TABLE A
THREE MILE ISLAND UNIT NO. I
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)

I. SCOPE AND OBJECTIVES

This table describes the Inservice Inspection Program for all Class 1, 2, and 3 pumps which are provided with an emergency power source. The objective of this program is to provide assurance of the operational readiness of these pumps during their service life.

II. APPLICABLE ASME CODE EDITION AND ADDENDA

In accordance with 10 CFR 50.55a(g)(4)(ii), the applicable Code Edition and Addenda are the 1980 Edition with Addenda through Winter, 1980.

III. PERIOD OF APPLICABILITY

In accordance with 10 CFR 50.55a(g)(5)(iv), this program is applicable from September, 1984 to September, 1994.

IV. INSPECTION PROGRAM

The inspection program, which is detailed in Table A-1, will be carried out in accordance with ASME Code Section XI, 1980 Edition with Addenda through Winter, 1980. Specific exceptions to the ASME Code Section XI requirements for each component are identified in Table A-2 along with the basis for each exception requested.

TABLE A-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)

PUMP NAME	PUMP NUMBER(S)	FLOW DIAGRAM	ISI DRAWING	TEST QUANTITIES MEASURED *							TEST INTERVAL
				N	P_i	ΔP	Q	V	LUBR. LEVEL	T_b**	
CONTROL BUILDING CHILLED WATER	AH-P3A AH-P3B	C-302-847	1D-ISI-FD-011		X	X		X			QUARTERLY
BUILDING SPRAY	BS-P1A BS-P1B	C-302-712	1D-ISI-FD-012		X	X	X	X	X	X	QUARTERLY
BORIC ACID	CA-P1A CA-P1B	C-302-670	1D-ISI-FD-021					X	X		PLANT REFUELING OUTAGES
DECAY HEAT CLOSED COOLING WATER	DC-P1A DC-P1B	C-302-645	1D-ISI-FD-003		X	X	X	X	X	X	QUARTERLY
DECAY HEAT REMOVAL	DH-P1A DH-P1B	C-302-640	1D-ISI-FD-005		X	X	X	X	X	X	QUARTERLY
DECAY HEAT RIVER WATER	DR-P1A DR-P1B	C-302-202	1D-ISI-FD-002		X	X	X				QUARTERLY

* SEE ASME SECTION XI FOR DEFINITION OF TEST QUANTITIES
** BEARING TEMPERATURES WILL BE MEASURED YEARLY PER ASME SECTION XI, IWP-3300

TABLE A-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)

PUMP NAME	PUMP NUMBER(S)	FLOW DIAGRAM	ISI DRAWING	TEST QUANTITIES MEASURED *							TEST INTERVAL
				N	P_i	ΔP	Q	V	LUBR. LEVEL	T_b**	
EMERGENCY FEEDWATER (TURBINE DRIVEN)	EF-P1	C-302-082	1D-ISI-FD-009	X	X	X		X	X	X	QUARTERLY
EMERGENCY FEEDWATER (MOTOR DRIVEN)	EF-P2A EF-P2A	C-302-082	1D-ISI-FD-009		X	X		X	X	X	QUARTERLY
MAKE-UP AND PURIFICATION	MU-P1A MU-P1B MU-P1C	C-302-661	1D-ISI-FD-017		X	X		X	X	X	QUARTERLY
NUCLEAR SERV. RIVER WATER	NR-P1A NR-P1B NR-P1C	C-302-202	1D-ISI-FD-002		X	X					QUARTERLY
					X	X	X				PLANT REFUELING OUTAGE
NUCLEAR SERV. CLOSED COOLING WATER	NS-P1A NS-P1B NS-P1C	C-302-610	1D-ISI-FD-010		X	X	X	X	X	X	QUARTERLY TWO PUMP COMBINATION TESTING
					X	X	X	X	X		PLANT REFUELING OUTAGE SINGLE PUMP TESTING

* SEE ASME SECTION XI FOR DEFINITION OF TEST QUANTITIES.
** BEARING TEMPERATURES WILL BE MEASURED YEARLY PER ASME SECTION XI, IWP-3300

TABLE A-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)

PUMP NAME	PUMP NUMBER(S)	FLOW DIAGRAM	ISI DRAWING	TEST QUANTITIES MEASURED *							TEST INTERVAL
				N	P_i	ΔP	Q	V	LUBR. LEVEL	T_b**	
REACTOR BLDG. EMERGENCY COOLING	RR-P1A RR-P1B	C-302-202	1D-ISI-FD-002		X	X					QUARTERLY
					X	X	X				PLANT REFUELING OUTAGE
SPENT FUEL COOLANT	SF-P1A SF-P2A	C-302-630	1D-ISI-FD-018				X	X	X		QUARTERLY
SCREEN WASH	SW-P1A SW-P1B	C-302-202	1D-ISI-FD-014		X	X					QUARTERLY
SCREEN HOUSE VENTILATION EQUIPMENT	SW-P2A SW-P2B	C-302-203	1D-ISI-FD-002		X	X					QUARTERLY
BORIC ACID RECYCLE	WDL-P13A WDL-P13B	C-302-692	1D-ISI-FD-021					X	X		PLANT REFUELING OUTAGES

* SEE ASME SECTION XI FOR DEFINITION OF TEST QUANTITIES
** BEARING TEMPERATURES WILL BE MEASURED YEARLY PER ASME SECTION XI, IWP-3300

TABLE A-2
THREE MILE ISLAND - UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)
EXCEPTIONS TO ASME XI REQUIREMENTS

PUMP NAME	PUMP NO.	ASME XI CODE CLASS	ASME III CODE CLASS EQUIVALENT	ASME XI EXCEPTION REQUESTED *	JUSTIFICATION	TESTING PERFORMED IN LIEU OF CODE REQUIREMENT
CONTROL BUILDING CHILLED WATER	AH-P3A AH-P3B	3	Non-Nuclear	Q	See Note 3	Flow metering will be installed prior to startup for Cycle 7.
				T_b	See Note 13	None
				Lubr. Level	See Note 13	None
BUILDING SPRAY	BS-P1A BS-P1B	2	N-2	None	N/A	N/A
BORIC ACID	CA-P1A CA-P1B	3	Non-Nuclear	Quarterly Testing	See Note 12	Refueling interval testing
				Q	See Note 12	Q will be caluclated
				P_i	See Note 12	None
				ΔP	See Note 12	ΔP will be calculated
				T_b	See Note 5	None
				Five Minute runtime	See Note 12	Run until system is stable
DECAY HEAT CLOSED COOLING WATER	DC-P1A DC-P1B	3	Non-Nuclear	None	N/A	N/A
DECAY HEAT REMOVAL	DH-P1A DH-P1B	2	N-2	None	N/A	N/A
DECAY HEAT RIVER WATER	DR-P1A DR-P1B	3	Non-Nuclear	V	See Note 1	Motor vibration will be measured.
				T_b	See Note 2	None
				Lubr. Level	See Note 2	None

* SEE ASME SECTION XI FOR DEFINITION OF TEST QUANTITIES

TABLE A-2
THREE MILE ISLAND - UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)
EXCEPTIONS TO ASME XI REQUIREMENTS

PUMP NAME	PUMP NO.	ASME XI CODE CLASS	ASME III CODE CLASS EQUIVALENT	ASME XI EXCEPTION REQUESTED *	JUSTIFICATION	TESTING PERFORMED IN LIEU OF CODE REQUIREMENT
EMERGENCY FEED-WATER(TURBINE-DRIVE)	EF-P1	2	Non-Nuclear	Q	See Note 9	N/A
EMERGENCY FEED-WATER (MOTOR-DRIVE)	EF-P2A EF-P2B	2	Non-Nuclear	Q	See Note 9	N/A
MAKE-UP AND PURIFICATION	MU-P1A MU-P1B MU-P1C	2	N-2	Q	See Note 8	N/A
NUCLEAR SERVICE RIVER WATER	NR-P1A NR-P1B NR-P1C	3	Non-Nuclear	Q	See Note 6	Will be measured during plant refueling outages.
				V	See Note 1	Motor vibration will be measured.
				T_b	See Note 2	None
				Lubr. Level	See Note 2	None
NUCLEAR SERVICE CLOSED COOLING	NS-P1A NS-P1B NS-P1C	3	Non-Nuclear	Single Pump Testing	See Note 10	Single pump testing will be performed during each refueling outage.
REACTOR BUILDING EMERGENCY COOLING	RR-P1A RR-P1B	3	Non-Nuclear	Q	See Note 11	Q will be measured during plant refueling outages.
				V	See Note 1	Motor vibration will be measured.
				T_b	See Note 2	None
				Lubr. Level	See Note 2	None

* SEE ASME SECTION XI FOR DEFINITION OF TEST QUANTITIES

TABLE A-2
THREE MILE ISLAND - UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)
EXCEPTIONS TO ASME XI REQUIREMENTS

PUMP NAME	PUMP NO.	ASME XI CODE CLASS	ASME III CODE CLASS EQUIVALENT	ASME XI EXCEPTION REQUESTED *	JUSTIFICATION	TESTING PERFORMED IN LIEU OF CODE REQUIREMENT
SPENT FUEL	SF-P1A SF-P1B	3	N-3	P_i	See Note 4	None
				ΔP	See Note 4	None
				T_b	See Note 5	None
SCREEN WASH	SW-P1A SW-P1B	3	Non-Nuclear	Q	See Note 7	Visual observation of flow.
				V	See Note 1	Motor vibration will be measured.
				T_b	See Note 2	None
				Lubr. Level	See Note 2	None
SCREEN HOUSE VENTILATION EQUIPMENT	SW-P2A SW-P2B	3	Non-Nuclear	Q	See Note 3	Flow metering will be installed prior to startup for Cycle 7.
				V	See Note 1	Motor vibration will be measured.
				T_b	See Note 2	None
				Lubr. Level	See Note 2	None.
BORIC ACID RECYCLE	WDL-P13A WDL-P13B	3	Non-Nuclear	Quarterly Testing	See Note 12	Refueling interval testing
				Q	See Note 12	Q will be calculated
				P_i	See Note 12	None
				ΔP	See Note 12	ΔP will be calculated
				T_b	See Note 5	None
				Five Minute runtime	See Note 12	Run until system is stable

* SEE ASME SECTION XI FOR DEFINITION OF TEST QUANTITIES

TABLE A-2
THREE MILE ISLAND - UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)
EXCEPTIONS TO ASME XI REQUIREMENTS

JUSTIFICATION NOTES

Note 1

This is a vertical deep well type pump with the pump submerged under water at all times. It is not practical to measure pump vibration in this type of installation. Past operating experience has shown that motor vibration is indicative of pump mechanical problems in this type of installation. Therefore, motor vibration will be measured in lieu of pump vibration.

Note 2

This is a vertical deep well type pump with the pump submerged under water at all times. Pump bearings are lubricated by the fluid being pumped. There are no installed means of measuring bearing temperature and the pump design and installation makes it impractical to measure in any other manner.

Note 3

There are no flow meters installed in the flow path of this pump. Therefore test quantity "Q" cannot be measured. Prior to start-up for Cycle 7, GPUN will install flow metering for these pumps.

Note 4

Since there is no pump inlet pressure gauge installed, test quantities P_i and ΔP cannot be measured. Pumps SF-P1A/B take suction on the Spent Fuel Pools. The pool water level is alarmed at 40 feet (high) and 38-1/2 feet (low). This is a 1-1/2 foot (0.65 psi) difference. Therefore, SF-P1A/B suction pressure is nearly constant (can vary only by a maximum of 0.65 psig and this maximum difference in level is less than a 1 psig typical minor scale division).

ASME Section XI, IWP-3100 states that the testing method for IST shall be that either ΔP, or flow rate shall be throttled to a reference value. Since suction pressure gage taps are not available for SF-P1A/B, discharge pressure instead of ΔP is the throttled reference condition. Flow rate is then measured as the dependent variable.

TABLE A-2
THREE MILE ISLAND - UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)
EXCEPTIONS TO ASME XI REQUIREMENTS

JUSTIFICATION NOTES (Cont.)

Current reference values are:

	Discharge Pressure (psig)	Flow Rate (gpm)
SF-P1A	59	818
SF-P1B	62	758

Discharge pressure is considered the independent variable. Since suction pressure is relatively constant, a suction pressure gage is not needed to determine the operational readiness of SF-P1A/B.

This method of testing meets the intent of the ASME Code Section XI test requirements and ensures the operational readiness of these components without measuring ΔP or P_i.

Note 5

Pump bearing temperature cannot be measured on this pump since the bearings are located deep inside the pump casing and are surrounded by an oil reservoir. An exception is requested per 10 CFR 50.55a(g)(5)(iii) in that measurement of parameter T_b is not practical within the limits of the design of this pump.

Note 6

Flow metering for this system is located in the common discharge lines from all three pumps. Plant operating heat loads require the operation of at least two Nuclear Service River Water pumps during normal plant operation, thereby making it impossible to measure flow for a single pump. Pump flow will be measured for each pump during plant refueling outages when operation of only one pump is required.

Note 7

There are no flow instruments in the flow path of these pumps. Therefore, test quantity "Q" cannot be measured. As an alternative, the discharge at the spray nozzles will be observed during each test to determine if sufficient flow is available to wash the screens.

TABLE A-2
THREE MILE ISLAND - UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)
EXCEPTIONS TO ASME XI REQUIREMENTS

JUSTIFICATION NOTES (Cont.)

Note 8.

Installed plant instrumentation does not allow measuring the flow rate for each flow path for these pumps. Therefore, testing is performed using a combination of fixed resistance and reference value flow rate. Seal injection is held at 32 gpm. Normal makeup is isolated with 3.5 gpm through MU-V205 and the minimum recirculation line (MU-V36 and 37) is open providing fixed resistance. Q is the independent variable and P is the dependent variable. This testing method is allowable per ASME Section XI IWP-3100.

Note 9

The Emergency Feedwater Pumps (EF-P1 and EF-P2A/B) are tested on recirculation to the Condensate Storage Tanks. Installed orifices limit flow rate to a fixed value. Therefore, testing is conducted with Q as the independent variable and P as the dependent variable. This testing method is allowable per ASME Code Section XI IWP-3100.

Note 10

Flow metering for this system is located in the common discharge lines from all three pumps. Plant operating heat loads require the operation of at least two Nuclear Service Closed Cooling Water pumps during plant operation thereby making it impossible to measure flow for a single pump. Therefore, two-pump testing will be conducted on a quarterly frequency. Three two-pump tests will be performed as follows: (1) pumps A and B (2) pumps B and C, and (3) pumps A and C. Two-pump testing will be conducted in accordance with the requirements of ASME Section XI, Subsection IWP. Single pump testing will be performed during each refueling outage.

Note 11

The Reactor Building Cooling Water Pumps (RR-P1A/B) supply river water to the Reactor Building Emergency Cooling Coils. These pumps will be tested during normal plant operation using a fixed resistance flow path that bypasses the cooling coils. This test will not measure flow rate. The testing during normal plant operation will not pump river water through the cooling coils because after the test, the cooling coils must

JUSTIFICATION NOTES (Cont.)

be drained and then flushed with Nuclear Service Closed Cooling Water. The drain and flush water is drained to the Reactor Building Sump and this produces large quantities of water that must be processed through the Liquid Waste Disposal System. However, flow rate will be measured during refueling outages, when river water is pumped through the cooling coils in accordance with Technical Specification requirements.

Note 12

For CA-P1A/B and WDL-P13A/B, GPUN requests relief from the measurement of Q, ΔP, P_i, and the 5 minute run time. In addition, relief is requested to perform testing only during refueling outages.

Without recirculation capability, the only method of testing these pumps is to inject into the Reactor Coolant Makeup System. The resulting reactivity changes would affect plant operations adversely and would result in significant volumes of radioactive waste. For these reasons it is impractical to test the subject pumps during operation or during cold shutdown. The appropriate test interval is each refueling.

In a conference call with NRC on May 21, 1984, the following test program was agreed upon in order to meet the intent of the ASME Code Section XI test requirements:

1. Tests of the subject pumps will be conducted each refueling interval.

2. Pump differential pressure (ΔP) will be calculated, not measured, since pump inlet pressure (P_i) is not available (there are no existing pressure gauge taps).

3. Flow rate (Q) will be calculated using tank level change over time, since installed flow measuring instuments do not exist.

ASME Section XI IWP-3500 states that pumps under test should be run for at least 5 minutes under conditions as stable as the system permits prior to taking data. To minimize radioactive waste, the subject pumps will be run until the system is stablized and then data will be recorded. GPUN believes this meets the intent of IWP-3500.

TABLE A-2
THREE MILE ISLAND - UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (PUMPS)
EXCEPTIONS TO ASME XI REQUIREMENTS

JUSTIFICATION NOTES (Cont.)

ASME Section XI, IWP-1100 states that emergency powered pumps should be included in the IST Program. WDL-P13A/B are not emergency powered, but are included in the IST Program as requested by NRC. The addition of WDL-P13A/B in the program provides further assurance of the capability to supply concentrated boric acid to the Reactor Coolant Makeup System.

Note 13

The pump and motor form an integral unit. The pump bearings are located in the motor. There is no lubrication level on the pump that can be checked. Also yearly bearing temperatures will not be measured since the bearings are deep inside the motor end caps.

TABLE B
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

I. Scope and Objectives

This table describes the Inservice Inspection Program for all Class 1, 2, and 3 valves. The objective of this program is to provide assurance of the operability of these valves during their service life.

II. Applicable ASME Code Edition and Addenda

In accordance with 10 CFR 50.55a(g)(4)(ii), the applicable Code Edition and Addenda are the 1980 Edition with Addenda through Winter, 1980.

III. Period of Applicability

In accordance with 10 CFR 50.55a(g)(5)(iv), this program is applicable from September, 1984 to September, 1994.

IV. Inspection Program

The inspection program, which is detailed in Table B-1 will be carried out in accordance with ASME Section XI, 1980 Edition with Addenda through Winter, 1980. Specific exceptions to the ASME Code Section XI requirements for each component are identified in Table B-2 along with the basis for each exception requested.

In addition to tests indicated in Table B-1, all valves listed in Table B-1 with remote position indicators shall be observed at least once every two years to verify that valve operation is accurately indicated per ASME Section XI, IWV-3300.

SYMBOLS

Symbols which appear in the respective columns of Table B-1 are as follows:

CLASS

The ISI system classification of the portion of the system in which the valve is located.

CATEGORY

As defined in ASME Code, Section XI 1980 Edition through 1980, Winter Addenda, Paragraph IWV-2200.

TYPE OF TEST

T - Full stroke valve exercise and time measurement for power operated valves.

F - Full stroke functional check of valve operation.

P - Partial Valve stroke exercise. (Partial stroke times will not be measured).

L - Valve seat leak test.

SP - Set point test.

FS - Fail safe test.

Δ - Leak test. These check valves are Wash-1400 Event V configuration valves. The valves separate high and low pressure systems and they perform a pressure barrier function insuring that the low pressure system is not subjected to pressures which exceed their design limits.

D - Disassemble and perform visual examination.

TEST FREQUENCY

Q - Quarterly test frequency.

SYMBOLS (Cont.)

C - Cold shutdown test frequency (when shutdown exceeds 48 hours and more than 92 days have elapsed since test was performed during last previous shutdown period). This testing will continue until complete or the plant is ready to return to power. Completion of any valve testing will not be a prerequisite to return to power. Any testing not completed at one cold shutdown will be performed at subsequent cold shutdowns. (This is per a NRC staff position presented during a meeting on October 18, 1978).

R - Refueling outage test frequency.

RC- Following a Refueling or a Cold Shutdown When Cold Shutdown exceeds 30 days.

5Y - Tests of valves are distributed over a 5 year period per ASME Section XI, Table IWV-3510-1.

9M - Prior to achieving hot shutdown following a cold shutdown of greater than 72 hours duration unless testing has been performed within the previous 9 months, and prior to achieving hot shutdown after returning the valve to service following maintenance repair or replacement work.

10Y- Each 10 years at or near the end of the 10 year ISI interval.

NOTE: Roman numberals in parenthesis found in Table B-1 refer to the Roman numberals in Table B-2 which correspond to specific requests for relief from ASME Section XI test requirements.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
AIR HANDLING SYSTEM (1D-ISI-FD-023)	AH-V1A/D	B'FLY	48"	PNEU.	2	A	L/T(IX)/FS	R/Q/Q
	AH-V1B/C	B'FLY	48"	MOTOR	2	A	L/T	R/Q

NOTE: All valves listed in Table B-1 with remote indicators shall be observed at least once every two years to verify that valve operation is accurately indicated per ASME Section XI IWV-3300.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
CORE FLOODING SYSTEM (1D-ISI-FD-004)	CF-V2A/B	GLOBE	1"	MOTOR	2	A	L/T	R/Q
	CF-V4A/B	CHECK	14"	-----	1	A/C	Δ /P(VI)	9M(V)/C
	CF-V5A/B	CHECK	14"	-----	1	A/C	Δ /F	9M(V)/C
	CF-V12A/B	CHECK	1"	-----	2	A/C	L/F	R/C(1)
	CF-V19A/B	GATE	1"	DIAPHRAGM	2	A	L/T/FS	R/Q/Q
	CF-V20A/B	GATE	1"	DIAPHRAGM	2	A	L/T/FS	R/Q/Q

Footnote:

(1) In accordance with ASME Section XI IWV-3522, CF-V12A/B will be tested at each cold shutdown since testing CF-V12A/B involves changing the position of other valves (CF-V28A/B) that are listed in Operating Procedure Number 1101-3, "Containment Integrity and Access Limits". In accordance with procedure 1101-3, the position of CF-V28A/B may not be changed during normal reactor operation.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
CHEMICAL SAMPLING SYSTEM (1D-ISI-FD-020) & (1D-ISI-FD-021)	CA-V1	"Y"GLOBE	1"	MOTOR	1	A	L/T	R/Q
	CA-V2	"Y"GLOBE	1"	PNEU.	1	A	L/T(IX)/FS	R/Q/Q
	CA-V3	"Y"GLOBE	1"	MOTOR	1	A	L/T	R/Q
	CA-V4A/B	"Y"GLOBE	1"	MOTOR	2	A	L/T	R/Q
	CA-V5A/B	"Y"GLOBE	1"	PNEU.	2	A	L/T(IX)/FS	R/Q/Q
	CA-V13	GLOBE	1/2"	MOTOR	1	A	L/T	R/Q
	CA-V177	CHECK	1"	-----	3	C	F	R(IV)
	CA-V189	GATE	2"	PNEU.	2	A	L/T/FS	R/Q/Q
	CA-V192	CHECK	2"	-----	2	A/C	L/-(1)	R/-

Footnote:

(1) This CIV is passive (a closed vlave whose function is to remain closed). Therefore, this valve is excepted from the quarterly functional stroke requirement of IWV-3522 per NRC Staff Guidelines since no meaningful information would be gained.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO. TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
CHILLED WATER SYSTEM (1D-ISI-FD-011)	CH-V22A/B CHECK	4"	-------	3	C	F	Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
CONDENSATE SYSTEM (1D-ISI-FD-0u9)	CO-V16A/B	CHECK	10"	-----	3	C	P/F	Q/RC(II)

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
CONTAINMENT MONITORING (1D-ISI-FD-023)	CM-V1	BALL	1"	PNEU.	2	A	L/T(IX)/FS	R/Q/Q
	CM-V2	BALL	1"	PNEU.	2	A	L/T(IX)/FS	R/Q/Q
	CM-V3	BALL	1"	PNEU.	2	A	L/T(IX)/FS	R/Q/Q
	CM-V4	BALL	1"	PNEU.	2	A	L/T(IX)/FS	R/Q/Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
DECAY HEAT REMOVAL SYSTEM (1D-ISI-FD-005)	DH-V1	GATE	12"	MOTOR	1	B	T	C(3)
	DH-V2	GATE	12"	MOTOR	1	B	T	C(3)
	DH-V3	GATE	12"	MOTOR	2	B	T	Q
	DH-V4A/B	GATE	10"	MOTOR	2	B	T	Q
	DH-V5A/B	GATE	14"	MOTOR	2	B	T	Q
	DH-V6A/B	GATE	14"	MOTOR	2	B	T	R(I)
	DH-V7A/B	GATE	4"	MOTOR	2	B	T	Q
	DH-V12A/B(1)	GATE	12"	MANUAL	2	B	F	Q
	DH-V14A/B	CHECK	14"	-----	2	C	P/F	Q/R(III)
	DH-V16A/B	CHECK	10"	-----	2	C	P/F	Q/R(III)
	DH-V22A/B	CHECK	10"	-----	1	C	Δ /F	9M(V)/C
	DH-V38A/B	GATE	6"	MANUAL	2	B	F	Q
	DH-V64	GLOBE	2"	MANUAL	2	A	L/-(2)	R/-
	DH-V69	STP-CK	1-1/2"	MANUAL	2	A/C	L/-(2)	R/-

TABLE 3-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY

Footnotes:

(1) DH-V12B is in the supply line from the Reactor Vessel to the "B" Decay Heat Pump. For post-accident boron precipitation concerns, DH-V12B may be locked open during normal plant operation. If DH-V12B is locked open, it will become passive and therefore, functional stroke testing of this manual valve will be discontinued.

(2) This CIV is passive (a closed valve whose function is to remain closed). Therefore, this valve is exempted from the quarterly functional stroke requirement of IWV-3412 per NRC staff guidelines since no meaningful information would be gained.

(3) DH-V1 and DH-V2 are the two high pressure valves in the decay heat drop line (suction line to LPI pumps). During normal plant operation, these valves cannot be cycled because the margin of safety would be reduced by opening either of these two pressure barrier valves. Therefore, per ASME Section XI IWV 3412, these valves will be tested on a cold shutdown frequency.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
DECAY HEAT RIVER WATER SYSTEM (1D-ISI-FD-002) & (1D-ISI-FD-014)	DR-V1A/B	B'FLY	20"	MOTOR	3	B	T	Q
	DR-V21A/B	CHECK	1"	-----	3	C	F	Q
	DR-V22A/B	CHECK	1"	-----	3	C	F	Q
	DR-V26A/B	CHECK	2"	-----	3	C	F	Q
	DR-V37A/B	CHECK	3/8"	-----	3	C	F	Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
EMERG. FEED WATER SYSTEM (1D-ISI-FD-009) & (1D-ISI-FD-010)	EF-V3(1)	CHECK	6"	-----	3	C	P	Q
	EF-V4	GATE	6"	MOTOR	3	B	T	R(I)
	EF-V5	GATE	6"	MOTOR	3	B	T	R(I)
	EF-V11A/B	CHECK	4"	-----	3	C	F	RC(II)
	EF-V12A/B	CHECK	6"	-----	2	C	F	RC(II)
	EF-V13	CHECK	6"	-----	3	C	P/F	Q/RC(II)
	EF-V30A/B	CONTROL	3"	PNEU.	3	B	T/FS	Q/Q

Footnote:

(1) GPUN intends to remove the internals from this valve. When this is completed this valve will be deleted from the IST Program.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO. TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
EMERGENCY DIESEL GENERATOR COOLANT SYSTEM (1D-ISI-FD-013)	EG-V32A/A,CHECK A/B, B/A, B/B	4"	-----	3	C	F(1)	Q
	EG-V34A/B CHECK	5"	-----	3	C	F(1)	Q
	EG-V48A/B CHECK	4"	-----	3	C	F(1)	Q

Footnote:

(1) In addition to the above, these valves will be disassembled periodically per I.E. Bulletin 83-03.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
FLUID BLOCK (1D-ISI-FD-015)	FB-V13	CHECK	1/2"		2	C	L/-(1)	R/-
	FB-V16	CHECK	3/4"		2	C	L/-(1)	R/-
	FB-V17	CHECK	3/4"		2	C	L/-(1)	R/-
	FB-V21	CHECK	3/4"		2	C	L/-(1)	R/-
	FB-V22	CHECK	3/4"		2	C	L/-(1)	R/-
	FB-V23	CHECK	3/4"		2	C	L/-(1)	R/-
	FB-V25	CHECK	1/2"		2	C	L/-(1)	R/-
	FB-V26	CHECK	3/4"		2	C	L/-(1)	R/-
	FB-V28	CHECK	1/2"		2	C	L/-(1)	R/-
	FB-V31	CHECK	3/4"		2	C	L/-(1)	R/-
	FB-V34	CHECK	1/2"		2	C	L/-(1)	R/-
	FB-V40	CHECK	1/2"		2	C	L/-(1)	R/-
	FB-V41	CHECK	1/2"		2	C	L/-(1)	R/-
	FB-V42	CHECK	1/2"		2	C	L/-(1)	R/-

Footnote:

(1) These Fluid Block Check Valves supply pressurized water to the bonnet of selected gate type Containment Isolation Valves (CIVs). These valves are extensions of the CIV's pressure boundary

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY

and their safety function is to remain closed because the non-safety grade, non-seismic portion of the Fluid Block System, (supply) must be assumed to have failed. Therefore, these Fluid Block Check Valves are passive and are exempted from the quarterly functional stroke requirement of IWV-3522. The closed function of these valves will be verified in that any leakage will be measured in conjunction with refueling interval Appendix J testing of the associated CIVs.

Amendment 93 to TMI-1's Technical Specifications, issued May 18, 1984, deletes the above valves from Appendix J leak rate testing requirements. Therefore, it is our intention to disable the Fluid Block System to the gate type CIVs by positive methods. When this is done, the above valves will be deleted from the IST Valve Program.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
FEEDWATER SYSTEM (1D-ISI-FD-009)	FW-V12A/B	CHECK	20"	-----	2	C	SEE TABLE B-2 (X)	SEE TABLE B-2 (X)

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
HYDROGEN MONITORING SYSTEM (1D-ISI-FD-023)	HM-V1A/B	GLOBE	1/2"	SOLENOID	2	A	L/T(IX)/FS	R/Q/Q
	HM-V2A/B	GLOBE	1/2"	SOLENOID	2	A	L/T(IX)/FS	R/Q/Q
	HM-V3A/B	GLOBE	1/2"	SOLENOID	2	A	L/T(IX)/FS	R/Q/Q
	HM-V4A/B	GLOBE	1/2"	SOLENOID	2	A	L/T(IX)/FS	R/Q/Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
HYDROGEN PURGE (1D-ISI-FD-023)	HP-V1	GATE	6"	MANUAL	2	A	L/F(1)	R/Q
	HP-V6	GATE	6"	MANUAL	2	A	L/F(1)	R/Q

Footnote:

(1) TMI-1 has added a Hydrogen Recombiner System. Therefore, HP-V1 and HP-V6 will not be used to purge the Reactor Building of hydrogen after an accident. When Technical Specification Change Request No. 116 is approved, the functional stroke test of manual valves HP-V1 and HP-V6 will be discontinued since these valves will become passive (a closed valve whose function is to remain closed).

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
HYDROGEN RECOMBINER SYSTEM (1D-ISI-FD-015)	HR-V2A/B	GLOBE	2"	MANUAL	2	A	L/F	R/Q
	HR-V4A/B	GLOBE	2"	MANUAL	2	A	L/F	R/Q
	HR-V22A/B	GATE	2"	SOLENOID	2	A	L/T(IX)/FS	R/Q/Q
	HR-V23A/B	GATE	2"	SOLENOID	2	A	L/T(IX)/FS	R/Q/Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
INSTRUMENT AIR SYSTEM (1D-ISI-FD-023)	IA-V6	GLOBE	2"	MANUAL	2	A	L/-(1)	R/-
	IA-V20	GLOBE	2"	MANUAL	2	A	L/-(1)	R/-
STATION SERV. AIR SYSTEM (1D-ISI-FD-023)	SA-V2	GLOBE	2"	MANUAL	2	A	L/-(1)	R/-
	SA-V3	GLOBE	2"	MANUAL	2	A	L/-(1)	R/-

Footnote:

(1) This CIV is passive (a closed valve whose function is to remain closed). Therefore, this valve is exempted from the quarterly functional stroke requirement of IWV-3412 per NRC staff guidelines since no meaningful information would be gained.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
INTERMEDIATE COOLING SYSTEM (1D-ISI-FD-022)	IC-V1A/B	GATE	4"	MOTOR	3	B	T	C(1)
	IC-V2	GATE	6"	MOTOR	3	A	L/P/T	R/Q/C(2)
	IC-V3	GATE	6"	PNEU.	2	A	L/P/T/FS	R/Q/C(2)/C
	IC-V4	GATE	6"	PNEU.	2	A	L/P/T/FS	R/Q/C(2)/C
	IC-V6	GATE	3"	PNEU.	2	A	L/P/T/FS	R/Q/C(2)/C
	IC-V16	CHECK	3"	-----	2	A/C	L/F	R/R(III)
	IC-V18	CHECK	6"	-----	2	A/C	L/F	R/R(III)

Footnotes:

(1) IC-V1A/B supplies cooling water to the Primary System Letdown Coolers. In accordance with B&W guidance and the failure history of the Letdown Coolers it is not advisable to thermal cycle the Letdown Coolers by isolating cooling water to an operating Letdown Cooler. Thermal cycles increase thermal stress which increases the potential for tube leakage. Therefore, per ASME Section IWV-3412, IC-V1A/B will be tested at cold shutdown frequency.

(2) These valves are in the supply or return lines to the Primary Letdown Coolers, Control Rod Drive Cooling Coils, Reactor Coolant Pump Heat Exchangers and/or R.C. Drain Tank Heat Exchanger. It is not possible to stop flow in these lines to test these valves without upsetting the reactor plant. Therefore, in accordance with ASME Section XI, IWV-3412, these valves will be tested at cold shutdown frequency.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
LEAK RATE TEST SYSTEM (1D-ISI-FD-015)	LR-V1	GATE	6"	MANUAL	2	A	L/F(1)	R/Q
	LR-V4	GLOBE	3/4"	MANUAL	2	A	L/-(2)	R/-
	LR-V5	GLOBE	2"	MANUAL	2	A	L/-(2)	R/-
	LR-V6	GLOBE	2"	MANUAL	2	A	L/-(2)	R/-
	LR-V10	GLOBE	1"	MANUAL	2	A	L/-(2)	R/-
	LR-V49	GATE	6"	MANUAL	2	A	L/F(1)	R/Q

Footnotes:

(1) TMI-1 has added a Hydrogen Recombiner System, therefore LR-V1 and LR-V49 will no longer be used to supply air for a hydrogen purge after an accident. When Technical Specification Change Request No. 116 is approved, the functional stroke test of manual valves LR-V1 and LR-V49 will be discontinued since LR-V1 and LR-V6 are then passive (a closed valve whose function is to remain closed).

(2) This CIV is passive (a closed valve whose function is to remain closed). Therefore, this valve is exempted from the quarterly functional stroke requirement of IWV-3412 per NRC staff guidelines since no meaningful information would be gained.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
MAIN STEAM SYSTEM (1D-ISI-FD-001)	MS-V1A-D	STOP-CK	24"	MOTOR	2	B/C	P/T	Q/C
	MS-V2A/B	GATE	12"	MOTOR	2	B	T	C(1)
	MS-V4A/B	CONTROL	6"	PNEU.	3	B	T/FS	Q/Q
	MS-V9A/B	CHECK	6"	-----	3	C	P(VI)	Q
	MS-V10A/B	GATE	6"	MOTOR	3	B	T	C(2)
	MS-V13A/B	GLOBE	2"	DIAPHRAGM	3	B	T/FS	Q/Q
	MS-V17A-D	RELIEF	6"x10"-----		2	C	SP	5Y
	MS-V18A-D	RELIEF	6"x10"-----		2	C	SP	5Y
	MS-V19A-D	RELIEF	6"x10"-----		2	C	SP	5Y
	MS-V20A-D	RELIEF	6"x10"-----		2	C	SP	5Y
	MS-V21A/B	RELIEF	3"x6" -----		2	C	SP	5Y

Footnotes:

(1) MS-V2A/B isolate the six turbine bypass valves. MS-V2A isolates three turbine bypass valves and likewise MS-V2B isolates the remaining three turbine bypass valves. Technical Specification 3.4.1 requires four of the six turbine bypass valves to be operable. If MS-V2A/B stuck closed during a quarterly test this would limit the ability of the plant to cooldown. Normal cooldown decay heat removal is by the steam generator through MS-V2A/B to the turbine bypass valves and then to the condenser. Therefore, per ASME SEction XI IWV-3412, these valves will be tested on a cold shutdown frequency.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY

(2) MS-V13A/B is a 2" valve in parallel with MS-V10A/B, which is a 6" valve. Upon loss of both Main Feedwater Pumps or upon loss of all four RC pumps, MS-V13A/B opens to supply steam from the OTSG's to the Turbine Driven Emergency Feedwater Pump (EF-P1). Then at approximately 300 psig steam pressure, MS-V10A/B is jogged open to maintain steam pressure to EF-P1. To preclude the possibility of challenging the safety relief valves for EF-P1's turbine (MS-V22A/B), MS-V10A/B will only be tested at cold shutdowns, in accordance with ASME Section XI IWV-3412.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
MAKEUP SYSTEM (1D-ISI-FD-016) & (1D-ISI-FD-017)	MU-V1A/B	GATE	2-1/2"	MOTOR	1	B	T	C(1)
	MU-V2A/B	GLOBE	2-1/2"	MOTOR	1	A	L/P/T	R/Q/C
	MU-V3	GATE	2-1/2"	PNEU.	2	A	L/P/T(IX)/FS	R/Q/C/C
	MU-V12	GATE	4"	MOTOR	2	B	T	C(2)
	MU-V14A/B	STOP-CK	6"	MOTOR	2	B/C	T/F	Q/R(III)
	MU-V16A-D	GLOBE	2-1/2"	MOTOR	2	B	T	Q
	MU-V18	GATE	2-1/2"	PNEU.	2	A	L/T(IX)/FS	R/C(3)/C
	MU-V20	GATE	4"	PNEU.	2	A	L/T/FS	R/C(2)/C
	MU-V25	GLOBE	4"	MOTOR	2	A	L/P/T	R/Q/C
	MU-V26	GATE	4"	PNEU.	2	A	L/P/T/FS	R/Q/C/C
	MU-V36	GATE	2"	MOTOR	2	B	T	Q
	MU-V37	GATE	2"	MOTOR	3	B	T	Q
	MU-V51	DIAPH.	1"	PNEU.	3	B	T/FS	Q/Q
	MU-V73A-C	CHECK	3"	-----	2	C	P/F	Q/R(III)
	MU-V86A/B	CHECK	2-1/2"	-----	1	C	F	R(III)
	MU-V94	CHECK	2-1/2"	-----	1	C	P/F	Q/R(III)
	MU-V95	CHECK	2-1/2"	-----	1	C	F	R(III)

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
	MU-V107A-D	CHECK	2-1/2"	-----	1	C	F	R(III)
	MU-V116	CHECK	1-1/2"	-----	1	A/C	L/F	R/Q
	MU-V217	GLOBE	2-1/2"	MOTOR	2	B	P/T	Q/C
	MU-V219	CHECK	2-1/2"	-----	1	C	F	Q
	MU-V220	CHECK	2-1/2"	-----	1	C	F	R(III)

Footnotes:

(1) MU-V1A/B is the upstream valve at the Primary Letdown Cooler. In accordance with B&W guidance and the failure history of the Letdown Coolers it is not advisable to thermal cycle the Letdown Coolers by closing MU-V1A/B. Thermal cycles increase thermal stress which increase the potential for tube leakage. Therefore, in accordance with ASME Section XI IWV-3412, these valves will be tested on a cold shutdown frequency.

(2) MU-V12 isolates the Makeup Tank from the suction of the Makeup Pumps. Part-stroking this valve during normal plant operation would jeopardize the continued operation of the running Makeup Pump if this valve completely closed due to valve operator malfunction. Likewise, part-stroking MU-V20 would jeopardize the continued operation of the Reactor Coolant Pumps, since this valve supplies seal injection water to the Reactor Coolant Pumps. Therefore, in accordance with ASME Section XI IWV-3412, these valves will be tested on a cold shutdown frequency.

(3) MU-V18 is in the normal make up supply leg to the Reactor Coolant System. During normal plant operation, MU-V18 cannot be closed due to limited number of allowable thermal cycles (40) on the high pressure injection nozzles. Therefore, in accordance with ASME Section XI, IWV-3412, MU-V18 will be tested on a cold shutdown frequency.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
NITROGEN SUPPLY (1D-ISI-FD-023)	NI-V27	GLOBE	1"	MANUAL	2	A	L/-(1)	R/-

Footnote:

(1) This CIV is passive (a closed valve whose function is to remain closed). Therefore, this valve is exempted from the quarterly functional stroke requirement of IWV-3412 per NRC staff guidelines since no meaningful information would be gained.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
NUCLEAR SERVICE RIVER WATER SYSTEM (1D-ISI-FD-002) & (1D-ISI-FD-014)	NR-V1A-C	B'FLY	16"	MOTOR	3	B	T	Q
	NR-V4A/B	B'FLY	30"	MOTOR	3	B	T	Q
	NR-V20A-C	CHECK	16"	-----	3	C	F	Q
	NR-V44A-C	CHECK	2"	-----	3	C	F	Q
	NR-V45A-C	BALL	2"	PNEU.	3	B	T(IX)/FS	Q/Q
	NR-V47A-C	CHECK	1"	-----	3	C	F	Q
	NR-V48A-C	CHECK	1"	-----	3	C	F	Q
	NR-V66A-C	CHECK	3/8"	-----	3	C	F	Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
NUCLEAR SERV. CLOSED COOLING (1D-ISI-FD-010)	NS-V4	GATE	8"	MOTOR	2	A	L/P/T	R/Q/C
	NS-V10A-C	CHECK	12"	-----	3	C	F	Q
	NS-V11	CHECK	8"	-----	2	A/C	L/F	R/Q
	NS-V15	GATE	8"	MOTOR	2	A	L/P/T	R/Q/C
	NS-V35	GATE	8"	MOTOR	3	A	L/P/T	R/Q/C
	NS-V52A/B/C	GATE	1"	PISTON	2	B	T(IX)/FS	C(1)/C
	NS-V53A/B/C	GATE	1"	PISTON	2	B	T(IX)/FS	C(1)/C

Footnotes:

(1) During normal plant operation, all three Reactor Building Coolers are inservice with NS-V52A/B/C and NS-V53A/B/C open supplying cooling water to Reactor Building Fan Motor Coolers. If for testing puposes these valves were closed and in the unlikely event that they were not able to be reopened, this would jeopardize the continued cooling of the Reactor Building atmosphere since the fan motor would trip on high temperature. Therefore, in accordance with ASME Section XI IWV-3412 and NRC letter to Met-Ed dated November 17, 1976, Enclosure 2, paragraph 1, these valves will be tested on a cold shutdown frequency.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
PENETRATION PRESSURIZA-TION SYSTEM (1D-ISI-FD-015)	PP-V100	DIAPH.	1"	DIAPH.	2	B	T/FS	Q/Q
	PP-V101	CHECK	1"	-----	2	C	F	Q
	PP-V102	CHECK	1"	-----	2	C	F	Q
	PP-V103	DIAPH.	2"	DIAPH.	2	B	T/FS	Q/Q
	PP-V132	DIAPH.	2"	DIAPH.	2	B	T/FS	Q/Q
	PP-V133	CHECK	2"	-----	2	C	F	Q
	PP-V134	CHECK	2"	-----	2	C	F	Q
	PP-V135	DIAPH.	1"	DIAPH.	2	B	T/FS	Q/Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
REACTOR BLDG. EMERGENCY COOLING SYSTEM (1D-ISI-FD-002) & (1D-ISI-FD-010) & (1D-ISI-FD-014)	RR-V1A/B	B'FLY	16"	MOTOR	3	B	T	Q
	RR-V3A/B/C	GATE	12"	MOTOR	2	B	T	Q
	RR-V4A-D	GATE	12"	MOTOR	2	B	T	Q
	RR-V5	B'FLY	10"	MOTOR	3	B	T	Q
	RR-V7A/B	CHECK	16"	-----	3	C	F	Q
	RR-V8A/B	CHECK	20"	-----	3	C	F	R(III)
	RR-V9A/B/C/D	CHECK	12"	-----	3	C	F	R(III)
	RR-V20A/B	CHECK	1"	-----	3	C	F	Q
	RR-V21A/B	CHECK	1"	-----	3	C	F	Q
	RR-V29A/B	CHECK	2"	-----	3	C	F	Q
	RR-V39A/B	CHECK	3/8"	-----	3	C	F	Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
REACTOR BLDG. R/Q/C SYSTEM (ID-ISI-FD-010)	RB-V7	GATE	8"	MOTOR	2	A	L/P/T	NORMAL COOLING
	RB-V2A	GATE	8"	MOTOR	2	A	L/P/T	R/Q/C

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
REACTOR BUILDING SPRAY SYSTEM (1D-ISI-FD-012)	BS-V1A/B	"Y"GLOBE	8"	MOTOR	2	B	T	Q
	BS-V2A/B	GATE	4"	MOTOR	2	B	T	Q
	BS-V3A/B	GATE	10"	MOTOR	2	B	T	Q
	BS-V23A/B	CHECK	10"	-----	2	C	F	Q
	BS-V30A/B	CHECK	8"	-----	2	C	P(VIII)/D	Q/10Y
	BS-V52A/B	CHECK	4"	-----	2	C	D(VII)	10Y

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
REACTOR COOLANT SYSTEM (1D-ISI-FD-019)	RC-V1	GLOBE	2-1/2"	MOTOR	1	B	P/F	Q/C
	RC-V2	GLOBE	2-1/2"	MOTOR	1	B	T	Q
	RC-V3	GLOBE	2-1/2"	MOTOR	1	B	T	C(1)
	RC-V4	"Y"GLOBE	2-1/2"	MOTOR	1	B	T	C(2)
	RC-V23	CHECK	2-1/2"	-----	1	C	F	C(2)
	RC-RV1A/B	RELIEF	2-1/2"	-----	1	C	SP	5Y
	RC-RV2	RELIEF	2-1/2"	SOLENOID	1	C	SP	5Y
	RC-V28	GLOBE	1"	MOTOR	1	B	T	C(3)
	RC-V40A/B	GLOBE	1/2"	SOLENOID	1	B	T(IX)	C(3)
	RC-V41A/B	GLOBE	1/2"	SOLENOID	1	B	T(IX)	C(3)
	RC-V42	GLOBE	1/2"	SOLENOID	1	B	T(IX)	C(3)
	RC-V43	GLOBE	1/2"	SOLENOID	1	B	T(IX)	C(3)
	RC-V44	GLOBE	1"	SOLENOID	1	B	T(IX)	C(3)

Footnotes:

(1) RC-V3 is the block valve for the pressurizer spray line. Part-stroking RC-V3 during normal operation would jeopardize the ability to spray the pressurizer and reduce pressure if RC-V3 stuck closed. Therefore, in accordance with ASME Section XI IWV-3412, RC-V3 will be tested on a cold shutdown frequency.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY

(2) RC-V4 and RC-V23 are the two high pressure valves in series that supply Auxiliary Spray to the Pressurizer. These valves are used only during cooldown of the pressurizer. RC-V4 and RC-V23 will not be part-stroked during normal plant operation because the margin of safety would be reduced by opening either of these two pressure barrier valves. See NRC letter to Med-Ed dated November 17, 1976, Enclosure 2, paragraph 3. Therefore, per ASME Section XI IWV-3412 and IWV-3522, these valves will be tested on a cold shutdown frequency.

(3) RC-V28 and RC-V44 are the two in series Pressurizer Vent Valves. RC-V40A/B and RC-V41A/B are the two High Point Vent valves in series. RC-V42 and RC-V43 are the two Reactor Vessel Head Vent valves in series. All of the valves are closed during normal plant operation. These valves will not be part-stroked during normal plant operation because failure of one of the valves in a non-conservative position (open) during the cycling test would cause a loss of double barrier isolation for the RC System. Therefore, per ASME Section XI IWV-3412, all of these valves will be tested on a cold shutdown frequency.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
SCREEN WASH & SLUICE SYSTEM AND SCREEN HOUSE VENT SYSTEM (1D-ISI-FD-014) & (1D-ISI-FD-002)	SW-V3A/B	CHECK	10"	-----	3	C	F	Q
	SW-V4A/B	CHECK	6"	-----	3	C	F	Q
	SW-V11A/B	BALL	2"	PENU.	3	B	T(IX)/FS	Q/Q
	SW-V13A/B	CHECK	1"	-----	3	C	F	Q
	SW-V14A/B	CHECK	1"	-----	3	C	F	Q
	SW-V17A/B	BALL	2"	PNEU.	3	B	T(IX)/FS	Q/Q
	SW-V19A/B	CHECK	1"	-----	3	C	F	Q
	SW-V20A/B	CHECK	1"	-----	3	C	F	Q
	SW-V27A/B	CHECK	2"	-----	3	C	F	Q
	SW-V28A/B	CHECK	2"	-----	3	C	F	Q
	SW-V54A/B	CHECK	3/8"	-----	3	C	F	Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
SPENT FUEL COOLING SYSTEM (1D-ISI-FD-018)	SF-V23	GATE	8"	MANUAL	2	A	L/-(1)	R/-

Footnote:

(1) This CIV is passive (a closed valve whose function is to remain closed). Therefore, this valve is exempted from the quarterly functional stroke requirement of IWV-3412 per NRC staff guidelines since no meaningful information would be gained.

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
WASTE DISPOSAL GAS (1D-ISI-FD-023)	WDG-V3	GLOBE	2"	MOTOR	2	A	L/T	R/Q
	WDG-V4	GLOBE	2"	SOLENOID	2	A	L/T(IX)/FS	R/Q/Q

TABLE B-1
THREE MILE ISLAND UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - (VALVES)

SYSTEM/ (ISI DRAWING NO.)	VALVE NO.	TYPE	SIZE	OPERATOR	CLASS	CATEGORY	TYPE OF TEST	TEST FREQUENCY
WASTE DISPOSAL LIQUID SYSTEM (1D-ISI-FD-021) & (1D-ISI-FD-023)	WDL-V49	DIAPH.	1-1/2"	DIAPH.	3	B	T(IX)/FS	R(IV)/R
	WDL-V50	DIAPH.	1-1/2"	DIAPH.	3	B	T(IX)/FS	R(IV)/R
	WDL-V61	DIAPH.	1"	DIAPH.	3	B	T/FS	R(IV)/R
	WDL-V62	DIAPH.	1"	DIAPH.	3	B	T/FS	R(IV)/R
	WDL-V89	DIAPH.	2"	DIAPH.	3	B	T/FS	R(IV)/R
	WDL-V90	DIAPH.	2"	DIPAH.	3	B	T/FS	R(IV)/R
	WDL-V91	DIAPH.	2"	DIAPH.	3	B	T/FS	R(IV)/R
	WDL-V92	DIAPH	2"	DIAPH.	3	B	T/FS	R(IV)/R
	WDL-V303	GATE	3"	MOTOR	2	A	L/T	R/Q
	WDL-V304	GATE	3"	DIAPH.	2	A	L/T/FS	R/Q/Q
	WDL-V353	CHECK	1-1/2"	-----	3	C	F	R(IV)
	WDL-V354	CHECK	1-1/2"	-----	3	C	F	R(IV)
	WDL-V361	CHECK	1"	-----	3	C	F	R(IV)
	WDL-V362	CHECK	2-1/2"	-----	3	C	F	R(IV)
	WDL-V534	GATE	6"	PISTON	2	A	L/T/FS	R/Q/Q
	WDL-V535	GATE	6"	PISTON	2	A	L/T/FS	R/Q/Q

TABLE B-2
THREE MILE ISLAND - UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - VALVES
REQUEST FOR RELIEF FROM ASME CODE SECTION XI REQUIREMENTS

GENERIC REQUEST FOR RELIEF

I. Corrective Action for Inoperative Valves

A. Valve Identification

All the Class 1, 2, and 3 valves identified in Table B-1, TMI-1 Valves Requiring Periodic Inservice Inspection.

B. ASME Code Section XI Requirement From Which Relief is Requested

Corrective action for inoperable valves require condition be corrected before unit startup from a cold shutdown condition in accordance with paragraphs IWV-3417(b).

C. Basis for Requesting Relief

Constraints and limits on plant startup with an inoperable valve depend on many specific plant design features and conditions. The limiting conditions for startup and operation have been analyzed and are described in the TMI-1 Technical Specifications. Inoperable valves will be evaluated considering the TMI-1 Technical Specifications to determine when an inoperable valve will limit plant startup from a cold shutdown condition.

II. Leak Testing of Category A Valves

A. Valve Indentification

All the Category A valves identified in Table 1 as L in the type of test column. These valves are containment isolation valves.

B. ASME Code Section XI Requirement From Which Relief is Requested

Relief is requested from paragraph IWV-3420, "Valve Leak Rate Test" through IWV-3425.

C. Basis for Requesting Relief

All the ASME Code Category A, containment isolation valves (CIVs) will meet Appendix J to 10 CFR Part 50 leak testing requirements in lieu of ASME Code Section XI requirements. CIVs are listed in TMI-1's Technical Specifications and existing requirements and exemptions listed therein shall apply to the IST Valve Program. Appendix J is equivalent to and meets the intent of the code requirements. Therefore, valve operability is assured. Furthermore, a procedure is in place that meets the requirements of IWV-3426 and IWV-3427 which are requirements concerning individual valve leak rate limits and trend analysis of leak rate, respectively.

TABLE B-2
THREE MILE ISLAND - UNIT NO. 1
PERIODIC INSERVICE INSPECTION PROGRAM - VALVES
REQUEST FOR RELIEF FROM ASME CODE SECTION XI REQUIREMENTS

SPECIFIC REQUESTS FOR RELIEF

I. Category B - Valves That Will Be Tested Only During Refueling Outages

A. Valve Identification

Valve Name and Function	Valve Number
Reactor Bldg. Sump Recir. Suction	DH-V6A/B
River Water to EF Pumps	EF-V4
River Water to EF Pumps	EF-V5

B. ASME Code Section XI Requirement From Which Relief is Requested

Paragraph IWV-3412(a) states that valves that cannot be operated during normal plant operation shall be full-stroke exercised during each cold shutdown. In case of frequent cold shutdowns these valves need not be exercised more often than once every three months.

C. Basis for Requesting Relief

DH-V6A/B is located outside the Reactor Building and this valve isolates the Reactor Building Sump from the LPI and HPI systems.

The piping from the Reactor Building Sump to DH-V6A/B slopes toward DH-V6A/B. The "A" side slopes 9 inches and is approximately 35 ft. in length and the "B" side slopes 5 inches and is approximately 21 ft. in length. Therefore, if DH-V6A/B were cycled frequently, this would admit large amounts of corrosives and "dirty" water into the LPI/HPI systems. DH-V6A/B will continue to be tested on a refueling interval basis.

The testing of EF-V4 and EF-V5 will introduce river water, silt and corrosives into the suction piping of the three Emergency Feedwater Pumps. This is unacceptable from a chemistry control standpoint for normal operations. In order to flush the river water the suction valves of the Emergency Feedwater Pumps must be closed while performing the flushing operation. This would render the Emergency Feedwater Pumps inoperable during the flushing operation. Also, these valves are chained and locked shut and the breakers for these valves are open at the 480 volt power supply. Essentially this means that these valves are not normally power activated. GPU believes it is impractical to test the valves each cold shutdown and a refueling interval test frequency provides reasonable assurance of the operational readiness for EF-V4 and EF-V5.

II. Category C - Valves Which Will be Full Stroke Tested Following A Refueling or A Cold Shutdown When Cold Shutdown Exceeds 30 Days.

A. Valve Identification

Valve Name and Function	Valve Number
Condensate Storage Tank to EF Water Pumps	CO-V16A/B
Motor Driven EF Water Pump Discharge	EF-V11A/B
EF Water Pumps to OTSG	EF-V12A/B
Turbine Driven EF Water Pump Discharge	EF-V13

B. ASME Code Section XI Requirement From Which Relief is Requested

Paragraph IWV-3522 states that check valves that cannot be operated during normal plant operation shall be full-stroke exercised during each cold shutdown. In case of frequent cold shutdowns these valves need not be exercised more often than once every three months.

C. Basis for Requesting Relief

The above valves will be full service tested on a refueling basis in conjunction with Tech. Spec. 4.9.1.6 in accordance with Surveillance Procedure No. 1303-11.42. This procedure injects highly oxygenated water from the Condensate Storage Tanks through the Emergency Feed Water pumps to the OTSG's and verifies the accident design flow rate. Immediately after the test the oxygenated water is drained from the OTSG's since oxygenated water increases the probability of degrading the O.D. of the tubes. It is not acceptable to challenge the OTSG

tubes with oxygenated water too often. Therefore, the Technical Specification frequency of testing is judged acceptable for ASME Section XI requirements.

III Category C Valves Which Will Be Full Stroke Tested Only During Refueling Outages

A. Valve Identification

Valve Name and Function	Valve Number
LPI Pump Suction Check Valve	DH-V14A/B
LPI Pump/Reactor Bldg. Spray Pump Suction from BWST	DH-V16A/B
HPI Pump Suction Stopcheck Valve From BWST	MU-V14A/B
HPI Pump Discharge Check Valve	MU-V73A/B/C
HPI Check Valve	MU-86A/B
HPI Check Valve	MU-V94
HPI Check Valve	MU-V95
HPI Check Valve	MU-V107A-D
HPI Check VAlve	MU-V220
R. B. Emergency Cooling Pump Discharge Check	RR-V8A/B
R. B. Emergency Cooling Coil Outlet Check	RR-V9A-D
Intermediate Cooling Water to CRD Cooling Coil CIV	IC-V16
Intermediate Cooling Water to Letdown Cooler CIV	IC-V18

B. ASME Code Section XI Requirement From Which Relief is Requested

Paragraph IWV-3522 states that check valves that cannot be operated during normal plant operation shall be full-stroke exercised during each cold shutdown. In case of frequent cold shutdowns these valves need not be exercised more often than once every three months.

C. Basis for Requesting Relief

DH-V14A/B and DH-V16A/B: These valves will be tested on a refueling interval per Surveillance Procedure No. 1303-11.54 in accordance with Technical Specification 4.5.2.2b. The refueling test frequency assures that the LPI System can supply equal or greater flow than the flow assumed in the Safety Analysis. Since this test frequency is adequate for the Technical Specification it should be adequate for ASME Section XI. These tests provide for full flow

through DH-V16A/B and 73% opening of DH-V14A/B. A full stroke test of DH-V14A/B is not practical, since it would necessitate the spray down of the entire Reactor Building to achieve full flow. The 73% opening of DH-V14A/B provides reasonable assurance that the valve will open fully.

All HPI valves listed above: These valves will be full stroke exercised on a refueling interval basis in conjunction with Surveillance Procedure No. 1303-11.8 in accordance with Technical Specification 4.5.2.1. Since the refueling test frequency is specified by the Technical Specifications, it should be adequate for ASME Section XI.

RR-V8A/B and RR-V9A/D: During the functional test of these check valves river water, silt, and corrosives are introduced into the Reactor Building Emergency Cooling Coils. After the test these cooling coils must be first drained and then flushed with Nuclear Service Closed Cooling Water. The drain and flush water is drained to the Reactor Building Sump and this produces large quantities of water that must be processed through the liquid waste disposal system. Therefore, per Technical Specification 4.5.2 these check valves will continue to be tested on a refueling frequency (approximately every 12 months) instead of every three months if frequent cold shutdown occur.

IC-V16 and IC-V18: These check valves are CIV's that remain open during normal plant operation to supply cooling water to the CRD cooling coils and the Letdown coolers. It is not possible to stop flow in these lines to test IC-V16 and IC-V18 without upsetting the reactor plant. The safety function of IC-V16 and IC-V18 is to close and act as CIV's. Therefore, a leak rate Appendix J test of these valves will be conducted each refueling outage.

IV. Concentrated Boric Acid Injection Valves That Will Be Tested On a Refueling Interval Basis

A. Valve Identification

Valve Name and Function	Valve Number
CA-P1A/B to MU System	CA-V177
Discharge of WDL-P13A	WDL-V49
Discharge of WDL-P13B	WDL-V50
Suction of WDL-P13A	WDL-V89
Suction of WDL-P13B	WDL-V90
Suction of WDL-P13A	WDL-V91
Suction of WDL-P13B	WDL-V92
Boric Acid to MU System	WDL-V61
Boric Acid to RCBT	WDL-V62
Discharge check for WDL-P13A	WDL-V353
Discharge check for WDL-P13B	WDL-V354
CA-P1A/B and WDL-P13A/B to MU System	WDL-V361
Isolation for CA-P1A/B and WDL-P13A/B to MU	WDL-V362

B. ASME Code Section XI Requirement From Which Relief is Requested

Relief is requested from paragraph IWV-3412 and IWV-3522 which states that if only limited operation is practical during plant operation, the valve shall be part-stroke exercised during plant operation and full-stroked during each cold shutdown.

C. Basis for Requesting Relief

The only method of functionally testing check valves CA-V177, WDL-V353, V354, V361, and V362 during normal operation is to inject concentrated boric acid into the Reactor Coolant Makeup System producing reactivity changes. This would adversely affect plant operations and result

in additional significant volumes of radioactive waste. Testing these valves during each cold shutdown is not warranted because of the radioactive waste generated. In a conference call with the NRC on May 21, 1984, it was agreed that the concentrated boric acid pumps (CA-P1A/B and WDL-P13A/B) and valves associated with these pumps be tested on a refueling interval frequency. All of the above valves are associated with the concentrated boric acid system. Therefore, to ensure consistency, pump testing and valve testing will be conducted on a refueling interval frequency. Also the system for these valves is not relied upon for accident mitigation in chapter 14 of TMI-1 FSAR. The Borated Water Storage Tank is the accident source of Borated Water via LPI or HPI. However, general design criteria does require a concentrated boric acid injection system.

In conclusion, GPUN believes that refueling interval testing meets the intent of the code and will assure the operational readiness of the above valves.

V. Pressure Isolation Check Valves That Will Be Tested On A Frequency Per Technical Specification 3.1.6.10.

A. Valve Identification

Valve Name and Function	Valve Number
Core Flood Tank to Reactor Vessel	CF-V4A/B
Core Flood Tank/LPI to Reactor Vessel	CF-V5A/B
LPI Pumps to Reactor Vessel	DH-V22A/B

B. ASME Code Section XI Requirement From Which Relief is Requested

Paragraph IWV-3522 states that valves that cannot be operated during normal plant operation shall be full-stroke exercised during each cold shutdown. In case of frequent cold shutdowns these valves need not be exercised more often than once every three months.

C. Basis for Requesting Relief

The Reactor Safety Study (RSS), WASH-1400, identified a PWR intersystem loss of coolant accident (LOCA) which is a significant contributor to risk or core melt accidents (Event V). The design examined in the RSS contained in-series check valves isolating the high pressure Primary Coolant System (PCS) from the Low Pressure Injection System (LPIS) piping. The

scenario which leads to the Event V accident is initiated by the failure of these check valves to function as a pressure isolation barrier. This causes an overpressurization and rupture of the LPIS low pressure piping which results in as LOCA that bypasses containment.

Valves CF-V5A/B and DH-V22A/B are inside containment and are located in the supply line from the LPI pumps to the Reactor Vessel. Therefore, these two valves are of the Event V configuration. Valves CF-V5A/B and CF-V4A/B are in the line from the Core Flood Tanks to the Reactor Vessel. A pressure isolation failure of CF-V4A/B does not lead to a LOCA outside containment. Therefore, CF-V4A/B is not included in Technical Specification 3.1.6.10. However, TMI-1 has elected to test these valves for pressure isolation function on the same frequency as of CF-V5A/B and DH-V22A/B.

The NRC's Technical Evaluation Report (prepared by Franklin Institute) states that the testing frequency of CF-V5A/B and DH-V22A/B shall be prior to achieving hot shutdown following a cold shutdown of greater than 72 hours duration unless testing has been performed within the previous 9 months, and prior to achieving hot shutdown after returning the valve to service following maintenance repair or replacement work.

The Technical Evaluation Report (TER) provides a comprehensive study and evaluation of the specific problem related to pressure isolation. Since the TER has specified and judged adequate the above testing frequency, there is reasonable assurance that these valves will perform their pressure barrier function.

VI. Valves That Will Only Be Part Stroke Tested

A. Valve Identification

Valve Name and Function	Valve Number
Core Flood Tank to Reactor Vessel	CF-V4A/B
Main Steam to EF-U1	MS-V9A/B

B. ASME Code Section XI Requirement From Which Relief is Requested

Relief is requested from paragraph IWV-3522 which states that if only limited operation is practical during plant operation, the check valve shall be part-stroke exercised during plant operation and full-stroke tested during each cold shutdown.

C. Basis for Requesting Relief

Valves CF-V4A/B are part stroke tested each cold shutdown per Surveillance Procedure 1303-11.21. Both CF-V5A/B and CF-V4A/B are of the same design and manufacturer. CF-V5A/B are in operation whenever the plant is on Decay Heat Removal and are normally closed during plant power operations. CF-V4A/B are in operation whenever Core Flood is required and are normally closed during plant power operations and during Decay Heat Removal System operation. CF-V5A/B are also in operation whenever Core Flood is required. Therefore, CF-V5A/B are in operation more than CF-V4A/B and have more possibility for degradation during operation. The refueling interval full flow Low Pressure Injection System testing of CF-V5A/B showing no degradation during service can be applied to CF-V4A/B because the service for CF-V4A/B is less severe than that of CF-V5A/B. CF-V5A/B are full stroke tested per the code and CF-V4A/B are the same valve catalog number as CF-V5A/B, therefore we feel confident that our proposal to only part stroke CF-V4A/B should be adequate. Additionally, one of these valves (CF-V4A/B or CF-V5A/B) will be disassembled for visual examination at or near the end of the 10 year ISI interval per Table IWB-2500.

MS-V9A/B supplies steam from the OTSGs to EF-U1. EF-U1 is the turbine driver for EF-P1. The quarterly test of MS-V9A/B provides 48% flow through these valves which equates to approximately 36% open. This test is accomplished with EF-P1 on recirculation to the Condensate Storage Tanks. A cold shutdown full stroke test of this valve is not possible since steam is not available from the OTSGs when the plant is cold. Also, when the plant is hot it is not possible to full stroke MS-V9A/B since this would require pumping cold water to the OTSGs. This would reduce the margin of safety by challenging the OTSG tubes and reduce the number of allowable thermal cycles for the emergency feedwater nozzles. In conclusion, GPUN believes that the quarterly test of 48% flow provides reasonable assurance that these valves will function fully open when needed.

VII. Check Valves That Will Be Disassembled Once Each Ten Years

A. Valve Identification

Valve Name and Function	Valve Number
Sodium Hydroxide Tank Supply to Reactor Building Spray Pumps	BS-V52A/B

B. ASME Code Section XI Requirement From Which Relief is Requested

Relief is requested from paragraph IWV-3522 which states if only limited operation is practical during plant operation, the check valve shall be part-stroke exercised during plant operation and full-stroked during each cold shutdown.

C. Basis for Requesting Relief

Given the pipe geometry there is no method of part-stroking or full-stroking these check valves without contaminating the RCS with Sodium Hydroxide and other chemical contaminants in the dead leg of piping from these valves to the Sodium Hydroxide Tank. During January, 1984 (Surveillance Procedure No. 1300-3P and Job Ticket No. CC818 and CC819) these valves were disssembled and satisfactorily visually examined. The valve internals were found to be in "like new" condition. Disassembling each of these valves at or near the end of the ten year ISI interval provides reasonable assurance of the operational readiness for BS-V52A/B.

VIII. Check Valves That Will Be Given A Part-Stroke Test Each Quarter and Disassembled Once Each Ten Years

A. Valve Indentification

Valve Name and Function	Valve Number
Reactor Bldg. Spray Header Check Valve	BS-V30A/B

B. ASME Code Section XI Requirement From Which Relief is Requested

Relief is requested from paragraph IWV-3522 which states if only limited operation is practical during plant operation, the check valve shall be part-stroke exercised during plant operation and full-stroked during each cold shutdown.

C. Basis for Requesting Relief

The full stroke of BS-V30A/B would require initiation of Reactor Building Spray. This would entail spraying the Reactor Building with borated water.

On 6-20-84 (Job Ticket CE-154) BS-V30A was disassembled for visual examination purposes. The examination was satisfactory (no unusual degradation and valve disc was free to open). BS-V30A has approximately 10 years of in-service time and this is the first time that the valve has been opened. GPUN will continue to disassemble either of these static valves (alternating between A and B) during each ten year inspection interval. BS-V30A/B are stainless steel and therefore, not subject to corrosive attack. GPUN is of the opinion that quarterly partial stroke testing and disassembly, as described, will provide reasonable assurance that BS-V30A/B would open if needed.

IX. Valves Where Percent Increase In Value Stroke Time Will Not Be Calculated

A. Valve Identification

Valve Name and Function	Valve Number
Containment Purge CIV	AH-V1A/D
Reactor Coolant Sampling CIV	CA-V2
OTSG Shell Side Sampling CIV	CA-V5A/B
Containment Monitoring CIV	CM-V1
Containment Monitoring CIV	CM-V2
Containment Monitoring CIV	CM-V3
Containment Monitoring CIV	CM-V4
Hydrogen Monitoring CIV	HM-V1A/B
Hydrogen Monitoring CIV	HM-V2A/B
Hydrogen Monitoring CIV	HM-V3A/B
Hydrogen Monitoring CIV	HM-V4A/B
Hydrogen Recombiner CIV	HR-V22A/B
Hydrogen Recombiner CIV	HR-V23A/B
Makeup Letdown CIV	MU-V3
Normal Makeup CIV	MU-V18
Lube Water Pump NR-P2A/B/C Suction	NR-V45A/B/C
High Point Vent Isolation	RC-V40A/B
High Point Vent Isolation	RC-V41A/B
Cooling Water to Reactor Building Coolers	NS-V52A/B/C
Cooling Water from Reactor Building Coolers	NS-V53A/B/C
Reactor Vessel Head Vent Isolation	RC-V42
Reactor Vessel Head Vent Isolation	RC-V43
Pressurizer Vent Isolation	RC-V44

Lube Water Pump SW-P3A/B Suction	SW-V11A/B
Lube Water Pump SW-P4A/B Suction	SW-V17A/B
Waste Gas RC Drain Tank CIV	WDG-V4
WDL-P13A Discharge	WDL-V49
WDL-P13B Discharge	WDL-V50

B. ASME Code Section XI Requirement From Which Relief Is Requested

Paragraph IWV-3417(a) which states that if a specified percent increase in stroke time is exceeded, test frequency shall be increased to once a month until corrective action is taken.

C. Basis for Requesting Relief

The above valves have full stroke time of less than one second. Thus, the valve stroke time cannot effectively be measured using normal test equipment such as a stopwatch. Also it is considered impractical to reliably measure changes in valve stroke times for valves which stroke open or closed in less than one (1) second. For very short stroke times, the variation in measured stroke times can be a large fraction of the established stroke time limit. Thus it is not practical to meaningfully identify or evaluate the stroke time changes considering human reaction times and the normal timing equipment used.

In accordance with ASME Section XI IWV-3413, the maximum acceptable full-time stroke value for each of the above valves will be specified. This will ensure the operational readiness of these valves.

X. FW-V12A/B

During plant operation these valves are always open supplying feedwater to the OTSGs. Therefore it is not possible to part-stroke or full-stroke these valves closed during plant operation. Both FW-V12A/B were disassembled in 1980 after approximately four years of service and were found to be in satisfactory and operable condition.

As discussed with NRC in a conference call on May 21, 1984, GPUN will develop a test method(s) to verify the operability of FW-V12A/B. If the test method which was discussed at that time is not feasible, GPUN will pursue other alternatives. In the interim, results of the 1980 disassembly of both FW-V12A/B provide a reasonable basis for assurance that FW-V12A/B will remain operable.