CLINTON POWER STATION

INSERVICE INSPECTION

PUMP AND VALVE TESTING PROGRAM

NOVEMBER, 1985

I. INTRODUCTION

This program describes how safety-related pumps and valves will be tested to satisfy the requirements of the ASME Boiler and Pressure Vessel Code Section XI, Rules for the Inservice Inspection of Nuclear Power Plant Components, 1980 Edition, Winter 1981 Addenda. The requirements of this edition and addenda will be used during the first 10 year inspection interval or until a later edition is selected to be used. Later editions must be endorsed in 10CFR50.55a or approved by the appropriate enforcement and regulatory agencies prior to their use.

II. PUMP TESTING

A. Scope

The requirements of this program shall be applied to Class 1,2, and 3 pumps which are required to perform a specific function in shutting down the reactor or in mitigating the consequences of an accident and are provided with an emergency power source. The pumps which are included in this program are listed in Table 1, Pumps Requiring Inservice Testing.

TABLE #1

Pumps Requiring Inservice Testing

Equipment Number	Equipment Name
1C41-C001A	Standby Liquid Control (SLC) Pump A
1C41-C001B	Standby Liquid Control Pump B
1DO01PA	Diesel Oil Transfer Pump A
1DO01PB	Diesel Oil Transfer Pump B
1DO01PC	Diesel Oil Transfer Pump C
1E12-C002A	Residual Heat Removal Pump A
1E12-C002B	Residual Heat Removal Pump B
1E12-C002C	Residual Heat Removal Pump C
1E12-C003	Water Leg Pump
1E21-C001	Low Pressure Core Spray Pump
1E21-C002	Water Leg Pump
1E22-C001	High Pressure Core Spray Pump
1E22-C003	Water Leg Pump
1E51-C001	Reactor Core Isolation Cooling (RCIC) Pump
1E51-C003	Water Leg Pump
1SX01PA	Shutdown Service Water Pump A
1SX01PB	Shutdown Service Water Pump B
1SX01PC	Shutdown Service Water Pump C

B. Frequency of Testing

Inservice tests of pumps shall be performed every 3 months during normal plant operations. This frequency shall be maintained during extended cold shutdowns and refueling outages whenever possible. If this frequency can not be maintained during these shutdown periods, the pump(s) shall be tested within 1 week of the plant being returned to normal operating conditions.

C. Inservice Test Quantities

The following test parameters shall be observed or measured during inservice testing of pumps, unless relief has been requested from the testing requirements (See Appendix A, Pump Testing Relief Requests).

1. Speed (RCIC pump only, all other pumps are constant speed type).

2. Inlet pressure (measured prior to pump startup and during testing).

3. Differential pressure.

4. Flow rate.

5. Vibration amplitude.

6. Proper lubrication level (RCIC and SLC pumps only, other pumps lubrication is supplied by the fluid being pumped).

   Relief from measuring bearing temperature has been requested for all pumps (except RCIC). The technical justification for this request is in Appendix A.

D. Reference Values

1. Pump testing baseline reference values shall be established prior to fuel load or at the first operational surveillance test after it has been determined that the reference values represent acceptable pump operation.

2. After a pump has been replaced, a new set of reference values shall be established using the results of the first inservice test run after the pump is returned to service.

3. After a pump is repaired or receives routine service that may affect the established reference values, a new set of values shall be established or the previous values confirmed by an inservice test performed prior to returning the pump to normal service. Any deviations between the previous and new values shall be identified. The new values shall then be verified that they represent acceptable pump operation.

E. Duration of Tests

Each pump shall be run at least 5 minutes under conditions as stable as the associated system permits. At the end of this time, at least one measurement or observation of each of the quantities shall be made and recorded. The RCIC pump shall be run until bearing temperatures stabilize during the annual test.

F. Instruments

1. Accuracy

Instrument accuracy shall be within the following limits:

a. Pressure - ± 2% of full scale.

b. Differential pressure - ± 2% of full scale.

c. Flow rate - ± 2% of full scale.

d. Speed - ± 2% of full scale.

e. Vibration amplitude - ± 5% of full scale.

f. Temperature - ± 5% of full scale.

2. Range

The full scale range of each instrument shall not exceed 3 times the reference value of the parameter being measured.

3. Calibration

Instruments shall be calibrated prior to establishing reference values and on a regular basis as established by the measuring and test equipment calibration schedule. Prior to performing any inservice tests, the calibration dates for the instruments to be used in the test shall be verified.

G. Analysis of Results

1. Test results shall be analyzed within 96 hours of completion of the test. This analysis shall consist of a comparison of the measured test quantities and the ranges defined in Table 2, Allowable Ranges Of Test Quantities. If these ranges cannot be met, an analysis shall be performed to determine lower range limits that will allow the pump to fulfill its function. These lower limits shall then be included in the pump test record and utilized during subsequent tests.

2. When test quantities fall within the alert range of Table 2, the testing frequency shall be doubled until the cause of the deviation is determined and the condition corrected.

3. When test quantities fall within the required action range of Table 2, the pump shall be declared inoperable and not returned to service until the cause of the deviation is determined and the condition corrected.

4. When a test shows deviation greater than allowed by Table 2, the instruments involved may be recalibrated and the test rerun.

H. Corrective Action

After the cause of deviations to test quantities has been determined, the condition shall be corrected by either repairing or replacing the pump or by performing an analysis to demonstrate that the condition does not impair pump operability and the pump will perform its function. A new set of reference values shall be established after such an analysis.

I. INSERVICE TEST RECORDS

1. Summary Listing

A list of pumps shall be maintained by the ISI coordinator to record the current status of the test program.

2. Pump Records

Manufacturers' pump records shall be maintained in the CPS vault.

3. Inservice Test Plans

The inservice inspection program manual shall include the following information:

TABLE 2

ALLOWABLE RANGES OF Test Quantities

Test Quantity	Acceptable Range	Alert Range		Required Action Range	
		Low Values	High Values	Low Values	High Values
P_i [Note(1)]					
ΔP	0.93 to 1.02 P_r	0.90 to .93 P_r	1.02 to 1.03 P_r	$< 0.90\ P_r$	$> 1.03\ P_r$
Q	0.94 to $1.02Q_r$	0.90. to $0.94Q_r$	1.02 to $1.03Q_r$	$< 0.90Q_r$	$> 1.03Q_r$
V, when $0 \leq V_r \leq 0.5$ mil	0 to 1 mil	None	1 to 1.5 mil	None	> 1.5 mil
V, when $0.5 \text{ mil} < V_r \leq 2.0$ mil	0 to $2V_r$ mil	None	$2V_r$ mil to $3V_r$ mil	None	$> 3V_r$ mil
V, when $2.0 \text{ mil} < V_r \leq 5.0$ mil	0 to $(2 + V_r)$ mil	None	$(2+V_r)$ mil to $(4+V_r)$ mil	None	$> (4 + V_r)$ mil
V, when $V_r > 5.0$ mil	0 to $1.4V_r$ mil	None	$1.4V_r$ mil to $1.8V_r$ mil	None	$1.8V_r$ mil

P_i - Inlet pressure

ΔP - Differential pressure

Q - Flow rate

V - Vibration

r - Reference value

NOTE 1 - Inlet pressure shall be within limits specified by Illinois Power

a. Test flow path to be used.

b. Instruments to be used to measure the various test quantities.

c. Reference values and limits for the quantities to be measured.

4. Record of Tests

The pump test record shall include the following information:

a. Date of test.

b. Measured and observed quantities.

c. Instruments used.

d. Comparisons with allowable ranges of test values.

e. Analysis of any deviations in test quantities.

f. Corrective action requirements.

g. Signature of personnel conducting the test and analyzing its results.

5. Record of Corrective Action

a. Replacements

When a pump is replaced, the following information shall be included in the replacement records, as a minimum:

i) Summary of replacement activities.

ii) Signature of the individual responsible for the replacement activities.

b. Repairs and Routine Service

When a pump has been repaired or received routine servicing which could affect the established reference values of a pump, the following information shall be included in the activity records.

i) Summary of the activities performed.

ii) Results of the inservice test performed to confirm the previous reference values.

iii) Analysis of any deviation between previous and new values to assure that the new values represent acceptable pump operation.

iv) Signature of personnel responsible for the repair/servicing activities and subsequent testing and analysis.

c. Analysis of Deviation Found During Testing

When an analysis of deviations between test quantities and allowable ranges is performed to confirm pump operability, the following information shall be recorded.

i) Summary of the analysis and confirmation of acceptable pump operability.

ii) New reference values that are established during the subsequent inservice test.

iii) Signature of personnel responsible for performing the analysis and subsequent inservice test.

III. Valve Testing

A. Scope

The requirements of this program apply to Class 1, 2, and 3 valves (and their actuating and position indicating systems) which are required to perform a specific function in shutting down the reactor to a cold shutdown condition or in mitigating the consequences of an accident. The following valves are exempt from the requirements of this program:

1. Valves used as operating conveniences (such as manual vent, drain, instrument, and test valves).

2. Valves used for system control (such as pressure regulating valves).

3. Valves used only for maintenance.

4. External control and protection systems responsible for sensing plant conditions and providing signals for valve operation.

The valves which are to be tested under this program are listed in Appendix B, Valves Requiring Inservice Testing.

B. Definitions

1. Active valve - A valve which is required to change position to accomplish a specific function.

2. Passive valve - A valve which is not required to change position to accomplish a specific function.

3. Category A - Valves for which seat leakage is limited to a specific maximum amount in the closed position to fulfill their function.

4. Category B - Valves for which seat leakage in the closed position is inconsequential to fulfill their function.

5. Category C - Valves which are self-actuating in response to some system characteristic, such as pressure or flow direction.

6. Category D - Valves which are actuated by an energy source capable of only one operation, such as explosive - actuated valves.

C. Testing Requirements for Active and Passive Valves

Active and passive valves shall be tested in accordance with the requirements of Table 3, Inservice Test Requirements.

D. Frequency of Testing

1. Seat leakage tests shall be performed at least once every 2 years during refueling outages or extended cold shutdown periods.

2. Valve exercising and stroke timing shall be performed every 3 months unless such testing is not practical during normal plant operations. In such cases, the valves will be fully stroked during refueling outages or extended cold shutdown periods.

3. Relief valve setpoints shall be verified in accordance with a schedule that provides for all applicable relief valves to be tested every 5 years.

4. Explosive - actuated valves shall be tested at least once every 2 years during refueling outages or extended cold shutdown periods.

TABLE 3

INSERVICE TEST REQUIREMENTS

CATEGORY	VALVE FUNCTION	SEAT LEAKAGE TEST	STROKE TIME TEST	EXERCISE TEST	SPECIAL TEST
A	Active	Yes	Yes	Yes	No
A	Passive	Yes	No	No	No
B	Active	No	Yes	Yes	No
B	Passive	No	No	No	No
C-Relief	Active	No	No	No	Yes
Valves	Passive	No	No	No	No
C-Check	Active	No	No	Yes	No
Valves	Passive	No	No	No	No
D	Active	No	No	No	Yes
D	Passive	No	No	No	No

5. Valves with remote position indication shall be observed at least once every 2 years to verify that valve indication is accurately indicated.

6. For valves in a system declared inoperable or not required to operate, the exercising and stroke timing schedule need not be followed, however, within 30 days prior to returning the system to operable status, the valves shall be tested as applicable and the test frequency resumed.

E. Test Procedures

1. Seat Leakage Tests

a. Valve seat leakage tests shall be made with the pressure differential in the same direction as when the valve is performing its function unless one of the following exceptions is taken:

i) Globe valves may be tested with pressure under the seat.

ii) Butterfly valves may be tested in either direction if their seat construction is designed for sealing against pressure from both sides.

iii) Gate valves with 2 piece disks may be tested by pressurizing between the seats.

iv) Valves (except check valves) may be tested in either direction if the functional differential pressure is 15psi or less.

v) Types of valves in which service pressure tends to diminish overall leakage may be tested at lower than service differential pressure. In such cases, the observed leakage (l_t) shall be adjusted. This adjustment shall be made by utilizing the following formula:

$$l_f = l_t \sqrt{\frac{P_f}{P_t}}$$

l_t = observed leakage

l_f = functional leakage

P_t = test pressure

P_f = functional pressure

b. Seat leakage shall be measured by:

i) Draining the line, closing the valve, bringing one side to test pressure, and measuring leakage through a downstream telltale connection.

ii) Measuring the feed rate required to maintain pressure between two valves, provided the total apparent leak rate is charged to the valve being tested. However, if the leak rate of the valve not being tested is known, the leak rate of the test valve shall be determined by subtracting the leak rate of the valve not under test from the feed rate.

c. Seat leakage rates shall be evaluated for acceptability by comparing the test results with previous test results and the maximum permissible leakage rate.

2. Valve Exercising

a. Valves shall be exercised to the position required to fulfill their function.

b. Valve disk movement shall be determined by observing an indicator that signals the required change of disk position, or observing indirect evidence (changes in system pressure, flow rate, level, or temperature) which reflect stem or disk position.

c. Check valves which are normally open and are required to prevent reverse flow shall be tested in a manner that proves the disk travels to the seat promptly on the cessation or reversal of flow.

d. Check valves which are normally shut and whose function is to open on reversal of pressure differential shall be tested by proving that the disk moves away from the seat when the closing pressure is removed and flow through the valve is initiated, or when a mechanical force is applied to the disk.

e. Valves with fail - safe actuators shall be tested by observing the operation of the valves upon loss of actuator power.

3. Valve Stroke Timing

a. Stroke time shall be that time interval from initiation of the actuating signal to the desired position indication.

b. The stroke time of valves shall be measured to the nearest second.

4. Relief Valve Testing

Relief valve set points shall be tested in accordance with ASME PTC 25.3-1976

F. Corrective Action

1. Seat Leakage Tests

If any of the following conditions are found during testing, the valve shall be repaired or replaced.

a. Leakage rates exceeding the maximum permissible rate.

b. For valves 6 inches nominal pipe size and larger, a leakage rate that exceeds the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate by 50% or greater.

c. If tests show a leakage rate increasing with time, and projection based on three or more tests indicates that the leakage rate of the next scheduled test will exceed the maximum permissible rate by greater than 10%.

2. Exercising and Stroke Timing

a. If a valve fails to exhibit the required change of stem or disk position or exceeds its specified limiting value of stroke time, corrective action shall be initiated immediately. If the condition cannot be corrected within 24 hours, the valve shall be considered inoperable.

b. When corrective action is required as a result of tests performed during cold shutdown periods, the condition must be corrected prior to starting the plant up.

c. The test frequency for power operated valves shall be increased to once per month if:

i) For valves with stroke times greater than 10 seconds, the valve exhibits an increase in stroke time of 25% or more from the last test.

ii) For valves with stroke times of 10 seconds or less, the valve exhibits an increase in stroke time of 50% or more from the last test.

3. Relief Valve Testing

A relief valve failing to function properly during testing shall be repaired or replaced.

G. Valve Replacement, Repair, and Maintenance

When a valve or its control system has been replaced, repaired, or has undergone maintenance that could affect its performance and prior to the time it is returned to service, it shall be tested to demonstrate that the affected performance parameters are within acceptable limits. The results of these tests shall be used during subsequent inservice testing as appropriate.

H. Inservice Test Records

1. Summary Listing

The ISI Coordinator shall maintain a list of valves in this program and the current status of the program.

2. Preservice Tests

Preservice test results and manufacturers' functional test results shall be maintained in the CPS vault.

3. Test Results

The test results records shall include the dated signature of the individual responsible for the test.

APPENDIX A

PUMP TESTING RELIEF REQUESTS

RELIEF REQUEST 001

I. Component Identification

A. Name: All pumps listed in Table 1 (Except RCIC)

B. Number: See Table 1

C. Function: Safely shutdown the reactor or mitigate the consequences of an accident.

D. ASME Section III Code Class: See Table 1

II. Relief from:

A. ASME Code Requirement: IWP-3410 Bearing Temperature

B. Reason for Relief: The measurement of annual pump bearing temperature does not increase any confidence in the reliability of the pumps because bearing temperature rises just minutes prior to failure of the pump bearing. Therefore measurement of annual pump bearing temperature as required by the code will not be recorded.

III. Alternate In-Service Test:

- None -

RELIEF REQUEST 002

I. Component Identification:

A. Name: Diesel Fuel Oil Transfer pump 1A, 1B, and 1C

B. Number: 1DO01PA, 1DO01PB, and 1DO01PC

C. Function: The Diesel Fuel Oil Transfer pumps transfe diesel fuel from diesel storage tank to diesel fuel day tank.

D. ASME Section III Code Class: 3

II. Relief from:

A. ASME Code Requirement: IWP-4600 Flow rate

B. Reason for Relief: Flow rate measuring instrument not installed.

III. Alternate In-Service Test: The flow rate of diesel fuel oil transfer pumps will be calculated by dividing the change in level of the diesel fuel day tank by the time the diesel fuel oil transfer pump is in operation.

RELIEF REQUEST 003

I. Component Identification:

A. Name: Standby Liquid Control pump 1A & 1B

B. Number: 1C41-C001A & 1C41-C001B

C. Function: Supply a neutron absorbing solution into the reactor in sufficient concentration and quantity to overcome the maximum positive reactivity.

D. ASME Section III Code Class: 2

II. Relief from:

A. ASME Code Requirement: IWP-4600 Flow rate

B. Reason for Relief: Flow rate measuring instrument not installed.

III. Alternate In-Service Test: The flow rate of the SLC pump will be calculated by dividing the change in level of the SLC test tank by the time the SLC pump is in operation.

RELIEF REQUEST 004

I. Component Identification:

A. Name: Shutdown Service Water Pumps 1A, 1B, and 1C

B. Number: 1SX01PA, 1SX01PB, & 1SX01PC

C. Function: Shutdown Service Water Pumps provide a reliable source of cooling water for station auxiliaries which are essential to shutdown the reactor safely following the unlikely event of a LOCA or a complete loss of offsite AC Power.

D. ASME Section III Code Class 3

II. Relief from:

A. ASME Code Requirement: IWP-4200 Inlet Pressure

B. Reason for Relief: These pumps are deep draft and take suction from a lake where level is essentially constant throughout the year.

III. Alternate In-Service Test: - None -

APPENDIX B

VALVES REQUIRING INSERVICE TESTING

VALVE TESTING LEGEND

Type

B -Butterfly Valve
C -Check Valve
CV -Control Valve
EFC -Excess Flow Check Valve
EX -Explosive Valve
G -Gate Valve
GL -Globe Valve
NC -Non-Slam Check Valve
P -Plug Valve
R -Relief Valve
SR -Safety Relief Valve
VR -Vacuum Relief Valve

Actuator

AO -Air Operated
HO -Hydraulic Operated
M -Manually Operated
MO -Motor Operated
SO -Solenoid Operated
MFC - Manual Flow Control
GSC - Discharge Stop Check

Normal Position/Test Position

O -Open
C -Closed
LO - Locked Open

Test Method

1. Valve shall be exercised to the position required to fulfill its function.

2. The stroke time of the valve shall be measured.

3. Valve seat leakage test.

4. Twenty percent (20%) of explosive charges shall be removed, fired, and replaced every two (2) years.

5. Bench testing with suitable hydraulic or pneumatic equipment.

Test Method (Cont'd)

6. Verify and record valve position before performing an operation and after completing an operation.

7. Loss of power test.

Test During

1. Power Operations

2. Startup

3. Hot Shutdown

4. Cold Shutdown

5. Refueling

Notes

1. Test position is for exercising and stroke timing only.

2. Valves will be leak rate tested during cold shutdown periods or refueling outages.

3. Testing may be performed by outside contractor.

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1B21-F001	GL	2	1	A	MO	C	C	M05-1071/2 D-4	3	4,5	
1B21-F002	GL	2	1	A	MO	C	C	M05-1071/2 E-4	3	4,5	
1B21-F010A	NC	18	1	A/C	--	O	C	M05-1004 C-7	1,3	4,5	See Relief Request 001
1B21-F010B	NC	18	1	A/C	--	O	C	M05-1004 A-7	1,3	4,5	See Relief Request 001
1B21-F016	G	3	1	A	MO	O	C	M05-1002/1 B-1	1,2,3	1-5	
1B21-F019	G	3	1	A	MO	O	C	M05-1002/1 B-1	1,2,3	1-5	
1B21-F022A	GL	24	1	A	AO	O	C	M05-1002/1 C-2	1,2,3,7	1-5	See Relief Request 053
1B21-F022B	GL	24	1	A	AO	O	C	M05-1002/1 F-2	1,2,3,7	1-5	See Relief Request 053
1B21-F022C	GL	24	1	A	AO	O	C	M05-1002/1 A-2	1,2,3,7	1-5	See Relief Request 053
1B21-F022D	GL	24	1	A	AO	O	C	M05-1002/1 D-2	1,2,3,7	1-5	See Relief Request 053
1B21-F024A	C	½	3	C	--	O	C	M10-1002/5	1	4,5	See Relief Request 042
1B21-F024B	C	½	3	C	--	O	C	M10-1002/5	1	4,5	See Relief Request 042
1B21-F024C	C	½	3	C	--	O	C	M10-1002/5	1	4,5	See Relief Request 042
1B21-F024D	C	½	3	C	--	O	C	M10-1002/5	1	4,5	See Relief Request 042
1B21-F028A	GL	24	1	A	AO	O	C	M05-1002/2 C-5	1,2,3,7	1-5	See Relief Request 053
1B21-F028B	GL	24	1	A	AO	O	C	M05-1002/2 E-5	1,2,3,7	1-5	See Relief Request 053
1B21-F028C	GL	24	1	A	AO	O	C	M05-1002/2 B-5	1,2,3,7	1-5	See Relief Request 053
1B21-F028D	GL	24	1	A	AO	O	C	M05-1002/2 E-5	1,2,3,7	1-5	See Relief Request 053
1B21-F029A	C	½	3	C	--	O	C	M10-1002/5	1	4,5	See Relief Request 042
1B21-F029B	C	½	3	C	--	O	C	M10-1002/5	1	4,5	See Relief Request 042

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1B21-F029C	C	½	3	C	--	O	C	M10-1002/5	1	4,5	See Relief Request 042
1B21-F029D	C	½	3	C	--	O	C	M10-1002/5	1	4,5	See Relief Request 042
1B21-F032A	NC	20	1	A/C	AO	O	C	M05-1004 C-6	1,3,7	4,5	See Relief Request 001
1B21-F032B	NC	20	1	A/C	AO	O	C	M05-1004 A-6	1,3,7	4,5	See Relief Request 001
1B21-F036A	C	½	3	C	--	C	O,C	M10-1002/2	1	4,5	See Relief Request 042
1B21-F036F	C	½	3	C	--	C	O,C	M10-1002/2	1	4,5	See Relief Request 042
1B21-F036G	C	½	3	C	--		O,C	M10-1002/2	1	4,5	See Relief Request 042
1B21-F036J	C	½	3	C	--	C	O,C	M10-1002/2	1	4,5	See Relief Request 042
1B21-F036L	C	½	3	C	--	C	O,C	M10-1002/2	1	4,5	See Relief Request 042
1B21-F036M	C	½	3	C	--	C	O,C	M10-1002/2	1	4,5	See Relief Request 042
1B21-F036N	C	½	3	C	--	C	O,C	M10-1002/2	1	4,5	See Relief Request 042
1B21-F036P	C	½	3	C	--	C	O,C	M10-1002/2	1	4,5	See Relief Request 042
1B21-F036R	C	½	3	C	--	C	O,C	M10-1002/2	1	4,5	See Relief Request 042
1B21-F037A	VR	10	3	C	--	C	O	M05-1002/1 C-6	1	4,5	See Relief Request 003
1B21-F037B	VR	10	3	C	--	C	O	M05-1002/1 E-6	1	4,5	See Relief Request 003
1B21-F037C	VR	10	3	C	--	C	O	M05-1002/1 A-7	1	4,5	See Relief Request 003
1B21-F037D	VR	10	3	C	--	C	O	M05-1002/1 D-7	1	4,5	See Relief Request 003
1B21-F037E	VR	10	3	C	--	C	O	M05-1002/1 E-4	1	4,5	See Relief Request 003
1B21-F037F	VR	10	3	C	--	C	O	M05-1002/1 A-5	1	4,5	See Relief Request 003
1B21-F037G	VR	10	3	C	--	C	O	M05-1002/1 A-4	1	4,5	See Relief Request 003

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1B21-F037H	VR	10	3	C	--	C	O	M05-1002/1 C-5	1	4,5	See Relief Request 003
1B21-F037J	VR	10	3	C	--	C	O	M05-1002/1 E-7	1	4,5	See Relief Request 003
1B21-F037K	VR	10	3	C	--	C	O	M05-1002/1 A-5	1	4,5	See Relief Request 003
1B21-F037L	VR	10	3	C	--	C	O	M05-1002/1 D-6	1	4,5	See Relief Request 003
1B21-F037M	VR	10	3	C	--	C	O	M05-1002/1 E-3	1	4,5	See Relief Request 003
1B21-F037N	VR	10	3	C	--	C	O	M05-1002/1 E-5	1	4,5	See Relief Request 003
1B21-F037P	VR	10	3	C	--	C	O	M05-1002/1 A-6	1	4,5	See Relief Request 003
1B21-F037R	VR	10	3	C	--	C	O	M05-1002/1 D-5	1	4,5	See Relief Request 003
1B21-F037S	VR	10	3	C	--	C	O	M05-1002/1 A-3	1	4,5	See Relief Request 003
1B21-F039B	C	½	3	C	--	C	O	M10-1002/1	1	4,5	See Relief Request 042
1B21-F039C	C	½	3	C	--	C	O	M10-1002/1	1	4,5	See Relief Request 042
1B21-F039D	C	½	3	C	--	C	O	M10-1002/1	1	4,5	See Relief Request 042
1B21-F039E	C	½	3	C	--	C	O	M10-1002/1	1	4,5	See Relief Request 042
1B21-F039H	C	½	3	C	--	C	O	M10-1002/1	1	4,5	See Relief Request 042
1B21-F039K	C	½	3	C	--	C	O	M10-1002/1	1	4,5	See Relief Request 042
1B21-F039S	C	½	3	C	--	C	O	M10-1002/1	1	4,5	See Relief Request 042
1B21-F040	VR	2	3	C	--	C	O	M05-1071/2 D-3	1	4,5	See Relief Request 003
1B21-F041A	SR	8x10	1	C	AO	C	C	M05-1002/1 C-6	5	4,5	See Note 1
1B21-F041B	SR	8x10	1	C	AO	C	C	M05-1002/1 F-7	5	4,5	See Note 1
1B21-F041C	SR	8x10	1	C	AO	C	C	M05-1002/1 B-8	5	4,5	See Note 1

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1B21-F041D	SR	8x10	1	C	AO	C	C	M05-1002/1 D-8	5	4,5	See Note 1
1B21-F041F	SR	8x10	1	C	AO	C	C	M05-1002/1 F-5	5	4,5	See Note 1
1B21-F041G	SR	8x10	1	C	AO	C	C	M05-1002/1 B-6	5	4,5	See Note 1
1B21-F041L	SR	8x10	1	C	AO	C	C	M05-1002/1 B-4	5	4,5	See Note 1
1B21-F047A	SR	8x10	1	C	AO	C	C	M05-1002/1 C-6	5	4,5	See Note 1
1B21-F047B	SR	8x10	1	C	AO	C	C	M05-1002/1 F-8	5	4,5	See Note 1
1B21-F047C	SR	8x10	1	C	AO	C	C	M05-1002/1 B-5	5	4,5	See Note 1
1B21-F047D	SR	8x10	1	C	AO	C	C	M05-1002/1 D-7	5	4,5	See Note 1
1B21-F047F	SR	8x10	1	C	AO	C	C	M05-1002/1 F-4	5	4,5	See Note 1
1B21-F051B	SR	8x10	1	C	AO	C	C	M05-1002/1 F-6	5	4,5	See Note 1
1B21-F051C	SR	8x10	1	C	AO	C	C	M05-1002/1 B-7	5	4,5	See Note 1
1B21-F051D	SR	8x10	1	C	AO	C	C	M05-1002/1 D-6	5	4,5	See Note 1
1B21-F051G	SR	8x10	1	C	AO	C	C	M05-1002/1 B-4	5	4,5	See Note 1
1B21-F065A	G	20	2	B	MO	O	C	M05-1004 C-5	1,2	4,5	See Relief Request 004
1B21-F065B	G	20	2	B	MO	O	C	M05-1004 A-5	1,2	4,5	See Relief Request 004
1B21-F067A	GL	1½	1	A	MO	O,C	C	M05-1002/2 C-6	1,2,3	1-5	
1B21-F067B	GL	1½	1	A	MO	O,C	C	M05-1002/2 E-6	1,2,3	1-5	
1B21-F067C	GL	1½	1	A	MO	O,C	C	M05-1002/2 A-6	1,2,3	1-5	
1B21-F067D	GL	1½	1	A	MO	O,C	C	M05-1002/2 D-6	1,2,3	1-5	
1B21-F078A	VR	10	3	C	--	C	O	M05-1002/1 C-6	1	4,5	See Relief Request 003

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1B21-F078B	VR	10	3	C	--	C	O	M05-1002/1 E-6	1	4,5	See Relief Request 003
1B21-F078C	VR	10	3	C	--	C	O	M05-1002/1 A-7	1	4,5	See Relief Request 003
1B21-F078D	VR	10	3	C	--	C	O	M05-1002/1 D-7	1	4,5	See Relief Request 003
1B21-F078E	VR	10	3	C	--	C	O	M05-1002/1 E-4	1	4,5	See Relief Request 003
1B21-F078F	VR	10	3	C	--	C	O	M05-1002/1 A-5	1	4,5	See Relief Request 003
1B21-F078G	VR	10	3	C	--	C	O	M05-1002/1 A-4	1	4,5	See Relief Request 003
1B21-F078H	VR	10	3	C	--	C	O	M05-1002/1 C-5	1	4,5	See Relief Request 003
1B21-F078J	VR	10	3	C	--	C	O	M05-1002/1 E-7	1	4,5	See Relief Request 003
1B21-F078K	VR	10	3	C	--	C	O	M05-1002/1 A-5	1	4,5	See Relief Request 003
1B21-F078L	VR	10	3	C	--	C	O	M05-1002/1 D-6	1	4,5	See Relief Request 003
1B21-F078M	VR	10	3	C	--	C	O	M05-1002/1 E-3	1	4,5	See Relief Request 003
1B21-F078N	VR	10	3	C	--	C	O	M05-1002/1 E-5	1	4,5	See Relief Request 003
1B21-F078P	VR	10	3	C	--	C	O	M05-1002/1 A-6	1	4,5	See Relief Request 003
1B21-F078R	VR	10	3	C	--	C	O	M05-1002/1 D-5	1	4,5	See Relief Request 003
1B21-F078S	VR	10	3	C	--	C	O	M05-1002/1 A-3	1	4,5	See Relief Request 003
1B21-F098A	G	24	2	B	MO	O	C	M05-1002/2 C-3	1,2	4,5	See Relief Request 005
1B21-F098B	G	24	2	B	MO	O	C	M05-1002/2 F-3	1,2	4,5	See Relief Request 005
1B21-F098C	G	24	2	B	MO	O	C	M05-1002/2 B-3	1,2	4,5	See Relief Request 005
1B21-F098D	G	24	2	B	MO	O	C	M05-1002/2 D-3	1,2	4,5	See Relief Request 005
1B21-F379A	VR	2	3	C	--	C	O	M05-1002/1 F-7	1	4,5	See Relief Request 003

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST METH[2]	TEST COND	COMMENTS
1B21-F379B	VR	2	3	C	--	C	O	M05-1002/1 F-6	1	4,5	See Relief Request 003
1B21-F379C	VR	2	3	C	--	C	O	M05-1002/1 F-5	1	4,5	See Relief Request 003
1B21-F379D	VR	2	3	C	--	C	O	M05-1002/1 F-4	1	4,5	See Relief Request 003
1B21-F379E	VR	2	3	C	--	C	O	M05-1002/1 F-3	1	4,5	See Relief Request 003
1B21-F379F	VR	2	3	C	--	C	O	M05-1002/1 E-7	1	4,5	See Relief Request 003
1B21-F379G	VR	2	3	C	--	C	O	M05-1002/1 E-6	1	4,5	See Relief Request 003
1B21-F379H	VR	2	3	C	--	C	O	M05-1002/1 E-5	1	4,5	See Relief Request 003
1B21-F379J	VR	2	3	C	--	C	O	M05-1002/1 C-6	1	4,5	See Relief Request 003
1B21-F379K	VR	2	3	C	--	C	O	M05-1002/1 C-5	1	4,5	See Relief Request 003
1B21-F379L	VR	2	3	C	--	C	O	M05-1002/1 B-7	1	4,5	See Relief Request 003
1B21-F379M	VR	2	3	C	--	C	O	M05-1002/1 B-6	1	4,5	See Relief Request 003
1B21-F379N	VR	2	3	C	--	C	O	M05-1002/1 B-5	1	4,5	See Relief Request 003
1B21-F379P	VR	2	3	C	--	C	O	M05-1002/1 B-5	1	4,5	See Relief Request 003
1B21-F379Q	VR	2	3	C	--	C	O	M05-1002/1 B-4	1	4,5	See Relief Request 003
1B21-F379R	VR	2	3	C	--	C	O	M05-1002/1 B-3	1	4,5	See Relief Request 003
1B21-F433A	C	½	3	C	--	O	C	M10-1004/8	1	4,5	See Relief Request 042
1B21-F433B	C	½	3	C	--	O	C	M10-1004/8	1	4.5	See Relief Request 042
1B33-F019	CV	3/4	2	B	AO	C	C	M05-1072/1 E-5	1,2	1-5	
1B33-F020	CV	3/4	2	B	AO	C	C	M05-1072/1 E-8	1,2	1-5	
1CC049	G	10	2	B	MO	O	C	M05-1032/3 C-8	1,2	4,5	See Relief Request 019

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1CC050	G	6	2	B	MO	O	C	M05-1032/3 C-7	1,2	4,5	See Relief Request 019
1CC053	G	6	2	B	MO	O	C	M05-1032/3 C-3	1,2	4,5	See Relief Request 019
1CC054	G	10	2	B	MO	O	C	M05-1032/3 C-1	1,2	4,5	See Relief Request 019
1CC057	G	8	2	B	MO	O	C	M05-1032/3 D-8	1,2	4,5	See Relief Request 019
1CC060	G	8	2	B	MO	O	C	M05-1032/3 C-2	1,2	4,5	See Relief Request 019
1CC065	G	2½	3	B	MO	O	C	M05-1032/3 C-6	1,2	4,5	See Relief Request 036
1CC067	G	2½	3	B	MO	O	C	M05-1032/3 C-3/4	1.2	4.5	See Relief Request 036
1CC068	G	2½	3	B	MO	O	C	M05-1032/3 E-6	1.2	4.5	See Relief Request 036
1CC070	G	2½	3	B	MO	O	C	M05-1032/3 E-3	1.2	4.5	See Relief Request 036
1CC071	G	4	2	B	MO	O	O,C	M05-1032/3 E-2	1,2	1-5	
1CC072	G	4	2	B	MO	O	O,C	M05-1032/3 E-1	1,2	1-5	
1CC073	G	4	2	B	MO	O	O,C	M05-1032/3 F-1	1,2	1-5	
1CC074	G	4	2	B	MO	O	O,C	M05-1032/3 F-2	1,2	4,5	
1CC075A	B	14	3	B	MO	O,C	C	M05-1032/2 E-3	1,2	1-5	
1CC075B	B	14	3	B	MO	O,C	C	M05-1032/2 C-3	1,2	1-5	
1CC076A	B	14	3	B	MO	O,C	C	M05-1032/2 D-2	1,2	1-5	
1CC076B	B	14	3	B	MO	O,C	C	M05-1032/2 C-2	1,2	1-5	
1CC127	G	8	2	B	MO	O	C	M05-1032/3 D-8	1,2	4,5	See Relief Request 019
1CC128	G	8	2	B	MO	O	C	M05-1032/3 C-2	1,2	4,5	See Relief Request 019
1CC188A	C	2½	3	C	--	O	C	M05-1032/3 E-6	1	4,5	See Relief Request 036

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST METH[2]	TEST COND	COMMENTS
1CC188B	C	2½	3	C	--	O	C	M05-1032/3 C-6	1	4,5	See Relief Request 036
1CM002A	EFC	3/4	2	C	--	O	C	M05-1034/1 B-7	1	1-5	
1CM002B	EFC	3/4	2	C	--	O	C	M05-1034/1 A-7	1	1-5	
1CM003A	EFC	3/4	2	C	--	O	C	M05-1034/1 B-4	1	1-5	
1CM003B	EFC	3/4	2	C	--	O	C	M05-1034/1 B-7	1	1-5	
1CM011	G	3/4	2	B	SO	O	O,C	M05-1034/2 C-7	1	1-5	See Relief Request 032
1CM012	G	3/4	2	B	SO	O	O,C	M05-1034/2 C-6	1	1-5	See Relief Request 032
1CM014	G	½	2	B	SO	C	O	M05-1034/2 B-6	1	1-5	See Relief Request 032
1CM015	G	½	2	B	SO	C	O	M05-1034/2 F-5	1	1-5	See Relief Request 032
1CM016	G	½	2	B	SO	C	O	M05-1034/2 E-5	1	1-5	See Relief Request 032
1CM017	G	½	2	B	SO	C	O	M05-1034/2 D-5	1	1-5	See Relief Request 032
1CM018	G	½	2	B	SO	C	O	M05-1034/2 B-5	1	1-5	See Relief Request 032
1CM022	G	3/4	2	B	SO	C	O,C	M05-1034/2 D-3	1	1-5	See Relief Request 032
1CM023	G	3/4	2	B	SO	C	O,C	M05-1034/2 D-3	1	1-5	See Relief Request 032
1CM025	G	3/4	2	B	SO	C	O,C	M05-1034/2 C-3	1	1-5	See Relief Request 032
1CM026	G	3/4	2	B	SO	C	O,C	M05-1034/2 C-3	1	1-5	See Relief Request 032
1CM028	G	½	2	B	SO	C	O	M05-1034/2 B-3	1	1-5	See Relief Request 032
1CM031	G	½	2	B	SO	C	O	M05-1034/2 B-4	1	1-5	See Relief Request 032
1CM032	G	½	2	B	SO	C	O	M05-1034/2 D-4	1	1-5	See Relief Request 032
1CM033	G	½	2	B	SO	C	O	M05-1034/2 E-4	1	1-5	See Relief Request 032

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1CM034	G	½	2	B	SO	C	O	M05-1034/2 F-4	1	1-5	See Relief Request 032
1CM047	G	3/4	2	B	SO	O	O,C	M05-1034/2 D-6	1	1-5	See Relief Request 032
1CM048	G	3/4	2	B	SO	O	O,C	M05-1034/2 D-7	1	1-5	See Relief Request 032
1CM051	EFC	3/4	2	C	--	O	C	M05-1034/2 C-6	1	1-5	
1CM053	EFC	3/4	2	C	--	O	C	M05-1034/3 C-5	1	1-5	
1CM066	EFC	3/4	2	C	--	O	C	M05-1071/1 F-3	1	4,5	See Relief Request 037
1CM067	EFC	3/4	2	C	--	O	C	M05-1071/1 E-6	1	4,5	See Relief Request 037
1CY016	G	6	2	B	MO	O	C	M05-1012/6 C-6	1,2	1-5	
1CY017	G	6	2	B	MO	O	C	M05-1012/6 C-6	1,2	1-5	
1CY020	G	3	2	B	MO	O	C	M05-1012/6 D-3	1,2	1-5	
1CY021	G	3	2	B	MO	O	C	M05-1012/6 D-2	1,2	1-5	
1C11-F010	GL	1	2	B	AO	O	O,C	CLN-001	1,2,7	1-5	
1C11-F011	GL	2	2	B	AO	O	O,C	CLN-001	1,2,7	1-5	
1C11-F083	GL	2	2	B	MO	O	C	M05-1078/1 C-7	1,2,7	4,5	See Relief Request 008
1C11-F122	C	2	2	C	--	O	C	M05-1078/1 C-7	1,2	4,5	See Relief Request 010
1C11-F180	GL	1	2	B	AO	O	O,C	CLN-001	1,2	1-5	
1C11-F181	GL	2	2	B	AO	O	O,C	CLN-001	1,2	1-5	
1C41-F001A	GL	3	2	B	MO	C	O	M05-1077 C-6	1,2	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1C41-F001B	GL	3	2	B	MO	C	O	M05-1077 E-6	1,2	1-5	
1C41-F004A	EX	1½	1	D	M	C	N/A	M05-1077 C-3	4	4-5	
1C41-F004B	EX	1½	1	D	M	C	N/A	M05-1077 D-3	4	4-5	
1C41-F006	NC	3	1	C	--	C	O	M05-1077 D-2	1	4,5	See Relief Request 011
1C41-F029A	R	1½x2	2	C	--	C	O	M05-1077 C-4	5	4,5	
1C41-F029B	R	1½x2	2	C	--	C	O	M05-1077 E-4	5	4,5	
1C41-F033A	NC	1½	2	C	--	C	O	M05-1077 C-4	1	1-5	
1C41-F033B	NC	1½	2	C	--	C	O	M05-1077 E-4	1	1-5	
1C41-F0336	C	4	1	C	--	C	O	M05-1077 E-1	1	1-5	
1DG006A	R	½	3	C	--	C	O	M05-1035/1 E-6	5	4,5	
1DG006B	R	½	3	C	--	C	O	M05-1035/1 D-6	5	4,5	
1DG006C	R	½	3	C	--	C	O	M05-1035/2 E-6	5	4,5	
1DG006D	R	½	3	C	--	C	O	M05-1035/2 D-6	5	4,5	
1DG006E	R	½	3	C	--	C	O	M05-1035/3 E-6	5	4,5	
1DG006F	R	½	3	C	--	C	O	M05-1035/3 D-6	5	4,5	
1DG007A	CV	2	3	B	M	O	C	M05-1035/1 E-4	1	1-5	See Relief Request 038
1DG007B	CV	2	3	B	M	O	C	M05-1035/1 C-4	1	1-5	See Relief Request 038
1DG007C	CV	2	3	B	M	O	C	M05-1035/2 E-4	1	1-5	See Relief Request 038
1DG007D	CV	2	3	B	M	O	C	M05-1035/2 C-4	1	1-5	See Relief Request 038

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1DG007E	CV	2	3	B	M	O	C	M05-1035/3 E-4	1	1-5	See Relief Request 038
1DG007F	CV	2	3	B	M	O	C	M05-1035/3 C-4	1	1-5	See Relief Request 038
1DG007G	CV	2	3	B	M	O	C	M05-1035/1 F-4	1	1-5	See Relief Request 038
1DG007H	CV	2	3	B	M	O	C	M05-1035/1 B-4	1	1-5	See Relief Request 038
1DG007J	CV	2	3	B	M	O	C	M05-1035/2 F-4	1	1-5	See Relief Request 038
1DG007K	CV	2	3	B	M	O	C	M05-1035/2 B-4	1	1-5	See Relief Request 038
1DG008A	MFC	2	3	[illegible]	--	C	O	M05-1035/1 E-3	1,7	1-5	See Relief Request 038
1DG008B	MFC	2	3	B	--	C	O	M05-1035/1 C-3	1,1	1-5	See Relief Request 038
1DG008C	MFC	2	3	B	--	C	O	M05-1035/1 F-3	1,7	1-5	See Relief Request 038
1DG008D	MFC	2	3	C B	--		O	M05-1035/1 B-3	1,7	1-5	See Relief Request 038
1DG008E	MFC	2	3	B	--	C	O	M05-1035/2 E-3	1,7	1-5	See Relief Request 038
1DG008F	MFC	2	3	B	--	C	O	M05-1035/2 C-3	1,7	1-5	See Relief Request 038
1DG008G	MFC	2	3	B	--	C	O	M05-1035/2 F-3	1,7	1-5	See Relief Request 038
1DG008H	MFC	2	3	B	--	C	O	M05-1035/2 B-3	1,7	1-5	See Relief Request 038
1DG008J	MFC	2	3	B	--	C	O	M05-1035/3 E-3	1,7	1-5	See Relief Request 038
1DG008K	MFC	2	3	B	--	C	O	M05-1035/3 D-3	1,7	1-5	See Relief Request 038
1DO001A	C	1½	3	C	--	C	O	M05-1036/1 B-1	1	1-5	
1DO001B	C	1½	3	C	--	C	O	M05-1036/1 B-5	1	1-5	
1DO001C	C	1½	3	C	--	C	O	M05-1036/2 B-3	1	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1DO005A	R	3/4x1	3	C	--	C	O	M05-1036/1 C-1	5	4,5	
1DO005B	R	3/4x1	3	C	--	C	O	M05-1036/1 C-5	5	4,5	
1DO005C	R	3/4x1	3	C	--	C	O	M05-1036/2 C-3	5	4,5	
1E12-F003A	GL	14	2	B	MO	O	O,C	M05-1075/4 C-2	1,2	1-5	
1E12-F003B	GL	14	2	B	MO	O	O,C	M05-1075/4 C-7	1,2	1-5	
1E12-F004A	G	20	2	B	MO	O	O,C	M05-1075/1 A-4	1,2	1-5	
1E12-F004B	G	20	2	B	MO	O	O,C	M05-1075/2 A-6	1,2	1-5	
1E12-F005	R	1½x2	2	C	--	C	O	M05-1075/1 B-5	5	4,5	
1E12-F006A	G	16	2	B	MO	C	O	M05-1075/1 A-5	1,2	1-5	
1E12-F006B	G	16	2	B	MO	C	O	M05-1075/2 A-6	1,2	1-5	
1E12-F008	G	18	1	A	MO	C	O,C	M05-1075/1 B-4	1,2,3	4,5	See Relief Request 054
1E12-F009	G	18	1	A	MO	C	O,C	M05-1075/1 B-2	1,2,3	4,5	See Relief Request 054
1E12-F011A	GL	4	2	B	MO	C	O,C	M05-1075/4 D-4	1,2	1-5	
1E12-F011B	GL	4	2	B	MO	C	O,C	M05-1075/4 C-3	1,2	1-5	
1E12-F014A	G	18	3	B	MO	C	O	M05-1052/1 D-2	1,2	1-5	
1E12-F014B	G	18	3	B	MO	C	O	M05-1052/2 D-2	1,2	1-5	
1E12-F017A	R	1½x2	2	C	--	C	O	M05-1075/1 B-6	5	4,5	
1E12-F017B	R	1½x2	2	C	--	C	O	M05-1075/2 B-6	5	4,5	
1E12-F019	C	4	1	C	--	C	O	M05-1075/2 C-5	1	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1E12-F021	GL	14	2	B	MO	C	O,C	M05-1075/3 D-3	1,2	1-5	
1E12-F023	GL	4	1	A	MO	C	O,C	M05-1075/2 C-5	1,2,3	4,5	See Relief Request 054
1E12-F024A	G	14	2	B	MO	C	O,C	M05-1075/1 C-7	1,2	1-5	
1E12-F024B	G	14	2	B	MO	C	O,C	M05-1075/1 C-2	1,2	1-5	
1E12-F025A	R	1x1½	2	C	--	C	O	M05-1075/1 D-4	5	4,5	
1E12-F025B	R	1x1½	2	C	--	C	O	M05-1075/2 E-5	5	4,5	
1E12-F025C	R	1x1½	2	C	--	C	O	M05-1075/3 F-3	5	4,5	
1E12-F026A	G	4	2	B	MO	C	O,C	M05-1075/4 E-3	1,2	1-5	
1E12-F026B	G	4	2	B	MO	C	O,C	M05-1075/4 E-6	1,2	1-5	
1E12-F027A	G	12	2	B	MO	O	O,C	M05-1075/1 D-4	1,2	1-5	
1E12-F027B	G	12	2	B	MO	O	O,C	M05-1075/2 D-5	1,2	1-5	
1E12-F028A	G	10	2	B	MO	C	O,C	M05-1075/1 F-3	1,2	1-5	
1E12-F028B	G	10	2	B	MO	C	O,C	M05-1075/2 F-6	1,2	1-5	
1E12-F031A	NC	14	2	C	--	C	O,C	M05-1075/1 B-8	1	1-5	
1E12-F031B	NC	14	2	C	--	C	O,C	M05-1075/2 B-1	1	1-5	
1E12-F031C	NC	14	2	C	--	C	O,C	M05-1075/3 D-1	1	1-5	
1E12-F036	R	4x6	2	C	--	C	O	M05-1075/4 E-5	5	4,5	
1E12-F041A	NC	12	1	A/C	AO	C	O	M05-1075/1 D-2	1,3	1-5	See Relief Request 054
1E12-F041B	NC	12	1	A/C	AO	C	O	M05-1075/2 D-7	1,3	1-5	See Relief Request 054

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1E12-F041C	NC	12	1	A/C	AO	C	O	M05-1075/3 E-7	1,3	1-5	See Relief Request 054
1E12-F042A	G	12	1	A	MO	C	O	M05-1075/1 D-3	1,2,3	1-5	See Relief Request 054
1E12-F042B	G	12	1	A	MO	C	O	M05-1075/2 D-6	1,2,3	1-5	See Relief Request 054
1E12-F042C	G	12	1	A	MO	C	O	M05-1075/3 E-5	1,2,3	1-5	See Relief Request 054
1E12-F046A	C	4	2	C	--	O,C	O	M05-1075/1 B-7	1	1-5	
1E12-F046B	C	4	2	C	--	O,C	O	M05-1075/2 B-2	1	1-5	
1E12-F046C	C	4	2	C	--	O,C	O	M05-1075/3 B-2	1	1-5	
1E12-F047A	G	14	2	B	MO	O	C	M05-1075/4 C-2	1,2	1-5	
1E12-F047B	G	14	2	B	MO	O	C	M05-1075/4 C-8	1,2	1-5	
1E12-F048A	GL	14	2	B	MO	O	O,C	M05-1075/1 C-8	1,2	1-5	
1E12-F048B	GL	14	2	B	MO	O	O,C	M05-1075/2 C-1	1,2	1-5	
1E12-F050A	NC	10	2	A/C	--	C	O	M05-1075/1 D-5	1,3	1-5	See Relief Request 054
1E12-F050B	NC	10	2	A/C	--	C	O	M05-1075/2 E-5	1,3	1-5	See Relief Request 054
1E12-F051A	CV	6	2	B	AO	O,C	O,C	M05-1075/4 E-3	1,2	1-5	
1E12-F051B	CV	6	2	B	AO	O,C	O,C	M05-1075/4 E-7	1,2	1-5	
1E12-F052A	GL	8	2	B	MO	O,C	O,C	M05-1075/4 E/F-3/4	1,2	1-5	
1E12-F052B	GL	8	2	B	MO	O,C	O,C	M05-1075/4 E/F-5/6	1,2	1-5	
1E12-F053A	GL	10	2	A	MO	C	O,C	M05-1075/1 D-6	1,2,3	4,5	See Relief Request 054
1E12-F053B	GL	10	2	A	MO	C	O,C	M05-1075/2 E-4	1,2,3	4,5	See Relief Request 054
1E12-F054A	C	4	2	C	--	O,C	O	M05-1075/4 D-3	1	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1E12-F054B	C	4	2	C	--	O,C	O	M05-1075/4 D-6	1	1-5	
1E12-F055A	R	8x12	2	C	--	C	O	M05-1075/4 C-2	5	4,5	See Note 1
1E12-F055B	R	8x12	2	C	--	C	O	M05-1075/4 C-7	5	4,5	See Note 1
1E12-F060A	2-way	3/4	2	B	SO	C	O	M05-1075/4 B-4	1,7	1-5	See Relief Request 045
1E12-F060B	2-way	3/4	2	B	SO	C	O	M05-1075/4 B-5	1,7	1-5	See Relief Request 045
1E12-F064A	G	4	2	B	MO	O	O,C	M05-1075/1 B-8	1,2	1-5	
1E12-F064B	G	4	2	B	MO	O	O,C	M05-1075/2 B-1	1,2	1-5	
1E12-F064C	G	4	2	B	MO	O	O,C	M05-1075/3 B-1	1,2	1-5	
1E12-F065A	CV	2½	2	B	AO	O,C	O,C	M05-1075/4 D-3	1,2	1-5	
1E12-F065B	CV	2½	2	B	AO	O,C	O,C	M05-1075/4 C-6	1,2	1-5	
1E12-F068A	G	18	3	B	MO	C	O	M05-1052/1 C-1	1,2	1-5	
1E12-F068B	G	18	3	B	MO	C	O	M05-1052/2 C-1	1,2	1-5	
1E12-F073A	GL	1½	2	B	MO	C	O	M05-1075/1 C-3	1,2	1-5	
1E12-F073B	GL	1½	2	B	MO	C	O	M05-1075/2 B-7	1,2	1-5	
1E12-F074A	GL	1½	2	B	MO	C	O	M05-1075/1 C-4	1,2	1-5	
1E12-F074B	GL	1½	2	B	MO	C	O	M05-1075/2 B-5	1,2	1-5	
1E12-F075A	2-way	3/4	2	B	SO	C	O	M05-1075/4 B-4	1,7	1-5	See Relief Request 045
1E12-F075B	2-way	3/4	2	B	SO	C	O	M05-1075/4 B-5	1,7	1-5	See Relief Request 045
1E12-F084A	C	2½	2	C	--	O	C	M05-1075/1 B-7	1	1-5	
1E12-F084B	C	2½	2	C	--	O	C	M05-1075/2 B-2	1	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1E12-F084C	C	2½	2	C	--	O	C	M05-1075/3 E-2	1	1-5	
1E12-F085A	GSC	2	2	C	--	LO	O,C	M05-1075/1 B-8	1	1-5	
1E12-F085B	GSC	2	2	C	--	LO	O,C	M05-1075/2 B-1	1	1-5	
1E12-F085C	GSC	2	2	C	--	LO	O,C	M05-1075/3 E-1	1	1-5	
1E12-F087A	GL	6	2	B	MO	C	O,C	M05-1075/4 E-3	1,2	1-5	
1E12-F087B	GL	6	2	B	MO	C	O,C	M05-1075/4 E-6	1,2	1-5	
1E12-F094	G	4	3	B	MO	C	O	M05-1075/4 E-7/8	1,2	1-5	
1E12-F095	2-way	3/4	2	B	SO	O	C	M05-1075/4 E-7	1,7	1-5	See Relief Request 045
1E12-F096	G	4	2	B	MO	C	O	M05-1075/4 E-7/8	1,2	1-5	
1E12-F098	C	4	2	C	--	C	O	M05-1075/4 D-7	1	1-5	
1E12-F101	R	1x1½	2	C	--	C	O	M05-1075/3 C-5	5	4,5	
1E12-F103A	VR	2	2	C	--	C	O	M05-1075/4 B-1	1	1-5	
1E12-F103B	VR	2	2	C	--	C	O	M05-1075/4 B-8	1	1-5	
1E12-F104A	VR	2	2	C	--	C	O	M05-1075/4 B-1	1	1-5	
1E12-F104B	VR	2	2	C	--	C	O	M05-1075/4 B-8	1	1-5	
1E12-F105	G	20	2	B	MO	O	O,C	M05-1075/3 B-5	1,2	1-5	
1E12-F110A	VR	2	2	C	--	C	O	M05-1075/4 B-3	1	1-5	
1E12-F110B	VR	2	2	C	--	C	O	M05-1075/4 B-7	1	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1E12-F111A	VR	2	2	C	--	C	O	M05-1075/4 B-3	1	1-5	
1E12-F111B	VR	2	2	C	--	C	O	M05-1075/4 B-7	1	1-5	
1E21-F001	G	20	2	B	MO	O	O,C	M05-1073 B-4	1,2	1-5	
1E21-F003	NC	12	2	C	--	C	O	M05-1073 E-6	1	1-5	See Relief Request 054
1E21-F005	G	10	1	A	MO	C	O	M05-1073 E-4	1,2,3	1-5	See Relief Request 054
1E21-F006	NC	10	1	A/C	AO	C	O	M05-1073 E-2	1,3	1-5	See Relief Request 054
1E21-F011	G	4	2	B	MO	O	O,C	M05-1073 D-6	1,2	1-5	
1E21-F012	GL	10	2	B	MO	C	O,C	M05-1073 D-5	1,2	1-5	
1E21-F018	R	1½x2	2	C	--	C	O	M05-1073 E-5	5	4,5	
1E21-F031	R	1½x1	2	C	--	C	O	M05-1073 C-8	5	4,5	
1E21-F033	C	2½	2	C	--	O	C	M05-1073 D-6	1	1-5	
1E21-F034	GSC	2	2	C	--	LO	C	M05-1073 D-6	1	1-5	
1E21-F303	NC	10	2	C	--	C	O	M05-1073 C-5	1	1-5	
1E21-F306	C	3	2	C	--	C	O,C	M05-1073 F-4	1	4,5	See Relief Request 041
1E22-F001	G	16	2	B	MO	O	O,C	M05-1074 A-6	1,2	1-5	
1E22-F002	C	16	2	B	--	O	C	M05-1074 A-5	1	1-5	
1E22-F004	G	10	1	A	MO	C	O,C	M05-1074 E-7	1,2,3	1-5	
1E22-F005	NC	10	1	A/C	AO	C	O,C	M05-1074 E-8	1,3	1-5	
1E22-F006	GSC	2	2	C	M	O	C	M05-1074 D-4	1	1-5	
1E22-F007	C	2½	2	C	--	O	C	M05-1074 D-4	1	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1E22-F010	GL	10	2	B	MO	C	C	M05-1074 D-6	1,2	1-5	
1E22-F011	GL	10	2	B	MO	C	C	M05-1074 D-5	1,2	1-5	
1E22-F012	G	4	2	B	MO	C	O,C	M05-1074 D-3	1,2	1-5	
1E22-F014	R	1x3/4	2	C	--	C	O	M05-1074 C-5	5	4,5	
1E22-F015	G	20	2	B	MO	C	O	M05-1074 B-7	1,2	1-5	
1E22-F016	C	20	2	C	--	C	O,C	M05-1074 B-6	1	1-5	
1E22-F023	GL	10	2	B	MO	C	O,C	M05-1074 D-6	1,2	1-5	
1E22-F024	NC	14	2	C	--	C	O	M05-1074 E-3	1	1-5	
1E22-F035	R	1x3/4	2	C	--	C	O	M05-1074 E-3	5	4,5	
1E22-F039	R	1x3/4	2	C	--	C	O	M05-1074 C-6	5	4,5	
1E22-F330	EFC	3/4	2	C	--	O	C	M10-1074/3	1	1-5	
1E22-F332	EFC	3/4	2	C	--	O	C	M10-1074/3	1	1-5	
1E31-F014	G	1	2	B	SO	O	C	M05-1041/4 E-8	1	1-5	See Relief Request 033
1E31-F015	G	1	2	B	SO	O	C	M05-1041/4 E-7	1	1-5	See Relief Request 033
1E1-F016	G	1	2	B	SO	C	--	M05-1041/4 E-8	1	1-5	See Relief Request 040
1E31-F017	G	1	2	B	SO	O	C	M05-1041/4 C-7	1	1-5	See Relief Request 033
1E31-F018	G	1	2	B	SO	O	C	M05-1041/4 C-8	1	1-5	See Relief Request 033
1E31-F019	G	1	2	B	SO	C	--	M05-1041/4 C-8	1	1-5	See Relief Request 040
1E32-F001A	GL	1½	1	B	MO	C	O,C	M05-1070 C-7	1,2	1-5	
1E32-F001E	GL	1½	1	B	MO	C	O,C	M05-1070 E-7	1,2	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST METH[2]	TEST COND	COMMENTS
1E32-F001J	GL	1½	1	B	MO	C	O,C	M05-1070 B-7	1,2	1-5	
1E32-F001N	GL	1½	1	B	MO	C	O,C	M05-1070 D-7	1,2	1-5	
1E32-F002A	GL	1½	2	B	MO	C	O,C	M05-1070 C-7	1,2	1-5	
1E32-F002E	GL	1½	2	B	MO	C	O,C	M05-1070 E-7	1,2	1-5	
1E32-F002J	GL	1½	2	B	MO	C	O,C	M05-1070 B-7	1,2	1-5	
1E32-F002N	GL	1½	2	B	MO	C	O,C	M05-1070 D-7	1,2	1-5	
1E32-F003A	GL	1½	2	B	MO	C	O,C	M05-1070 C-7	1,2	1-5	
1E32-F003E	GL	1½	2	B	MO	C	O,C	M05-1070 E-7	1,2	1-5	
1E32-F003J	GL	1½	2	B	MO	C	O,C	M05-1070 B-7	1,2	1-5	
1E32-F003N	GL	1½	2	B	MO	C	O,C	M05-1070 D-7	1,2	1-5	
1E32-F006	G	2½	2	B	MO	C	O,C	M05-1070 C-4	1,2	1-5	
1E32-F007	G	2½	2	B	MO	C	O,C	M05-1070 C-3	1,2	1-5	
1E32-F008	G	2½	2	B	MO	C	O,C	M05-1070 A-4	1,2	1-5	
1E32-F009	G	2½	2	B	MO	C	O,C	M05-1070 A-3	1,2	1-5	
1E32-F010	C	3/4	2	C	--	C	O,C	M05-1070 E-4	1	1-5	
1E32-F011	C	3/4	2	C	--	C	O,C	M05-1070 B-2	1	1-5	
1E32-F315A	C	3/4	2	C	--	C	O	M05-1070 A-4	1	1-5	
1E32-F315B	C	3/4	2	C	--	C	O	M05-1070 A-4	1	1-5	
1E32-F315C	C	3/4	2	C	--	C	O	M05-1070 A-4	1	1-5	
132-F315D	C	3/4	2	C	--	C	O	M05-1070 A-4	1	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1E51-F010	G	6	2	B	MO	O	O,C	M05-1079/2 A-6	1,2	1-5	
1E51-F011	C	6	2	C	--	C	O	M05-1079/2 A-4	1	1-5	
1E51-F013	G	6	1	A	MO	C	O,C	M05-1079/2 F-6	1,2,3	1-5	See Relief Request 054
1E51-F015	CV	1	2	-	SC	O	-	M05-1079/2 C-4	-	-	See Relief Request 046
1E51-F018	R	2x3	2	C	--	C	O	M05-1079/2 C-5	5	4,5	
1E51-F019	GL	2	2	B	MO	C	O,C	M05-1079/2 D-6	1,2	1-5	
1E51-F021	C	2½	2	C	--	C	O	M05-1079/2 D-5	1	1-5	
1E51-F022	GL	4	2	B	MO	C	O,C	M05-1079/2 E-5	1,2	1-5	
1E51-F025	CV	1	2	B	AO	O	O,C	M05-1079/1 D-5	1,2,7	1-5	
1E51-F026	CV	1	2	B	AO	O	O,C	M05-1079/1 D-5	1,2,7	1-5	
1E51-F030	C	6	2	C	--	C	O	M05-1079/2 B/C-4	1	1-5	
1E51-F031	G	6	2	B	MO	C	O,C	M05-1079/2 B/C-6	1,2	1-5	
1E51-F040	C	12	2	C	--	C	O	M05-1079/1 C-4	1	1-5	
1E51-F045	GL	4	2	B	MO	C	O	M05-1079/1 D-4	1,2	1-5	
1E51-F046	GL	2	2	B	MO	C	O	M05-1079/1 C-3/4	1,2	1-5	
1E51-F047	C	2½	2	C	--	C	O,C	M05-1079/1 B-1	1	1-5	
1E51-F059	G	4	2	B	MO	C	C	M05-1079/2 E-5	1,2	1-5	
1E51-F061	C	2½	2	C	--	O	O,C	M05-1079/1 B-4	1	1-5	
1E51-F063	G	8	1	A	MO	O	O,C	M05-1079/1 E-8	1,2,3	1-5	
1E51-F064	G	8	1	A	MO	O	O,C	M05-1079/1 E-5	1,2,3	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1E51-F065	NC	4	1	C	--	C	O	M05-1079/2 E/F-6/7	1	1-5	
1E51-F066	NC	4	1	A/C	AO	C	O	M05-1079/2 F-8	1,3	1-5	See Relief Request 054
1E51-F068	G	12	2	B	MO	O	C	M05-1079/2 C-5	1,2	1-5	
1E51-F077	GL	1½	2	B	MO	O	C	M05-1079/1 C-5	1,2	1-5	
1E51-F078	G	3	2	B	MO	O	C	M05-1079/1 C-6/7	1,2	1-5	
1E51-F079	VR	2	2	C	--	C	O	M05-1079/1 C-6	1	1-5	
1E51-F081	VR	2	2	C	--	C	O	M05-1079/1 C-6	1	1-5	
1E51-F090	R	3/4x1	2	C	--	C	O	M05-1079/2 E-5	5	4,5	
1E51-F095	G	1	2	B	MO	C	O,C	M05-1079/1 D-4	1,2	1-5	
1E51-F377A	EFC	3/4	2	C	--	O	C	M10-1079/2	1	1-5	
1E51-F377B	EFC	3/4	2	C	--	O	C	M10-1079/2	1	1-5	
1FC004A	CV	8	3	B	AO	O,C	O	M05-1037/3 E-5	1,2,7	1-5	
1FC004B	CV	8	3	B	AO	O,C	O	M05-1037/3 A/B-5	1,2,7	1-5	
1FC007	G	10	2	B	MO	O	C	M05-1037/1 B-2	1,2	1-5	
1FC008	G	10	2	B	MO	O	C	M05-1037/1 B-1/2	1,2	1-5	
1FC011A	B	14	3	B	MO	O,C	C	M05-1027/3 E-7/8	1,2	1-5	
1FC011B	B	14	3	B	MO	O,C	C	M05-1037/3 A-7/8	1,2	1-5	
1FC013A	NC	14	3	C	-	O,C	C	M05-1037/3 E-7	1	1-5	
1FC013B	NC	14	3	C	-	O,C	C	M05-1037/3 A-7	1	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1FC015A	B	14	3	B	MO	O,C	C	M05-1037/3 E-2	1,2	1-5	
1FC015B	B	14	3	B	MO	O,C	C	M05-1037/3 A-2	1,2	1-5	
1FC016A	B	8	3	B	MO	O,C	C	M05-1037/3 D-6/7	1,2	1-5	
1FC016B	B	8	3	B	MO	O,C	C	M05-1037/3 D-6/7	1,2	1-5	
1FC017	B	8	3	B	AO	O	C	M05-1037/3 C-6	1,2,7	1-5	
1FC023	B	8	3	B	AO	O	C	M05-1037/3 C/D-3	1,2,7	1-5	
1FC024A	B	8	3	B	MO	O,C	C	M05-1037/3 D/E-2/3	1,2	1-5	
1FC024B	B	8	3	B	MO	O,C	C	M05-1037/3 C-2/3	1,2	1-5	
1FC026A	B	14	3	B	MO	O,C	C	M05-1037/3 E-2	1,2	1-5	
1FC026B	B	14	3	B	MO	O,C	C	M05-1037/3 B-2	1,2	1-5	
1FC036	G	8	2	B	MO	O	C	M05-1037/1 E-1	1,2	1-5	
1FC037	G	8	2	B	MO	O	C	M05-1037/2 E-2	1,2	1-5	
1FP050	G	6	2	B	MO	O	C	M05-1039/9 D-3	1,2	1-5	
1FP051	G	10	2	B	MO	O	C	M05-1039/9 C-7/8	1,2	1-5	
1FP052	G	10	2	B	MO	O	C	M05-1039/9 C-6/7	1,2	1-5	
1FP053	G	10	2	B	MO	O	C	M05-1039/9 C-4	1,2	1-5	
1FP054	G	10	2	B	MO	O	C	M05-1039/9 C-2	1,2	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1FP078	G	4	2	B	MO	O	C	M05-1039/9 D-5	1,2	1-5	
1FP079	G	4	2	B	MO	O	C	M05-1039/9 D-6	1,2	1-5	
1FP092	G	6	2	B	MO	O	C	M05-1039/9 D-3	1,2	1-5	
1G33-F001	G	6	1	A	MO	O	C	M05-1076/4 B-8	1,2,3	1-5	
1G33-F004	G	6	1	A	MO	O	C	M05-1076/4 B-5	1,2,3	1-5	
1G33-F028	G	4	2	B	MO	C	C	M05-1076/4 E-8	1,2	1-5	
1G33-F034	G	4	2	B	MO	C	C	M05-1076/4 E-7	1,2	1-5	
1G33-F039	G	4	2	B	MO	O	C	M05-1076/4 D-7	1,2	1-5	
1G33-F040	G	4	2	B	MO	O	C	M05-1076/4 D-8	1,2	1-5	
1G33-F051	NC	4	2	C	-	O	-	M05-1076/4 D-6	1	1-5	See Relief Request 047
1G33-F052A	NC	4	2	C	-	O	-	M05-1076/4 D-5	1	1-5	See Relief Request 047
1G33-F052B	NC	4	2	C	-	O	-	M05-1076/4 D-5	1	1-5	See Relief Request 047
1G33-F053	G	4	2	B	MO	O	C	M05-1076/4 C-8	1,2	1-5	
1G33-F054	G	4	2	B	MO	O	C	M05-1076/4 C-7	1,2	1-5	
1HG001	B	2	2	B	MO	C	O,C	M05-1063 D-3	1,2	1-5	
1HG004	B	2	2	B	MO	C	O,C	M05-1063 C-3	1,2	1-5	
1HG005	B	2	2	B	MO	C	O,C	M05-1063 E-3	1,2	1-5	
1HG008	B	2	2	B	MO	C	O,C	M05-1063 E-3	1,2	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1HG009A	G	6	2	B	MO	C	O	M05-1063 E-4/5	1,2	1-5	
1HG009B	G	6	2	B	MO	C	O	M05-1063 E-6/7	1,2	1-5	
1HG010A	VR	10	2	C	--	C	O	M05-1063 C/D-4	1	1-5	
1HG010B	VR	10	2	C	--	C	O	M05-1063 C/D-7	1	1-5	
1HG010C	VR	10	2	C	--	C	O	M05-1063 B/C-4	1	1-5	
1HG010D	VR	10	2	C	--	C	O	M05-1063 B/C-7	1	1-5	
1HG011A	VR	10	2	C	--	C	O	M05-1063 C/D-4/5	1	1-5	
1HG011B	VR	10	2	C	--	C	O	M05-1063 C/D-6/7	1	1-5	
1HG011C	VR	10	2	C	--	C	O	M05-1063 B/C-4/5	1	1-5	
1HG011D	VR	10	2	C	--	C	O	M05-1063 B/C-6/7	1	1-5	
1IA005	CV	3	2	B	AO	O	C	M05-1040/5 D/E-2	1,2,7	1-5	
1IA006	CV	3	2	B	AO	O	C	M05-1040/5 D/E-5	1,2,7	1-5	
1IA007	CV	3	2	B	AO	O	C	M05-1040/5 D/E-5	1,2,7	1-5	
1IA008	CV	3	2	B	AO	O	C	M05-1040/5 D/E-6/7	1,2,7	1-5	
1IA012A	GL	1	2	B	MO	O,C	O,C	M05-1040/7 D/E-2/3	1,2	4,5,	See Relief Request 028
1IA012B	GL	1	2	B	MO	O	O,C	M05-1040/7 C/D-3	1,2	4,5	See Relief Request 028
1IA013A	GL	1	2	B	MO	O,C	O,C	M05-1040/7 D/E-7	1,2	4,5	See Relief Request 028
1IA013B	GL	1	2	B	MO	O,C	O,C	M05-1040/7 C/D-6/7	1,2	4,5	See Relief Request 028
1IA042A	C	1	2	C	--	O	C	M05-1040/7 D/E-6	1	4,5	See Relief Request 042
1IA042B	C	1	2	C	--	O	C	M05-1040/7 D/E-4	1	4,5	See Relief Request 042

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1IA043A	C	1	3	C	--	O	C	M05-1040/7 D-7	1	1-	See Relief Request 042
1IA043B	C	1	3	C	--	O	C	M05-1040/7 D-2	1	1-	See Relief Request 042
1IA128A	R	1x1½	2	C	--	C	O	M05-1040/7 E-4	5	4,5	
1IA128B	R	1x1½	2	C	--	C	O	M05-1040/7 E-6	5	4,5	
0MC009	G	4	2	B	MO	O	C	M05-1042/4 E-5	1,2	1-5	
0MC010	G	4	2	B	MO	O	C	M05-1042/4 D-5	1,2	1-5	
1PS004	G	3/4	2	B	SO	C	C	M05-1045/12 E-6	1,7	1-5	See Relief Request 043
1PS005	G	3/4	2	B	SO	C	C	M05-1045/12 E-6	1,7	1-5	See Relief Request 043
1PS009	G	3/4	2	B	SO	C	C	M05-1045/12 E-6	1,7	1-5	See Relief Request 043
1PS010	G	3/4	2	B	SO	C	C	M05-1045/12 E-5	1,7	1-5	See Relief Request 043
1PS016	G	½	2	B	SO	C	C	M05-1045/12 E-5	1,7	1-5	See Relief Request 043
1PS017	G	½	2	B	SO	C	C	M05-1045/12 E-5	1,7	1-5	See Relief Request 043
1PS022	G	½	2	B	SO	C	C	M05-1045/12 E-4	1,7	1-5	See Relief Request 043
1PS023	G	½	2	B	SO	C	C	M05-1045/12 E-4	1,7	1-5	See Relief Request 043
1PS031	G	3/4	2	B	SO	C	C	M05-1045/12 E-2	1,7	1-5	See Relief Request 043
1PS032	G	3/4	2	B	SO	C	C	M05-1045/12 E-2	1,7	1-5	See Relief Request 043
1PS034	G	3/4	2	B	SO	C	C	M05-1045/12 F-1	1,7	1-5	See Relief Request 043
1PS035	G	3/4	2	B	SO	C	C	M05-1045/12 E-1	1,7	1-5	See Relief Request 043

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1PS037	G	3/4	2	B	SO	C	C	M05-1045/12 E-8	1,7	1-5	See Relief Request 043
1PS038	G	3/4	2	B	SO	C	C	M05-1045/12 E-8	1,7	1-5	See Relief Request 043
1PS043A	G	3/4	2	B	SO	C	C	M05-1045/12 F-2	1,7	1-5	See Relief Request 043
1PS043B	G	3/4	2	B	SO	C	C	M05-1045/12 F-3	1,7	1-5	See Relief Request 043
1PS044A	G	3/4	2	B	SO	C	C	M05-1045/12 E-2	1,7	1-5	See Relief Request 043
1PS044B	G	3/4	2	B	SO	C	C	M05-1045/12 E-3	1,7	1-5	See Relief Request 043
1PS047	G	3/4	2	B	SO	C	C	M05-1045/12 F-7	1,7	1-5	See Relief Request 043
1PS048	G	3/4	2	B	SO	C	C	M05-1045/12 E-7	1,7	1-5	See Relief Request 043
1PS055	G	½	2	B	SO	C	C	M05-1045/12 C-3	1,7	1-5	See Relief Request 043
1PS056	G	½	2	B	SO	C	C	M05-1045/12 C-3	1,7	1-5	See Relief Request 043
1PS069	G	½	2	B	SO	C	C	M05-1045/12 B-3	1,7	1-5	See Relief Request 043
1PS070	G	½	2	B	SO	C	C	M05-1045/12 B-3	1,7	1-5	See Relief Request 043
0RA026	CV	1	2	B	AO	O	C	M05-1065/7 D-8	1,7	1-5	See Relief Request 027
0RA027	CV	1	2	B	AO	O	C	M05-1065/7 D-7	1,7	1-5	See Relief Request 027
0RA028	CV	1	2	B	AO	O	C	M05-1065/7 D-6	1,7	1-5	See Relief Request 027
0RA029	CV	1	2	B	AO	O	C	M05-1065/7 D-5	1,7	1-5	See Relief Request 027
1RA016A	R	1x1½	3	C	--	C	O	M05-1065/8 C-7	5	4,5	
1RA016B	R	1x1½	3	C	--	C	O	M05-1065/8 C-3	5	4,5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1RA017A	CV	½	3	B	SC	O	-	M05-1065/8 C-7	1,2	--	See Relief Request 044
1RA017B	CV	½	3	B	SC	O	-	M05-1065/8 C-3	1,2	--	See Relief Request 044
1RE019	CV	3	2	B	AO	O,C	C	M05-1046/4 A-7	1,2,7	1-5	
1RE020	CV	3	2	B	AO	O,C	C	M05-1046/3 A-4	1,2,7	1-5	
1RE021	CV	3	2	B	AO	O,C	C	M05-1046/3 A-5	1,2,7	1-5	
1RE022	CV	3	2	B	AO	O,C	C	M05-1046/3 A-7	1,2,7	1-5	
1RF019	CV	3	2	B	AO	O,C	C	M05-1047/3 C-2	1,2,7	1-5	
1RF020	CV	3	2	B	AO	O,C	C	M05-1047/3 C-2	1,2,7	1-5	
1RF021	CV	3	2	B	AO	O,C	C	M05-1047/3 C-5	1,2,7	1-5	
1RF022	CV	3	2	B	AO	O,C	C	M05-1047/3 C-5	1,2,7	1-5	
1SA029	CV	3	2	B	AO		C	M05-1048/6 D/E-2	1,2,7	1-5	
1SA030	CV	3	2	B	AO	O	C	M05-1048/6 D/E-3	1,2,7	1-5	
1SA031	CV	3	2	B	AO	O	C	M05-1048/6 D/E-4	1,2,7	1-5	
1SA032	CV	3	2	B	AO	O	C	M05-1048/6 D/E-5	1,2,7	1-5	
1SF001	G	10	2	B	MO	C	O,C	M05-1060 E-5	1,2	1-5	
1SF002	G	10	2	B	MO	C	O,C	M05-1060 E-5/6	1,2	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1SF004	G	12	2	B	MO	C	O,C	M05-1060 C-5	1,2	1-5	
1SM001A	B	24	2	B	MO	C	O	M05-1069 D-5	1,2	1-5	
1SM001B	B	24	2	B	MO	C	O	M05-1069 D-4	1,2	1-5	
1SM002A	B	24	2	B	MO	C	O	M05-1069 D-5	1,2	1-5	
1SM002B	B	24	2	B	MO	C	O	M05-1069 D-4	1,2	1-5	
1SM003A	R	3/4 x 1	2	C	--	C	O	M05-1069 D/E-5	5	1-5	
1SM003B	R	3/4 x 1	2	C	--	C	O	M05-1069 D/E-4	5	1-5	
1SM008	EFC	3/4	2	C	--	O	C	M05-1069 A/B-3/4	1	1-5	
1SM009	EFC	3/4	2	C	--	O	C	M05-1069 C-3/4	1	1-5	
1SM010	EFC	3/4	2	C	--	O	C	M05-1069 C/D-3/4	1	1-5	
1SM011	EFC	3/4	2	C	--	O	C	M05-1069 B-3/4	1	1-5	
1SX001A	NC	30	3	C	--	C	O	M05-1052/1 D-7	1	1-5	
1SX001B	NC	30	3	C	--	C	O	M05-1052/2 D-7	1	1-5	
1SX001C	NC	10	3	C	--	C	O	M05-1052/3 D-7	1	1-5	
1SX003A	B	30	3	B	MO	O	O,C	M05-1052/1 D-6	1,2	1-5	
1SX003B	B	30	3	B	MO	O	O,C	M05-1052/2 D-6	1,2	1-5	
1SX003C	B	10	3	B	MO	O	O,C	M05-1052/3 D-6	1,2	1-5	
1SX004A	B	30	3	B	MO	O	O,C	M05-1052/1 D-5	1,2	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1SX004B	B	30	3	B	MO	O	O,C	M05-1052/2 D-5	1,2	1-5	
1SX004C	B	10	3	B	MO	O	O,C	M05-1052/3 D-5	1,2	1-5	
1SX006C	B	8	3	B	MO	C	O	M05-1052/3 D-3	1,2	1-5	
1SX008A	B	20	3	B	MO	C	O	M05-1052/1 E-6	1,2	1-5	
1SX008B	B	20	3	B	MO	C	O	M05-1052/2 E-6	1,2	1-5	
1SX008C	B	8	3	B	MO	C	O	M05-1052/3 D-6	1,2	1-5	
1SX010A	CV	2	3	B	AO	C	O	M05-1052/1 E-3	1,7	1-5	See Relief Request 048
1SX010B	CV	2	3	B	AO	C	O	M05-1052/2 E-3	1,7	1-5	See Relief Request 048
1SX010C	CV	1½	3	B	AO	C	O	M05-1052/3 E-4	1,7	1-5	See Relief Request 048
1SX011A	B	16	3	B	MO	C	O	M05-1052/1 D-3	1,2	1-5	
1SX011B	B	16	3	B	MO	C	O	M05-1052/1 E-3	1,2	1-5	
1SX012A	B	14	3	B	MO	C	O	M05-1052/1 C-3	1,2	4,5	See Relief Request 030
1SX012B	B	14	3	B	MO	C	O	M05-1052/2 C-3/4	1,2	4,5	See Relief Request 030
1SX013D	P	3	3	B	MO	C	O	M05-1052/1 C-5	1	1-5	See Relief Request 049
1SX013E	P	3	3	B	MO	C	O	M05-1052/2 D-5	1	1-5	See Relief Request 049
1SX013F	P	2	3	B	MO	C	O	M05-1052/3 C-5	1	1-5	See Relief Request 049
1SX014A	B	20	3	B	MO	O	C	M05-1052/1 F-3	1,2	1-5	
1SX014B	B	20	3	B	MO	O	C	M05-1052/2 F-3	1,2	1-5	
1SX014C	B	8	3	B	MO	O	C	M05-1052/3 E-4	1,2	1-5	
1SX016A	G	2½	3	B	MO	C	O	M05-1052/1 C/D-3/4	1,2	4,5	See Relief Request 017

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1SX016B	G	2½	3	B	MO	C	O	M05-1052/2 D-3/4	1,2	4,5	See Relief Request 017
1SX017A	B	8	3	B	MO	O	O,C	M05-1052/1 B-7	1,2	1-5	
1SX017B	B	8	3	B	MO	O	O,C	M05-1052/2 B-7	1,2	1-5	
1SX019A	CV	8	3	B	HO	O	O,C	M05-1052/1 B-6	1,2	1-5	
1SX019B	CV	8	3	B	HO	O	O,C	M05-1052/2 B-6	1,2	1-5	
1SX020A	B	12	3	B	MO	O	O,C	M05-1052/1 C-4	1,2	1-5	
1SX020B	B	12	3	B	MO	O	O,C	M05-1052/2 C-4	1,2	1-5	
1SX023A	CV	2	3	B	AO	C	O	M05-1052/1 C-2	1,7	1-5	See Relief Request 048
1SX023B	CV	2	3	B	AO	C	O	M05-1052/2 C-2	1,7	1-5	See Relief Request 048
1SX025A	CV	2	3	B	AO	O	O,C	M05-1052/4 E-6	1,7	1-5	See Relief Request 048
1SX025B	CV	2	3	B	AO	O	O,C	M05-1052/4 E-2	1,7	1-5	See Relief Request 048
1SX025C	CV	1½	3	B	AO	O	O,C	M05-1052/3 C-2	1,7	1-5	See Relief Request 048
1SX027A	CV	2	3	B	AO	C	O	M05-1052/4 D-6	1,7	1-5	See Relief Request 048
1SX027B	CV	2½	3	B	AO	C	O	M05-1052/4 D-2	1,7	1-5	See Relief Request 048
1SX027C	CV	2½	3	B	AO	C	O	M05-1052/4 C-2	1,7	1-5	See Relief Request 048
1SX029A	CV	1½	3	B	AO	C	O	M05-1052/4 D-6	1,7	1-5	See Relief Request 048
1SX029B	CV	1½	3	B	AO	C	O	M05-1052/4 D-2	1,7	1-5	See Relief Request 048
1SX029C	CV	1½	3	B	AO	C	O	M05-1052/4 B-2	1,7	1-5	See Relief Request 048
1SX033	CV	2	3	B	AO	C	O	M051052/4 C-6	1,7	1-5	See Relief Request 048
1SX037	CV	1½	3	B	AO	C	O	M05-1052/4 B-6	1,7	1-5	See Relief Request 048

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1SX041A	CV	2	3	B	AO	C	O	M05-1052/3 C-2	1,7	1-5	See Relief Request 048
1SX041B	CV	2	3	B	AO	C	O	M05-1052/3 B-2	1,7	1-5	See Relief Request 048
1SX062A	B	14	3	B	MO	C	O	M05-1052/1 B-4	1,2	4,5	See Relief Request 030
1SX062B	B	14	3	B	MO	C	O	M05-1052/2 B-4	1,2	4,5	See Relief Request 030
1SX063A	B	8	3	B	MO	C	O	M05-10521 C-2	1,2	1-5	
1SX063B	B	8	3	B	MO	C	O	M05-10521 C-2/3	1,2	1-5	
1SX071A	G	3	3	B	MO	C	-	M05-1052/5 F-7	-	-	See Relief Request 050
1SX071B	G	3	3	B	MO	C	-	M05-1052/5 F-3	-	-	See Relief Request 050
1SX072A	NC	3	3	C	--	C	-	M05-1052/5 E-7	-	-	See Relief Request 050
1SX072B	NC	3	3	C	--	C	-	M05-1052/5 E-3	-	-	See Relief Request 050
1SX073A	G	3	3	B	MO	C	-	M05-1052/5 F-6	-	-	See Relief Request 050
1SX073B	G	3	3	B	MO	C	-	M05-1052/5 F-2	-	-	See Relief Request 050
1SX074A	G	3	3	B	MO	C	-	M05-1052/5 E-7	-	-	See Relief Request 050
1SX074B	G	3	3	B	MO	C	-	M05-1052/5 E-3	-	-	See Relief Request 050
1SX075A	NC	3	3	C	--	C	-	M05-1052/5 D-7	-	-	See Relief Request 050
1SX075B	NC	3	3	C	--	C	-	M05-1052/5 D-3	-	-	See Relief Request 050
1SX076A	G	3	3	B	MO	C	-	M05-1052/5 D-7	-	-	See Relief Request 050
1SX076B	G	3	3	B	MO	C	-	M05-1052/5 D-3	-	-	See Relief Request 050
1SX082A	G	3	3	B	MO	O	O,C	M05-1052/1 D-1	1,2	1-5	
1SX082B	G	3	3	B	MO	O	O,C	M05-1052/2 D-1	1,2	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1SX083A	NC	3	3	C	--	O	C	M05-1052/1 D-1	1	1-5	
1SX083B	NC	3	3	C	--	O	C	M05-1052/1 D-1	1	1-5	
1SX088A	G	3	2	B	MO	O	C	M05-1052/5 C-8	1,2	1-5	
1SX088B	G	3	2	B	MO	O	C	M05-1052/5 C-4	1,2	1-5	
1SX089A	G	3	2	B	MO	O	C	M05-1052/5 C-7	1,2	1-5	
1SX089B	G	3	2	B	MO	O	C	M05-1052/5 C-3	1,2	1-5	
1SX095A	G	2½	3	B	MO	C	O	M05-1052/5 C-6	1,2	1-5	
1SX095B	G	2½	3	B	MO	C	O	M05-1052/5 C-2	1,2	1-5	
1SX096A	G	3	2	B	MO	O	C	M05-1052/5 C-5/6	1,2	1-5	
1SX096B	G	3	2	B	MO	O	C	M05-1052/5 C-2	1,2	1-5	
1SX097A	G	3	2	B	MO	C	O	M05-1052/5 C-5	1,2	1-5	
1SX097B	G	3	2	B	MO	C		M05-1052/5 C-1	1,2	1-5	
1SX105A	G	3	3	B	MO	C	-	M05-1052/5 D-7	-	-	See Relief Request 050
1SX105B	G	3	3	B	MO	C	-	M05-1052/5 D-3	-	-	See Relief Request 050
1SX106A	C	3	3	C	--	C	-	M05-1052/5 D-7	-	-	See Relief Request 050
1SX106B	C	3	3	C	--	C	-	M05-1052/5 D-3	-	-	See Relief Request 050
1SX107A	G	3	3	B	MO	C	-	M05-1052/5 D-7	-	-	See Relief Request 050
1SX107B	G	3	3	B	MO	C	-	M05-1052/5 D-3	-	-	See Relief Request 050
1SX149	R	3/4x1	3	C	--	C	O	M05-1052/4 C/D-5/6	5	4,5	
1SX150	R	3/4x1	3	C	--	C	O	M05-1052/4 B-6	5	4,5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1SX151A	R	3/4x1	3	C	--	C	O	M05-1052/4 E-5/6	5	4,5	
1SX151B	R	3/4x1	3	C	--	C	O	M05-1052/4 E-2	5	4,5	
1SX151C	R	3/4x1	3	C	--	C	O	M05-1052/4 C-2	5	4,5	
1SX152A	R	3/4x1	3	C	--	C	O	M05-1052/1 C-3	5	4,5	
1SX152B	R	3/4x1	3	C	--	C	O	M05-1052/2 C-2	5	4,5	
1SX153A	R	3/4x1	3	C	--	C	O	M05-1052/1 B-6	5	4,5	
1SX153B	R	3/4x1	3	C	--	C	O	M05-1052/2 B-6	5	4,5	
1SX154A	R	3/4x1	3	C	--	C	O	M05-1052/4 E-5	5	4,5	
1SX154B	R	3/4x1	3	C	--	C	O	M05-1052/4 E-2	5	4,5	
1SX154C	R	3/4x1	3	C	--	C	O	M05-1052/3 C-2	5	4,5	
1SX155A	R	3/4x1	3	C	--	C	O	M05-1052/1 E-4	5	4,5	
1SX155B	R	3/4x1	3	C	--	C	O	M05-1052/2 F-3/4	5	4,5	
1SX155C	R	3/4x1	3	C	--	C	O	M05-1052/3 D-4	5	4,5	
1SX156A	R	3/4x1	3	C	--	C	O	M05-1052/3 C-2	5	4,5	
1SX156B	R	3/4x1	3	C	--	C	O	M05-1052/3 B-2	5	4,5	
1SX157A	R	3/4x1	3	C	--	C	O	M05-1052/5 C-6	5	4,5	
1SX157B	R	3/4x1	3	C	--	C	O	M05-1052/5 C-2	5	4,5	
1SX169A	R	3/4x1	3	C	--	C	O	M05-1052/1 C-3	5	4,5	
1SX169B	R	3/4x1	3	C	--	C	O	M05-1052/2 C-3	5	4,5	
1SX169C	R	3/4x1	3	C	--	C	O	M05-1052/3 D-2	5	4,5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1SX170A	R	3/4x1	3	C	--	C	O	M05-1052/1 B-3	5	4,5	
1SX170B	R	3/4x1	3	C	--	C	O	M05-1052/2 B-3	5	4,5	
1SX173A	G	10	3	B	MO	C	O	M05-1052/1 D-2	1,2	1-5	
1SX173B	G	10	3	B	MO	C	O	M05-1052/2 D-2	1,2	1-5	
1SX181A	CV	2½	3	B	AO	C	O	M05-1052/1 F-1	1,7	1-5	See Relief Request 048
1SX181B	CV	2½	3	B	AO	C	O	M05-1052/2 F-1	1,7	1-5	See Relief Request 048
1SX185A	CV	2½	3	B	AO	C	O	M05-1052/1 E-1	1,7	1-5	See Relief Request 048
1SX185B	CV	2½	3	B	AO	C	O	M05-1052/2 E-1	1,7	1-5	See Relief Request 048
1SX189	CV	2½	3	B	AO	C	O	M05-1052/2 B-4	1,7	1-5	See Relief Request 048
1SX193A	CV	1½	3	B	AO	C	O	M05-1052/1 B-7	1,7	1-5	See Relief Request 048
1SX193B	CV	1½	3	B	AO	C	O	M05-1052/2 B-4	1,7	1-5	See Relief Request 048
1SX197	CV	2	3	B	AO	C	O	M05-1052/1 B-4/5	1,7	1-5	See Relief Request 048
1SX200A	R	3/4x1	3	C	--	C	O	M05-1052/1 F-1	5	4,5	
1SX200B	R	3/4x1	3	C	--	C	O	M05-1052/1 F-1	5	4,5	
1SX201A	R	3/4x1	3	C	--	C	O	M05-1052/1 E-1	5	4,5	
1SX201B	R	3/4x1	3	C	--	C	O	M05-1052/2 E-1	5	4,5	
1SX202A	R	3/4x1	3	C	--	C	O	M05-1052/2 A-7	5	4,5	
1SX202B	R	3/4x1	3	C	--	C	O	M05-1052/2 C-4/5	5	4,5	
1SX203	R	3/4x1	3	C	--	C	O	M05-1052/2 B-4/5	5	4,5	
1SX204	R	3/4x1	3	C	--	C	O	M05-1052/1 B/C-5	5	4,5	
1SX207	R	3/4x1	3	C	--	C	O	M05-1052/2 B-2	5	4,5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1SX208A	R	4x6	3	C	--	C	O	M05-1052/1 D-1	5	4,5	
1SX208B	R	4x6	3	C	--	C	O	M05-1052/2 D-1	5	4,5	
1SX209	CV	1½	3	B	AO	C	O	M05-1052/2 A-1	1,7	1-5	See Relief Request 048
1SX294	R	3/4x1	3	C	--	C	O	M05-1052/1 D-7	5	4,5	
2SX017A	B	8	3	B	MO	C	-	M05-1052/1 C-8	-	-	See Relief Request 051
2SX017B	B	8	3	B	MO	C	-	M05-1052/2 C-8	-	-	See Relief Request 051
2SX073A	G	3	3	B	MO	C	-	M05-1052/5 E-7	-	-	See Relief Request 051
2SX073B	G	3	3	B	MO	C	-	M05-1052/5 E-3	-	-	See Relief Request 051
2SX076A	G	3	3	B	MO	C	-	M05-1052/5 E-7	-	-	See Relief Request 051
2SX076B	G	3	3	B	MO	C	-	M05-1052/5 E-3	-	-	See Relief Request 051
2SX107A	G	3	3	B	MO	C	-	M05-1052/5 D-7	-	-	See Relief Request 051
2SX107B	G	3	3	B	MO	C	-	M05-1052/5 D-3	-	-	See Relief Request 051
1VG056B	EFC	3/4	2	C	--	C	O	M10-1105/4	1	1-5	
1VG057B	EFC	3/4	2	C	--	C	O	M10-1105/10	1	1-5	
1VP004A	G	10	2	B	MO	O	C	M05-1109/2 D-3	1,2	1-5	
1VP004B	G	10	2	B	MO	O	C	M05-1109/3 D-3	1,2	1-5	
1VP005A	G	10	2	B	MO	O	C	M05-1109/2 D-2	1,2	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1VP005B	G	10	2	B	MO	O	C	M05-1109/3 D-2	1,2	1-5	
1VP014A	G	10	2	B	MO	O	C	M05-1109/2 E-3	1,2	1-5	
1VP014B	G	10	2	B	MO	O	C	M05-1109/3 E-3	1,2	1-5	
1VP015A	G	10	2	B	MO	O	C	M05-1109/2 E-2	1,2	1-5	
1VP015B	G	10	2	B	MO	O	C	M05-1109/3 E-2	1,2	1-5	
1VP023A	R	3/4x1	2	C	--	C	O	M05-1109/2 D-3	5	4,5	
1VP023B	R	3/4x1	2	C	--	C	O	M05-1109/3 D-3	5	4,5	
1VP027A	R	3/4x1	2	C	--	C	O	M05-1109/2 F-3	5	4,5	
1VP027B	R	3/4x1	2	C	--	C	O	M05-1109/3 F-3	5	4,5	
1VQ001A	B	24	2	B	AO	C	O,C	M05-1110/2 C-8	1,2,7	1-5	
1VQ001B	B	24	2	B	AO	C	O,C	M05-1110/2 C-7	1,2,7	1-5	
1VQ002	B	24	2	B	AO	C	O,C	M05-1110/2 C-6	1,2,7	1-5	
1VQ003	B	36	2	B	AO	C	O,C	M05-1110/2 C-5/6	1,2,7	1-5	
1VQ004A	B	36	2	B	AO	C	O,C	M05-1110/2 C/D-4	1,2,7	1-5	
1VQ004B	B	36	2	B	AO	C	O,C	M05-1110/2 C/D-5	1,2,7	1-5	
1VQ005	B	10	2	B	AO	C	O,C	M05-1110/2 C/D-6	1,2,7	1-5	
1VQ006A	GL	4	2	B	MO	C	O,C	M05-1110/2 C-4	1,2	1-5	
1VQ006B	GL	4	2	B	MO	C	O,C	M05-1110/2 C-4/5	1,2	1-5	

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1VR001A	B	36	2	B	AO	C	O,C	M05-1111/1 E-2	1,2,7	1-5	
1VR001B	B	36	2	B	AO	C	O,C	M05-1111/1 E-1	1,2,7	1-5	
1VR002A	GL	4	2	B	MO	C	O,C	M05-1111/1 E-2	1,2	1-5	
1VR002B	GL	4	2	B	MO	C	O,C	M05-1111/1 E-1	1,2	1-5	
1VR006A	B	12	2	B	AO	O	C	M05-1111/1 E-3	1,2,7	1-5	
1VR006B	B	12	2	B	AO	O	C	M05-1111/1 E-2	1,2,7	1-5	
1VR007A	B	12	2	B	AO	O	C	M05-1111/1 B-7	1,2,7	1-5	
1VR007B	B	12	2	B	AO	O	C	M05-1111/1 B-7	1,2,7	1-5	
1VR016A	EFC	3/4	2	C	--	O	C	M10-1111/5	1	1-5	
1VR016B	EFC	3/4	2	C	--	O	C	M10-1111/5	1	1-5	
1VR018A	EFC	3/4	2	C	--	O	C	M10-1111/5	1	1-5	
1VR018B	EFC	3/4	2	C	--	O	C	M10-1111/5	1	1-5	
1VR035	2 way	3/4	2	B	SO	O	C	M10-1111/19	1,7	1-5	See Relief Request 035
1VR036	2 way	3/4	2	B	SO	O	C	M10-1111/19	1,7	1-5	See Relief Request 035
1VR040	2 way	3/4	2	B	SO	O	C	M10-1111/19	1,7	1-5	See Relief Request 035
1VR041	2 way	3/4	2	B	SO	O	C	M10-1111/19	1,7	1-5	See Relief Request 035
1WO001A	G	6	2	B	MO	O	C	M05-1117/9 E-5	1,2	4,5	See Relief Request 021
1WO001B	G	6	2	B	MO	O	C	M05-1117/9 E-6	1,2	4,5	See Relief Request 021
1WO002A	G	6	2	B	MO	O	C	M05-1117/9 F-5	1,2	4,5	See Relief Request 021

VALVE NUMBER	TYPE	SIZE	CLASS	CATEGORY	ACTUATOR	POSITION NORM	POSITION TEST[1]	P&ID COORD	TEST[2] METH	TEST COND	COMMENTS
1WO002B	G	6	2	B	MO	O	C	M05-1117/9 F-6	1,2	4,5	See Relief Request 021
1WO551A	G	4	2	B	MO	O	C	M05-1117/26 E-7	1,2	4,5	See Relief Request 052
1WO551B	G	4	2	B	MO	O	C	M05-1117/26 E-7	1,2	4,5	See Relief Request 052
1WO552A	G	4	2	B	MO	O	C	M05-1117/26 D-7	1,2	4,5	See Relief Request 052
1WO552B	G	4	2	B	MO	O	C	M05-1117/26 D-7	1,2	4,5	See Relief Request 052
1WO570A	R	3/4x1	2	C	--	C	O	M05-1117/26 E-7	1,2	4,5	
1WO570B	R	3/4x1	2	C	--	C	O	M05-1117/26 D-7	5	4,5	
1WX019	P	2	2	B	AO	O,C	C	M05-1089/2 E/F-6	1,2,7	1-5	
1WX020	P	2	2	B	AO	O,C	C	M05-1089/2 E/F-5	1,2,7	1-5	

RELIEF REQUEST 001

I. Component Identification:

A. Name: Feedwater Supply Check Valves

B. Number: 1B21-F010A, 1B21-F010B, 1B21-F032A, 1B21-F032B

C. Function: Prevent back flow of feedwater from Reactor

D. ASME Section III Code Class: 1

E. ASME Section XI Valve Category: A/C

II. Relief From:

A. ASME Code Requirement: IWV-3410, 3520; Exercise Valves every three (3) months.

B. Reason for Relief: Exercising these valves would interrupt flow to the Reactor and would severely affect plant operation.

C. Alternate In-Service Test: Exercise valve for operability during refueling outages.

RELIEF REQUEST 002

DELETED

RELIEF REQUEST 003

I. Component Identification:

A. Name: Vacuum Relief Valves

B. Number: 1B21F037A-H,J-N,P,R,S, 1B21F078A-H,J-N,P,R,S 1B21F379A-H,J-N,P,Q,R, AND 1B21-F040

C. Function: Prevent drawing vacuum in safety relief valve discharge and vent lines following relief valve operation

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: C

II. Relief from:

A. ASME Code Requirement: IWC-3520 Exercise and stroke time valve every three (3) months.

B. Reason for Relief: Valves are located inside the drywell and are inaccessible during normal plant operations

C. Alternate In-Service Test: Exercise and stroke time valves for operability during refueling outages.

RELIEF REQUEST 004

I. Component Identification:

A. Name: Feedwater RPV Inlet Isolation

B. Number: 1B21-F065A, B

C. Function: Isolate RPV from the feedwater system

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410, Exercise and stroke time valve every three (3) months

B. Reason for Relief: Exercising these valves during operation would interrupt flow of feedwater to the RPV and would severely affect plant operation.

C. Alternate In-Service Test: Exercise and stroke time valve for operability during refueling outages.

RELIEF REQUEST 005

I. Component Identification:

A. Name: Main Steam Line Isolation Valves

B. Number: 1B21-F098A,B,C,D

C. Function: Isolation Main Steam Lines from the Turbine Building

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Exercise and stroke time valve every three (3) months.

B. Reason for Relief: Valve cannot be exercised during normal plant operation without curtailing flow to the main turbine and affecting plant operations

C. Alternate In-Service Test: Exercise and stroke time valve for operability during extended cold shutdowns or refueling outages.

RELIEF REQUEST 006

DELETED

RELIEF REQUEST 007

DELETED

RELIEF REQUEST 008

I. Component Identification:

A. Name: CRD Pump Discharge Isolation Valve

B. Number: 1C11-F083

C. Function: Containment isolation.

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Exercise and stroke time valve every three (3) months

B. Reason for Relief: Testing this valve requires that the CRD System be shutdown, which renders rod motion inoperative and stops seal flow to the recirculation pumps.

C. Alternate In-Service Test: Exercise and stroke time valve during refueling outage.

RELIEF REQUEST 009

DELETED

RELIEF REQUEST 010

I. Component Identification:

A. Name: CRD Drive Water Header Check Valve

B. Number: 1C11-F122

C. Function: Containment Isolation and prevent back flow to reactor water when CRD pumps are secured.

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: C

II. Relief from:

A. ASME Code Requirement: IWV-3520 Exercise valve every three (3) months.

B. Reason for Relief: Testing this valve requires that the CRD system be shutdown, thus rendering rod motion inoperative and stopping seal flow to the recirculation pumps.

C. Alternate In-Service Test: Operability of valve shall be confirmed during local leak rate testing (normally open value).

RELIEF REQUEST 011

I. Component Identification:

A. Name: Drywell Isolation Check Valves

B. Number: 1C41-F006

C. Function: Prevent back flow of reactor water into the standby liquid control system and provide drywell isolation

D. ASME Section III Code Class: 1

E. ASME Section XI Valve Category: C

II. Relief from:

A. ASME Code Requirement: IWV-3520 Exercise valve every three (3) months.

B. Reason for Relief: Valve is held closed by reactor pressure and cannot be opened during plant operation.

C. Alternate In-Service Test: Exercise valve during refueling outage.

RELIEF REQUEST 012

DELETED

RELIEF REQUEST 013

DELETED

RELIEF REQUEST 014

DELETED

RELIEF REQUEST 015

DELETED

RELIEF REQUEST 016

DELETED

RELIEF REQUEST 017

I. Component Identification:

A. Name: Fuel Pool Emergency Makeup

B. Number: 1SX016A, B

C. Function: Provide Emergency Makeup Water to the Fuel Pools from the lake

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Exercise and stroke time valve every three (3) months.

B. Reason for Relief: Testing these valves will allow lake water into the fuel pools

C. Alternate In-Service Test: Exercise and stroke time valves during refueling outage.

RELIEF REQUEST 018

DELETED

RELIEF REQUEST 019

I. Component Identification:

A. Name: Component cooling containment/drywell isolation valves.

B. Number: 1CC049, 1CC050, 1CC053, 1CC054, 1CC057, 1CC060, 1CC127, 1CC128

C. Function: Isolate component cooling system supply and return to containment.

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve exercising and stroke time test.

B. Reason for Relief: These valves are normally open during plant operation. Exercising these valves would eliminate cooling water to the NRHX's and the Reactor Recirc Pumps.

C. Alternate In-Service Test: Exercise and stroke time these valves during refueling outages.

RELIEF REQUEST 020

DELETED

RELIEF REQUEST 021

I. Component Identification:

A. Name: Chilled water supply/return containment isolation valves.

B. Number: 1WO001B, 1WO002B, 1WO001A, 1WO002A

C. Function: Isolate the chilled water system from the steam tunnel area coolers, RWCU regen and non-regen hx air handling units, and the containment bldg. air handling units.

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Category A&B valves shall be exercised and stroke time tested at least once every 3 months.

B. Reason for Relief: Prevent losing chilled water to certain air handling units that are important while the plant is operating. To lose chilled water could cause a high temperature initiated containment isolation.

C. Alternate In-Service Test: Perform exercising and stroke time testing during refueling outages.

RELIEF REQUEST 022

DELETED

RELIEF REQUEST 023

DELETED

RELIEF REQUEST 024

DELETED

RELIEF REQUEST 025

DELETED

RELIEF REQUEST 026

DELETED

RELIEF REQUEST 027

I. Component Identification:

A. Name: Breathing Air Isolation Valve

B. Number: ORA026, ORA027, ORA028, ORA029

C. Function: Containment and Drywell Breathing Air Isolation Valves.

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve exercising and stroke time test.

B. Reason for Relief: These valves are normally open and supply breathing air ring headers inside containment. These valves are 1" solenoid operated valves and timing them is not practical due to their rapid movement.

C. Alternate In-Service Test: Fully stroke valves every 3 months.

RELIEF REQUEST 028

I. Component Identification:

A. Name: Compressed Air Supply Containment Isolation Valves

B. Number: 1IA012A, B and 1IA013A, B

C. Function: Isolation valves for ADS Division 1 and 2 operating air

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Stroke Time and Exercise Valve every 3 months.

B. Reason for Relief: Failure of valve to return to original position would cause a loss of operating air to SRV's

C. Alternate In-Service Test: Exercise and stroke time valves during refueling outages.

RELIEF REQUEST 029

DELETED

RELIEF REQUEST 030

I. Component Identification:

A. Name: FPCC HX Backup cooling water isolation valves

B. Number: 1SX012A, B and 1SX062A, B

C. Function: Isolate the FPCC heat exchanger from its backup cooling water supplied from the lake.

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 requires exercising and stroke time testing every 3 months.

B. Reason for Relief: After valves are stroked, the heat exchangers must be flushed and sampled to ensure the normal cooling water does not become contaminated by the lake water.

C. Alternate In-Service Test: Exercise and time the valves each refueling outage.

RELIEF REQUEST 031

DELETED

RELIEF REQUEST 032

I. Component Identification:

A. Name: Containment Monitoring Containment Isolation Valves

B. Number: See Table 32-1

C. Function: Isolate the containment monitoring system from the containment

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercising and stroke time test

B. Reason for Relief: These valves perform only a containment isolation function and do not serve as a reactor coolant boundary. The speed at which these air operated valves close does not influence the mitigation of an accident.

C. Alternate In-Service Test: NONE (Valve64 position will be verified during the normal performance of containment isolation surveillance requirements.)

TABLE 32-1

Valve	Size
1CM011	3/4
1CM012	3/4
1CM014	1/2
1CM015	1/2
1CM016	1/2
1CM017	1/2
1CM018	1/2
1CM022	3/4
1CM023	3/4
1CM025	3/4
1CM026	3/4
1CM028	1/2
1CM031	1/2
1CM032	1/2
1CM033	1/2
1CM034	1/2
1CM047	3/4
1CM048	3/4

RELIEF REQUEST 033

I. Component Identification:

A. Name: Leakage Detection Containment Isolation Valves

B. Number: 1E31-F014, F015, F017, F018

C. Function: Isolate the leakage detection system from the containment

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercising and stroke timing test

B. Reason for Relief: These valves perform only a containment isolation function and do not serve as a reactor coolant boundary. Timing these solenoid operated valves is not practical due to their rapid movement.

C. Alternate In-Service Test: Fully stroke these valves every 3 months.

RELIEF REQUEST 034

DELETED

RELIEF REQUEST 035

I. Component Identification:

A. Name: Containment Ventilation Containment Isolation Valves

B. Number: 1VR035, 1VR036, 1VR040, 1VR041

C. Function: Isolate the containment ventilation system from the containment.

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercising and Stroke Time Test

B. Reason for Relief: These valves perform only a containment isolation function and do not serve as a reactor coolant boundary. Timing these solenoid operated valves is not practical due to their rapid movement.

C. Alternate In-Service Test: Fully stroke valves every 3 months.

RELIEF REQUEST 036

I. Component Identification:

A. Name: Reactor Recirc. Pumps A & B Seal/Oil Cooling Inlet and Outlet Valves

B. Number: 1CC065, 1CC067, 1CC068, 1CC070, 1CC188A, 1CC188B

C. Function: Supply cooling water to reactor recirc. pumps

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 and IWV-3520 valve exercising and stroke timing test.

B. Reason for Relief: These valves are normally open during plant operation. Exercising these valves would eliminate cooling water to Reactor Recirc Pumps.

C. Alternate In-Service Test: Exercise and stroke time test these valves during refueling outages.

RELIEF REQUEST 037

I. Component Identification:

A. Name: Containment Monitoring Excess Flow Check Valve

B. Number: 1CM066 and 1CM067

C. Function: Containment Monitoring System

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: C

II. Relief from:

A. ASME Code Requirement: IWV-3520 Valve Exercise Test

B. Reason for Relief: Testing will require isolation of reactor pressure instrumentation.

C. Alternate In-Service Test: Exercise during refueling.

RELIEF REQUEST 038

I. Component Identification:

A. Name: Diesel Starting Air Pressure Control Valves

B. Number: See Table 38-1

C. Function: Supply Starting Air to Diesel Generators

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 valve exercising and stroke timing test.

B. Reason for Relief: Exercising of these valves will be satisfied by monthly diesel generator surveillance test, required by Plant Technical Specification.

C. Alternate In-Service Test: - None -

Table 38-1

Valve Number	Size
1DG007A	2
• 1DG007B	2
1DG007C	2
1DG007D	2
1DG007E	2
1DG007F	2
1DG007G	2
1DG007H	2
1DG007J	2
1DG007K	2
1DG008A	2
1DG008B	2
1DG008C	2
1DG008D	2
1DG008E	2
1DG008F	2
1DG008G	2
1DG008H	2
1DG008J	2
1DG008K	2

RELIEF REQUEST 039

DELETED

RELIEF REQUEST 040

I. Component Identification:

A. Name: Drywell Isolation Bypass

B. Number: 1E31-F016, 1E31-F019

C. Function: Leak Detection Drywell Isolation Bypass

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercise and stroke timing Test.

B. Reason for Relief: These valves are not connected to control switch. They are installed for backup.

C. Alternate In-Service Test: - None -

RELIEF REQUEST 041

I. Component Identification:

A. Name: Supply Line Check Valve

B. Number: 1E21-F306

C. Function: Cycled Condensate Flushing Supply Line

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercise and Stroke Time Test

B. Reason for Relief: Exercising this valve will require low pressure core spray system to be inoperable.

C. Alternate In-Service Test: Exercise this valve during refueling outages.

RELIEF REQUEST 042

I. Component Identification:

A. Name: Air Accumulator Supply Check Valves

B. Number: See Table 42-1

C. Function: Prevent the back flow from Safety Relief Valves/ Automatic Depressurization System Air Accumulators

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: C

II. Relief from:

A. ASME Code Requirement: IWV-3520 Valve Exercise Test

B. Reason for Relief: These valves are normally closed during plant operation. Exercising these valves will require bleeding SRV/ADS accumulators down and these valves are located in high radiation areas.

C. Alternate In-Service Test: Exercise these valves during refueling outage.

Table 42-1

Valve Number	Size
1B21-F036A	1½
1B21-F036F	1½
1B21-F036G	1½
1B21-F036J	1½
1B21-F036L	1½
1B21-F036M	1½
1B21-F036N	1½
1B21-F036P	1½
1B21-F036R	1½
1B21-F039B	1½
1B21-F039C	1½
1B21-F039D	1½
1B21-F039E	1½
1B21-F039H	1½
1B21-F039K	1½
1B21-F039S	1½
1B21-F024A-D	1½
1B21-F029A-D	1½
1B21-F433A/B	1½
1IA042A/B	1
1IA043A/B	1

RELIEF REQUEST 043

I. Component Identification:

A. Name: Process Sampling Containment Isolation Valves

B. Number: See Table 43-1

C. Function: Isolate the process sampling system from the containment.

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercising and Stroke Time Test

B. Reason for Relief: These valves perform only a containment isolation function and do not serve as a reactor coolant boundary. The speed at which these air operated solenoid valves close does not influence the mitigation of an accident.

C. Alternate In-Service Test: NONE (Valve position will be verified during the normal performance of containment isolation surveillance requirements.)

Table 43-1

Valve Number	Size
1PS004	3/4
1PS005	3/4
1PS009	3/4
1PS010	3/4
1PS016	1/2
1PS017	1/2
1PS022	1/2
1PS023	1/2
1PS031	3/4
1PS032	3/4
1PS034	3/4
1PS035	3/4
1PS037	3/4
1PS038	3/4
1PS043A	3/4
1PS043B	3/4
1PS044A	3/4
1PS044B	3/4
1PS047	3/4
1PS048	3/4
1PS055	1/2
1PS056	1/2
1PS069	1/2
1PS070	1/2

RELIEF REQUEST 044

I. Component Identification:

A. Name: Emergency Air Bottles Control Valves

B. Number: 1RA017A, 1RA017B

C. Function: Supply Emergency Air to Various Manifolds

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercising and Stroke Time Test

B. Reason for Relief: These control valves are normally open during plant operation. These are installed to control the air flow from emergency air bottles and cannot be exercised.

C. Alternate In-Service Test: - None -

RELIEF REQUEST 045

I. Component Identification:

A. Name: RHR HX Isolation Valves

B. Number: 1E12-F060A, 1E12-F060B, 1E12-F075A, 1E12-F075B, 1E12-F095

C. Function: Residual Heat Removal Heat Exchanger Process Sample Isolation

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercising and Stroke Time Test

B. Reason for Relief: These valves are normally closed. These valves are 3/4 inch solenoid operated valves and timing them is not practical due to their rapid movement.

C. Alternate In-Service Test: Fully stroke valves every three months.

RELIEF REQUEST 046

I. Component Identification:

A. Name: Turbine Oil Cooling Water Supply Regulating Valve

B. Number: 1E51-F015

C. Function: Supply Cooling Water to RCIC Lube Oil Cooler

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercising Stroke Time Test

B. Reason for Relief: This control valve supplies the cooling water to the RCIC Lube Oil Cooler and is set at downstream pressure of 110 psig. This valve cannot be exercised. The proper operation of this valve is evident by the satisfactory operation of RCIC pump during quarterly surveillance.

C. Alternate In-Service Test: - None -

RELIEF REQUEST 047

I. Component Identification:

A. Name: Return to RHR Header

B. Number: 1G33-F051, 1G33-F052A, 1G33-F052B

C. Function: Supply water from Reactor Water Cleanup System to the Feedwater System

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: C

II. Relief from:

A. ASME Code Requirement: IWV-3520 Valve Exercising Test

B. Reason for Relief: These valves are normally open during operation. The proper function of these valves is not required to maintain the plant in cold shutdown or to mitigate the consequences of an accident.

C. Alternate In-Service Test: - None -

RELIEF REQUEST 048

I. Component Identification:

A. Name: Area Cooler Outlet Valves

B. Number: See Table 48-1

C. Function: Isolate Shutdown Service Water Flow Through Area Coolers

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Exercise and Stroke Time Test

B. Reason for Relief: These valves are not required to open within a specified time range. They are interlocked with the room fans to open when the room fans energize.

C. Alternate In-Service Test: Exercise values for operability every three months.

Table 48-1

Valve Number	Size
1SX010A	2
1SX010B	2
1SX010C	1½
1SX023A	2
1SX023B	2
1SX025A	2
1SX025B	2
1SX025C	1½
1SX027A	2
1SX027B	2½
1SX027C	2½
1SX029A	1½
1SX029B	1½
1SX029C	1½
1SX033	2
1SX037	1½
1SX041A	2
1SX041B	2
1SX181A	2½
1SX181B	2½
1SX185A	2½
1SX185B	2½
1SX189	2½
1SX193A	1½
1SX193B	1½
1SX197	2
1SX209	1½

RELIEF REQUEST 049

I. Component Identification:

A. Name: Strainer Backwash Plug Valves

B. Number: 1SX013D, 1SX013E, 1SX013F

C. Function: Provide discharge of strainer backwash

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Exercising and Stroke Timing Valve Test

B. Reason for Relief: The proper operation of shutdown service water system strainers is evident that these valves are operating properly.

C. Alternate In-Service Test: - None -

RELIEF REQUEST 050

I. Component Identification:

A. Name: Manual Deluge Valves

B. Number: See Table 50-1

C. Function: Provide Shutdown Service Water to SGBT Charcoal Beds, Makeup Air Filter Package, Air Filter Package

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410, IWV-3520 Valve Exercising and Stroke Time Test

B. Reason for Relief: These systems are not designed to perform any surveillance testing. The proper operation of these valves is not required to mitigate the consequences of an accident or to keep reactor in cold shutdown.

C. Alternate In-Service Test: - None -

Table 50-1

Valve Number	Size
1SX071A	3
1SX071B	3
1SX072A	3
1SX072B	3
1SX073A	3
1SX073B	3
1SX074A	3
1SX074B	3
1SX075A	3
1SX075B	3
1SX076A	3
1SX076B	3
1SX105A	3
1SX105B	3
1SX106A	3
1SX106B	3
1SX107A	3
1SX107B	3

RELIEF REQUEST 051

I. Component Identification:

A. Name: Cross Connect from Unit 2 Shutdown Service Water System

B. Number: 2SX017A, 2SX017B, 2SX073A, 2SX073B, 2SX076A, 2SX076B, 2SX107A, 2SX107B

C. Function: - None - Unit 2 piping is not installed

D. ASME Section III Code Class: 3

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercising and Stroke Time Test

B. Reason for Relief: These valves are installed as crossconnect from Unit 2 and piping is either capped or has blank flanges.

C. Alternate In-Service Test: None

RELIEF REQUEST 052

I. Component Identification:

A. Name: Drywell Cooling Chilled Water Drywell Isolation Valves

B. Number: 1WO551A, 1WO551B, 1WO552A, 1WO552B

C. Function: Provide chilled water to Drywell Cooling System Coil Cabinets

D. ASME Section III Code Class: 2

E. ASME Section XI Valve Category: B

II. Relief from:

A. ASME Code Requirement: IWV-3410 Valve Exercising and Stroke Time Test

B. Reason for Relief: Exercising these valves every three months will require Drywell Chilled Water System Coil Cabinet to be inoperable. These coil cabinets are required for safe operation of the plant.

C. Alternate In-Service Test: Exercise and stroke time these valves during refueling outages.

RELIEF REQUEST 053

I. Component Identification:

A. Name: Main Steam Isolation Valves

B. Number: 1B21-F022A, 1B21-F022B, 1B21-F022C, 1B21-F022D, 1B21-F028A, 1B21-F028B, 1B21-F028C, 1B21-F028D

C. Function: Main Steam Containment Inboard and Outboard Isolation

D. ASME Section III Code Class: 1

E. ASME Section XI Valve Category: A

II. Relief from:

A. ASME Code Requirement: IWV-3410 valve exercising and stroke time test

B. Reason for Relief: Exercising these valves every three months will significantly reduce plant's power output.

C. Alternate In-Service Test: Full stroke testing and exercising during refueling outage. Partial stroke testing as required by Plant's Technical Specification.

RELIEF REQUEST 054

I. Component Identification:

A. Name: Pressure Isolation Valves

B. Number: 1E21-F003, 1E21-F005, 1E21-F006, 1E12-F041A, 1E12-F041B, 1E12-F041C, 1E12-F042A, 1E12-F042B, 1E12-F042C, 1E12-F050A, 1E12-F050B, 1E12-F053A, 1E12-F053B, 1E12-F009, 1E12-F008, 1E12-F023, 1E51-F066, 1E51-F013

C. Function: Provide Isolation Between Reactor Coolant System and Low Pressure Systems

D. ASME Section III Code Class: 1,2

E. ASME Section XI Valve Category: A, B, C

II. Relief from:

A. ASME Code Requirement: IWV-3410, IWV-3520 Valve exercising and stroke timing test.

B. Reason for Relief: Exercising these valves during plant operation may cause inter-system LOCA.

C. Alternate In-Service Test: Exercise and stroke time these valves during refueling outages.