ATTACHMENT 2

FLORIDA POWER and LIGHT COMPANY
NUCLEAR ENERGY SERVICES
700 Universe Boulevard
Juno Beach, Florida 33408

SECOND TEN-YEAR INSERVICE INSPECTION INTERVAL
INSERVICE TESTING PROGRAM

FOR

PUMPS AND VALVES

ST. LUCIE NUCLEAR POWER PLANT
UNIT NO. 1

NRC DOCKET NUMBER: 50-335

DOCUMENT NUMBER: JNS-PSL-203 REVISION 2

ADMINISTRATIVE APPROVALS:

PREPARED BY: _____ DATE: Dec 12, 1989
IST ENGINEER - PLANT SUPPORT

APPROVED BY: _____ DATE: 12/14/89
JNS MANAGER - PLANT SUPPORT

APPROVED BY: _____ DATE: 12/14/89
JNS MANAGER - NUCLEAR ENERGY

ST. LUCIE PLANT REVIEWS AND APPROVALS:

REVIEWED BY: _____ DATE: 12/15/89
PSL PLANT IST COORDINATOR

APPROVED BY: _____ DATE: 12/15/89
PSL SYSTEM PERFORMANCE SUPERVISOR

APPROVED BY: _____ DATE: 12/15/89
PSL TECHNICAL DEPT. SUPERVISOR

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RECORD OF REVISIONS

REVISION NUMBER	DESCRIPTION OF REVISION REASON FOR THE CHANGE	DATE REVISED	APPROVALS
0	Initial Issue	3/21/85	
1	Second 10-year Program	8/11/87	
2	Revised Program per NRC Generic Letter 89-04	12/12/89	

REVISION 2
12/12/89

INSERVICE TESTING (IST) PROGRAM PLAN
ST. LUCIE UNIT 1

1.0 INTRODUCTION

Revision 2 of the St. Lucie Unit 1 ASME Inservice Inspection (IST) Program will be in effect through the end of the second 120-month (10-year) interval unless revised and reissued for reasons other than the routine update required at the start of the third interval per 10 CFR 50.55a(g). The second inspection interval is defined as follows:

Begins	Ends
February 11, 1988	February 10, 1998

This document outlines the IST Program for St. Lucie Plant, Unit 1, based on the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, 1983 Edition, including all addenda thereto through Summer, 1983 (the Code). References in this document to "IWP" or "IWV" correspond to Subsections IWP and IWV, respectively, of the ASME Section XI, 1983 Edition, unless otherwise noted.

The inservice testing identified in this Plan are to be performed specifically to verify the operational readiness of pumps and valves which have a specific function in mitigating the consequences of an accident or in bringing the reactor to a safe shutdown.

2.0 APPLICABLE DOCUMENTS

This Program Plan was developed per the requirements and guidance provided by the following documents:

2.1 Title 10, Code of Federal Regulations, Part 50
2.2 NRC Regulatory Guides - Division 1
2.3 Standard Review Plan 3.9.6, "Inservice Testing of Pumps and Valves
2.4 Final Safety Analysis Report, St. Lucie Unit 1
2.5 St. Lucie Plant Unit 1 Technical Specifications
2.6 ASME Boiler and Pressure Vessel Code, Section XI, 1983 Edition and Addenda through Summer, 1983
2.7 NRC Generic Letter 89-04, "Guidance on Developing Acceptable Inservice Testing Programs"

3.0 INSERVICE TESTING PROGRAM FOR PUMPS

3.1 Code Compliance

This IST Program for pumps meets the requirements of Subsection IWP of the Code and any interpretations or additional requirements imposed by Reference 2.7. Where these requirements have been determined to be impractical, conformance would cause unreasonable hardship without any compensating increase in safety, or an alternative test provides an acceptable level of quality and safety, relief from Code requirements is requested pursuant to the requirements of 10 CFR 50.55a(g)(iii) and Reference 2.7.

3.2 Allowable Ranges of Test Quantities

The allowable ranges for test parameters as specified in Table IWP-3100-2 will be used for all measurements of pressure, flow, and vibration except as provided for in specific relief requests. In some cases the performance of a pump may be adequate to fulfill its safety function even though there may be a value of an operating parameter that falls outside the allowable ranges as set forth in Table IWP-3100-2. Should such a situation arise, an expanded allowable may be determined, on a case-by-case basis, in accordance with IWP-3210 and ASME Code Interpretation XI-1-79-19.

3.3 Testing Intervals

The test frequency for pumps included in the Program will be as set forth in IWP-3400 and related relief requests. A band of +25 percent of the test interval may be applied to a test schedule as allowed by the St. Lucie Unit 1 Technical Specifications to provide for operational flexibility.

3.4 Pump Program Table

Appendix A lists those pumps included in the IST Program with references to parameters to be measured and applicable requests for relief.

3.5 Relief Requests for Pump Testing

Appendix B includes all relief requests related to pump testing.

4.0 INSERVICE TESTING PROGRAM FOR VALVES

4.1 Code Compliance

This IST Program for valves meets the requirements of Subsection IWV of the Code and any interpretations or additional requirements imposed by Reference 2.7. Where these requirements have been determined to be impractical, conformance would cause unreasonable hardship without any compensating increase in safety, or an alternative test provides an acceptable level of quality and safety, relief from Code requirements is requested pursuant to the requirements of 10 CFR 50.55a(g)(iii) and Reference 2.7.

4.2 Testing Intervals

The test frequency for valves included in the Program will be as set forth in IWP-3400 and related relief requests. A band of +25 percent of the test interval may be applied to a test schedule as allowed by the St. Lucie Unit 1 Technical Specifications to provide for operational flexibility. Where quarterly testing of valves is impractical or otherwise undesirable, testing may be performed during cold shutdown periods as permitted by IWV-3412(a). Justifications for this deferred testing are provided in Appendix E.

4.3 Stroke Time Acceptance Criteria

When required, the acceptance criteria for the stroke times of power-operated valves will be as set forth in Reference 2.7.

4.4 Check Valve Testing

Full-stroke exercising of check valves to the open position using system flow requires that a test be performed whereby the predicted full accident condition flowrate through the valve be verified and measured. Any deviation to this requirement must satisfy the requirements of Reference 2.7, Position 1.

4.5 Valve Program Table

Appendix C lists those valves included in the IST Program with references to required testing, respective test intervals, and applicable requests for relief.

4.6 Relief Requests for Valve Testing

Appendix D includes all relief requests related to valve testing.

Appendix A

Pump Program Tables

FLORIDA POWER AND LIGHT COMPANY
PUMP TABLES
Saint Lucie Nuclear Plant - Unit 1

REVISION: 2
DATE : 12/12/89

PUMP NUMBER	DESCRIPTION	CL	COORD	SPEED	INLET PRES.	DIFF. PRES.	FLOW RATE	VIBRA.	BEARING TEMP.	REMARKS
AFW 1A	AUXILIARY FEEDWATER PUMP	3	M-5	NA	Y	Y	Y:PR-4	Y	N:PR-1	
AFW 1B	AUXILIARY FEEDWATER PUMP	3	K-5	NA	Y	Y	Y:PR-4	Y	N:PR-1	
AFW 1C	AUXILIARY FEEDWATER PUMP	3	H-5	Y	Y	Y	Y:PR-4	Y	N:PR-1	
BAM 1A	BORIC ACID MAKEUP PUMP	2	B-5	NA	N:PR-8	Y	Y:PR-5	Y	N:PR-1	
BAM 1B	BORIC ACID MAKEUP PUMP	2	B-5	NA	N:PR-8	Y	Y:PR-5	Y	N:PR-1	
CCW 1A	COMPONENT COOLING WATER PUMP	3	F-16	NA	Y	Y	Y	Y	N:PR-1	
CCW 1B	COMPONENT COOLING WATER PUMP	3	F-17	NA	Y	Y	Y	Y	N:PR-1	
CCW 1C	COMPONENT COOLING WATER PUMP	3	F-16	NA	Y	Y	Y	Y	N:PR-1	
CG 1A	CHARGING PUMP	2	G-2	NA	Y	Y	Y	Y	Y	
CG 1B	CHARGING PUMP	2	G-2	NA	Y	Y	Y	Y	Y	
CG 1C	CHARGING PUMP	2	E-2	NA	Y	Y	Y	Y	Y	
CS 1A	CONTAINMENT SPRAY PUMP	2	G-4	NA	Y	Y	Y:PR-6	Y	N:PR-1	
CS 1B	CONTAINMENT SPRAY PUMP	2	E-2	NA	Y	Y	Y:PR-6	Y	N:PR-1	
DOT 1A	DIESEL OIL TRANSFER PUMP	3	J-12	NA	N:PR-8	Y	Y:PR-7	Y	N:PR-1	
DOT 1B	DIESEL OIL TRANSFER PUMP	3	L-12	NA	N:PR-8	Y	Y:PR-7	Y	N:PR-1	
HPSI 1A	HIGH PRESSURE SAFETY INJECTION	2	C-6	NA	Y	Y	Y:PR-9	Y	N:PR-1	
HPSI 1B	HIGH PRESSURE SAFETY INJECTION	2	B-6	NA	Y	Y	Y:PR-9	Y	N:PR-1	
HPSI 1C	HIGH PRESSURE SAFETY INJECTION	2	C-6	NA	Y	Y	Y:PR-9	Y	N:PR-1	
ICW 1A	INTAKE COOLING WATER PUMP	3	H-4	NA	N:PR-11	Y	Y	Y	N:PR-1	
ICW 1B	INTAKE COOLING WATER PUMP	3	H-7	NA	N:PR-11	Y	Y	Y	N:PR-1	
ICW 1C	INTAKE COOLING WATER PUMP	3	H-5	NA	N:PR-11	Y	Y	Y	N:PR-1	
LPSI 1A	LOW PRESSURE SAFETY INJECTION	2	F-6	NA	Y	Y	Y:PR-10	Y	N:PR-1	
LPSI 1B	LOW PRESSURE SAFETY INJECTION	2	E-6	NA	Y	Y	Y:PR-10	Y	N:PR-1	

LEGEND

PUMP NUMBER	Numerical designator indicated on the respective flow diagram.
DESCRIPTION	Generic name/function of the pump.
CL	ISI Classification per the associated ISI boundary drawing(s)
COORD	Corresponds to the flow diagram coordinates of the pump.
Test Parameters	The table indicates by a "Y" (yes) or "N" (no) that the specific parameter is measured, evaluated, and recorded per the applicable Code requirement. If a "N" is indicated, the associated relief request number is also noted in the same column.
PR-XX	Where indicated this refers to the specific relief request (See Appendix B) related to any deviation regarding the measurement or analysis of a parameter.

Appendix B

Pump Program
Relief Requests

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-1

COMPONENTS:

All centrifugal pumps in the Program

SECTION XI REQUIREMENT:

The temperature of all centrifugal pump bearings outside the main flowpath shall be measured at points selected to be responsive to changes in the temperature of the bearings. (IWP-3300, 4310)

BASIS FOR RELIEF:

The data associated with bearing temperatures taken at one-year intervals provides little statistical basis for determining the incremental degradation of a bearing or any meaningful trending information or correlation.

In many cases the pump bearings are water-cooled and thus, bearing temperature is a function of the temperature of the cooling medium, which can vary considerably.

Vibration measurements are a significantly more reliable indication of pump bearing degradation than are temperature measurements. All pumps in the program are subjected to vibration measurements in accordance with IWP-4500.

Although excessive bearing temperature is an indication of an imminent or existing bearing failure, it is highly unlikely that such a condition would go unnoticed during routine surveillance testing since it would manifest itself in other obvious indications such as audible noise, unusual vibration, increased motor current, etc.

Any potential gain from taking bearing measurements, which in most cases would be done locally using portable instrumentation, cannot offset the cost in terms of dilution of operator effort, distraction of operators from other primary duties, excessive operating periods for standby pumps especially under minimum flow conditions, and unnecessary personnel radiation exposure.

ALTERNATE TESTING:

None

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-2

COMPONENTS:

Various

SECTION XI REQUIREMENT:

The full-scale range of each instrument shall be three times the reference value or less. (IWP-4120)

BASIS FOR RELIEF:

Table IWP-4110-1 requires the accuracy of instruments used to measure temperature and speed to be equal to or better than ±5 percent for temperature and ±2 percent for speed, both based on the full scale reading of the instrument. This means that the accuracy of the measurement can vary as much as ±15 percent and ±6 percent, respectively, assuming the range of the instruments extended to the allowed maximum.

These IST pump parameters are often measured with portable test instruments where commercially available instruments do not necessarily conform to the Code requirements for range. In these cases, high quality calibrated instruments will be used where the "reading" accuracy is at least equal to the Code-requirement for full-scale accuracy. This will ensure that the measurements are always more accurate than the accuracy as determined by combining the requirements of Table IWP-4110-1 and Paragraph IWP-4120.

ALTERNATE TESTING:

Whenever portable instruments are used for measuring pump speed or bearing temperatures, the instruments will be such that the "reading" accuracy is as follows

Temperature	±5 percent
Speed	±2 percent

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-3

COMPONENTS:

Applicable to all pumps in the Program

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1. (IWP-3300)

Pump inlet pressure shall be measured before starting a pump and during the test. (Table IWP-3100-1)

BASIS FOR RELIEF:

If the pumps being tested are in operation as a result of plant or system needs, it is unreasonable to reconfigure system lineups simply to provide for measurement of static inlet pressure.

Inlet pressure prior to pump startup is not a significant parameter needed for evaluating pump performance or its material condition.

ALTERNATE TESTING:

When performing a test on a pump that is already in operation due to system or plant requirements, inlet pressure will only be measured during pump operation.

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-4

COMPONENTS:

Auxiliary Feedwater (AFW) Pumps 1A thru 1C
(8770-G-080, Sh 3)

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1. (IWP-3300)

Pump flowrate shall be measured during the test. (Table IWP-3100-1)

BASIS FOR RELIEF:

There are only two practical flowpaths available for performing inservice testing of the AFW Pumps. These include the primary flowpath into the main feed supply lines and thence to the steam generator and the minimum-flow recirculation (mini-recirc and bypass test loop) which returns to the condensate tank. The former is provided with flowrate measuring instrumentation however the mini-recirc line is a fixed resistance circuit with no flow instrumentation.

Pumping from the auxiliary feedwater system into the steam generators during plant hot operation is impractical and undesirable for the following reasons:

* During auxiliary feedwater injection via the main feedwater lines while the plant is operating at power, a large temperature differential (approximately 375 deg-F) could exist that would result in significant thermal shock and fatigue cycling of the feedwater piping and steam generator nozzles.

* Based on the expected duration of the testing and the flowrate of the pumps (275 gpm), it is expected that the cooldown of the steam generator would induce cooldown and contraction of the reactor coolant system resulting in undesirable reactivity variations and power fluctuations.

RELIEF REQUEST NO. PR-4 (cont.)

ALTERNATE TESTING:

During quarterly testing of the AFW pumps while the pumps are operating through the fixed-resistance mini-recirc line, pump differential pressure and vibration will be measured and evaluated per IWP-3200 and IWP-6000.

During testing performed at cold shutdown, pump differential pressure, flowrate, and vibration will be recorded per IWP-3200 and IWP-6000. Testing during cold shutdowns will be on a frequency determined by intervals between shutdowns as follows:

For intervals of 3 months or longer - each shutdown.

For intervals of less than 3 months - testing is not required unless 3 months have passed since the last shutdown test.

This alternate testing agrees with the requirements of NRC Generic Letter 89-04, Position 9 and, as such, is considered to be approved upon submittal.

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-5

COMPONENTS:

Boric Acid Makeup (BAM) Pumps 1A and 1B
(8770-G-078, Sh 121)

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1. (IWP-3300)

Pump flowrate shall be measured during the test. (Table IWP-3100-1)

BASIS FOR RELIEF:

There are three practical flowpaths available for performing inservice testing of the BAM Pumps. These include the primary flowpath into the charging pump suction header, a recirculation line leading back to the refueling water tank, and the minimum-flow recirculation (mini-recirc and bypass test loop) which returns to the BAM Tanks.

None of these is totally satisfactory for the following reasons:

* Operating the BAM Pumps discharging into the charging pump suction header requires the introduction of highly concentrated boric acid solution from the boric acid makeup tanks to the suction of the charging pumps. This, in turn, would result in the addition of excess boron to the RCS which would adversely affect plant power level and operational parameters with the potential for an undesirable plant transient and a plant trip or shutdown. During cold shutdown, the introduction of excess quantities of boric acid into the RCS is undesirable from the aspect of maintaining proper plant chemistry and the inherent difficulties that may be encountered during the subsequent startup due to over-boration of the RCS.

RELIEF REQUEST NO. PR-5 (cont.)

* The second circuit that recirculates water to the Refueling Water Tank (RWT) or the Volume Control Tank (VCT). During plant operation at power it is undesirable to pump to the RWT and deplete to BAM Tank inventory. There are, however, situations where makeup is provided to the VCT from the BAM Tanks; but it is unlikely that the scheduling and duration of this evolution presents a practical opportunity for performing pump testing.

* The minimum-flow recirculation flowpath is a fixed resistance circuit containing a flow limiting orifice however no flowrate measuring instrumentation is installed.

ALTERNATE TESTING:

During quarterly testing of the BAM pumps while the pumps are operating through the fixed-resistance mini-recirc line, pump differential pressure and vibration will be measured and evaluated per IWP-3200 and IWP-6000.

During testing performed at cold shutdown, pump differential pressure, flowrate, and vibration will be recorded per IWP-3200 and IWP-6000. Testing during cold shutdowns will be on a frequency determined by intervals between shutdowns as follows:

For intervals of 3 months or longer - each shutdown.

For intervals of less than 3 months - testing is not required unless 3 months have passed since the last shutdown test.

This alternate testing agrees with the requirements of NRC Generic Letter 89-04, Position 9 and, as such, is considered to be approved upon submittal.

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-6

COMPONENTS:

Containment Spray (CS) Pumps 1A and 1B (8770-G-088)

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1. (IWP-3300)

Pump flowrate shall be measured during the test. (Table IWP-3100-1)

BASIS FOR RELIEF:

There are two practical flowpaths available for performing inservice testing of the CS Pumps. These include one that pumps borated water from the RWT to the RCS via the low-pressure injection header and the other, minimum-flow recirculation (mini-recirc and bypass test loop) which returns to the RWT

The first would require modifying the shutdown cooling lineup while in cold shutdown; however, the shutdown cooling system cannot provide sufficient letdown flow to the RWT to accommodate full design flow from the RWT while maintaining the necessary core cooling function. Thus, the only practical time for testing these pumps via this flowpath is during refueling outages when water from the RWT is used to fill the refueling cavity.

The minimum-flow recirculation flowpath is a fixed resistance circuit containing a flow limiting orifice however no flowrate measuring instrumentation is installed.

ALTERNATE TESTING:

During quarterly testing of the CS pumps while the pumps are operating through the fixed-resistance mini-recirc line, pump differential pressure and vibration will be measured and evaluated per IWP-3200 and IWP-6000.

RELIEF REQUEST NO. PR-6 (cont.)

ALTERNATE TESTING:

During testing performed during each reactor refueling, pump differential pressure, flowrate, and vibration will be recorded per IWP-3200 and IWP-6000.

This alternate testing agrees with the requirements of NRC Generic Letter 89-04, Position 9 and, as such, is considered to be approved upon submittal.

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-7

COMPONENTS:

Diesel Fuel Oil Transfer Pumps 1A and 1B

SECTION XI REQUIREMENTS:

When measurement of bearing temperature is not required, each pump shall be run at least 5 min under conditions as stable as the system permits. At the end of this time at least one measurement or observation of each of the quantities specified shall be made and recorded. (IWP-3500(a))

Flow rate shall be measured using a rate or quantity meter installed in the pump test circuit. (IWP-4600)

BASIS FOR RELIEF:

The only available test circuit for these pumps consists of the normal day tank fill lines from the diesel oil storage tanks. There is a minimum flow recirculation line however no flow instrumentation installed. Therefore, the only practical method of determining pump flowrate is by calculating the fill rate of the day tanks. Furthermore, due to the capacity of the fuel oil pumps and the available volume of oil from the low-level pump start point to the high-level setpoint, the runtime for a pump is limited, precluding the Code required 5-minute minimum runtime before taking readings.

ALTERNATIVE TESTING:

When testing these pumps, the flowrate will be calculated based on the measured change in the diesel fuel oil day tank level over an elapsed period of pump run time.

The starting point for taking measurements will be when the system conditions have stabilized.

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-8

COMPONENTS:

Boric Acid Makeup Pumps 1A and 1B (8770-G-078, Sh 121
Diesel Fuel Oil Transfer Pumps 1A and 1B (8770-G-086, Sh 1)

SECTION XI REQUIREMENTS:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1 except bearing temperatures, which shall be measured during at least one inservice test each year. (IWP-3300)

BASIS FOR RELIEF:

The system installations do not provide any mechanism for measuring pump suction pressures, and thus, the requirement for measuring suction pressure and pump differential pressures cannot be satisfied. A measure of pump suction pressure can, however, be determined by calculation using the height of liquid in the boric acid and diesel oil storage tanks. Since there is essentially fixed resistances between the tanks and the pumps this will provide a consistent value for suction pressures.

Since the tank levels are not expected to vary significantly during the tests, tank levels and associated calculations will only be taken once during each test instead of prior to pump operation and during operation as required by Table IWP-3100-1.

ALTERNATE TESTING:

The Boric Acid Makeup and Diesel Fuel Oil Transfer Pump suction pressures will be calculated based on the height of liquid in the associated tanks once during each inservice test. Subsequently, these calculated values will be used to determine pump differential pressures for evaluation of pump parameters.

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-9

COMPONENTS:

High Pressure Safety Injection (HPSI) Pumps 1A thru 1C (8770-G-078, Sh 130)

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1. (IWP-3300)

BASIS FOR RELIEF:

During quarterly testing of the HPSI Pumps, the pumps cannot develop sufficient discharge pressure to overcome RCS pressure an allow directing flow through the safety injection line flow measuring instrument, thus flow is routed through a minimum flow test line leading to the suction of the pump being tested. This line has no installed flowrate measuring instrumentation and measuring flowrate during quarterly testing is not practical.

During cold shutdown conditions, full flow operation of the HPSI pumps to the RCS is restricted to preclude RCS system pressure transients that could result in exceeding the pressure-temperature limits specified in the Technical Specifications, Section 3.4.9.

NRC Generic Letter 89-04, Position 9, allows elimination of minimum flow test line flowrate measurements providing inservice tests are performed during cold shutdowns or refueling under full or substantial flow conditions where pump flowrate is recorded and evaluated.

ALTERNATE TESTING:

During quarterly testing of the HPSI Pumps, pump differential pressure and vibration will be recorded per IWP-3200 and IWP-6000.

During testing performed at each reactor refueling, pump differential pressure, flowrate, and vibration will be recorded per IWP-3200 and IWP-6000.

This alternate testing agrees with the guidelines of NRC Generic Letter 89-04, Position 9 and, as such, is considered to be approved upon submittal.

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-10

COMPONENTS:

Low Pressure Safety Injection (LPSI) Pumps 1A and 1B (8770-G-078, Sh 130)

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1. (IWP-3300)

BASIS FOR RELIEF:

During quarterly testing of the LPSI Pumps, the pumps cannot develop sufficient discharge pressure to overcome RCS pressure an allow directing flow through the safety injection line flow measuring instrument, thus flow is routed through a minimum flow test line leading to the suction of the pump being tested. This line has no installed flowrate measuring instrumentation and measuring flowrate during quarterly testing is not practical.

NRC Generic Letter 89-04, Position 9, allows elimination of minimum flow test line flowrate measurements providing inservice tests are performed during cold shutdowns or refueling under full or substantial flow conditions where pump flowrate is recorded and evaluated.

ALTERNATE TESTING:

During quarterly testing of the LPSI Pumps, pump differential pressure and vibration will be recorded per IWP-3200 and IWP-6000.

RELIEF REQUEST NO. PR-10 (cont.)

ALTERNATE TESTING:

During testing performed at cold shutdown, pump differential pressure, flowrate, and vibration will be recorded per IWP-3200 and IWP-6000. Testing during cold shutdowns will be on a frequency determined by intervals between shutdowns as follows:

For intervals of 3 months or longer - each shutdown.

For intervals of less than 3 months - testing is not required unless 3 months have passed since the last shutdown test.

This alternate testing agrees with the requirements of NRC Generic Letter 89-04, Position 9 and, as such, is considered to be approved upon submittal.

REVISION 2
12/12/89

RELIEF REQUEST NO. PR-11

COMPONENTS:

Intake Cooling Water Pumps 1A, 1B and 1C

SECTION XI REQUIREMENT:

Each inservice test shall include the measurement and observation of all quantities in Table IWP-3100-1. (IWP-3300)

Pump inlet pressure shall be measured before starting a pump and during the test. (Table IWP-3100-1)

BASIS FOR RELIEF:

The pumps listed above are vertical line shaft pumps submerged in the intake structure with no practical means of measuring pump inlet pressure. The inlet pressure, however, can be determined by calculation using, as input, the measured height of water above the pump inlet as measured at the intake.

During each inservice test, the water level in the intake pit remains relatively constant, thus only one measurement of level and the associated suction pressure calculation need be performed.

ALTERNATE TESTING:

During testing of these pumps, one value of inlet pressure will be calculated based on water level at the inlet structure.

Appendix C

Valve Program Tables

LEGEND

VALVE NUMBER	The plant alpha-numerical designator for the subject valve
COORD	The coordinate location of the valve on the designated drawing
CL	The ISI Classification of the valve as per the respective ISI boundary drawings
CAT	The valve category per Paragraph IWV-2200
SIZE	The valve's nominal size in inches
TYPE	The valve type
A/P	The active (A) or passive (P) determination for the valve per IWV-2100.
ACT. TYPE	The valve actuator type as follows: AO Air-operated MO Electric motor-operated MAN Manual valve PO Piston-operated S/A Self-actuated SO Solenoid-operated
NORM POS.	Designates the normal position of the valve during plant operation at power
REM IND	Notes if a valve has remote position indication
FAIL MODE	Identifies the failure mode (open or closed) for a valve. FAI indicates the valve fails "as is".

LEGEND (Cont.)

EXAM — Identifies the test requirements for a valve as follows:

CV/C	Check valve exercise to closed position.
CV/O	Check valve full-stroke exercise to open position.
CV/PO	Check valve partial-stroke exercise to open position.
EC	Exercise to closed position. For all category A or B power-operated valves stroke times will be measured unless excluded by an associated relief request.
EE	Exercise valve to verify proper operation and stroking with no stroke time measurements. Requires observation of system parameters or local observation of valve operation.
EO	Exercise to open position. For all category A or B power-operated valves stroke times will be measured unless excluded by an associated relief request.
FS	Fail safe test
INSP	Disassembly and inspection of check valves
PEC	Partial closure exercise for power-operated valves
PI	Position indication verification
SLT-1	Seat leakrate test per 10 CFR 50, App J
SLT-2	Seat leakrate test for pressure isolation valves.
SRV	Set point check for safety/relief valves

LEGEND (Cont.)

TEST FREQ	The required test interval as follows:
	QR Quarterly (during plant operation) CS Cold shutdown as defined by Technical Specification 2Y Every 2 years RF Each reactor refueling outage (cycle). In the case where this is designated for safety/relief valves refer, to Table IWV-3510-1. SP Other (See applicable Request for Relief)
RELIEF REQ	Refers to the specific relief request associated with the adjacent test requirement. (See Appendix D)

P & ID: 3509-G-115 SH 1 SYSTEM: STEAM GENERATOR BLOWDOWN

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-23-3	E-2	2	B	2.000	GATE	A	AO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
FCV-23-5	E-3	2	B	2.000	GATE	A	AO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
FCV-23-7	E-5	2	B	0.500	GATE	A	AO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
FCV-23-9	E-6	2	B	0.500	GATE	A	AO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		

P & ID: 8770-G-078 SH 110 SYSTEM: REACTOR COOLANT SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-1200	G-6	1	C	6.000	SAFETY	A	S/A	C	NO		SRV	RF		
V-1201	G-6	1	C	6.000	SAFETY	A	S/A	C	NO		SRV	RF		
V-1202	G-6	1	C	6.000	SAFETY	A	S/A	C	NO		SRV	RF		
V-1402	G-8	1	B	2.500	GLOBE	A	SO	C	YES	FC	EO	CS		
											PI	2Y		
V-1403	G-8	1	B	2.500	GATE	A	MO	O	YES	FAI	EC	QR		
											PI	2Y		
V-1404	H-8	1	B	2.500	GLOBE	A	SO	C	YES	FC	EO	CS		
											PI	2Y		
V-1405	H-8	1	B	2.500	GATE	A	MO	O	YES	FAI	EC	QR		
											PI	2Y		
V-1441	D-4	2	B	1.000	GLOBE	A	SO	LC	YES	FC	EO	CS		
											PI	2Y		
V-1442	D-4	2	B	1.000	GLOBE	A	SO	LC	YES	FC	EO	CS		
											PI	2Y		
V-1443	H-6	2	B	1.000	GLOBE	A	SO	LC	YES	FC	EO	CS		
											PI	2Y		
V-1444	H-6	2	B	1.000	GLOBE	A	SO	LC	YES	FC	EO	CS		
											PI	2Y		
V-1445	F-8	2	B	1.000	GLOBE	A	SO	LC	YES	FC	EO	CS		
											PI	2Y		
V-1446	F-8	2	B	1.000	GLOBE	A	SO	LC	YES	FC	EO	CS		
											PI	2Y		
V-1449	F-8	2	B	1.000	GLOBE	A	SO	LC	YES	FC	EO	CS		
											PI	2Y		

P & ID: 8770-G-078 SH 120 SYSTEM: CHEMICAL AND VOLUME CONTROL

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
HV-02-02	C-7	2	B	2.000	GLOBE	A	MO	O	YES	FAI	EO	CS		
											PI	2Y		
SE-02-01	B-8	1	B	2.000	GLOBE	A	SO	O	YES	FO	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
SE-02-02	B-8	1	B	2.000	GLOBE	A	SO	O	YES	FO	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
SE-02-03	C-8	1	B	2.000	GLOBE	A	SO	LC	YES	FC	EC	CS		
											EO	CS		
											FS	CS		
											PI	2Y		
SE-02-04	C-8	1	B	2.000	GLOBE	A	SO	LC	YES	FC	EC	CS		
											EO	CS		
											FS	CS		
											PI	2Y		
V-2430	B-5	1	C	2.000	CHECK	A	S/A	O	NO		CV/O	QR		
V-2431	C-8	1	C	2.000	CHECK	A	S/A	C	NO		CV/O	CS		
V-2432	B-8	1	C	2.000	CHECK	A	S/A	O/C	NO		CV/O	QR		
V-2433	A-8	1	C	2.000	CHECK	A	S/A	O/C	NO		CV/O	QR		
V-2435	A-7	1	C	2.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-2515	D-8	1	A	2.000	GLOBE	A	DO	O	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y		
V-2516	D-7	1	A	2.000	GLOBE	A	DO	O	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y		

P & ID: 8770-G-078 SH 121 SYSTEM: CHEMICAL AND VOLUME CONTROL SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-2161	B-4	2	B	1.000	GLOBE	A	DO	O/C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
SE-01-01	H-6	2	A	0.750	GLOBE	A	SO	O	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y		
V-02132	G-2	2	C	2.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	QR		
V-02133	G-2	2	C	2.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	QR		
V-02134	E-2	2	C	2.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	QR		
V-2177	C-4	2	C	3.000	CHECK	A	S/A	C	NO		CV/O	RF	VR-6	
V-2190	D-6	2	C	3.000	CHECK	A	S/A	C	NO		CV/C	RF	VR-6	
											CV/O	RF	VR-6	
V-2191	E-6	2	C	3.000	CHECK	A	S/A	C	NO		CV/C	RF	VR-6	
											CV/O	RF	VR-6	
V-2324	F-2	2	C	1.500	RELIEF	A	S/A	C	NO		SRV	RF		
V-2325	G-2	2	C	1.500	RELIEF	A	S/A	C	NO		SRV	RF		
V-2326	H-2	2	C	1.500	RELIEF	A	S/A	C	NO		SRV	RF		
V-2426	C-4	2	C	0.500	RELIEF	A	S/A	C	NO		SRV	RF		
V-2436	B-4	2	C	0.500	RELIEF	A	S/A	C	NO		SRV	RF		
V-2443	B-4	2	C	3.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	RF	VR-28	
											CV/PO	QR	VR-28	
V-2444	B-4	2	C	3.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	RF	VR-28	
											CV/PO	QR	VR-28	

P & ID: 8770-G-078 SH 121 (cont) SYSTEM: CHEMICAL AND VOLUME CONTROL SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-2501	E-7	2	B	4.000	GATE	A	MO	O	YES	FAI	EC	CS		
											PI	2Y		
V-2504	E-5	3	B	3.000	GATE	A	MO	C	YES	FAI	EC	CS		
											EO	CS		
											PI	2Y		
V-2505	H-6	2	A	0.750	GLOBE	A	DO	O	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y		
V-2508	B-6	2	B	3.000	GATE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
V-2509	B-7	2	B	3.000	GATE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
V-2510	B-6	2	B	1.000	GLOBE	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
V-2511	D-5	2	B	1.000	GLOBE	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
V-2512	E-4	2	B	3.000	GLOBE	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
V-2514	C-4	2	B	3.000	GATE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
V-2525	E-7	2	B	4.000	GATE	A	MO	O/C	YES	FAI	EC	QR		
											PI	2Y		

P & ID: 8770-G-078 SH 130 SYSTEM: SAFETY INJECTION SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-3306	E-4	2	B	10.000	GLOBE	A	PO	LO	YES	FO	EC	QR		
											PI	2Y		
HCV-3657	F-4	2	B	12.000	GLOBE	A	DO	LC	YES	FAI	EO	QR		
											PI	2Y		
MV-03-2	E-4	2	B	10.000	GLOBE	A	MO	LO	YES	FAI	EC	QR		
											PI	2Y		
SR-07-1A	F-8	2	C	0.750	RELIEF	A	S/A	C	NO		SRV	RF		
SR-07-1B	E-8	2	C	0.750	RELIEF	A	S/A	C	NO		SRV	RF		
V-07000	F-7	2	C	14.000	CHECK	A	S/A	C	NO		CV/O	RF	VR-7	
											CV/PO	QR	VR-7	
V-07001	E-7	2	C	14.000	CHECK	A	S/A	C	NO		CV/O	RF	VR-7	
											CV/PO	QR	VR-7	
V-07009	H-2	2	A	2.000	GLOBE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-3101	D-5	2	C	2.000	CHECK	A	S/A	C	NO		CV/C	CS	VR-29	
											CV/PO	2A	VR-29	
											INSP	RF	VR-29	
V-3102	D-5	2	C	2.000	CHECK	A	S/A	C	NO		CV/C	CS	VR-29	
											CV/PO	QR	VR-29	
											INSP	RF	VR-29	
V-3103	D-5	2	C	2.000	CHECK	A	S/A	C	NO		CV/C	CS	VR-29	
											CV/PO	QR	VR-29	
											INSP	RF	VR-29	
V-3104	E-5	2	C	2.000	CHECK	A	S/A	C	NO		CV/C	CS	VR-30	
											CV/PO	QR	VR-30	
											INSP	RF	VR-30	
V-3105	E-5	2	C	2.000	CHECK	A	S/A	C	NO		CV/C	CS	VR-30	
											CV/PO	QR	VR-30	
											INSP	RF	VR-30	
V-3106	F-5	2	C	10.000	CHECK	A	S/A	C	NO		CV/C	CS		
											CV/O	CS		

P & ID: 8770-G-078 SH 130 (cont) SYSTEM: SAFETY INJECTION SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-3107	E-5	2	C	10.000	CHECK	A	S/A	C	NO		CV/C	CS		
											CV/O	CS		
V-3206	F-4	2	B	10.000	GATE	P	MO	LO	YES	FAI	PI	2Y		
V-3207	E-4	2	B	10.000	GATE	P	MO	LO	YES	FAI	PI	2Y		
V-3401	D-7	2	C	6.000	CHECK	A	S/A	C	NO		CV/O	RF	VR-8	
											CV/PO	QR	VR-8	
V-3405	C-5	2	C	3.000	STP-CK	A	S/A	O	NO		CV/C	QR		
											CV/O	RF	VR-9	
V-3410	B-7	2	C	8.000	CHECK	A	S/A	C	NO		CV/O	RF	VR-8	
											CV/PO	QR	VR-8	
V-3412	B-3	2	C	0.500	RELIEF	A	S/A	C	NO		SRV	RF		
V-3414	B-5	2	C	3.000	STP-CK	A	S/A	O	NO		CV/C	QR		
											CV/O	RF	VR-9	
V-3417	C-3	2	C	1.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-3427	C-5	2	C	3.000	STP-CK	A	S/A	O	NO		CV/C	QR		
											CV/O	RF	VR-9	
V-3430	D-7	2	C	0.500	RELIEF	A	S/A	C	NO		SRV	RF		
V-3431	D-6	2	C	0.500	RELIEF	A	S/A	C	NO		SRV	RF		
V-3432	E-8	2	B	14.000	GATE	A	MO	LO	YES	FAI	EC	QR		
											PI	2Y		
V-3439	D-3	2	C	0.500	RELIEF	A	S/A	C	NO		SRV	RF		
V-3444	F-8	2	B	14.000	GATE	A	MO	LO	YES	FAI	EC	QR		
											PI	2Y		
V-3452	G-8	2	B	12.000	GATE	A	MO	LC	YES	FAI	EO	QR		
											PI	2Y		
V-3453	G-8	2	B	12.000	GATE	A	MO	LC	YES	FAI	EO	QR		
											PI	2Y		

P & ID: 8770-G-078 SH 130 (cont) SYSTEM: SAFETY INJECTION SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-3456	G-3	2	B	10.000	GATE	A	MO	LC	YES	FAI	EO	QR		
											PI	2Y		
V-3457	G-3	2	B	10.000	GATE	A	MO	LC	YES	FAI	EO	QR		
											PI	2Y		
V-3463	H-2	2	A	2.000	GLOBE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-3653	B-4	2	B	4.000	GATE	A	MO	LO	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
V-3654	B-4	2	B	6.000	GATE	P	MO	LO	YES	FAI	PI	2Y		
V-3655	C-4	2	B	4.000	GATE	A	MO	LC	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
V-3656	C-4	2	B	6.000	GATE	P	MO	LO	YES	FAI	PI	2Y		
V-3659	H-5	2	B	3.000	GATE	A	MO	LO	YES	FAI	EC	CS		
											PI	2Y		
V-3660	G-5	2	B	3.000	GATE	A	MO	LO	YES	FAI	EC	CS		
											PI	2Y		
V-3662	D-7	2	B	4.000	GATE	A	MO	C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
V-3663	D-7	2	B	4.000	GATE	A	MO	C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		

P & ID: 8770-G-078 SH 131 SYSTEM: SAFETY INJECTION SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-03-1E	B-6	2	A	0.375	NEEDLE	A	SO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FCV-03-1F	B-7	2	A	0.375	NEEDLE	A	SO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
HCV-3615	H-7	2	B	6.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3616	G-7	2	B	2.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3617	G-7	2	B	2.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3618	F-6	1	B	1.000	GLOBE	A	DO	C	YES	FC	EC	CS	VR-33	
											FS	CS		
											PI	2Y		
HCV-3625	F-7	2	B	6.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3626	E-7	2	B	2.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3627	E-7	2	B	2.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3628	F-3	1	B	1.000	GLOBE	A	DO	C	YES	FC	EC	CS	VR-33	
											FS	CS		
											PI	2Y		
HCV-3635	D-7	2	B	6.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3636	C-7	2	B	2.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3637	C-7	2	B	2.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		

P & ID: 8770-G-078 SH 131 (cont) SYSTEM: SAFETY INJECTION SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
HCV-3638	B-5	1	B	1.000	GLOBE	A	DO	C	YES	FC	EC	CS	VR-33	
											FS	CS		
											PI	2Y		
HCV-3645	B-7	2	B	6.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3646	A-7	2	B	2.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3647	A-7	2	B	2.000	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HCV-3648	B-3	1	B	1.000	GLOBE	A	DO	C	YES	FC	EC	CS	VR-33	
											FS	CS		
											PI	2Y		
HV-03-1A	E-7	2	B	2.000	GLOBE	A	MO	LC	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
HV-03-1B	D-7	2	B	2.000	GLOBE	A	MO	LC	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
V-3113	G-7	1	AC	2.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-10	
											CV/O	RF	VR-10	
											SLT-2	2Y	VR-2	
V-3114	H-7	1	AC	6.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-11	
											CV/O	CS	VR-11	
											SLT-2	2Y	VR-2	
V-3123	E-7	1	AC	2.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-10	
											CV/O	RF	VR-10	
											SLT-2	2Y	VR-2	
V-3124	F-7	1	AC	6.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-11	
											CV/O	CS	VR-11	
											SLT-2	2Y	VR-2	
V-3133	C-7	1	AC	2.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-10	
											CV/O	RF	VR-10	
											SLT-2	2Y	VR-2	

P & ID: 8770-G-078 SH 131 (cont) SYSTEM: SAFETY INJECTION SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-3134	D-7	1	AC	6.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-11	
											CV/O	CS	VR-11	
											SLT-2	2Y	VR-2	
V-3143	B-7	1	AC	2.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-10	
											CV/O	RF	VR-10	
											SLT-2	2Y	VR-2	
V-3144	B-7	1	AC	6.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-11	
											CV/O	CS	VR-11	
											SLT-2	2Y	VR-2	
V-3215	F-5	2	AC	12.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-12	
											INSP	RF	VR-12	
											SLT-2	2Y	VR-2	
V-3217	F-4	1	AC	12.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-13	
											CV/PO	CS	VR-13	
											INSP	RF	VR-13	
											SLT-2	2Y	VR-2	
V-3225	F-2	2	AC	12.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-12	
											INSP	RF	VR-12	
											SLT-2	2Y	VR-2	
V-3227	F-2	1	AC	12.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-13	
											CV/PO	CS	VR-13	
											INSP	RF	VR-13	
											SLT-2	2Y	VR-2	
V-3235	B-5	2	AC	12.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-12	
											INSP	RF	VR-12	
											SLT-2	2Y	VR-2	
V-3237	B-4	1	AC	12.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-13	
											CV/PO	CS	VR-13	
											INSP	RF	VR-13	
											SLT-2	2Y	VR-2	
V-3245	C-2	2	AC	12.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-12	
											INSP	RF	VR-12	
											SLT-2	2Y	VR-2	

P & ID: 8770-G-078 SH 131 (cont) SYSTEM: SAFETY INJECTION SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-3247	B-1	1	AC	12.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-13	
											CV/PO	CS	VR-13	
											INSP	RF	VR-13	
											SLT-2	2Y	VR-2	
V-3468	D-7	2	C	2.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-3469	E-4	2	C	1.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-3480	E-5	1	A	10.000	GATE	A	MO	LC	YES	FAI	EO	CS		
											PI	2Y		
											SLT-2	2Y	VR-2	
V-3481	E-5	1	A	10.000	GATE	A	MO	LC	YES	FAI	EO	CS		
											PI	2Y		
											SLT-2	2Y	VR-2	
V-3482	E-5	2	C	1.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-3483	E-6	2	C	2.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-3614	F-5	2	B	12.000	GATE	A	MO	LO	YES	FAI	EC	CS		
											PI	2Y		
V-3624	F-2	2	B	12.000	GATE	A	MO	LO	YES	FAI	EC	CS		
											PI	2Y		
V-3634	B-5	2	B	12.000	GATE	A	MO	LO	YES	FAI	EC	CS		
											PI	2Y		
V-3644	B-2	2	B	12.000	GATE	A	MO	LO	YES	FAI	EC	CS		
											PI	2Y		
V-3651	D-4	1	A	10.000	GATE	A	MO	LC	YES	FAI	EO	CS		
											PI	2Y		
											SLT-2	2Y	VR-2	
V-3652	D-4	1	A	10.000	GATE	A	MO	LC	YES	FAI	EO	CS		
											PI	2Y		
											SLT-2	2Y	VR-2	

P & ID: 8770-G-078 SH 150 SYSTEM: SAMPLING SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-5200	G-7	2	A	0.375	GLOBE	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-5201	F-7	2	A	0.375	GLOBE	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-5202	E-7	2	A	0.375	GLOBE	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-5203	G-7	2	A	0.375	GLOBE	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-5204	F-7	2	A	0.375	GLOBE	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-5205	E-7	2	A	0.375	GLOBE	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		

P & ID: 8770-G-078 SH 160 , SYSTEM: WASTE MANAGEMENT SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-6301	F-6	2	A	3.000	DIAPH	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-6302	F-6	2	A	3.000	DIAPH	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		

P & ID: 8770-G-078 SH 163 SYSTEM: WASTE MANAGEMENT SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-6554	F-7	2	A	1.000	DIAPH	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-6555	F-7	2	A	1.000	DIAPH	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-6741	D-7	2	A	1.000	GLOBE	A	DO	O/C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-6779	D-7	2	A	1.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											SLT-1	2Y		

P & ID: 8770-G-079 SH 1 SYSTEM: MAIN STEAM SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
HCV-08-1A	K-12	2	BC	34.000	STPCK	A	AO	O	YES		EC	CS		
											PEC	QR		
											PI	2Y		
HCV-08-1B	C-12	2	BC	34.000	STPCK	A	AO	O	YES		EC	CS		
											PEC	QR		
											PI	2Y		
HCV-08-2A	J-10	2	B	8.000	GLOBE	A	AO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
HCV-08-2B	C-10	2	B	8.000	GLOBE	A	AO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
HV-08-03	H-10	2	B	4.000	GATE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HV-08-13	H-9	2	B	3.000	GATE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HV-08-14	E-9	2	B	3.000	GATE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
HV-08-1A	K-12	2	B	3.000	GATE	A	MO	C	YES	FAI	EC	CS		
											PI	2Y		
HV-08-1B	D-11	2	B	3.000	GATE	A	MO	C	YES	FAI	EC	CS		
											PI	2Y		
V-08117	K-12	2	C	34.000	CHECK	A	S/A	O	NO		CV/C	RF	VR-14	
V-08130	G-9	2	C	4.000	CHECK	A	S/A	O	NO		CV/O	CS		
											CV/PO	QR		
V-08131	G-9	2	B	4.000	GATE	A	MAN	O	NO		EC	QR		
V-08148	C-12	2	C	34.000	CHECK	A	S/A	O	NO		CV/C	RF	VR-14	
V-08163	E-9	2	C	4.000	CHECK	A	S/A	C	NO		CV/O	CS		
											CV/PO	QR		

P & ID: 8770-G-079 SH 1 (cont) SYSTEM: MAIN STEAM SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-08164	F-9	2	B	4.000	GATE	A	MAN	O	NO		EC	QR		
V-08448	E-9	2	C	4.000	CHECK	A	S/A	C	NO		CV/C	CS		
											CV/O	CS		
											CV/PO	QR		
V-08492	J-9	2	C	4.000	CHECK	A	S/A	C	NO		CV/C	CS		
											CV/O	CS		
											CV/PO	QR		
V-8201	K-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8202	K-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8203	K-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8204	K-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8205	C-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8206	C-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8207	C-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8208	C-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8209	K-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8210	K-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8211	K-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8212	K-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8213	C-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8214	C-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8215	C-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-8216	C-11	2	C	6.000	RELIEF	A	S/A	C	NO		SRV	RF		

P & ID: 8770-G-080 SH 3 SYSTEM: FEEDWATER SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
MV-09-07	E-6	2	B	20.000	GATE	A	MO	O	YES	FAI	EC	CS		
											PI	2Y		
MV-09-08	E-11	2	B	20.000	GATE	A	MO	O	YES	FAI	EC	CS		
											PI	2Y		
MV-09-09	E-1	3	B	4.000	GLOBE	A	MO	C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
MV-09-10	E-16	3	B	4.000	GLOBE	A	MO	C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
MV-09-11	E-4	3	B	4.000	GLOBE	A	MO	C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
MV-09-12	E-13	3	B	4.000	GLOBE	A	MO	C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
MV-09-13	K-2	3	B	2.500	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
MV-09-14	M-2	3	B	2.500	GLOBE	A	MO	C	YES	FAI	EO	QR		
											PI	2Y		
V-09248	E-6	2	C	20.000	CHECK	A	S/A	O	NO		CV/C	CS		
V-09280	E-11	2	C	20.000	CHECK	A	S/A	O	NO		CV/C	CS		
V-12174	K-11	3	C	8.000	CHECK	A	S/A	C	NO		CV/O	CS		
											CV/PO	QR		
V-12176	K-11	3	C	8.000	CHECK	A	S/A	C	NO		CV/O	CS		
											CV/PO	QR		
V-12507	M-9	2	C	0.750	CHECK	A	S/A	C	NO		CV/PO	QR	VR-31	
											INSP	RF	VR-31	
V-9107	M-4	3	C	4.000	CHECK	A	S/A	C	NO		CV/C	CS		
											CV/O	CS		
V-9119	D-1	2	C	4.000	CHECK	A	S/A	C	NO		CV/O	CS		

P & ID: 8770-G-080 SH 3 (cont) SYSTEM: FEEDWATER SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-9123	K-4	3	C	4.000	CHECK	A	S/A	C	NO		CV/C	CS		
											CV/O	CS		
V-9135	D-16	2	C	4.000	CHECK	A	S/A	C	NO		CV/O	CS		
V-9139	H-4	3	C	6.000	CHECK	A	S/A	C	NO		CV/O	CS		
V-9151	E-4	2	C	4.000	CHECK	A	S/A	C	NO		CV/O	CS		
V-9157	E-13	2	C	4.000	CHECK	A	S/A	C	NO		CV/O	CS		
V-9252	A-6	2	C	18.000	CHECK	A	S/A	O	NO		CV/O	QR		
V-9294	A-11	2	C	18.000	CHECK	A	S/A	O	NO		CV/O	QR		
V-9303	I-4	3	C	2.000	CHECK	A	S/A	C	NO		CV/PO	QR	VR-31	
											INSP	RF	VR-31	
V-9304	L-4	3	C	2.000	CHECK	A	S/A	C	NO		CV/PO	QR	VR-31	
											INSP	RF	VR-31	
V-9305	N-4	3	C	2.000	CHECK	A	S/A	C	NO		CV/PO	QR	VR-31	
											INSP	RF	VR-31	

P & ID: 8770-G-082 SH 1 SYSTEM: INTAKE COOLING WATER SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
HV-21-2	E-5	3	B	24.000	BUTFLY	A	MO	O	YES	FAI	EC	CS		
											PI	2Y		
HV-21-3	F-4	3	B	24.000	BUTFLY	A	MO	O	YES	FAI	EC	CS		
											PI	2Y		
SB-21165	F-5	3	B	36.000	BUTFLY	A	MAN	O/C	NO		EC	QR		
											EO	QR		
SB-21211	F-6	3	B	36.000	BUTFLY	A	MAN	O/C	NO		EC	QR		
											EO	QR		
TCV-14-4A	B-3	3	B	30.000	BUTFLY	A	PO	O	NO	FO	EE	CS	VR-35	
											FS	CS		
TCV-14-4B	B-3	3	B	30.000	BUTFLY	A	PO	O	NO	FO	EE	CS	VR-35	
											FS	CS		
V-21162	H-4	3	C	30.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	QR		
V-21205	H-5	3	C	30.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	QR		
V-21208	H-7	3	C	30.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	QR		

P & ID: 8770-G-082 SH 2 SYSTEM: INTAKE COOLING WATER SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-21-3A	I-4	3	B	2.000	GLOBE	A	PO	O	NO	FC	EC	QR		
											FS	QR		
FCV-21-3B	I-4	3	B	2.000	GLOBE	A	PO	O	NO	FC	EC	QR		
											FS	QR		
V-21005	H-3	3	C	2.000	CHECK	A	S/A	C	NO		CV/C	QR		
											CV/O	QR		
V-21010	H-4	3	C	2.000	CHECK	A	S/A	C	NO		CV/C	QR		
											CV/O	QR		
V-21015	J-4	3	C	2.000	CHECK	A	S/A	C	NO		CV/C	QR		
V-21017	J-4	3	C	2.000	CHECK	A	S/A	C	NO		CV/C	QR		
V-21030	B-15	3	C	1.000	CHECK	A	S/A	O	NO		CV/O	QR		
V-21032	B-15	3	C	1.000	CHECK	A	S/A	O	NO		CV/O	QR		
V-21044	B-15	3	C	1.000	CHECK	A	S/A	O	NO		CV/O	QR		
V-21046	B-16	3	C	1.000	CHECK	A	S/A	O	NO		CV/O	QR		
V-21058	B-16	3	C	1.000	CHECK	A	S/A	O	NO		CV/O	QR		
V-21060	B-16	3	C	1.000	CHECK	A	S/A	O	NO		CV/O	QR		

P & ID: 8770-G-083 SYSTEM: COMPONENT COOLING SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
HCV-14-1	D-6	2	A	8.000	BUTFLY	A	PO	O	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y	VR-5	
HCV-14-10	H-15	3	B	16.000	BUTFLY	A	PO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
HCV-14-2	D-2	2	A	8.000	BUTFLY	A	PO	O	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y	VR-5	
HCV-14-3A	M-3	3	B	14.000	BUTFLY	A	PO	O	YES	FO	EO	CS		
											FS	CS		
											PI	2Y		
HCV-14-3B	N-3	3	B	14.000	BUTFLY	A	PO	O	YES	FO	EO	CS		
											FS	CS		
											PI	2Y		
HCV-14-6	D-1	2	A	8.000	BUTFLY	A	PO	O	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y	VR-5	
HCV-14-7	D-5	2	A	8.000	BUTFLY	A	PO	O	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y	VR-5	
HCV-14-8A	F-14	3	B	16.000	BUTFLY	A	PO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
HCV-14-8B	F-15	3	B	16.000	BUTFLY	A	PO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
HCV-14-9	G-15	3	B	16.000	BUTFLY	A	PO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		

P & ID: 8770-G-083 (cont) SYSTEM: COMPONENT COOLING SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
MV-14-1	D-16	3	B	24.000	BUTFLY	A	MO	O/C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
MV-14-2	D-17	3	B	24.000	BUTFLY	A	MO	O/C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
MV-14-3	G-16	3	B	24.000	BUTFLY	A	MO	O/C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
MV-14-4	G-17	3	B	24.000	BUTFLY	A	MO	O/C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
MV-14-5	G-7	3	B	10.000	BUTFLY	A	MO	O	YES	FAI	EO	CS		
											PI	2Y		
MV-14-6	G-7	3	B	10.000	BUTFLY	A	MO	O	YES	FAI	EO	CS		
											PI	2Y		
MV-14-7	G-7	3	B	10.000	BUTFLY	A	MO	O	YES	FAI	EO	CS		
											PI	2Y		
MV-14-8	G-7	3	B	10.000	BUTFLY	A	MO	O	YES	FAI	EO	CS		
											PI	2Y		
SB-14156	C-17	2	B	24.000	BUTFLY	A	MAN	LO	NO		EC	QR		
											EO	QR		
SB-14160	D-17	2	B	24.000	BUTFLY	A	MAN	LO	NO		EC	QR		
											EO	QR		
SB-14166	B-15	2	B	24.000	BUTFLY	A	MAN	LO	NO		EC	QR		
											EO	QR		
SB-14167	B-15	2	B	24.000	BUTFLY	A	MAN	LO	NO		EC	QR		
											EO	QR		
SB-14169	B-15	2	B	24.000	BUTFLY	A	MAN	LC	NO		EC	QR		
											EO	QR		
SB-14177	C-15	2	B	24.000	BUTFLY	A	MAN	LO	NO		EC	QR		
											EO	QR		

P & ID: 8770-G-083 (cont) SYSTEM: COMPONENT COOLING WATER SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
SB-14178	D-15	2	B	24.000	BUTFLY	A	MAN	LO	NO		EC	QR		
											EO	QR		
SB-14439	C-15	2	B	24.000	BUTFLY	A	MAN	C	NO		EC	QR		
											EO	QR		
V-14143	E-16	3	C	20.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	QR		
V-14147	E-16	3	C	20.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	QR		
V-14151	E-17	3	C	20.000	CHECK	A	S/A	O/C	NO		CV/C	QR		
											CV/O	QR		

P & ID: 8770-G-084 SH 1 SYSTEM: MAKE-UP WATER SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
HV-15-1	H-16	2	A	2.000	GATE	A	MO	C	YES	FAI	EC	QR		
											PI	2Y		
											SLT-1	2Y		
V-15328	I-16	2	AC	2.000	CHECK	A	S/A	C	NO		CV/C	2Y	VR-15	
											SLT-1	2Y		

P & ID: 8770-G-085 SH 1 SYSTEM: SERVICE AIR SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-18794	G-6	2	A	2.000	GLOBE	P	MAN	LC	NO		SLT-1	2Y	vr-5	
V-18796	G-6	2	A	2.000	GLOBE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-18797	G-6	2	A	1.000	BALL	P	MAN	LC	NO		SLT-1	2Y		
V-18798	G-6	2	A	1.000	BALL	P	MAN	LC	NO		SLT-1	2Y		

P & ID: 8770-G-085 SH 2 SYSTEM: INSTRUMENT AIR SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
HV-18-1	F-6	2	A	2.000	GLOBE	A	MO	O	YES	FAI	EC	CS		
											PI	2Y		
											SLT-1	2Y		
V-18195	E-5	2	AC	2.000	CHECK	A	S/A	O	NO		CV/C	2Y	VR-16	
											SLT-1	2Y		
V-18279	H-1	2	C	0.500	CHECK	A	S/A	O	NO		CV/C	CS		
V-18283	G-2	2	C	0.500	CHECK	A	S/A	O	NO		CV/C	CS		

P & ID: 8770-G-086 SYSTEM: MISCELLANEOUS SYSTEMS

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-17204	J-12	3	C	1.500	CHECK	A	S/A	C	NO		CV/O	QR		
V-17214	L-12	3	C	1.500	CHECK	A	S/A	C	NO		CV/O	QR		

P & ID: 8770-G-088 SYSTEM: CONTAINMENT SPRAY SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-07-1A	G-12	2	B	12.000	GLOBE	A	DO	C	YES	FO	EO	QR		
											FS	QR		
											PI	2Y		
FCV-07-1B	H-12	2	B	12.000	GLOBE	A	DO	C	YES	FO	EO	QR		
											FS	QR		
											PI	2Y		
LCV-07-11A	J-11	2	A	2.000	GLOBE	A	DO	O/C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y	VR-5	
LCV-07-11B	J-12	2	A	2.000	GLOBE	A	DO	O/C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y	VR-5	
HV-07-1A	E-3	2	B	24.000	BUTFLY	A	MO	O	YES	FAI	EC	QR		
											PI	2Y		
HV-07-1B	E-2	2	B	24.000	BUTFLY	A	MO	O	YES	FAI	EC	QR		
											PI	2Y		
HV-07-2A	K-12	2	B	24.000	BUTFLY	A	MO	C	YES	FAI	EO	CS		
											PI	2Y		
HV-07-2B	K-12	2	B	24.000	BUTFLY	A	MO	C	YES	FAI	EO	CS		
											PI	2Y		
HV-07-3A	G-13	2	B	12.000	GATE	A	MO	LO	YES	FAI	EC	QR		
											PI	2Y		
HV-07-3B	H-13	2	B	12.000	GATE	A	MO	LO	YES	FAI	EC	QR		
											PI	2Y		
SE-07-1A	N-4	2	B	2.000	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
SE-07-1B	N-5	2	B	2.000	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		

P & ID: 8770-G-088 (cont) SYSTEM: CONTAINMENT SPRAY SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
SE-07-2A	N-4	2	B	2.000	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
SE-07-2B	N-5	2	B	2.000	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
V-07119	J-7	2	C	24.000	CHECK	A	S/A	C	NO		CV/PO	QR	VR-17	
											INSP	RF	VR-17	
V-07120	J-7	2	C	24.000	CHECK	A	S/A	C	NO		CV/PO	QR	VR-17	
											INSP	RF	VR-17	
V-07129	H-5	2	C	12.000	CHECK	A	S/A	C	NO		CV/O	RF	VR-18	
											CV/PO	QR	VR-18	
V-07143	G-5	2	C	12.000	CHECK	A	S/A	C	NO		CV/O	RF	VR-18	
											CV/PO	QR	VR-18	
V-07170	J-12	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-07172	K-12	2	C	24.000	CHECK	A	S/A	C	NO		INSP	RF	VR-19	
V-07174	K-12	2	C	24.000	CHECK	A	S/A	C	NO		INSP	RF	VR-19	
V-07188	I-14	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-07189	I-14	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-07192	G-14	2	C	10.000	CHECK	A	S/A	C	NO		INSP	RF	VR-20	
V-07193	F-14	2	C	10.000	CHECK	A	S/A	C	NO		INSP	RF	VR-20	
V-07206	I-12	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-07231	K-5	2	C	2.000	CHECK	A	S/A	C	NO		CV/O	QR		
V-07232	K-4	2	C	2.000	CHECK	A	S/A	C	NO		CV/O	QR		
V-07256	J-1	2	C	2.000	CHECK	A	S/A	C	NO		CV/C	RF	VR-21	
											CV/O	RF	VR-21	

P & ID: 8770-G-088 (cont) SYSTEM: CONTAINMENT SPRAY SYSTEM

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-07258	J-2	2	C	2.000	CHECK	A	S/A	C	NO		CV/C	RF	VR-21	
											CV/O	RF	VR-21	
V-07269	J-2	2	C	3.000	CHECK	A	S/A	C	NO		CV/PO	QR	VR-22	
											INSP	RF	VR-22	
V-07270	K-2	2	C	3.000	CHECK	A	S/A	C	NO		CV/PO	QR	VR-22	
											INSP	RF	VR-22	

P & ID: 8770-G-092 SYSTEM: MISCELLANEOUS SAMPLING SYSTEMS

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-26-1	G-2	2	A	1.000	GLOBE	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FCV-26-2	G-4	2	A	1.000	GLOBE	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FCV-26-3	H-2	2	A	1.000	GLOBE	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FCV-26-4	H-4	2	A	1.000	GLOBE	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FCV-26-5	I-2	2	A	1.000	GLOBE	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FCV-26-6	I-4	2	A	1.000	GLOBE	A	DO	O	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FSE-27-1	A-12	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FSE-27-10	C-13	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		

P & ID: 8770-G-092 (cont) SYSTEM: MISCELLANEOUS SAMPLING SYSTEMS

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FSE-27-11	C-13	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FSE-27-2	B-12	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FSE-27-3	B-12	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FSE-27-4	B-12	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FSE-27-5	C-14	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FSE-27-6	B-14	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FSE-27-7	B-14	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		

P & ID: 8770-G-092 (cont) SYSTEM: MISCELLANEOUS SAMPLING SYSTEMS

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FSE-27-8	C-11	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FSE-27-9	C-14	2	A	0.375	GLOBE	A	SO	C	YES	FC	EC	QR		
											EO	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-27101	B-13	2	AC	0.375	CHECK	A	S/A	C	NO		CV/C	RF	VR-32	
											CV/O	QR		
											SLT-1	2Y		
V-27102	B-13	2	AC	0.375	CHECK	A	S/A	C	NO		CV/C	RF	VR-32	
											CV/O	QR		
											SLT-1	2Y		
V-27105	E-13	2	C	0.375	CHECK	A	S/A	C	NO		CV/O	QR		
V-27110	E-13	2	C	0.375	CHECK	A	S/A	C	NO		CV/O	QR		
V-29305	D-8	2	C	0.375	CHECK	A	S/A		NO		CV/C	QR	VR-24	
											CV/O	QR		
V-29306	D-8	2	C	0.375	CHECK	A	S/A		NO		CV/C	QR	VR-24	
											CV/O	QR		

P & ID: 8770-G-093 SYSTEM: MISCELLANEOUS SYSTEMS

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
SB-37-1	J-11	3	B	54.000	BUTFLY	A	AO	C	YES	FO	EO	SP	VR-25	
											FS	SP	VR-25	
											PI	2Y		
SB-37-2	J-12	3	B	54.000	BUTFLY	A	AO	C	YES	FO	EO	SP	VR-25	
											FS	SP	VR-25	
											PI	2Y		
V-00101	F-11	2	A	8.000	GATE	P	MAN	LC	NO		SLT-1	2Y		
V-00139	I-1	2	A	0.375	GLOBE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-00140	I-1	2	A	1.000	GLOBE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-00143	I-2	2	A	1.000	GLOBE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-00144	I-2	2	A	0.375	GLOBE	P	MAN	LC	NO		SLT-1	2Y	VR-5	

P & ID: 8770-G-096 SH 1 SYSTEM: EMERGENCY DIESEL GENERATOR 1A

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-59-1A1	K-5	3	B	1.500	GATE	A	AO	C	NO		EO	QR	VR-27	
FCV-59-2A1	K-2	3	B	1.500	GATE	A	AO	C	NO		EO	QR	VR-27	
FCV-59-3A1	G-9	3	B	1.500	GATE	A	AO	C	NO		EO	QR	VR-27	
FCV-59-4A1	B-10	3	B	1.500	GATE	A	AO	C	NO		EO	QR	VR-27	
SE-59-1A	L-1	3	B	2.000	GLOBE	A	SO	C	NO	FC	EE	QR	VR-26	
											FS	QR		
SE-59-3A	I-6	3	B	1.500	GATE	A	SO	C	NO		EO	QR	VR-27	
SE-59-4A	A-8	3	B	1.500	GATE	A	SO	C	NO		EO	QR	VR-27	
SE-59-5A	I-3	3	B	1.500	GATE	A	SO	C	NO		EO	QR	VR-27	
SE-59-6A	H-8	3	B	1.500	GATE	A	AO	C	NO		EO	QR	VR-27	
SR-59-3A	J-12	3	C	0.000	RELIEF	A	S/A	C	NO		SRV	RF		
SR-59-4A	J-11	3	C	0.000	RELIEF	A	S/A	C	NO		SRV	RF		
SR-59-5A	J-9	3	C	0.000	RELIEF	A	S/A	C	NO		SRV	RF		
SR-59-6A	J-8	3	C	0.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-59079	J-14	3	C	1.000	CHECK	A	S/A	C	NO		CV/C	QR		
V-59156	K-14	3	C	1.000	CHECK	A	S/A	C	NO		CV/C	QR		

P & ID: 8770-G-096 SH 2 SYSTEM: EMERGENCY DIESEL GENERATOR 1B

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-59-1B1	H-9	3	B	1.500	GATE	A	AO	C	NO		EO	QR	VR-27	
FCV-59-2B1	B-9	3	B	1.500	GATE	A	AO	C	NO		EO	QR	VR-27	
FCV-59-3B1	J-5	3	B	1.500	GATE	A	AO	C	NO		EO	QR	VR-27	
FCV-59-4B1	J-2	3	B	1.500	GATE	A	AO	C	NO		EO	QR	VR-27	
SE-59-1B	L-1	3	B	2.000	GLOBE	A	SO	C	NO	FC	EE	QR	VR-26	
											FS	QR		
SE-59-3B	I-3	3	B	1.500	GATE	A	SO	C	NO		EO	QR	VR-27	
SE-59-4B	A-8	3	B	1.500	GATE	A	SO	C	NO		EO	QR	VR-27	
SE-59-5B	I-6	3	B	1.500	GATE	A	SO	C	NO		EO	QR	VR-27	
SE-59-6B	H-8	3	B	1.500	GATE	A	SO	C	NO		EO	QR	VR-27	
SR-59-3B	J-12	3	C	0.000	RELIEF	A	S/A	C	NO		SRV	RF		
SR-59-4B	J-11	3	C	0.000	RELIEF	A	S/A	C	NO		SRV	RF		
SR-59-5B	J-9	3	C	0.000	RELIEF	A	S/A	C	NO		SRV	RF		
SR-59-6B	J-8	3	C	0.000	RELIEF	A	S/A	C	NO		SRV	RF		
V-59125	J-14	3	C	1.000	CHECK	A	S/A	C	NO		CV/C	QR		
V-59158	K-14	3	C	1.000	CHECK	A	S/A	C	NO		CV/C	QR		

P & ID: 8770-G-878 SYSTEM: HEATING, VENT., & AIR CONDITIONING

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-25-1	J-15	2	B	48.000	BUTFLY	A	PO	C	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
FCV-25-2	J-15	2	A	48.000	BUTFLY	A	PO	C	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y	VR-5	
FCV-25-3	J-15	2	A	48.000	BUTFLY	A	PO	C	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y	VR-5	
FCV-25-4	K-12	2	A	48.000	BUTFLY	A	PO	C	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y	VR-5	
FCV-25-5	K-11	2	A	48.000	BUTFLY	A	PO	C	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
											SLT-1	2Y	VR-5	
FCV-25-6	K-11	2	B	48.000	BUTFLY	A	PO	C	YES	FC	EC	CS		
											FS	CS		
											PI	2Y		
FCV-25-7	L-12	2	A	24.000	BUTFLY	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
FCV-25-8	L-12	2	A	24.000	BUTFLY	A	DO	C	YES	FC	EC	QR		
											FS	QR		
											PI	2Y		
											SLT-1	2Y		
V-25-11	K-15	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-25-12	K-15	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-25-13	I-12	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y	VR-5	
V-25-14	I-12	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y	VR-5	

P & ID: 8770-G-878 (cont) SYSTEM: HEATING, VENT., & AIR CONDITIONING

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
V-25-15	J-11	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y		
V-25-16	J-11	2	A	3.000	GATE	P	MAN	LC	NO		SLT-1	2Y		
V-25-20	L-12	2	AC	24.000	CHECK	A	S/A	C	NO		CV/C	CS		
											SLT-1	2Y		
V-25-21	L-12	2	AC	24.000	CHECK	A	S/A	C	NO		CV/C	CS		
											SLT-1	2Y		

P & ID: 8770-G-879 SYSTEM: HEATING, VENT., AND AIR CONDITIONING

VALVE NUMBER	COORD.	CL	CAT.	SIZE	TYPE	A/P	ACT. TYPE	NORM POS.	REM IND	FAIL MODE	EXAM	TEST FREQ	RELIEF REQ.	REMARKS
FCV-25-11	H-14	2	B	24.000	BUTFLY	A	MO		YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
FCV-25-12	J-14	2	B	24.000	BUTFLY	A	MO		YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
FCV-25-13	I-16	2	B	12.000	BUTFLY	A	MO	NO	YES	FAI	EO	QR		
											PI	2Y		
FCV-25-14	E-11	3	B	0.000	BUTFLY	A	MO	C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
FCV-25-17	E-11	3	B	0.000	BUTFLY	A	MO	C	YES	FAI	EC	QR		
											EO	QR		
											PI	2Y		
FCV-25-18	A-10	3	B	0.000	BUTFLY	A	MO	O	YES	FAI	EC	QR		
											PI	2Y		
FCV-25-19	A-11	3	B	0.000	BUTFLY	A	MO	O	YES	FAI	EC	QR		
											PI	2Y		
FCV-25-24	B-10	3	B	0.000	BUTFLY	A	MO	O	YES	FAI	EC	QR		
											PI	2Y		
FCV-25-25	B-11	3	B	0.000	BUTFLY	A	MO	O	YES	FAI	EC	QR		
											PI	2Y		
V-25-23	J-14	2	C	24.000	SRCK	A	S/A		NO		CV/O	QR		
V-25-24	H-14	2	C	24.000	SRCK	A	S/A		NO		CV/O	QR		

Appendix D

Valve Program
Requests for Relief

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-1

SYSTEM:

Various

COMPONENTS:

Any valves tested during cold shutdown conditions.

CATEGORY:

Various

FUNCTION:

Various

SECTION XI REQUIREMENT:

Valves shall be exercised ... unless such operation is not practical during plant operation. If only limited operation is practical during plant operation, the valve shall be part-stroke exercised during plant operation and full stroke exercised during cold shutdowns. Full stroke exercising during cold shutdowns for all valves not full-stroke exercised during plant operation shall be on a frequency determined by the intervals between shutdowns as follows: For intervals of 3 months or longer - exercise during each shutdown. (IWV-3412, IWV-4315 and IWV-3522)

BASIS FOR RELIEF:

In many instances testing of all valves designated for testing during cold shutdown cannot be completed due to the brevity of an outage or the lack of plant conditions needed for testing specific valves. It has been the policy of the NRC that if testing commences in a reasonable time and reasonable efforts are made to test all valves, then outage extension or significant changes in plant conditions are not required when the only reason is to provide the opportunity for completion of valve testing.

ASME/ANSI OMa-1987, Operation and Maintenance Of Nuclear Power Plants, Part 10 (Paragraphs 4.2.1.2 and 4.3.2.2) recognizes this issue and allows deferred testing as set forth below.

RELIEF REQUEST NO. VR-1 (cont.)

ALTERNATE TESTING:

For those valves designated to be exercised or tested during cold shutdown, exercising shall commence as soon as practical after the plant reaches a stable cold shutdown condition as defined by the applicable Technical Specification but no later than 48 hours after reaching cold shutdown. If an outage is sufficiently long enough to provide for testing of all valves required to be tested during the cold shutdown period, then the 48-hour requirement need not apply if all valves are tested during the outage. Valve testing need not be performed more often than once every three (3) months except as provided for in IWV-3417(a). Completion of all valve testing during a cold shutdown outage is not required if plant conditions preclude testing of specific valves or if the length of the shutdown period is insufficient to complete all testing. Testing not completed prior to startup may be rescheduled for the next shutdown in a sequence such that the test schedule does not omit nor favor certain valves or groups of valves. It should be noted that there are two conditions of cold shutdown identified in the program tables (Appendices D and E), namely pressurized and vented. For the purpose of this requirement, the term 'cold shutdown' refers to the respective condition as noted in the tables.The program tables identify those valves to which cold shutdown testing applies. Refer to Appendix G for discussion of the reasons and justification for allowing cold shutdown vs. quarterly testing.

REVISION 2
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RELIEF REQUEST NO. VR-2

SYSTEM:

Safety Injection/Residual Heat Removal (8770-G-078, Sh 131)

COMPONENTS:

V-3113	V-3134	V-3225	V-3247
V-3114	V-3143	V-3227	V-3280
V-3123	V-3144	V-3235	V-3281
V-3124	V-3215	V-3237	V-3251
V-3133	V-3217	V-3245	V-3252

CATEGORY:

A/C (Check Valves)
A (Motor-operated valves)

FUNCTION:

These check valves open to provide for high-pressure and low-pressure safety injection to the RCS. The motor-operated valves open for residual heat removal recirculation during shutdown. Each of these valves is designated as a pressure isolation valve (PIV) and provides isolation of safeguard systems from the RCS.

SECTION XI REQUIREMENT:

The leakage rate for valves 6-inches or greater shall be evaluated per Subsection IWV-3427(b). (IWV-3521)

BASIS FOR RELIEF:

Leaktesting of these valves is primarily for the purpose of confirming their capability of preventing overpressurization and catastrophic failure of the safety injection piping and components. In this regard, special leakage acceptance criteria is established and included in the St. Lucie I Technical Specifications (Table 3.4.6-1) that addresses the question of valve integrity in a more appropriate manner for these valves. Satisfying both the Technical Specification and the Code acceptance criteria is not warranted and implementation would be difficult and confusing.

RELIEF REQUEST NO. VR-2 (cont.)

ALTERNATE TESTING:

The leakage rate acceptance criteria for these valves will be established per the St. Lucie Unit 1 Technical Specifications, Table 3.4.6-1.

1. Leakage rates less than or equal to 1.0 gpm are considered acceptable.

2. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered acceptable if the latest measured rate has not exceed the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.

3. Leakage rates greater than 1.0 gpm, but less than or equal to 5.0 gpm, are unacceptable if the latest measured rate exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.

4. Leakage rates greater than 5.0 gpm are unacceptable.

REVISION 2
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RELIEF REQUEST NO. VR-3

SYSTEM:

Various

COMPONENTS:

Various

CATEGORY:

Various

FUNCTION:

This is a generic Request for Relief

SECTION XI REQUIREMENT:

If, for power-operated valves, an increase in stroke time of 50% or more for valves with full-stroke times less than or equal to 10 seconds is observed, the test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed (IWV-3417(a))

BASIS FOR RELIEF:

The stroke time measurements taken during testing of fast-acting valves (those less than 2 seconds) are subject to considerable variation due to conditions unrelated to the material condition of the valve (eg. test conditions, operator reaction time). In accordance with Reference 2.7, Position 6, an alternate method of evaluating stroke times is considered acceptable.

ALTERNATE TESTING:

The stroke time evaluation for those valves designated in the valve tables (Appendices D & E) as "fast-acting" will not account for successive increases of measured stroke time per IWV-3417(a) with the change in test frequency as required. In lieu of this, the assigned maximum limiting value of stroke time will be established at 2 seconds. Upon exceeding the 2-second limit, a valve will be declared inoperable and corrective action taken in accordance with IWV-3417(b). This agrees with Reference 2.7, Position 6, and, as such, is considered to be approved upon submittal.

RELIEF REQUEST NO. VR-4

SYSTEM:

Various

COMPONENTS:

This is a generic relief request

CATEGORY:

A and B

FUNCTION:

Various

SECTION XI REQUIREMENT:

Category A and B valves shall be exercised at least once every 3 months, except as provided by IWV-3412(a), IWV-3415, and IWV-3416. (IWV-3411)

BASIS FOR RELIEF:

There may arrive occasions when, due to the inoperablity of a redundant train of a safeguard system, it is imprudent to perform valve testing in the operable train. The potential of a valve failing in a position whereby both trains of the safety system would be unavailable to respond to an accident condition is unacceptable.

ALTERNATE TESTING:

When one or more components in a redundant system are determined to be inoperable, non-redundant valves in the operable train may not be tested, as required by this Program, but may be exercised after the inoperable train is returned to service.

RELIEF REQUEST NO. VR-5

SYSTEM:

Primary Containment

COMPONENTS:

Containment Isolation Valves per Table VR-5-1

CATEGORY:

A or A/C

FUNCTION:

These valves are closed to provide containment isolation.

SECTION XI REQUIREMENT:

Category A valves shall be seat leak tested and a maximum permissible leakage rate shall be specified Individual valve leakage rates shall be evaluated per IWV-3426 and IWV-3427. (IWV-3426, IWV-3427, NRC Generic Letter 89-04)

BASIS FOR RELIEF:

Due to the configuration of the system piping and components, in many cases individual leakage rate tests are impractical. In these cases it is customary to perform tests with the test volume between valves in series or behind valves in parallel paths.

ALTERNATE TESTING:

In those cases where individual valves testing is impractical, valves will be leaktested simultaneously in multiple valve arrangements and a maximum permissible leakage rate will be applied to each combination of valves. Test results from tests of multiple valves will be evaluated in accordance with IWV-3426 and IWV-3427.

RELIEF REQUEST NO. VR-5 (Cont.)

TABLE VR-5-1

PENETRATION NO.	VALVES
8	V-18794 and V-18796
10	FCV-25-4 and FCV-25-5
11	FCV-25-2 and FCV-25-3
23	HCV-14-1 and HCV-14-7
24	HCV-14-2 and HCV-14-6
41	V-3463 and V-07009
42	LCV-07-11A and LCV-07-11B
46	V-07-206 and V-07-189
47	V-07-170 and V-07-188
52d	V-00140 and V-00143
52e	V-00139 and V-00144
56	V-25-11 and V-25-12
57	V-25-13 and V-25-14
58	V-25-15 and V-25-16

REVISION 2
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RELIEF REQUEST NO. VR-6

SYSTEM:

Chemical and Volume Control (8770-G-078 Sh 121)

COMPONENTS:

V-2177
V-2190
V-2191

CATEGORY:

C

FUNCTION:

V-2177 opens to provide a flowpath for emergency boration from the boric acid makeup pumps to the suction of the charging pumps. Likewise, V-2190 opens to provide a flowpath for emergency boration via gravity drain from the boric acid makeup tanks to the suction of the charging pumps. V-2190 closes to prevent recirculation to the boric acid makeup tanks when the boric acid makeup pumps are in operation.

Valve V-2191 opens to provide a flowpath from the refueling water tank (RWT) to the suction of the charging pumps as an alternate supply of borated water for boration and it closes to prevent backflow to the RWT during emergency boration via the BMT's.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF

Testing these valves in the open direction requires the introduction of highly concentrated boric acid solution from the boric acid makeup tanks to the suction of the charging pumps. This, in turn, would result in the addition of excess boron to the RCS which would adversely affect plant power level and operational parameters with the potential for an undesirable plant transient and a plant trip or shutdown. During cold shutdown, the introduction of excess

RELIEF REQUEST NO. VR-6 (cont.)

quantities of boric acid is undesirable from the aspect of maintaining proper plant chemistry and the inherent difficulties that may be encountered during the subsequent startup.

Testing V-2190 and V-2191 in the closed direction should be done following the open exercise and is best performed in conjunction with testing of the boric acid makeup pumps during each reactor refueling outage.

ALTERNATE TESTING:

These valves will be exercised as required during each reactor refueling outage.

This request for relief is equivalent to Relief Requests CVCS 1 and 2 previously submitted on September 4, 1987 (Ref FPL Letter L-87-370) and, per Reference 2.7, is approved.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-7

SYSTEM:

Safety Injection (8770-G-078 Sh 130)

COMPONENTS:

V-07000
V-07001

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the RWT to the suction of the associated low-pressure safety injection pump.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising these valves to the open position requires injection via the LPCI pumps into the RCS. During plant operation this is precluded because the LPSI pumps cannot develop sufficient discharge pressure to overcome primary system pressure. At cold shutdown, the shutdown cooling system cannot provide sufficient letdown flow to the RWT to accommodate full design flow from the RWT while maintaining the necessary core cooling function. Thus, essentially, the only practical time for testing these valves is during refueling outages when water from the RWT is used to fill the cavity.

RELIEF REQUEST NO. VR-7 (cont.)

ALTERNATE TESTING:

These valves will be partial-flow exercised during quarterly testing of the LPSI pumps via the minimum flow circuit and full-flow exercised during each reactor refueling outage.

This alternate testing satisfies the requirement of Reference 2.7, Position 1. Furthermore, this request for relief is equivalent to Relief Request SIS 3 previously submitted on September 4, 1987 (Ref FPL Letter L-87-370). Thus, per Reference 2.7, this request for relief is approved.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-8

SYSTEM:

Safety Injection (8770-G-078 Sh 130)

COMPONENTS:

V-3401
V-3410

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the RWT and the containment sump to the suction of the associated high-pressure safety injection pump (HPSI).

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising these valves to the open position requires injection via the HPSI pumps into the RCS. During plant operation this is precluded because the HPSI pumps cannot develop sufficient discharge pressure to overcome primary system pressure. During cold shutdown conditions, operation of the HPSI pumps is restricted to preclude RCS system pressure transients that could result in exceeding the pressure-temperature limits specified in the Technical Specifications, Section 3.4.9.

RELIEF REQUEST NO. VR-8 (cont.)

ALTERNATE TESTING:

These valves will be partial-flow exercised during quarterly testing of the HPSI pumps via the minimum flow circuit and full-flow exercised during each reactor refueling outage.

This alternate testing satisfies the requirement of Reference 2.7, Position 1. Furthermore, this request for relief is equivalent to Relief Request SIS 2 previously submitted on September 4, 1987 (Ref FPL Letter L-87-370). Thus, per Reference 2.7, this request for relief is approved.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-9

SYSTEM:

Safety Injection (8770-G-078 Sh 130)

COMPONENTS:

V-3405
V-3414
V-3427

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the respective HPSI pumps to the high-pressure safety injection headers. They close to prevent recirculation through an idle pump.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising these valves to the open position requires injection into the RCS via the HPSI pumps. During plant operation this is precluded because the HPSI pumps cannot develop sufficient discharge pressure to overcome primary system pressure. During cold shutdown conditions, operation of the HPSI pumps is restricted to preclude RCS system pressure transients that could result in exceeding the pressure-temperature limits specified in the Technical Specifications, Section 3.4.9.

Partial-stroke exercising during quarterly pump testing is not practical since the minimum flow lines branch off upstream of these valves.

RELIEF REQUEST NO. VR-9 (cont.)

ALTERNATE TESTING:

These valves will be manually exercised and verified closed quarterly and full-flow exercised to the open position during each reactor refueling outage.

This alternate testing satisfies the requirement of Reference 2.7, Position 1. Furthermore, this request for relief is equivalent to Relief Request SIS 1 previously submitted on September 4, 1987 (Ref FPL Letter L-87-370). Thus, per Reference 2.7, this request for relief is approved.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-10

SYSTEM:

Safety Injection (8770-G-078 Sh 131)

COMPONENTS:

V-3113
V-3123
V-3133
V-3143

CATEGORY:

A/C

FUNCTION:

These valves open to provide flowpaths from the high-pressure safety injection headers to the RCS and close to isolate the headers from the high pressure of the reactor coolant system.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require operating a high pressure safety injection (HPSI) pump at nominal accident flowrate and injecting into the reactor coolant system since no full flow recirculation path exists. At power operation this is not possible because the HPSI pumps do not develop sufficient discharge pressure to overcome reactor coolant system pressure. During cold shutdown conditions, operation of the HPSI pumps is restricted to preclude RCS system pressure transients that could result in exceeding the pressure-temperature limits specified in the Technical Specifications, Section 3.4.9.

These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leaktest or backflow test. Performing leaktests of these valves involves a

RELIEF REQUEST NO. VR-10 (Cont.)

considerable effort such that testing during operation or at each cold shutdown outage would constitute an unreasonable burden on the plant staff.

ALTERNATE TESTING:

At least once during each reactor refueling outage these valves will be full-stroke exercised to the open position.

At least once every two (2) years these valves will be verified to close in conjunction with PIV leaktesting.

This alternate testing satisfies the requirement of Reference 2.7, Position 1. Furthermore, this request for relief is equivalent to Relief Request SIS 4 previously submitted on September 4, 1987 (Ref FPL Letter L-87-370). Thus, per Reference 2.7, this request for relief is approved.

RELIEF REQUEST NO. VR-11

SYSTEM:

Safety Injection (8770-G-078 Sh 131)

COMPONENTS:

V-3114
V-3124
V-3134
V-3144

CATEGORY:

A/C

FUNCTION:

These valves open to provide flowpaths from the low-pressure safety injection headers to the RCS and close to isolate the headers from the high pressure of the reactor coolant system.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require operating a low pressure safety injection (LPSI) pump at nominal accident flowrate and injecting into the reactor coolant system since no full flow recirculation path exists. At power operation this is not possible because the LPSI pumps do not develop sufficient discharge pressure to overcome reactor coolant system pressure.

These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leaktest or backflow test. Performing leaktests of these valves involves a considerable effort such that testing during operation or at each cold shutdown outage would constitute an unreasonable burden on the plant staff.

RELIEF REQUEST NO. VR-11 (Cont.)

ALTERNATE TESTING:

These valves will be full-stroke exercised to the open position during cold shutdown periods per Relief Request VR-1.

At least once every two (2) years these valves will be verified to close in conjunction with PIV leaktesting.

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RELIEF REQUEST NO. VR-12

SYSTEM:

Safety Injection (8770-G-078 Sh 131)

COMPONENTS:

V-3215
V-3225
V-3235
V-3245

CATEGORY:

A/C

FUNCTION:

These valves open to provide flowpaths from the safety injection tanks to the RCS and close to isolate the tanks from the high pressure of the reactor coolant system and the safety injection headers.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require injecting from a tank under nominal pressure into a depressurized reactor coolant system. At power operation this is not possible because the SIS Tank pressure is insufficient to overcome reactor coolant system pressure.

During cold shutdown or refueling the required test conditions cannot be established and the simulated LOCA test performed without creating an unacceptable transient in the reactor coolant system.

These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leaktest or backflow test. Performing leaktests of these valves requires access to the containment building and involves a considerable

RELIEF REQUEST NO. VR-12 (Cont.)

effort such that testing during operation or at each cold shutdown outage would constitute an unreasonable burden on the plant staff.

ALTERNATE TESTING:

During each reactor refueling outage at least one of these valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the remaining three valves will be inspected during the same outage, after which the rotational inspection schedule will be reinitiated. This satisfies the requirements of Generic Letter 89-04, Position 2.

At least once every two (2) years these valves will be verified to close in conjunction with PIV leaktesting.

This alternate testing satisfies the requirement of Reference 2.7, Position 1. Furthermore, this request for relief is equivalent to Relief Request SIS 5 previously submitted on September 4, 1987 (Ref FPL Letter L-87-370). Thus, per Reference 2.7, this request for relief is approved.

REVISION 2
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RELIEF REQUEST NO. VR-13

SYSTEM:

Safety Injection (8770-G-078 Sh 131)

COMPONENTS:

V-3217
V-3227
V-3237
V-3247

CATEGORY:

A/C

FUNCTION:

These valves open to provide flowpaths from the safety injection headers to the RCS and close to isolate the headers from the high pressure of the reactor coolant system.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require injecting from a safety injection tank under nominal pressure into a depressurized reactor coolant system. At power operation this is not possible because the SIS Tank pressure is insufficient to overcome reactor coolant system pressure.

During cold shutdown or refueling the required test conditions cannot be established and the simulated LOCA test performed without creating an unacceptable transient in the reactor coolant system.

These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leaktest or backflow test. Performing leaktests of these valves requires access to the containment building and involves a considerable

RELIEF REQUEST NO. VR-13 (Cont.)

effort such that testing during operation or at each cold shutdown outage would constitute an unreasonable burden on the plant staff.

ALTERNATE TESTING:

During cold shutdown periods, each of these valves will be partial-stroke exercised with approximately 3,000 gpm (20 percent of maximum accident flow) using the LPSI pumps per Relief Request VR-1.

During each reactor refueling outage at least one of these valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the remaining three valves will be inspected during the same outage, after which the rotational inspection schedule will be reinitiated. This satisfies the requirements of Generic Letter 89-04, Position 2 and, as such, this part of the proposed alternate testing is considered to be approved upon submittal.

At least once every two (2) years these valves will be verified to close in conjunction with PIV leaktesting.

REVISION 2
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RELIEF REQUEST NO. VR-14

SYSTEM:

Main Steam (8770-G-079, Sh 1)

COMPONENTS:

V-08117
V-08148

CATEGORY:

C

FUNCTION:

These valves closed to prevent unrestricted release of steam from an unaffected steam generator in the event of a steamline rupture upstream of an MSIV.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

There is no practical means or provision for verifying closure of these valves.

ALTERNATE TESTING:

During each reactor refueling outage at least one of these valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the remaining other valve will be inspected during the same outage, after which the rotational inspection schedule will be reinitiated. This satisfies the requirements of Generic Letter 89-04, Position 2 and, as such, is considered to be approved upon submittal.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-15

SYSTEM:

Makeup Water (8770-G-084, Sh 1)

COMPONENT:

V-15328

CATEGORY:

A/C

FUNCTION:

This valve closes to provide primary containment for the penetration related to the makeup water supply line to the containment building.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

This is a simple check valve with no external means of position indication, thus the only practical means of verifying closure is by performing a leaktest or backflow test. This would require a considerable effort, including entry into the containment building, which is impractical during plant operation and would be an unreasonable burden on the plant staff to perform at cold shutdown.

ALTERNATE TESTING:

At least once every two (2) years, this valve will be verified to close in conjunction with the Appendix J leak testing program.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-16

SYSTEM:

Instrument Air (8770-G-085, Sh 2)

COMPONENT:

V-18195

CATEGORY:

A/C

FUNCTION:

This valve closes to provide primary containment for the penetration related to the instrument air supply line to the containment building.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

This is a simple check valve with no external means of position indication, thus the only practical means of verifying closure is by performing a leaktest or backflow test. This would require a considerable effort, including entry into the containment building and securing all instrument air to the containment. Due to access limitations and the undesirability of isolating the air supply for critical equipment, this is impractical during plant operation and would be an unreasonable burden on the plant staff to perform at cold shutdown.

ALTERNATE TESTING:

At least once every two (2) years, this valve will be verified to close in conjunction with the Appendix J leak testing program.

REVISION 2
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RELIEF REQUEST NO. VR-17

SYSTEM:

Containment Spray (8770-G-088)

COMPONENTS:

V-07119
V-07120

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the refueling water tank (RWT) to the containment spray and safety injection suction headers.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require simultaneous operation of two HPSI pumps, one LPSI pump, and one containment spray pump to verify that each valve could pass the maximum design accident flow. Such a test is not practical during all plant operational modes.

ALTERNATE TESTING:

During quarterly pump testing each of these valves will be partial-stroke exercised via recirculation through the minimum flow test circuits of the various systems.

RELIEF REQUEST NO. VR-17 (cont.)

ALTERNATE TESTING (cont.):

During each reactor refueling outage at least one of these valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the other valve will be inspected during the same outage, after which the rotational inspection schedule will be reinitiated. This satisfies the requirements of Generic Letter 89-04, Position 2 and, as such, is considered to be approved upon submittal.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-18

SYSTEM:

Containment Spray (8770-G-088)

COMPONENTS:

V-07129
V-07143

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the respective containment spray pump to the containment spray headers.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require operating each containment spray pump at nominal accident flowrate. Since exercising these valves through the normal containment spray flowpath would result in spraying down the containment, the only practical flowpath available for such a test requires pumping water from the RWT to the RCS via the shutdown cooling loops. At cold shutdown, the shutdown cooling system cannot provide sufficient letdown flow to the RWT to accommodate full design flow from the RWT while maintaining the necessary core cooling function.

ALTERNATE TESTING:

Each of these valves will be partial-stroke exercised quarterly in conjunction with testing of the containment spray pumps via the minimum flow test line.

During each refueling outage, each valve will be exercised at least once to demonstrate full stroke capability.

REVISION 2
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RELIEF REQUEST NO. VR-19

SYSTEM:

Containment Spray (8770-G-088)

COMPONENTS:

V-07172
V-07174

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the containment sump to the containment spray and safety injection suction headers during recirculation.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

There are no provisions for exercising these valves.

ALTERNATE TESTING:

During each reactor refueling outage at least one of these valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the other valve will be inspected during the same outage, after which the rotational inspection schedule will be reinitiated. This satisfies the requirements of Generic Letter 89-04, Position 2 and, as such, is considered to be approved upon submittal.

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RELIEF REQUEST NO. VR-20

SYSTEM:

Containment Spray (8770-G-088)

COMPONENTS:

V-07192
V-07193

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the respective containment spray headers to the containment spray rings.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full stroke exercising of these valves would require operating each containment spray pump at nominal accident flowrate. Since exercising these valves through the normal containment spray flowpath would result in spraying down the containment this is considered impractical.

Disassembly of either of these valves requires erection of a large scaffold to provide an appropriate work platform. This results in a considerable expenditure of outage resources. Since these valves are in close proximately to each other it is desirable to combine the inspection of both valves during the same maintenance period. Performing an inspection of both valves on a bi-outage basis will satisfy the requirement of Generic Letter 89-04 Position 1 to ensure valves are inspected at least every six (6) years.

RELIEF REQUEST NO. VR-20 (cont.)

ALTERNATE TESTING:

During alternating reactor refueling outages both of these valves will be disassembled, inspected, and manually stroked to verify operability. This agrees with Reference 2.7, Position 2, and, as such, is considered to be approved upon submittal.

REVISION 2
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RELIEF REQUEST NO. VR-21

SYSTEM:

Containment Spray (8770-G-088)

COMPONENTS:

V-07256
V-07258

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the spray additive tank to the respective containment spray pump suction header. They close to prevent reverse flow and recirculation through the eductor leading to an idle containment spray pump.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Testing these valves during normal plant operation during testing of the containment spray pumps would contaminate the containment spray piping with sodium hydroxide. The only practical means of testing these valves requires connection of a source of demineralized water at the tank discharge then directing water into the containment spray piping. This place both containment spray train out of service and would entail a somewhat complex procedure that is considered outside the scope of work that is typically performed during a routine cold shutdown period, thus, such a test is impractical during periods other than reactor refueling outages.

RELIEF REQUEST NO. VR-21 (cont.)

ALTERNATE TESTING:

During each reactor refueling outage both of these valves will be full-stroke exercised.

This request for relief is equivalent to Relief Request CS 1 previously submitted on September 4, 1987 (Ref FPL Letter L-87-370). Thus, per Reference 2.7, this request for relief is approved.

RELIEF REQUEST NO. VR-22

SYSTEM:

Containment Spray (8770-G-088)

COMPONENTS:

V-07269
V-07270

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the discharge of the respective containment spray pumps to the spray additive eductors to provide the motive force for sustaining spray additive flow and to provide minimum flow for the containment spray pumps to prevent pump damage under low-flow conditions.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

These valves are normally full stroke tested during testing of the containment spray pumps but there is no flow measuring instrumentation in the line that could provide a quantitative flow measurement as required by NRC Generic Letter 89-04, Position 1. Thus the test is considered a partial flow (stroke) test.

RELIEF REQUEST NO. VR-22 (cont.)

ALTERNATE TESTING:

During each reactor refueling outage at least one of these valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the other valve will be inspected during the same outage, after which the rotational inspection schedule will be reinitiated. This satisfies the requirements of Generic Letter 89-04, Position 2 and, as such, is considered to be approved upon submittal.

RELIEF REQUEST NO. VR-23

SYSTEM:

Various

COMPONENTS:

Various

CATEGORY:

Various

FUNCTION:

This is a generic Request for Relief

SECTION XI REQUIREMENT:

If, for power-operated valves, an increase in stroke time of 50% or more for valves with full-stroke times less than or equal to 10 seconds is observed, the test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed. (IWV-3417(a))

BASIS FOR RELIEF:

The stroke time measurements taken during testing of fast-acting valves (those less than 2 seconds) are subject to considerable variation due to conditions unrelated to the material condition of the valve (eg. test conditions, operator reaction time). In accordance with NRC Generic Letter 89-04, Position 6, an alternate method of evaluating stroke times is considered acceptable.

ALTERNATE TESTING:

The stroke time evaluation for those valves designated in the valve tables (Appendices D & E) as "fast-acting" will not account for successive increases of measured stroke time per IWV-3417(a) with the change in test frequency as required. In lieu of this, the assigned maximum limiting value of stroke time will be established at 2 seconds. Upon exceeding the 2-second limit, a valve will be declared inoperable and corrective action taken in accordance with IWV-3417(b). This agrees with the guidelines of NRC Generic Letter 89-04, Position 6.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-24

SYSTEM:

Hydrogen Sampling System (8770-G-092)

COMPONENTS:

V-29305
V-29306

CATEGORY:

C

FUNCTION:

These valves open to supply nitrogen zero gas for operation of the containment hydrogen analyzer and close to prevent the loss of gas from the accumulator in the event of depressurization of the upstream piping.

SECTION XI REQUIREMENT:

Valves that are normally open during plant operation and whose function is to close to prevent reversed flow shall be tested in a manner that proves the disk travels to the seat promptly upon cessation or reversal of flow. (IWV-3522(a))

BASIS FOR RELIEF:

These valves are in series for redundancy and act as one barrier for reverse flow with no mechanism to allow verification that both valves seat. Since they are in series, however, in order to perform the safety function only one valve need close.

ALTERNATE TESTING:

These valves will be tested simultaneously in the closed direction to verify that at least one valve closes.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-25

SYSTEM:

Ultimate Heat Sink (8770-G-093)

COMPONENTS:

SB-37-1
SB-37-2

CATEGORY:

B

FUNCTION:

These valves are opened to provide a second source of cooling water from Big Mud Creek.

SECTION XI REQUIREMENT:

Category A and B valves shall be exercised at least once every 3 months, except as provided by IWV-3412(a), IWV-3415, and IWV-3416. (IWV-3411)

BASIS FOR RELIEF:

The operation of these valves is limited for environmental concerns to minimize the quantity of water drawn from the Indian River and discharged to the ocean. For this reason the UFSAR (Section 9.2.7) specifies exercising these valves at six (6) month intervals.

ALTERNATE TESTING:

These valves will be exercised at least once every six (6) months.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-26

SYSTEM:

Emergency Diesel Generator (8770-G-096, Sh 1&2)

COMPONENTS:

SE-59-1 A&B

CATEGORY:

B

FUNCTION:

These valves open to provide flowpaths for diesel fuel oil into the respective day tanks and close to prevent draining of the main storage tank and overflow of the day tanks.

SECTION XI REQUIREMENT:

The stroke time of all power operated valves shall be measured to ....., whenever such a valve is full-stroke tested. (IWV-3413(b))

BASIS FOR RELIEF:

These valves are totally enclosed solenoid valves with no means of determining valve position, thus, measuring a stroke time is impractical. It is noted that the stroke times of these valves is not critical from the aspect of accident mitigation.

ALTERNATE TESTING:

During quarterly pump testing each of these valves will be exercised and verified to operate satisfactorily. By local observation, proper operation will be confirmed by the absence of any unusual audible noise or vibration. Valve stroke times will not be measured.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-27

SYSTEM:

Emergency Diesel Generator Air Start System
(8770-G-096, Sh 1&2)

COMPONENTS:

FCV-59-1A1 thru FCV-59-4A1
FCV-59-1B1 thru FCV-59-4B1
SE-59-3A thru SE-59-6A
SE-59-3B thru SE-59-6B

CATEGORY:

B

FUNCTION:

These valves open to supply starting air to the emergency diesel generators.

SECTION XI REQUIREMENT:

The stroke time of all power operated valves shall be measured to the nearest second, ..., whenever such a valve is full-stroke tested. (IWV-3413(b))

BASIS FOR RELIEF:

These valves are integral with the diesel air start system for each emergency diesel generator with no valve position indication mechanism and, as such, there is no practical method for measuring the stroke times of each individual valve. If a valve were to fail to stroke as required it would be reflected in an unacceptable starting time for the respective diesel generator.

ALTERNATE TESTING:

These valves will be exercised in conjunction with testing of the emergency diesel generators. The stroke times of the individual valves will not be measured but the starting time for each diesel generator will be verified to be acceptable.

RELIEF REQUEST NO. VR-28

SYSTEM:

Chemical and Volume Control System (8770-G-078, Sh 121)

COMPONENT:

V-2443
V-2444

CATEGORY:

C

FUNCTION:

These valves open to provide a flowpath from the boric acid makeup pumps to the emergency boration header.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

Full-stroke testing these valves requires operating the boric acid makeup pumps at or near rated flow and verifying full accident flow through each valve.

Operating the BAM Pumps discharging into the charging pump suction header requires the introduction of highly concentrated boric acid solution from the boric acid makeup tanks to the suction of the charging pumps. This, in turn, would result in the addition of excess boron to the RCS which would adversely affect plant power level and operational parameters with the potential for an undesirable plant transient and a plant trip or shutdown. During cold shutdown, the introduction of excess quantities of boric acid is undesirable from the aspect of maintaining proper plant chemistry and the inherent difficulties that may be encountered during the subsequent startup.in over-boration of the RCS. In addition to the above, there is no flowrate measurement instrumentation installed in this flowpath.

A second circuit that recirculates water to the RWT has flowrate measuring instrumentation installed however it is limited to 30 gpm (BAM Pump design capacity is 142 gpm).

RELIEF REQUEST NO. VR-28 (cont.)

ALTERNATE TESTING:

Each of these valves will be partial stroke exercised quarterly.

During testing of the boric acid makeup pumps performed during each reactor refueling (See Relief Request PR-5), system flowrate will be measured to verify full stroke of these valves.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-29

SYSTEM:

Safety Injection System (8770-G-078, Sh 130)

COMPONENTS:

V-3101
V-3102
V-3103

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the high-pressure safety injection pumps to the refueling water tank to provide for minimum flow through the respective pumps in the event they are operating under low or no flow conditions. They close during shutdown cooling and long-term recirculation to prevent recirculation through the idle pump(s).

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

There is no flowrate instrumentation available to verify valve full-stroke exercising as required by Reference 2.7, Position 1.

Testing these valves to the closed position requires closing one of the mimimum flow isolation valves (V-3659 or V-3660) which isolates all minimum flow from the SI pumps and renders them inoperable.

ALTERNATE TESTING:

During quarterly pump testing each of these valves will be partial-stroke exercised via recirculation through the minimum flow test circuits with no flow measurements.

RELIEF REQUEST NO. VR-29 (cont.)

ALTERNATE TESTING:

During cold shutdown, each valve will be verified to close subject to the conditions of Relief Request VR-1.

During each reactor refueling outage at least one of these valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the other valves will be inspected during the same outage, after which the rotational inspection schedule will be reinitiated. This satisfies the requirements of Generic Letter 89-04, Position 2.

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RELIEF REQUEST NO. VR-30

SYSTEM:

Safety Injection System (8770-G-078, Sh 130)

COMPONENTS:

V-3104
V-3105

CATEGORY:

C

FUNCTION:

These valves open to provide flowpaths from the low-pressure safety injection pumps to the refueling water tank to provide for minimum flow through the respective pumps in the event they are operating under low or no flow conditions. They close during shutdown cooling and long-term recirculation to prevent recirculation through the idle pump(s).

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

There is no flowrate instrumentation available to verify valve full-stroke exercising as required by Reference 2.7, Position 1.

Testing these valves to the closed position requires closing one of the mimimum flow isolation valves (V-3659 or V-3660) which isolates all minimum flow from the SI pumps and renders them inoperable.

RELIEF REQUEST NO. VR-30 (cont.)

ALTERNATE TESTING:

During quarterly pump testing each of these valves will be partial-stroke exercised via recirculation through the minimum flow test circuits with no flow measurements.

During cold shutdown, each valve will be verified to close subject to the conditions of Relief Request VR-1. During each reactor refueling outage at least one of these valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the other valve will be inspected during the same outage, after which the rotational inspection schedule will be reinitiated. This satisfies the requirements of Generic Letter 89-04, Position 2.

RELIEF REQUEST NO. VR-31

SYSTEM:

Feedwater System (8770-G-080, Sh 3)

COMPONENTS:

V-9303
V-9304
V-9305
V-12507

CATEGORY:

C

FUNCTION:

Valves V-9303 through V-9305 open to provide flowpaths from the auxiliary feedwater pump discharge to the condensate storage tank to ensure adequate pump cooling during low flow conditions. V-12507 opens to provide a discharge flowpath for bearing cooling water from the steam-driven auxiliary feedwater pump.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

There is no flowrate instrumentation available to verify valve full-stroke exercising of these valves as required by Reference 2.7, Position 1.

ALTERNATE TESTING:

During quarterly pump testing each of these valves will be partial-stroke exercised via recirculation through the minimum flow test circuits with no flow measurements.

RELIEF REQUEST NO. VR-31 (cont.)

ALTERNATE TESTING:

During each reactor refueling outage at least one of the three minimum flow recirculation valves will be disassembled, inspected, and manually stroked to verify operability. Inspections shall be scheduled such that valves will be checked in a rotating sequence such that each valve is subject to inspection at least once every six (6) years. Should a valve under inspection be found to be inoperable, then the other two valves will be inspected during the same outage, after which the rotational inspection schedule will be reinitiated. This satisfies the requirements of Generic Letter 89-04, Position 2.

During each reactor refueling outage V-12507 will be disassembled, inspected, and manually stroked to verify operability.

RELIEF REQUEST NO. VR-32

SYSTEM:

Miscellaneous Sampling (8770-G-092)

COMPONENT:

V-27101
V-27102

CATEGORY:

A/C

FUNCTION:

These valves close to provide primary containment.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

These are simple check valves with no external means of position indication, thus the only practical means of verifying closure is by performing a leaktest or backflow test. This would require a considerable effort, including entry into the containment building, which is impractical during plant operation and would be an unreasonable burden on the plant staff to perform at cold shutdown.

ALTERNATE TESTING:

At least once every two (2) years, these valves will be verified to close in conjunction with the Appendix J leak testing program.

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RELIEF REQUEST NO. VR-33

SYSTEM:

Safety Injection (8770-G-078, Sh 131)

COMPONENT:

HCV-3618, HCV-3628
HCV-3628, HCV-3638

CATEGORY:

B

FUNCTION:

These valves close to isolate the SI check valve test line in the event of SI initiation.

SECTION XI REQUIREMENT:

The stroke time of all power operated valves shall be measured to ....., whenever such a valve is full-stroke tested. (IWV-3413(b))

BASIS FOR RELIEF:

These valves are provided with a controller that positions the valve in response to a variable indicator-controller device. In order to stroke these valves and perform fail safe tests, fuses in the control circuits are removed which, in turn, causes the loss of valve position indication. Thus measurements of valve closure times are not practical.

ALTERNATE TESTING:

During valve exercising and fail safe testing performed under cold shutdown conditions, an individual will be stationed at the valve to verify proper operation. Valve stroke times will not be measured.

REVISION 2
12/12/89

RELIEF REQUEST NO. VR-34

SYSTEM:

Primary Containment

COMPONENTS:

Valves 6-inches NPS and larger subject to leakage rate testing per 10CFR50, Appendix J.

CATEGORY:

A/C (Check Valves)
A (Motor-operated valves)

FUNCTION:

Each of these valves is designated as a containment isolation valve maintaining the leakrate integrity of the primary containment in the case of an accident.

SECTION XI REQUIREMENT:

The leakage rate for valves 6-inches or greater shall be evaluated per Subsection IWV-3427(b). (IWV-3521)

BASIS FOR RELIEF:

The usefulness of applying this requirement does not justify the burden of compliance. This position is supported by NRC Generic Letter, Position 10

ALTERNATE TESTING:

Leakrate test results for valves 6-inches or greater (NPS) will be evaluated per IWV-3426 and IWV-3427(a) however, the requirements of IWV-3427(b) will not be applied. This satisfies the requirements of Generic Letter 89-04, Position 10.

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RELIEF REQUEST NO. VR-35

SYSTEM:

Intake Cooling Water (8770-G-082, Sh 1)

COMPONENT:

TCV-14-4 A&B

CATEGORY:

B

FUNCTION:

These valves open to provide flowpaths for intake cooling water from the component cooling heat exchangers.

SECTION XI REQUIREMENT:

The stroke time of all power operated valves shall be measured to ....., whenever such a valve is full-stroke tested. (IWV-3413(b))

BASIS FOR RELIEF:

These valves are provided with a controller that positions the valve in response to a variable indicator-controller device. In order to stroke these valves and perform fail safe tests, fuses in the control circuits are removed which, in turn, causes the loss of valve position indication. Thus measurements of valve closure times are not practical.

ALTERNATE TESTING:

During quartrerly valve exercising and fail safe testing an individual will be stationed at the valve to verify proper operation. Valve stroke times will not be measured.

Appendix E

Valve Program
Cold Shutdown Justifications

Appendix E: COLD SHUTDOWN JUSTIFICATIONS

This appendix is intended to provide the justification for performing valve exercising only at cold shutdown conditions as permitted by IWV-3412(a), 3415 and 5322. Specifically included in this category are the following:

* A valve whose failure in a position other than its normal position could jeopardize the immediate safety of the plant or system components;

* A valve whose failure in a position other than its normal position could cause all trains of a safeguard system to be inoperable;

* A valve whose failure in a position other than its normal position that might cause a transient that could lead to a plant trip; or

* When test requirements or conditions are precluded by system operation or access.

Cold shutdown testing is performed under conditions outlined in Relief Request VR-1.

Reactor Coolant (8770-G-078, Sh 110)

V-1402 and V-1404
Power-Operated Relief Valves

Due to the potential impact of the resulting transient should one of these valves open prematurely or stick in the open position, it is considered imprudent to cycle them during plant operation with the reactor coolant system pressurized.

V-1441 thru V-1446 and V-1449
Reactor Coolant System Vents

These valves are administratively controlled in the key-locked closed position with the power supply disconnected to prevent inadvertent operation. Since these are Class 1 isolation valves for the reactor coolant system, failure of a valve to close or significant leakage following closure could result in a loss of coolant in excess of the limits imposed by Technical Specification 3.1.3 leading to a plant shutdown.

Furthermore, if a valve were to fail open or valve indication fail to show the valve returned to the fully closed position following exercising, prudent plant operation would probably likely result in a plant shutdown.

Chemical & Volume Control (8770-G-078 Sh. 120)

MV-02-02
Charging Line Isolation Valve

Closing this valve during operation isolates the charging pumps from the RCS and would result in undesirable pressurizer level transients with the potential for a plant trip and potential damage to the charging pumps. If the valve failed to reopen, then a expedited plant shutdown would be required.,

SE-02-03 and SE-02-04
Auxiliary Pressurizer Spray Valves

Opening either of these valves (or failure in the open position) during plant operation would cause an RCS pressure transient that could potentially adversely affect plant safety and lead to a plant trip. In addition, the pressurizer spray piping would be subjected to undesirable thermal shock.

V-2431
Auxiliary Pressurizer Spray Check Valve

In order to test this valve, either SE-02-03 or SE-02-04 must be opened. Opening either of these valves (or failure in the open position) during plant operation would cause an RCS pressure transient that could potentially adversely affect plant safety and lead to a plant trip. In addition, the pressurizer spray piping would be subjected to undesirable thermal shock.

V-2515 and V-2516
Letdown Line Isolation Valves

Closing either of these valves during operation isolates the letdown line from the RCS and would result in undesirable pressurizer level transients with the potential for a plant trip. If a valve failed to reopen, then a expedited plant shutdown would be required.

V-2505 and SE-01-01
RCP Control Bleedoff Isolation Valves

Exercising either of these valves to the closed position when any of the reactor coolant pumps (RCP's) are in operation would interrupt flow from the RCP seals and result in damage to the pump(s).

V-2501
Volume Control Tank Outlet Valve

Closing this valve during operation of a charging pump would isolate the VCT from the charging pump suction header damaging any operating charging pumps and interrupting the flow of charging water flow to the RCS with the potential of RCS transients and plant trip.

V-2504
RWT Discharge Valve

Opening this valve during operation would result in injection of RWT borated water into the reactor coolant system. This would, in turn, result in overboration with an adverse reaction in reactor power and the potential for a power transient.

Safety Injection / Residual Heat Removal (8770-G-078 Sh 130)

V-3106 and V-3107
LPSI Pump Discharge Check Valves

During normal plant operation, the LPSI Pumps cannot develop sufficient discharge pressure to pump through these valves to the RCS and exercise them in the open direction. The only other test flowpath available is through the shutdown cooling line recirculating to the RWT. This would require opening valves HCV-3657, V-3460 and V-3459. With these valves open, both trains of the LPSI subsystem would be inoperable, thus, this testing scheme is unacceptable.

V-3614, V-3624, V-3634 and V-3644
SI Tank Discharge Isolation Valves

During normal plant operation, these valves are administratively controlled to be locked open with their breakers racked out to ensure they remain in the open position with no chance of misalignment. Exercising these valves presents the chance of misalignment, thus is not considered to be prudent. Furthermore, during the period of time when a valve is not fully open, the associated SI Tank is not available for safety injection. There is also the possibility of creating a large differential pressure across the valve while it is closed that would preclude reopening or could damage the valve during operation.

V-3659 and V-3660
Minimum Flow/Recirculation Line Isolation Valves

Failure of either of these valves in the closed position during testing will render all unit safety injection pumps inoperable due to the high probability of damage should these pumps be started and operated without sufficient flow for cooling of pump internal components.

V-3480, 3481, 3651, and 3652
Shutdown Cooling RCS Isolation Valves

These valves are provided with electrical interlocks that prevent opening whenever Reactor Coolant System pressure exceeds 268 psia. This precludes exercising these valves in any other plant condition than cold shutdown.

Safety Injection / Residual Heat Removal (8770-G-078 Sh 131)

HCV-3618, HCV-3628, HCV-3638, and HCV-3648
Check Valve Leakage Test Valves

These valves are provided with a controller that positions the valve in response to a variable indicator-controller device. In order to stroke these valves and perform fail safe tests, fuses in the control circuits are removed which, in turn, causes the loss of valve position indication. In accordance with Relief Request VR-33, during this exercising an individual will be stationed at the valve to verify proper

operation. Since this valve is located inside the containment building with limited access, this is not practical to perform during plant operation.

Main Steam (8770-G-079 Sh 1)

HCV-08-1 A&B
Main Steam Isolation Valves

During plant operation at power, closure of either of these valves is not practical as it would require isolating a steam generator which would result in a severe transient on the steam and reactor systems and a possible plant trip.

MV-08-1A & 1B
MSIV Bypass Valves

These valves are remain closed except for periods during startup and warmup of the main steam piping. Furthermore, if one were to fail in the open position during testing, it would prevent isolation of the related steam generator in the event of an accident.

HCV-08-2A & 2B
Main Steamline Atmospheric Dump Valves

Opening these valves during plant operation at power will result in an undesirable power transient with the potential for exceeding reactor core power limit or a plant trip.

V-08448 and V-08492
Steam-Driven AFW Pump Steam Supply Check Valves

Verifying closure of these valves during plant operation at normal operating pressures would required isolating the associated steam generator from the steam supply lines and venting the piping between the closed isolation valve and the check valve. It is considered to be imprudent to isolate the steam supply during operation and, in addition, it is undesirable to subject plant personnel to the hazards associated with venting the steam line at these operating conditions. Full-stroke exercising of these valves to the open position would require operation of 1C Auxiliary

Feedwater pump and injection of cold water (85 deg-F) into the hot (450 deg-F) feedwater supply piping. This, in turn, would result in unacceptable thermal stress on the feedwater system piping components.

Feedwater (8770-G-080 Sh 3)

MV-09-07 and 08
Main Feedwater Isolation Valves

During plant operation at power, closure of either of these valves is not practical as it would require isolating a steam generator which would result in a severe transient on the steam and reactor systems and a plant trip.

V-09248 and V-09280
Main Feedwater Supply Check Valves

During plant operation at power, testing either of these valves to the closed position is not practical as it would require isolating a steam generator which would result in a severe transient on the steam and reactor systems and a plant trip.

V-12174 and V-12176
Auxiliary Feedwater Pump Suction Check Valves

Full-stroke exercising of these valves would require operation of a related auxiliary feedwater pump and injection of cold water (85 deg-F) into the hot (450 deg-F) feedwater supply piping. This, in turn, would result in unacceptable thermal stress on the feedwater system piping components. These valves will be partial stroke tested during quarterly testing via the minimum flow recirculation lines.

V-9107, 9123, and 9139
Auxiliary Feedwater Pump Discharge Check Valves

Full-stroke exercising of these valves would require operation of the related auxiliary feedwater pump and injection of cold water (85 deg-F) into the hot (450 deg-F) feedwater supply piping. This, in turn, would result in unacceptable thermal stress on the feedwater system piping components.

V-9119, 9135, 9151, and 9157
Auxiliary Feedwater Supply Check Valves

Full-stroke exercising of these valves would require operation of a related auxiliary feedwater pump and injection of cold water (85 deg-F) into the hot (450 deg-F) feedwater supply piping. This, in turn, would result in unacceptable thermal stress on the feedwater system piping components.

Intake Cooling Water (8770-G-082 Sh 1)

MV-21-2 & 3
Turbine Plant Cooling Water Heat Exchanger Supply Valves

If during testing to the closed position under normal operating conditions either of these valves were to fail closed for any extended period of time, the associated turbine generator and various support components could be damaged due to overheating.

TCV-14-4 A&B
CCW Temperature Control Valves

Failure of either of these valves in the closed position during plant operation would adversely affect the capability of the various safety systems to react to an accident and thus jeopardize plant safety.

Component Cooling Water (8770-G-083)

HCV-14-1,2,6 & 7
RCP Cooling Water Supply/Return Isolation Valves

These valves are required to be open to ensure continued cooling of reactor coolant pump auxiliary components and the control rod drives. Closing any of these valves during plant operation would result in severe RCP and CRD damage leading to plant operation in a potentially unsafe mode and a subsequent plant shutdown.

HCV-14-3 A&B
Shutdown Heat Exchanger Return Valves

Testing either of these valves during plant operation would result in an unbalanced flow condition in the affected CCW train and decreased flow to essential equipment. This could result in component damage or an undesirable plant transient.

MV-14-5 thru MV-14-8
Containment Cooler Supply Valves

Failure of any one of these valves in the closed position renders two containment coolers inoperable resulting in placing the plant in a 45 minute LCO which allows little time for correcting the apparent problem before commencing the shutdown.

Instrument Air (8770-G-085, Sh 2)

MV-18-1
Primary Containment Instrument Air Supply

Closing this valve isolates operating air to critical components in the containment building including the pressurizer spray valves and CVCS letdown isolation valves and could cause severe plant transients and a plant trip. Failure in the closed position would cause a plant shutdown.

V-18279 and V-18283
Containment Hatch Seal Air Supply Check Valves

Verifying closure of these valves would require isolation of the instrument air supply to the containment which would, in turn, isolate operating air to critical components in the containment building including the pressurizer spray valves and CVCS letdown isolation valves and could cause severe plant transients and a plant trip. Failure in the closed position would cause a plant shutdown.

Containment Spray and Refueling Water Systems (8770-G-088)

MV-07-2 A&B
Primary Containment Sump Suction Valves

These are single containment isolation valves such that during the period that they are open as a result of exercising, there are no other designated valves isolating the containment atmosphere from the auxiliary building. If either of these valves were to fail open, then the primary containment would be compromised.

Heating, Air Conditioning, And Ventilation, & Air Conditioning (8770-G-878)

FCV-25-1 thru FCV-25-6
Primary Containment Purge and Vent Valves

These valves are administratively maintained in the closed position at all times when the plant is operating in Modes 1,2 or 3 thus they are not required to operate (close) during operational periods. Due to the large size of these valves and the potential for damage as a result of frequent cycling, it is not prudent to operate them more than is absolutely necessary.

V-25-20 and V-25-21
Containment Vacuum Breakers

These valves can only be exercised manually requiring direct access to each valve. Since these valves are located within the containment building, access is limited and not routinely practical.

ATTACHMENT 3
PUMP RELIEF REQUEST SUMMARY

No.	Pumps	Code Ref.	Previous Relief / No.	Status*	Date Required	Remarks
PR-1	Generic	IWP-3300 IWP-4310	No	Unreviewed	5/16/90	
PR-2	Generic	IWP-4120	No	Unreviewed	5/16/90	
PR-3	Generic	IWP-3000	No	Unreviewed	5/16/90	
PR-4	AFW 1A-1C	IWP-3300	YES / 2	Preapproved	--	Position 9
PR-5	BAM 1A & 1B	IWP-3300 IWP-3100	YES / 1	Preapproved	--	Position 9
PR-6	CS 1A & 1B	IWP-3300 IWP-3100	No	Preapproved	--	Position 9
PR-7	DFO 1A & 1B	IWP-3500(a) IWP-4600	No	Unreviewed	5/16/90	
PR-8	DFO 1A & 1B BAM 1A & 1B	IWP-3300	No	Unreviewed	5/16/90	
PR-9	HPSI 1A-1C	IWP-3300	YES / 4	Preapproved	--	Position 9
PR-10	LPSI 1A & 1B	IWP-3300	YES / 3	Preapproved	--	Position 9
PR-11	ICW 1A-1C	IWP-3300 IWP-3100	No	Unreviewed	5/16/90	

*See Key on Page 6

VALVE RELIEF REQUEST SUMMARY

No.	System/Valves	Code Ref.	Previous Relief / No.	Status	Date Required	Remarks
VR-1	Generic	IWV-3412 IWV-3522 IWV-4315	No	Unreviewed	5/16/90	
VR-2	Pressure Iso. Valves	IWV-3521	No	Unreviewed	5/16/90	
VR-3	Generic	IWV-3417(a)	No	Preapproved	--	Position 6
VR-4	Generic	IWV-3411	No	Unreviewed	5/16/90	
VR-5	Cont. Isol.	IWV-3426 IWV-2427	No	Unreviewed	5/16/90	
VR-6	CVCS V-2177 V-2190 V-2191	IWV-3522	YES / 1&2	Approved	--	
VR-7	Safety Inj. V-07000 V-07001	IWV-3521	YES / 3	Approved	--	
VR-8	Safety Inj. V-3401 V-3410	IWV-3521	YES / 2	Approved	--	
VR-9	Safety Inj. V-3405 V-3414 V-3427	IWV-3521	YES / 2	Approved	--	

VALVE RELIEF REQUEST SUMMARY (cont.)

No.	System/Valves	Code Ref.	Previous Relief / No.	Status	Date Required	Remarks
VR-10	Safety Inj. V-3113 V-3123 V-3133 V-3143	IWV-3521	YES / 4	Approved	--	
VR-11	Safety Inj. V-3114 V-3124 V-3134 V-3144	IWV-3521	YES / 6	Unreviewed	5/16/90	
VR-12	Safety Inj. V-3215 V-3225 V-3235 V-3245	IWV-3521	YES / 5	Preapproved	--	Position 2
VR-13	Safety Inj. V-3217 V-3227 V-3237 V-3247	IWV-3521	No	Unreviewed	5/16/90	
VR-14	Main Steam. V-08117 V-08148	IWV-3521	YES / 1	Preapproved	--	Position 2
VR-15	Makeup Wtr. V-15328	IWV-3521	No	Unreviewed	5/16/90	
VR-16	Inst. Air V-18195	IWV-3521	No	Unreviewed	5/16/90	

VALVE RELIEF REQUEST SUMMARY (cont.)

No.	System/Valves	Code Ref.	Previous Relief / No.	Status	Date Required	Remarks
VR-17	Cont. Spray V-07119 V-07120	IWV-3521	YES / 6	Preapproved	--	Position 2
VR-18 Revised	Cont. Spray V-07129 V-07143	IWV-3521	YES / 3	Unreviewed	5/16/90	
VR-19 Position 2	Cont. Spray V-07172 V-07174	IWV-3521	YES / 5	Preapproved	5/16/90	
VR-20 Revised	Cont. Spray V-07192 V-07193	IWV-3521	YES / 4	Unreviewed	5/16/90	
VR-21	Cont. Spray V-07256 V-07258	IWV-3521	YES / 1	Approved	--	
VR-22	Cont. Spray V-07269 V-07270	IWV-3521	YES / 2	Preapproved	--	Position 2
VR-23	Generic	IWV-3417(a)	No	Unreviewed	5/16/90	
VR-24	H2 Sampling V-29305 V-29306	IWV-3522(a)	No	Unreviewed	5/16/90	

VALVE RELIEF REQUEST SUMMARY (cont.)

No.	System/Valves	Code Ref.	Previous Relief / No.	Status	Date Required	Remarks
VR-25	Ultim. Ht Snk SB-37-1 SB-37-2	IWV-3522(a)	No	Unreviewed	5/16/90	
VR-26	Emer. D.Gen SE-59-1A SE-59-1B	IWV-3513(b)	No	Unreviewed	5/16/90	
VR-27	Emer. D.Gen FCV-59-1A1 thru FCV-59-4A1 FCV-59-1B1 thru FCV-59-4B1 SE-59-3A thru SE-59-6A SE-59-3B thru SE-59-6B	IWV-3513(b)	No	Unreviewed	5/16/90	
VR-28	CVCS V-2443 V-2444	IWV-3521	No	Unreviewed	5/16/90	
VR-29	Safety Inj. V-3101 V-3102 V-3103	IWV-3521	No	Unreviewed	5/16/90	

VALVE RELIEF REQUEST SUMMARY (cont.)

No.	System/Valves	Code Ref.	Previous Relief / No.	Status	Date Required	Remarks
VR-25	Ultim. Ht Snk SB-37-1 SB-37-2	IWV-3522(a)	No	Unreviewed	5/16/90	
VR-26	Emer. D.Gen SE-59-1A SE-59-1B	IWV-3513(b)	No	Unreviewed	5/16/90	
VR-27	Emer. D.Gen FCV-59-1A1 thru FCV-59-4A1 FCV-59-1B1 thru FCV-59-4B1 SE-59-3A thru SE-59-6A SE-59-3B thru SE-59-6B	IWV-3513(b)	No	Unreviewed	5/16/90	
VR-28	CVCS V-2443 V-2444	IWV-3521	No	Unreviewed	5/16/90	
VR-29	Safety Inj. V-3101 V-3102 V-3103	IWV-3521	No	Unreviewed	5/16/90	