining the required plant conditions, performing the disassembly/inspection, documenting the findings, and performing the necessary Quality Control measures,
7. unnecessarily disassembling the valves greatly increases the risk of a maintenance induced failure,
8. inspections of all four of these valves in 1990, after 16 years of power operation, showed all of the valves to be in pristine condition,
9. the probability of a check valve failing to open on demand is very low both at the Kewaunee Plant and industry wide.

Alternate Method of Testing

These check valves will be part-stroke exercised during cold shutdowns in a manner demonstrating that the disk moves freely off its seat by comparison of pressure differential and flow rate. This test will not be repeated if the previous test was completed within 3 months. In addition, each of these valves will be disassembled and inspected at least once nominally during the 120-month interval in order to verify the ability of the valve to open to the full-stroke position. The disassembly, inspection and corrective action will use Generic Letter 89-04 as guidance, and a post-inspection part-stroke will be performed following reassembly. If the disassembled valve is not capable of being full-stroke exercised, or if there is binding or failure of valve internals, the remaining valves in this group will be disassembled, inspected and manually full-stroke exercised during the same outage. Disassembly and inspection beyond what is stated here would be particularly

burdensome with little or no improvement to safety, and may actually be detrimental to safety.

Furthermore, WPSC is considering adopting Non-Intrusive Testing as an alternative to disassembly and inspection. If Non-Intrusive Testing is adopted, it will be conducted in lieu of the disassembly and inspection described above.

Relief Request IST-RR-11

Components Affected

Component Cooling Pump A
Component Cooling Pump B

Code Requirement

Paragraph 5.2 of Part 6 of the Code details the pump parameters that must be measured or observed at least once every 3 months with the pump operating. Included in the parameters to be measured is flow rate.

Basis for Requesting Relief

Component Cooling flow will vary depending on plant mode and amount of equipment in service needing cooling. Therefore, a stable flow rate at a predefined reference value cannot be reproduced during each quarterly test.

Alternate Methods of Testing

Pump performance measurements are made with the flow condition of nominal flow during power operation plus flow through RHR heat exchanger 1B. Flow measurements are made from a computer point and differential pressures are measured and recorded. The differential pressure is compared to that predicted by the pump curve for the measured flow rate. Action levels have been established based on the deviation from the predicted pump curve values. This method of establishing Action levels is consistent with Paragraph 6.1 of Part 6 of the Code.

The following elements are used in developing and implementing the reference pump curve:

1) The data used to develop the pump acceptance criteria curve have been compared to the manufacturer supplied pump curve and the comparison does validate the proper operation of the pump.

2) The instruments used to measure the operating characteristics of the pump meet the ±2% accuracy requirements stated in Table 1 of ASME/ANSI OM Part 6.

3) The pump curve is based on six data points.

4) The six data points chosen are beyond the "flat" portion of the curve in the region in which the pump is normally operating. The design flowrate of the pumps is 3650 gpm and the acceptance criteria curve has a range of 2300 gpm to 3700 gpm.

5) KNPP Technical Specifications and Updated Safety Analysis Report were reviewed to ensure that the pump curve does not conflict with any operability criteria.

6) The vibration levels do not vary significantly over the operating range of the pumps, therefore, one set of vibration acceptance criteria will be used.

7) An inservice test is performed on all equipment within the scope of the IST plan following repair, replacement, or service to determine a new acceptance criteria or revalidate the old acceptance criteria prior to returning the equipment to service.

Relief Request IST-RR-12

Components Affected

Valve #	Flow Diagram
CVC-7	X-K100-36

Code Requirement

Paragraph 1.2(a)(2) of Part 10 of the Code states that valves used for system control are exempt from testing; however, this control valve may be required to perform a containment isolation function. Therefore, this normally open valve is considered "active" and should be exercised to the closed position every 3 months. This valve does not provide a reactor coolant system pressure isolation function.

Basis for Requesting Relief

CVC-7 is an air-operated control valve, with a manual loading station, required to remain open during normal plant operation. The valve must remain open to provide a flow path from the charging pumps to the reactor coolant system. Therefore, exercising is not possible on a quarterly frequency. In addition, since the valve is manually controlled, measuring closing stroke time is not appropriate. Control valves are exempt from IST testing; however, since CVC-7 may perform a containment isolation function, it is included in the KNPP Pumps and Valves IST Plan.

Alternate Method of Testing

CVC-7 will be full-stroke exercised and verified to exhibit smooth closure during cold shutdowns, unless tested within the preceding three months. This full-stroke exercise will be completed without positive verification of valve obturator movement. The category "A" leakage test will be completed during 10 CFR 50, Appendix J testing in accordance with paragraph 4.2.2.2 of Part 10 of the Code. The analysis of leakage rates and corrective actions will be in accordance with paragraphs 4.2.2.3(e) and 4.2.2.3(f) of Part 10 of the Code.

Note: This relief request was previously granted by NRC SERs dated 9/13/90 and 1/6/92.

Relief Request IST-RR-18

Components Affected

Valve #	Flow Diagram
PR-33A	X-K100-10
PR-33B	X-K100-10
RC-45A	X-K100-10
RC-45B	X-K100-10
RC-46	X-K100-10
RC-49	X-K100-10
RC-422	X-K100-44
RC-423	X-K100-44

Code Requirement

Paragraph 4.1 of Part 10 of the Code requires that these valves be observed at least once every two years to verify that valve operation is accurately indicated by their remote position indicators.

Basis for Requesting Relief

These valves are the pressurizer and reactor vessel head vent valves and the RCS hot leg sample line isolation valves. All the affected valves are fast-acting solenoid operated valves and are designed with completely enclosed movable plug/valve stem assemblies and position indicating reed switches. This design precludes observation of valve and switch operation for the purpose of verifying remote indication.

Alternate Method of Examination

The two RCS hot leg sample line isolation valves are leak tested during each refueling outage in accordance with 10 CFR 50, Appendix J, and are used routinely for obtaining reactor coolant samples; unexpected results in either case would identify potential problems with the remote position indication. Likewise, the pressurizer and reactor head vent valves are tested to verify open flow paths during each performance of the reactor coolant system fill and vent procedure and leak tightness is observed routinely within the scope of RCS leakage monitoring required by Technical Specifications. Problems with the remote position indication for these valves would be identified.

Note: This relief request was previously granted by NRC SER dated 9/13/90.

Relief Request IST-RR-23

Components Affected

Diesel Generator Fuel Oil Transfer Pump 1A
Diesel Generator Fuel Oil Transfer Pump 1B

Code Requirement

The Diesel Generator fuel oil transfer pumps are not within the scope of inservice testing as defined by paragraph 1.1 of Part 6 of the Code; performance testing of these pumps is not specifically required by the Code. However, 10 CFR 50.55(f)(6)(ii) states that the Commission may require the licensee to follow an augmented inservice inspection program for systems and components which it deems necessary. The current NRC position is that the Emergency Diesel Generator fuel oil transfer pumps should be included in the IST program and should be tested in accordance with the Code except where specific relief is requested.

Basis for Requesting Relief

The fuel oil transfer pumps are submerged within the underground fuel oil storage tanks in approximately 10 feet of diesel fuel oil and are inaccessible for routine testing or monitoring. In addition, instrumentation is not installed with which to measure, rotor vibration, flow rate, differential pressure, etc.

The Diesel Generators are supplied from indoor fuel oil day tanks which provide sufficient fuel capacity for Diesel Generator response to a loss of off-site power. As such, the fuel oil transfer pumps are not required to perform a specific function in shutting down the reactor or in mitigating the consequences of an accident (paragraph 1.1 of Part 6 of the Code), but are used only to replenish the day tanks upon fuel oil level loss during Diesel Generator runs. However, should a fuel oil transfer pump become inoperable, a variety of alternate means are available to transfer fuel oil to the day tanks; sufficient time is available to implement these alternate means of fuel oil transfer.

Alternate Method of Testing

The Diesel Generator fuel oil transfer pumps will be verified operable on a monthly basis in conjunction with routine surveillance testing (i.e., 2 hour duration run test) of the Emergency Diesel Generators. Operability of the fuel oil transfer pumps is defined as the ability to transfer fuel oil from the underground fuel oil storage tanks to the day tanks.

Note: This relief request was previously granted by NRC SER dated 9/13/90. This component is outside the ASME code class 1,2, and 3 boundary and therefore NRC review and approval is not required.

Relief Request IST-RR-24

Components Affected

Valve #	Flow Diagram
SW-501A	M-202
SW-501B	M-202

Code Requirement

Section 4.3.2 of Part 10 of the Code requires that active check valves be exercised to the position required to fulfill their function at least once every 3 months.

Basis for Requesting Relief

The safety function of these normally closed category "C" active check valves is to open to allow service water to flow to the Turbine Driven Auxiliary Feedwater Pump when other steam generator make-up water sources are not available. Full-stroke exercising of these valves would result in the introduction of Service Water into the AFW system. Part-stroke exercising is performed on a quarterly basis.

Alternate Method of Testing

Part-stroke exercising will continue to be performed on a quarterly basis. To verify full-stroke open capability, one of the two valves will be alternately disassembled and inspected each refueling outage, using the guidance of Generic Letter 89-04. Corrective action will be implemented using the guidance of Generic Letter 89-04, and a post-disassembly part-stroke test will be performed.

Furthermore, WPSC is considering adopting Non-Intrusive Testing as an alternative to disassembly and inspection. If Non-Intrusive Testing is adopted, it will be conducted in lieu of the disassembly and inspection described above.

Relief Request IST-RR-25

Components Affected

Valve #	Flow Diagram
SW-1501	M-218

Code Requirement

Section 4.3.2 of Part 10 of the Code requires that active check valves be exercised to the position required to fulfill their function at least once every 3 months.

Basis for Requesting Relief

The testing of this valve is not required by paragraph 1.1 of Part 10 of the Code; however it has been included in the IST Plan to address an NRC concern. The function of this normally closed category "C" active check valve is to open to provide Service Water make-up water to the Spent Fuel Pool in an emergency. Exercising of this valve is never practical because full-stroke or part-stroke exercising of this valve would introduce Service Water into the Fuel Pool Cooling System. This valve is never operated, and would only be operated if no other means existed to provide make-up water to the Spent Fuel Pool. Previous inspections of this valve have shown no degradation that would lead to prevention of the valve from performing its function, and the probability of a check valve failing to open, both at Kewaunee and industry wide, is very low.

Alternate Method of Testing

To verify full-stroke capability, this valve will be disassembled and inspected at intervals not to exceed 60 months using Generic Letter 89-04 as guidance. A post-assembly part-stroke test cannot be performed, as it would introduce Service Water into the Spent Fuel Pool. If inability of the valve to reach the full-stroke position is noted in the inspection, the frequency of valve disassembly and inspection will be increased to every other refueling outage. More frequent disassembly and inspection of this valve increases the probability of a maintenance induced failure, and will have little benefit to safety. Furthermore, approval of this relief request will allow the disassembly and inspection to be performed a reasonable length of time (less than 8 weeks) prior to a refueling outage to take advantage of the low spent fuel cooling requirement present during this time.

Furthermore, WPSC is considering adopting Non-Intrusive Testing as an alternative to disassembly and inspection. If Non-Intrusive Testing is adopted, it will be conducted in lieu of the disassembly and inspection described above.

Note: Testing of this valve is not required by paragraph 1.1 of Part 10 of the Code and therefore NRC review and approval of this relief request is not required.

Relief Request IST-RR-26

Components Affected

Valve #	Flow Diagram
CI-1003	M-217

Code Requirement

Section 4.3.2 of Part 10 of the Code requires that active check valves be exercised to the position required to fulfill their function at least once every 3 months.

Basis for Requesting Relief

The safety function of this normally closed category "C" active check valve is to open to allow the flow of Sodium Hydroxide (caustic) to the Internal Containment Spray System during a Loss of Coolant Casualty. Part-Stroke or full-stroke exercising of this valve would result in the introduction of caustic into the Internal Containment Spray System.

Alternate Method of Testing

To verify full-stroke open capability, this valve will be disassembled and inspected each refueling outage, using the guidance of Generic Letter 89-04. Corrective action will be implemented using the guidance of Generic Letter 89-04. For the reasons given above, however, a post-disassembly part-stroke test will be not be performed.

Furthermore, WPSC is considering adopting Non-Intrusive Testing as an alternative to disassembly and inspection. If Non-Intrusive Testing is adopted, it will be conducted in lieu of the disassembly and inspection described above.

Relief Request IST-RR-27

Components Affected	Flow Diagram
Service Water Pump A1	M-202 Sheet 1
Service Water Pump A2	
Service Water Pump B1	
Service Water Pump B2	

Code Requirement

Paragraph 5.2 of Part 6 of the Code details the pump parameters that must be measured or observed at least once every 3 months with the pump operating. Included in the parameters to be measured is flow rate.

Basis for Requesting Relief

Service Water flow will vary depending on the plant mode and amount of equipment in service needing cooling. Therefore, a stable flow rate at a predefined reference value cannot be reproduced during each quarterly test.

Alternate Method of Testing

Pump performance measurements are made with the flow condition of nominal flow during power operation.

Flow measurements are made locally with ultrasonic flow meters and differential pressure is calculated and recorded. The differential pressure is compared to that predicted by the pump curve for the measured flow rate. Alert and Action levels have been established based on the deviation from the predicted pump curve values. This method of establishing Alert and Action levels is consistent with paragraph 6.1 of Part 6 of the Code.

The following elements are used in developing and implementing the reference pump curves:

1) The data used to develop the pump acceptance criteria curves have been compared to the manufacturer supplied pump curves and the comparison does validate the proper operation of the pumps.

2) The instruments used to measure the operating characteristics of the pumps meet the ±2% accuracy requirements stated in Table 1 of ASME/ANSI OM Part 6.

3) The pump curves are based on six data points.

4) The six data points chosen are beyond the "flat" portion of the curve in the region in which the pump is normally operating. The design flowrate of the pumps is 6400 gpm and the acceptance criteria curve has a range of 1700 gpm to 4500 gpm.

5) KNPP Technical Specifications and the Updated Safety Analysis Report were reviewed to ensure that the pump curves do not conflict with any operability criteria.

6) The vibration levels do not vary significantly over the operating range of the pumps, therefore, one set of vibration acceptance criteria will be used.

7) An inservice test is performed on all equipment within the scope of the IST plan following repair, replacement, or service to determine a new acceptance criteria or revalidate the old acceptance criteria prior to returning the equipment to service.

Relief Request IST-RR-28

Components Affected	Flow Diagram
Residual Heat Removal Pumps	X-K100-18
Auxiliary Feedwater Pumps	M-205

Code Requirement

Section 4.6.1.2 of Part 6 of the Code requires that the full-scale range of each analog instrument shall be not greater than three times the reference value.

Basis for Requesting Relief

The local suction pressure gauges for the Residual Heat Removal pumps have a range of 0 to 100 psig and an accuracy of ± 0.5%. The local suction pressure gauges for the Auxiliary Feedwater pumps have a range of -15 to 100 psig and an accuracy of ± 0.87%. WPSC does not maintain a suction pressure reference value for these pumps. Rather, a pump differential pressure is determined by subtracting the suction pressure from the discharge pressure.

The normal value for suction pressure of the Residual Heat Removal pumps is 28 psig. The suction pressure gauges therefore exceed the three times the reference value criteria of Part 6. As stated above, the accuracy of these gauges is ± 0.5%, or 0.5 psig over the full scale reading. Using this accuracy with the three times reference value of 84 psig yields an accuracy of ± 0.6%. Combining this accuracy with the accuracy of the discharge pressure gauges results in a total pump differential pressure error of 0.92%, which is better than the ± 2% accuracy required by Part 6.

The normal value for suction pressure of the Auxiliary Feedwater pumps is 15 psig. The suction pressure gauges therefore exceed the three times the reference value criteria of Part 6. For ease of calculations, the range of the gauge is assumed to read 0 to 115 psig, and therefore the normal suction pressure reading would be 30 psig. As stated above, the accuracy of these gauges is ± 0.87%, or 1.0005 psig over the full scale reading. Using this accuracy with the three times reference value of 90 psig yields an accuracy of ± 1.11%. Combining this accuracy with the accuracy of the discharge pressure gauges results in a total pump differential pressure error of 1.22%, which is better than the accuracy required by Part 6.

Alternate Method of Testing

As an alternative to the instrument range requirements of section 4.6.1.2 of Part 6 of the Code, Residual Heat Removal pump and Auxiliary Feedwater pump suction pressures will be measured with the currently installed instrumentation with the above stated accuracies.

APPENDIX B

Inservice Testing Plan

Note Index

Note 1 These valves have been defined as "passive" in accordance with paragraph 1.3 of Part 10 of the Code. Exercise testing of these valves is not required in accordance with Table 1 of Part 10 of the Code.

Note 2 The leakage testing of these valves is performed in accordance with Technical Specification 4.2.a.3.

Note 3 Testing of safety and relief valves will be in accordance with the requirements of paragraph 4.3.1 of Part 10 of the Code.

Note 4 Testing of this valve is not required by paragraph 1.1 of Part 10 of the Code; however, since the operation of this valve has been determined to be important, the valve has been included in the program. This valve will be exercised tested only, and at the frequency shown.

Note 4A Testing of this valve is not required by paragraph 1.1 of Part 10 of the Code; however, since the operation of this valve has been determined to be important, the valve has been included in the program. In response to Generic Letter 90-06, WPSC committed to testing this valve during hot shutdown or intermediate shutdown; hence the exercise testing of this valve can be completed in either the hot shutdown or intermediate shutdown mode. Note that the Kewaunee definitions of "Hot Shutdown" and "Intermediate Shutdown" are equivalent to the NUREG 1431 definitions of "Hot Standby" and "Hot Shutdown," respectively. This test will not be repeated each hot/intermediate shutdown if the interval between tests is less than 3 months.

Note 4B This component is outside of the ASME Section XI Code Class 1, 2 and 3 boundary, however, since the operation of this component has been determined to be important, the component has been included in the program. The component will be tested as shown.

Note 5 These valves are not ASME Section XI Code Class 1, 2 or 3 but have been determined to be important to safety and therefore, the NRC requires an augmented inservice inspection per 10 CFR 50.55a(f)(6)(ii). These valves will be exercise tested only, at the frequency shown.

Note 6 These valves are administratively locked closed during power operation and cannot be cycled. In accordance with paragraph 4.2.1.2(c) of Part 10 of the Code, these valves will be full-stroke exercised during cold shutdowns.

Note 7 These valves are associated with the residual heat removal (RHR) system. The RHR suction valves (RHR-1A, RHR-1B, RHR-2A, RHR-2B) are interlocked with the RCS pressure and cannot be opened when RCS pressure is above 450 psig. The RHR pump suction check valves (RHR-3A and RHR-3B) cannot be exercised during power operation since the flow path involves taking a suction from the RCS hot legs and the suction isolation valves cannot be opened at normal operating RCS pressure. In accordance with paragraph 4.2.1.2(c) of Part 10 of the Code, these valves will be exercised during cold shutdowns.

Note 8 This valve does not perform a safety-related function, however, it is the normal RHR cooldown flow path isolation valve. Since this valve will be operated during a normal controlled cooldown evolution, periodic testing is prudent; therefore, the valve has been included in the program. Exercise testing during cold shutdowns will identify valve degradation.

Note 9 These RHR pump discharge check valves cannot be full-stroke exercised during power operation since the RHR pump head is not sufficient to overcome RCS pressure. These valves are part-stroked on a quarterly basis during the RHR pump test which utilizes a minimum flow recirculation line. In accordance with paragraph 4.3.2.2(c) of Part 10 of the Code, these valves will be full-stroke exercised during cold shutdowns.

Note 10 Exercising the main steam isolation valves (either full-stroke or part-stroke) during power operation would cause a plant transient that would result in a plant trip. MS-1A/B will be full-stroke exercise tested during hot shutdown or intermediate shutdown. Note that the Kewaunee definitions of "Hot Shutdown" and "Intermediate Shutdown" are equivalent to the NUREG 1431 definitions of "Hot Standby" and "Hot Shutdown," respectively. This test will not be repeated each hot/intermediate shutdown if the interval between tests is less than 3 months.

Note 11 Exercising these valves during power operation would result in a loss of feedwater to the steam generators which would cause a plant trip. In accordance with paragraph 4.3.2.2(c) of Part 10 of the Code, these valves will be full-stroke exercised when the plant is to be placed in a cold shutdown condition. Testing will be performed while the plant is in hot or intermediate shutdown. Full closure will be verified by comparing pressures in the steam generators with the pressures upstream of the valves.

Note 12 Exercising these valves during power operation would result in thermal cycling of the feedwater nozzles and piping, which could result in premature component failure. In accordance with paragraph 4.3.2.2(c) of Part 10 of the Code, these valves will be full-stroke exercised during cold shutdowns.

Note 13 Exercising this isolation valve in the letdown line to the closed position during power operation could thermal shock the regenerative heat exchanger and charging piping, possibly causing premature failure. In accordance with paragraph 4.2.1.2(c) of Part 10 of the Code, this valve will be full-stroke exercised during cold shutdowns.

Note 14 Deleted

Note 15 Closure of this normally open valve would result in isolation of instrument air to containment. Removing instrument air to containment results in several air operated valves failing to their safe position. Several systems which are desired operable during power operation, such as charging and letdown, would isolate on loss of instrument air to the system's isolation valves. In accordance with paragraph 4.2.1.2(c) of Part 10 of the Code, this valve will be full-stroke exercised during cold shutdowns.

Note 16 Since the Auxiliary Feedwater (AFW) pumps are not full-flow tested during power operation (see note 12), full-stroke verification for these valves cannot be performed during power operation. In accordance with paragraph 4.3.2.2(b) of Part 10 of the Code, these valves will be part-stroked during the quarterly AFW pump test and full-stroke exercised during cold shutdowns.

Note 17 In accordance with paragraph 1.2(a)(1) of Part 10 of the Code, these valves are not required to be included in the IST Plan. However, they are exercised during the quarterly safety injection pump and valve test. When a SI pump is running on mini-flow recirculation, its corresponding test line check valve must open.

Note 18 These SI Accumulator discharge check valves cannot be full-stroke or part-stroke exercised during power operation since neither Accumulator pressure or SI pump discharge pressure are sufficient to overcome RCS pressure. In accordance with Relief Request IST-RR-10A, these valves will be part-stroke exercised during cold shutdowns. Additionally, further testing will be in accordance with Relief Request IST-RR-10A.

Note 19 These valves are outside of the ASME Section XI Code Class 1, 2 and 3 boundary. Also, testing these ventilation dampers is outside the scope paragraph 1.1 of Part 10 of the Code; however, since their operation has been determined to be important to the operation of the Containment Fan Units, these dampers have been included in the program for exercise testing only with a test frequency of once each refueling shutdown.

Note 20 The valves are not ASME Code Class 1, 2, or 3 but have been determined to be important to safety and therefore, the NRC requires an augmented inservice inspection per 10 CFR 50.55a(f)(6)(ii). These check valves are exercised to the position required to perform their safety function in accordance with the ASME Code during diesel generator testing.

Note 21 These valves are not capable of being full-stroke exercised. Full-stroke exercising would result in the flow of service water into AFW system. These valves will be partial flow tested on a quarterly basis. Further testing will be in accordance with Relief Request IST-RR-24.

Note 22 Testing of this valve is not required by the paragraph 1.1 of Part 10 of the Code; however, since the operation of this valve has been determined to be important, the valve has been included in the program. This valve is not capable of being full-stroke or part-stroke exercised. Full-stroke or part-stroke exercising would result in the flow of service water into the Spent Fuel Pool Cooling system. Further testing will be in accordance with Relief Request IST-RR-25.

Note 23 Exercise tests during plant operation or during cold shutdown in the closed direction are not practical. These valves are normally open check valves whose safety function is to shut to provide containment isolation. They do not have a reactor coolant system pressure isolation function. Exercise testing in the closed direction will not be performed since these lines are required to operate. Removing instrument air to containment results in several air operated valves failing to their safe position. Systems which are desirable to operate, such as charging and letdown, would isolate on loss of instrument air. Exercise testing of the valves in the CVC system would also require the securing of charging, letdown and Reactor Coolant Pump seal injection. In accordance with paragraph 4.2.2.2 of Part 10 of the Code, the Category "A" leakage test is satisfied by completing the 10 CFR 50, Appendix J testing. This will verify full closure capability. The analysis of leakage and the corrective actions will be in accordance with Section 4.2.2.3(e) and 4.2.2.3(f) of Part 10 of the Code. The Category "A" and Category "C" exercise test will also be performed by completing 10 CFR 50, Appendix J testing each refueling.

Note 24 This valve acts as a containment isolation valve and is not a reactor coolant system pressure isolation valve. In accordance with paragraph 4.2.2.2 of Part 10 of the Code, the Category "A" leakage test is satisfied by completing the 10 CFR 50, Appendix J testing. The leakage will be analyzed and corrective action taken in accordance with paragraphs 4.2.2.3(e) & (f) of Part 10 of the Code.

Note 25 These valves are the pressurizer and reactor vessel head vent valves. These valves cannot be operated during power operation because opening the valves could relieve reactor coolant water to either the pressurizer relief tank or directly to containment. Unnecessarily challenging these valves during power operation could result in a significant loss of coolant inventory. These valves cannot be exercise tested during cold shutdown conditions for similar reasons. Testing during cold shutdown conditions has indicated that unexpected valve opening can occur. As one of two valves in a series is opened, the associated valve has experienced burping or chattering. Unnecessary challenges to the system under cold shutdown conditions is not warranted. In accordance with paragraph 4.2.1.2(e), since it is not practicable to exercise these valves during plant operations or cold shutdowns, these valves will be full-stroke exercised during refueling outages.

Note 26 The safety function of these active category "A" valves is to provide containment isolation. They do not provide a reactor coolant system pressure isolation function. If the RCP seal return line containment isolation valves were placed in the closed position during power operation it would challenge the seal return relief valve and could cause a loss of RCS water to the pressurizer relief tanks. Therefore, closure of these valves during reactor coolant pump operation is not in the best interest of safety. If the reactor coolant pumps are secured during a cold shutdown, these valves will be exercised at that time, otherwise they will be exercised during the refueling outage. This ensures that the valves will be exercised at least on a refueling outage frequency. This is consistent with paragraph 4.2.1.2(e) of Part 10 of the Code.

Note 27 Not a variable speed pump.

Note 28 Not a positive displacement pump.

Note 29 Bypass loop used in accordance with paragraph 3.2 of Part 6 of the Code.

Note 30 SP 55-177 is completed in conjunction with SP 33-098, SP 33-191, SP 34-099, SP 34-285, SP 02-138, SP 31-168, SP 05B-104, SP 05B-283, SP 05B-105, SP 05B-284, SP 23-100.

Note 31 Performed once each Cold Shutdown, unless previous test was performed within last 3 months.

Note 32 Performed once each Refueling Shutdown, unless previous test was performed within last 3 months.

Note 33 In accordance with Table 1 of Part 10 of the Code, leakage testing is not required on a category "C" valve.

Note 34 In accordance with Table 1 of Part 10 of the Code, leakage testing is not required on a category "B" valve.

Note 35 These HPSI and LPSI check valves cannot be full-stoke or part-stroke exercised during power operation because neither the SI Pump head or the RHR Pump head is sufficient to overcome RCS pressure. The HPSI check valves cannot be full-stroke exercised using the SI Pumps during cold shutdowns since this could result in a challenge to the RCS low-temperature overpressurization protection system. These valves will be exercise tested on a refueling outage frequency in accordance with paragraph 4.3.2.2(e) of Part 10 of the Code.

The LPSI check valves cannot be full-stroke exercised during cold shutdowns since there is not sufficient expansion volume in the RCS to allow flow to be established to test these valves. In addition, these valves cannot be exercised during cold shutdowns since establishing RHR flow through them may cause cooling flow to bypass the core and not remove decay heat. These valves will be exercise tested on a refueling outage frequency in accordance with paragraph 4.3.2.2(e) of Part 10 of the Code.

Note 36 These valves are normally closed stop-check valves whose safety function is to remain closed post accident to provide containment isolation (i.e. passive). They are not reactor coolant system pressure isolation valves. Infrequent periodic opening of these valves during power operation is necessary to perform semi-annual surveillance procedures inside containment, and to perform infrequent corrective maintenance inside containment. If these valves are opened during power operation, they are opened for short duration only and are maintained under administrative control.

These valves will be categorized as passive valves, and therefore no exercise tests will be required. These valves do act as containment isolation valves and will be tested in accordance with 10 CFR 50, Appendix J. This testing meets the requirements for Category "A" leakage testing in accordance with paragraph 4.2.2.2 of Part 10 of the Code. This test will verify full closure capability. The analysis of leakage rates and corrective actions will be in accordance with paragraphs 4.2.2.3(e) and 4.2.2.3(f) of Part 10 of the Code.

Note 37 Leakage testing of this Category "C" valve is not required. The leakage test procedure is listed for administrative tracking purposes only and is not a part of the Inservice Testing Plan.

Note 38 Leakage testing of this Category "B" valve is not required. The leakage test procedure is listed for administrative tracking purposes only and is not a part of the Inservice Testing Plan.

Note 39 These are normally closed manual valves whose safety function is to remain closed post accident to provide containment isolation (i.e. passive). They are not reactor coolant system pressure isolation valves. Infrequent periodic opening of these valves during power operation is necessary to perform semi-annual surveillance procedures in the annulus. If these valves are opened during power operation, they are opened for short duration only and are maintained under administrative control.

These valves will be categorized as passive valves, and therefore no exercise tests will be required. These valves do act as containment isolation valves and will be tested in accordance with 10 CFR 50, Appendix J. This testing meets the requirements for Category "A" leakage testing in accordance with paragraph 4.2.2.2 of Part 10 of the Code. This test will verify full closure capability. The analysis of leakage rates and corrective actions will be in accordance with paragraphs 4.2.2.3(e) and 4.2.2.3(f) of Part 10 of the Code.

Note 40 Inlet pressure to the Service Water Pumps, which is used to calculate pump Differential Pressure, will be calculated by measuring forebay level.

Note 41 Inlet pressure to the Containment Spray Pumps, which is used to calculate pump Differential Pressure, will be calculated from the level in the Refueling Water Storage Tank.

Note 42 The FW regulating valves and bypass valves are stroked and timed each time the plant is required to be taken to a cold shutdown condition, unless a test has been performed within the last 3 months. It is not possible to test these valves during power operation because it would initiate a transient that could lead to a plant trip. The valves are cycled by use of the manual loading station during feedwater system startup to demonstrate smooth and free operation.

On-line maintenance(e.g.,packing adjustment),which would typically require a retest, may be performed without performing a retest as long as an assessment of the effect of the maintenance on valve performance is done. The assessment must demonstrate that 1)for packing adjustments, that the packing adjustment is within torque limits specified by the manufacturer for the existing configuration and 2) the performance parameters of the valve are not adversely affected. A confirmatory test must be performed at the first available opportunity when plant conditions allow testing(i.e.,hot shutdown).

Packing adjustments which are beyond the manufacturer's limits may not be performed without 1)an engineering analysis and 2)input from the manufacturer.

Note 43 Stroking these valves results in NaOH intrusion into the RWST. The NaOH eventually gets into the RCS during refueling outages when the RWST is used to fill the refueling cavity. The NaOH in the RWST has the following potential adverse effects: 1) Higher RCS activity and radiation levels in certain areas of the plant due to activation of the Na, 2) Reduced CVCS demineralizer life, and 3) Increased corrosion rates of RCS components. Changing the test frequency to refueling will allow coordination of stroking CI-1001A/B with disassembly of CI-1003 and will minimize the NaOH intrusion into the RWST.

ATTACHMENT 3

Letter from M. L. Marchi (WPSC)

To

Document Control Desk (NRC)

Dated

August 28, 1997

Relief Request IST-RR-29

Relief Request IST-RR-29

Components Affected

Valve #	Flow Diagram
SI-350A	X-K100-28
SI-350B	X-K100-28

Code Requirement

Section 4.1 of Part 10 of the Code requires that valves with remote position indication be observed locally at least once every 2 years to verify that valve operation is accurately indicated.

Basis for Requesting Relief

These valves are containment isolation valves located outside of the containment building in a separate enclosure. Prior to performing the required local observation, the enclosures must be disassembled/removed. Following observation, the enclosures need to be reassembled and leakrate tested in accordance with Appendix J. The additional maintenance activities involved with this local observation are time consuming and performed in a Radiation Area. This local observation provides little increase in the reliable operation of the valves. These valves are stroke tested and timed quarterly which could aid in determining improper valve position indication. In addition to valve position lights, these valves also have status lights to indicate when the valves are open, which could also aid in determining improper valve position indication. The possibility does exist to determine valve operation by observing changes in pipe fluid inventory before and after valve stroke. However, this is a non-normal evolution requiring unnecessary manipulation of manual vent and drain valves located between the dual containment isolation valves.

Alternate Method of Testing

These valves will have remote position verification performed on a 36 month frequency. This verification will normally be performed coincident with preventative maintenance on the valve motor operators which is scheduled on a 36 month frequency. The 36 month frequency is based on past preventative maintenance and inspection results, and corresponds with every other 18 month refueling cycle.