QUALITY ASSURANCE MANUAL GINNA STATION ROCHESTER GAS & ELECTRIC CORPORATION	REV. 1	PAGE 1 OF 13
	EFFECTIVE DATE: June 1, 1991	
	SIGNATURE	DATE
TITLE: APPENDIX C INSERVICE PUMP AND VALVE TESTING PROGRAM FOR THE 1990-1999 INTERVAL	PREPARED BY: KAMuller	7/12/91
	QUALITY ASSURANCE REVIEW: C R Anderson	9/9/91
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	MANAGER, MECHANICAL ENGINEERING: Eugene K. Voi	9/23/91

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1.0 INTRODUCTION

1.1 This Appendix to the Ginna Station Quality Assurance Manual establishes and defines the Inservice Pump and Valve Testing Program for the ten year interval from January 1, 1990 through December 31, 1999. This program has been developed as required by Title 10 Code of Federal Regulations Part 50 Paragraph 50.55a(g), in accordance with the ASME Boiler and Pressure Vessel Code - Section XI - "Rules for Inservice Inspection of Nuclear Power Plant Components".

1.2 The purpose of this Inservice Testing Program is to verify operational readiness of those pumps and valves whose function is required for safety. It is not intended to place the R.E. Ginna plant in a degraded safety condition for the purpose of conducting system or component tests. Therefore, as normally viewed for Code compliance, testing of a safety train will not be performed when the redundant train is out of service. Instead, equipment will be positioned to provide the necessary safety lineup. Pumps and valves included in the program, are those in systems or portions of systems (Section 8.0 - System Index) which are required to accomplish specified safety functions or tasks, as identified within various plant safety analyses.

1.3 In addition to those pumps and valves required to be tested by the Code, other components are included in the program from a good engineering and management practice standpoint. These components are identified with an asterisk (*) and need not be tested to specific Code criteria.

1.4 The IST Program substantially augments (but does not affect, replace, or supersede) the pump and valve surveillance program required by Technical Specifications. Technical Specification requirements associated with pump and valve surveillances shall continue to be implemented as specified.

2.0 REFERENCES

2.1 ASME Boiler & Pressure Vessel Code - Section XI Division 1, "Rules for Inservice Inspection and Testing of Nuclear Power Plant Components", 1986 Edition (hereafter referred to as the Code)

2.2 ASME/ANSI OMA-1988, "Operation and Maintenance of Nuclear Power Plants" Parts 6 and 10.

2.3 ASME/ANSI OM-1987, "Operation and Maintenance of Nuclear Power Plants Part 1.

2.4 Ginna Station Quality Assurance Manual

2.5 Ginna Station Technical Specifications

2.6 Ginna Station Updated Final Safety Analysis Report (UFSAR)

2.7 NUREG-0821, Systematic Evaluation Program (SEP) topics

2.8 Title 10 Code of Federal Regulations Part 50 Para. 50.55a, Codes and standards.

2.9 USNRC Generic Letter 89-04, Guidance on Developing Acceptable Inservice Testing Programs, April 3, 1989.

2.10 Minutes of the Public Meetings on Generic Letter 89-04, October 25, 1989.

3.0 TERMS AND DEFINITIONS

3.1 Obturator - Valve closure member (e.g., disk, gate, plug, ball, etc.)

3.2 Operational readiness - the ability of a pump or valve to perform its intended function when required.

3.3 Reference values - one or more values of test parameters measured or determined when the equipment is known to be operating acceptably.

3.4 Active valves - valves required to change obturator position to accomplish a safety function.

3.5 Passive valves - valves that maintain obturator position and are not required to change obturator position to accomplish required safety functions.

4.0 GENERAL REQUIREMENTS

4.1 Inservice pump and valve testing shall be performed in accordance with ASME Boiler and Pressure Vessel Code - Section XI Division 1, Subsections IWP & IWV to the extent practicable within limits of design, geometry and materials of construction of the components. The guidelines of the ASME/ANSI OM Code, NRC Generic Letter 89-04 and the minutes of the public meetings regarding Generic Letter 89-04 have also been used in the development of this program.

4.1.1 Code requirements related to Enforcement Authority, Authorized Inspection Agency, Authorized Nuclear Inspector Supervisors and Inspectors are excluded, as the R.E. Ginna Nuclear Power Plant is located in the state of New York which has not endorsed ASME Codes. The Ginna Station Quality Assurance Program shall continue to be used in lieu of Code administrative functions to verify implementation. However, ANII services from the Hartford Steam Boiler Inspection and Insurance Company will be used for the review of this program and documentation generated as a result of this program.

4.1.2 Where a Code test requirement is determined to be impractical, the Program Plan identifies applicable Relief Requests or Cold Shutdown Justifications which describe the bases for determination and alternative test methods and/or frequencies.

4.1.3 Inservice testing requirements shall be in accordance with the Code edition and addenda specified in para. 2.1.

4.2 Implementation of the program shall be controlled in accordance with the Ginna Station Quality Assurance Program, including but not limited to responsibilities, procedures, specifications, personnel qualifications, test performance and evaluation, and records.

4.3 Changes to this program should not be implemented prior to review and approval by the Nuclear

Regulatory Commission.

4.4 The program and/or implementing procedures shall be revised as necessary following applicable changes to Technical Specifications, or plant modifications.

4.5 If the revised program conflicts with Technical Specifications, an amendment of Technical Specifications shall be submitted to eliminate the conflict.

5.0 PUMP TESTING PROGRAM

5.1 Scope

The Inservice Pump Testing Program includes all safety related centrifugal and positive displacement type pumps that are provided with an emergency power source, and are not exempt by paragraph 5.2, and which function to:

a. mitigate the consequences of an accident or,

b. shutdown the reactor to a cold shutdown condition.

5.2 Exemptions

The following are exempt from requirements of this program:

a. pumps that are supplied with emergency power solely for operating convenience.

b. drivers of pumps, except where the pump and driver form an integral unit and the pump bearings are in the driver.

5.3 Test Requirements

5.3.1 Inservice pump tests shall be conducted in accordance with Article IWP-3000 of the Code, unless specific relief is granted by the Commission.

5.3.2 Inservice pump tests shall be conducted nominally every three months during normal plant operation.

5.3.3 Inservice pump test intervals may be extended by 25% to accommodate normal test schedules. The total combined interval for any three consecutive tests shall not exceed 3.25 times the specified interval.

5.3.4 For a pump in a system declared inoperable or not required to be operable, the test schedule need not be followed. Within 96 hours prior to placing the system in an operable status, the pump shall be tested and the test schedule resumed.

5.3.5 After a pump has been replaced, or when pump repairs or maintenance may have affected any reference value, the pump shall be tested prior to declaring it operable to determine new reference values or reconfirm previous values.

5.3.6 With the exception of measuring bearing temperatures, pump parameters that shall be measured or observed during testing shall be consistent with the guidelines of Article IWP-3000 as identified in the Pump Program Plan (Attachment A). Relief Request No. PR-1 provides the bases for excluding bearing temperature measurements.

5.3.7 All test data shall be analyzed within 96 hours after completion of a test, however when data is recorded which exceeds the Required Action range, the pump shall immediately be declared inoperable.

5.4 <u>Pump Testing Program Plan Description</u>

Pumps that are required to be tested for the program are identified in Attachment A - Pump Testing Program Plan. The plan is organized as a table to provide the following information:

a. System - plant system of which the pump is a component.

b. Pump ID - pump identification number.

c. Drawing (Dwg) - Piping and Instrumentation Diagram (P&ID) where the pump is located (RG&E Drawing Number 33013 series).

d. Coordinates (Coor) - P&ID coordinates.

e. Safety Class - designated safety class of the pump (SSC = safety significant, NC = non-safety).

f. Frequency (Freq) - test frequency

g. Measured Parameters - these columns show applicable pump testing parameters that shall be measured. When an "X" is shown in a particular column, that parameter shall be measured or observed during inservice pump testing in accordance with the Code. If alternate testing is planned or if a test is being waived, the applicable pump relief request (PR) number will be shown.

Measured Parameters include the following:

Pump Speed	N
Inlet Pressure	Pi
Differential Pressure	Pd
Flow Rate	Qf
Vibration Amplitude	V
Bearing Temperature	Tb
Lube Oil Level/Pressure	L

6.0 VALVE TESTING PROGRAM

6.1 Scope

The Inservice Valve Testing Program includes all safety related valves that are not exempt by paragraph 6.2, and which function to:

a. mitigate the consequences of an accident or,
b. shutdown the reactor to a cold shutdown condition or,
c. provide overpressure protection to a system or component.

6.2 Exemptions

The following are exempt from requirements of this program:

a. Maintenance Valves - valves that are used only to isolate components to perform maintenance.

b. Operating Convenience Valves - valves used only for operating convenience, such as manual vent, drain, instrument and test valves.

c. System Control Valves - valves such as pressure regulating, flow control and manual throttle valves.

d. External Control and Protection Systems -valves in systems responsible for sensing plant conditions and providing signals for valve operation.

e. Thermal Reliefs - valves that provide overpressure protection for a component that can be isolated for maintenance during operation.

6.3 Test Requirements

6.3.1 Inservice valve tests shall be conducted in accordance with Article IWV-3000 of the Code unless specific relief is granted by the Nuclear Regulatory Commission.

6.3.2 Inservice valve tests shall be conducted nominally every three months during normal plant operation.

6.3.3 Inservice valve test intervals may be extended by 25% to accomodate normal test schedules. The total combined interval for any three tests shall not exceed 3.25 times the specified intervals.

6.3.4 Valve testing that is specified in Attachment B to be conducted during cold shutdowns, shall commence within 48 hours of achieving cold shutdown (as defined in plant Technical Specifications), and continue until all testing is complete or the plant is ready to return to power. However, it is not required to keep the plant in cold shutdown in order to complete all cold shutdown testing. Any testing not completed at one cold shutdown due to outage duration, shall commence and continue as above during any subsequent cold shutdown that may occur before the next refueling outage to meet the specified testing frequency.

6.3.5 For extended outages, testing need not commence within 48 hours provided that all valves required to be tested during cold shutdown will be tested prior to plant startup.

6.3.6 For cold shutdown intervals of less then three months, testing is not required unless three months have passed since the last cold shutdown test.

6.3.7 All valve testing required to be performed during a refueling outage shall be completed prior to returning the plant to operation.

6.3.8 For a valve in a system declared inoperable or not required to be operable, the exercising test schedule need not be followed. Within 30 days prior to returning the system to operable status, exercising tests shall be conducted and test schedules resumed.

6.3.9 When a valve or its control system has been replaced or repaired or has undergone maintenance that could affect its performance, and prior to declaring the valve operable, it shall be retested to demonstrate that the performance parameters which could be affected by the replacement, repair or maintenance are within acceptable limits.

6.3.10 Containment Isolation Valves shall be tested in accordance with 10CFR50 Appendix J (LT-J) and controlled in accordance with the Local Leak Rate Testing Program as described in Technical Specifications.

6.3.11 Those valves which perform both a containment isolation function and a pressure isolation function shall be tested to both 10CFR50 Appendix J and IWV requirements of the Code.

6.3.12 Relief Test (RT) - relief valves shall be tested in accordance with ASME/ANSI OM - 1987 Part 1, to verify set pressure and seat tightness.

6.3.13 Exercising check valves to the full open position utilizing flow is considered acceptable by Generic Letter 89-04 if the maximum required accident flowrate is passed through the valve.

6.3.14 Where system design or operation prevents full stroke check valve exercising, Generic Letter 89-04 allows the valve to be disassembled and manually exercised as an alternative, using a sample disassembly program. When a check valve is disassembled and manually exercised a partial stroke test shall be performed upon reassembly if possible.

6.3.15 At the time of the test, valves which have exceeded their stroke time limiting value, shall immediately be declared inoperable.

6.3.16 Check valves whose obturator movement will be verified by a mechanical exerciser, shall be demonstrated operable by comparing a breakaway force to reference value as described by OMa-1988-Part 10.

6.4 Valve Testing Program Plan Description

Valves that are required to be tested for the program are identified in Attachment B - Valve Testing Program Plan. The plan is organized as a table to provide the following information:

a) System - Dwg Number: each page of the valve plan contains a heading which identifies the plant system and associated Piping and Instrumentation Diagram (P&ID) for valves on the page.

b) Valve Number - valve identification number.

c) Coor./P&ID - location coordinates of the valve on the P&ID and the P&ID Number (RG&E Drawing Number 33013 series).

d) Type/Size - valve design type as indicated by the following abbreviations, and nominal size of the valve in inches.

BAV - Ball Valve
BFV - Butterfly Valve
CV - Check Valve
DIV - Diaphragm Valve
GTV - Gate Valve
GLV - Globe Valve

REV - Relief Valve
SCV - Stop Check Valve
TWV - Three-way Valve

e) Actuator - type of valve actuator as indicated by the following abbreviations:

MOV - Motor Operator
AOV - Air Operator
SOV - Solenoid Operator
MAN - Manual Operator
HYD - Hydraulic Operator
SAV - Self Actuated

f) Normal Position (Norm Pos) - position of the valve during normal plant operation as indicated by the following:

O - Open
C - Closed

g) Safety Class - designated safety class of the valve (SSC = safety siginificant, NC = non-safety).

h) Category/Act-Pas - ASME category A, B, C, BC, or AC assigned to the valve, and identification of the valve as ACTIVE or PASSIVE.

i) Required Tests - required inservice test to be performed are indicated by the following:

LT-J - Leak test per 10CFR50 Appendix J
LT-X - Leak test per ASME Section XI
EX - Exercising test (for Category A or B valves)
ST (O,C) - Stroke Time (O=open, C=closed)
FS (O,C) - Fail Safe Test (O=open, C=closed)
PIT - Position Indication Test
CV-C - Check Valve Exercise - Full closed
CV-O - Check Valve Exercise - Full open
CV-P - Check Valve Exercise - Partial open
RT - Relief Valve Test

j) Frequency (Freq) - test frequency described by:

°Quarterly (Q) - at least once every three months.

°Cold Shutdown (CS) - during cold shutdowns.

°Refueling (R) - nominally at least once every 18 months not to exceed two years.

°Relief valve 5 year/10 year (5Y/10Y), Category A-5Y; Category B, C-10Y.

k) Rel.Req/CSJ - identifies applicable Relief Request or Cold Shutdown Justification number, where:

CS = Cold Shutdown Justification
CR = Code Administrative Relief Request
GR = Generic Relief Request
VR = Valve Relief Request

l) Remarks - applicable pertinent clarification or additional information is provided or referenced.

7.0 Records

Records of the Inservice Pump and Valve Testing Program shall be developed and maintained in accordance with criteria established by the Code.

8.0 System Index

SYSTEM	PI&D Number
Main Steam	33013-1231
Main Feedwater	33013-1236-2
Auxiliary Feedwater	33013-1237
Standby Auxiliary Feedwater	33013-1238
Diesel Generators	33013-1239-1,2
Component Cooling Water	33013-1245
Component Cooling Water	33013-1246-1
Residual Heat Removal	33013-1247
Spent Fuel Pool Cooling	33013-1248
Service Water	33013-1250-1,2,3
Reactor Coolant Pressurizer	33013-1258
Reactor Coolant	33013-1260
Containment Spray	33013-1261
Safety Injection & Accumulators	33013-1262-1,2
RCS Overpressure Protection	33013-1263
CVCS Letdown	33013-1264

CVCS Charging	33013-1265-1,2
Reactor Coolant Drain Tank	33013-1272-2
Waste Disposal - Gas	33013-1273-2
Hydrogen Recombiners	33013-1275-1,2
Steam Generator Blowdown	33013-1277-1
Nuclear Sampling	33013-1278-1,2
Post Accident Sampling	33013-1279
Containment HVAC, Recirculation	33013-1863
Containment HVAC, Purge Supply	33013-1865
Containment HVAC, Purge Exhaust	33013-1866
Auxiliary/Intermediate Bldg HVAC	33013-1870
Containment Vessel Air Test	33013-1882
Service Air	33013-1886-2
Instrument Air	33013-1887
Instrument Air	33013-1893
Primary Water Treatment - DI Water	33013-1908-3
Containment Heating - Steam & Cond.	33013-1915
Fire Protection	33013-1989
Fire Protection	33013-1990-1
Fire Protection	33013-1991
Construction Fire Service Water	33013-1991

PUMP AND VALVE TEST PROGRAM PLAN TABLE OF ACRONYMS

VALVE TYPE
BAV - Ball Valve
BFV - Butterfly Valve
CV - Check Valve
DIV - Diaphragm
GTV - Gate Valve
GLV - Globe Valve
REV - Relief Valve
SCV - Stop Check Valve
TWV - Three-way Valve

NORMAL POSITION
O - Open
C - Closed

REQUIRED TESTS
EX - Exercise for Category A or B Valves
ST (O,C) - Stroke Time (o-open, c-closed)
FS (O,C) - Fail Safe Test (o-open, c-closed)
PIT - Position Indication Test
LT-J - Leak test - Appendix J
LT-X - Leak test - ASME Section XI
RT - Relief Valve Setpoint Test
CV-P - Check Valve Exercise - partial
CV-O - Check Valve Exercise - Full Open
CV-C - Check Valve Exercise - Full Closed

ACTUATOR
MOV - Motor
AOV - Air
SOV - Solenoid
MAN - Manual
HYD - Hydraulic
SAV - Self Actuated

TEST FREQUENCY
Q - Quarterly
CS - Cold Shutdown
R - Refueling - not to exceed 2 years
5y - At least once every five years.
10y - At least once every ten years.

SAFETY CLASS	ASME CATEGORY
1	A
2	B
3	C
NC - non class	AC
SSC- safety significant	BC

CR - Code Administrative Relief Request
GR - Generic Relief Request
VR - Valves Relief Request
PR - Pump Relief Request
CS - Cold Shutdown Justifications

MEASURED PUMP TEST PARAMETERS
N - Pump Speed
Pi - Inlet Pressure
Pd - Differential Pressure
Qf - Flow Rate
V - Vibration Amplitude
Tb - Bearing Temperature
L - Lube Oil Level/Pressure

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C	ATTACHMENT A PUMP TESTING PROGRAM PLAN FOR THE 1990 - 1999 INTERVAL			
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		PREPARED BY: KAMuller		DATE: 6/10/91
		APPROVED BY: ER Voce		DATE: 6/19/91

Pump	Pump ID	Dwg.	Coor	Safety Class	Freq	Measured Parameters						
						N	Pi	Pd	Qf	V	Tb	L
MOTOR AUX FEED	PAF01A	1237	B-4	3	Q	N/A	X	X	X	X	PR-1	X
MOTOR AUX FEED	PAF01B	1237	E-4	3	Q	N/A	X	X	X	X	PR-1	X
TURBINE AUX FEED	PAF03	1237	I-4	3	Q	X	X	X	X	X	PR-1	X
STANDBY AUX FEED	PSF01A	1238	B-5	3	Q	N/A	X	X	X	X	PR-1	X
STANDBY AUX FEED	PSF01B	1238	I-5	3	Q	N/A	X	X	X	X	PR-1	X
D/G FUEL OIL	PDG02A	1239-1	I-3	3	Q	N/A	X	X	PR-2	X	PR-1	
D/G FUEL OIL	PDG02B	1239-2	I-9	3	Q	N/A	X	X	PR-2	X	PR-1	
COMPONENT COOLING	PAC02A	1245	D-5	3	Q	N/A	X	X	X	X	PR-1	
COMPONENT COOLING	PAC02B	1245	E-5	3	Q	N/A	X	X	X	X	PR-1	
RESIDUAL HT REMOVAL	PAC01A	1247	F-5	2	Q	N/A	X	PR-8	PR-8	PR-8	PR-1	X
RESIDUAL HT REMOVAL	PAC01B	1247	B-5	2	Q	N/A	X	PR-8	PR-8	PR-8	PR-1	X

Pump	Pump ID	Dwg.	Coor	Safety Class	Freq	Measured Parameters						
						N	Pi	Pd	Qf	V	Tb	L
SPENT FUEL POOL	PAC07A	1248	H-3	SSC	Q	N/A	X	X	X	X	PR-1	X
SPENT FUEL POOL	PAC07B	1248	I-3	3	Q	N/A	X	X	X	X	PR-1	X
SERVICE WATER	PSW01A	1250-1	D-2	3	Q	N/A	PR-4	X	PR-7	PR-5	PR-1	
SERVICE WATER	PSW01B	1250-1	E-2	3	Q	N/A	PR-4	X	PR-7	PR-5	PR-1	
SERVICE WATER	PSW01C	1250-1	F-2	3	Q	N/A	PR-4	X	PR-7	PR-5	PR-1	
SERVICE WATER	PSW01D	1250-1	G-2	3	Q	N/A	PR-4	X	PR-7	PR-5	PR-1	
CONTAINMENT SPRAY	PSI02A	1261	E-3	2	Q	N/A	PR-3	X	X	X	PR-1	X
CONTAINMENT SPRAY	PSI02B	1261	I-3	2	Q	N/A	PR-3	X	X	X	PR-1	X
SAFETY INJECTION	PSI01A	1262-1	C-4	2	Q	N/A	PR-3	X	X	X	PR-1	X
SAFETY INJECTION	PSI01B	1262-1	F-4	2	Q	N/A	PR-3	X	X	X	PR-1	X
SAFETY INJECTION	PSI01C	1262-1	D-4	2	Q	N/A	PR-3	X	X	X	PR-1	X
CHARGING	PCH01A	1265-2	E-5	2	Q	X	PR-9	X	X	X	PR-1	X
CHARGING	PCH01B	1265-2	G-5	2	Q	X	PR-9	X	X	X	PR-1	X
CHARGING	PCH01C	1265-2	H-5	2	Q	X	PR-9	X	X	X	PR-1	X

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C	ATTACHMENT B VALVE TESTING PROGRAM PLAN FOR THE 1990 - 1999 INTERVAL	System: MAIN STEAM Dwg No: 33013-1231		
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		PREPARED BY: KAMull		DATE: 6/10/91
		APPROVED BY: EKYoci		DATE: 6/21/91

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
3410	I-5 / 1231	GTV / 6	AOV	C	2	B / ACTIVE				
							EX	CS	CS-3	MANUAL EXERCISE
							PIT	R		
							FS-C	CS	CS-3	
3411	C-5 / 1231	GTV / 6	AOV	C	2	B / ACTIVE				
							EX	CS	CS-3	MANUAL EXERCISE
							PIT	R		
							FS-C	CS	CS-3	
3504A	G-4 / 1231	GTV / 6	MOV	C	2	B / ACTIVE				
							EX	Q		
							ST-O	Q		
							ST-C	Q		
							PIT	R		
3504B	E-4 / 1231	CV / 6	SAV	C	3	C / ACTIVE				
							CV-O	Q		
							CV-C	Q		
3505A	B-4 / 1231	GTV / 6	MOV	C	2	B / ACTIVE				
							EX	Q		
							ST-O	Q		
							ST-C	Q		
							PIT	R		

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C	ATTACHMENT B VALVE TESTING PROGRAM PLAN FOR THE 1990 - 1999 INTERVAL	System: MAIN STEAM Dwg No: 33013-1231		
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Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
3505B	D-4 1231	CV 6	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
3508	G-5 1231	REV 6	SAV	C	2	C ACTIVE	RT	5Y		
3509	A-5 1231	REV 6	SAV	C	2	C ACTIVE	RT	5Y		
3510	G-6 1231	REV 6	SAV	C	2	C ACTIVE	RT	5Y		
3511	A-6 1231	REV 6	SAV	C	2	C ACTIVE	RT	5Y		
3512	G-7 1231	REV 6	SAV	C	2	C ACTIVE	RT	5Y		
3513	A-7 1231	REV 6	SAV	C	2	C ACTIVE	RT	5Y		
3514	G-7 1231	REV 6	SAV	C	2	C ACTIVE	RT	5Y		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
3515	A-7 1231	REV 6	SAV	C	2	C ACTIVE	RT	5Y		
3516	G-10 1231	CV 30	AOV	O	2	B ACTIVE	EX ST-C PIT FS-C	CS CS R CS	CS-1 CS-1 CS-1	
3517	A-11 1231	CV 30	AOV	O	2	B ACTIVE	EX ST-C PIT FS-C	CS CS R CS	CS-1 CS-1 CS-1	
3518	G-10 1231	CV 30	SAV	O	SSC	C ACTIVE	CV-C	CS	CS-2	
3519	A-11 1231	CV 30	SAV	O	SSC	C ACTIVE	CV-C	CS	CS-2	
3652	D-2 1231	GTV 3	HYD	O	3	B ACTIVE	EX	Q		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
3992	J-3 1236-2	CV 14	SAV	O	2	C ACTIVE	CV-C	CS	VR-21	
3993	A-3 1236-2	CV 14	SAV	O	2	C ACTIVE	CV-C	CS	VR-21	
4269	D-3 1236-2	GLV 12	AOV	O	SSC	B ACTIVE	EX ST-C PIT FS-C	CS CS R CS	CS-8 CS-8 CS-8	
4270	G-3 1236-2	GLV 12	AOV	O	SSC	B ACTIVE	EX ST-C PIT FS-C	CS CS R CS	CS-8 CS-8 CS-8	
4271	D-3 1236-2	GLV 4	AOV	C	SSC	B ACTIVE	EX ST-C PIT FS-C	CS CS R CS	CS-8 CS-8 CS-8	
4272	H-3 1236-2	GLV 4	AOV	C	SSC	B ACTIVE	EX ST-C PIT FS-C	CS CS R CS	CS-8 CS-8 CS-8	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
3996	I-6 1237	SCV 5	MOV	C	3	BC ACTIVE	EX ST-O ST-C PIT CV-O	Q Q Q R Q		
3998	I-8 1237	CV 5	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q	 VR-26	
4000A	D-7 1237	GLV 3	MOV	C	3	B ACTIVE	EX ST-O ST-C PIT	Q Q Q R		
4000B	D-8 1237	GLV 3	MOV	C	3	B ACTIVE	EX ST-O ST-C PIT	Q Q Q R		
4000C	B-10 1237	CV 3	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q	 VR-26	
4000D	E-10 1237	CV 3	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q	 VR-26	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4003	I-11 1237	CV 3	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q	VR-26	
4004	J-10 1237	CV 3	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q	VR-26	
4007	B-8 1237	SCV 3	MOV	C	3	BC ACTIVE	EX ST-O ST-C PIT CV-O CV-C	Q Q Q R Q Q	VR-26	
4008	E-8 1237	SCV 3	MOV	C	3	BC ACTIVE	EX ST-O ST-C PIT CV-O CV-C	Q Q Q R Q Q	VR-26	
4009	B-5 1237	CV 3	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4010	E-5 1237	CV 3	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
4013	I-1 1237	GTV 4	MOV	C	3	B ACTIVE	EX ST-O PIT	Q Q R		
4014	H-2 1237	CV 4	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
4016	E-2 1237	CV 4	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
4017	B-2 1237	CV 4	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
4020	I-3 1237	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
4021	B-2 1237	REV .75	SAV	C	3	C ACTIVE	RT	10Y		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4022	E-3 1237	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
4023	I-5 1237	CV 1.5	SAV	C	3	C ACTIVE	CV-O	Q		
4027	C-3 1237	GTV 4	MOV	C	3	B ACTIVE	EX ST-O PIT	Q Q R		
4028	D-3 1237	GTV 4	MOV	C	3	B ACTIVE	EX ST-O PIT	Q Q R		
4098	I-2 1237	GTV 4	MAN	C	3	B ACTIVE	EX	Q		
4291	H-5 1237	GTV 1.5	AOV	O	3	B ACTIVE	EX ST-O ST-C FS-O	Q - - Q	 VR-13 VR-13 	THROTTLE DISCH TO ACTIVATE

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4297	I-10 1237	GLV 3	AOV	O	3	B ACTIVE	EX ST-O FS-O	Q - Q	GR-6	
4298	J-8 1237	GLV 3	AOV	O	3	B ACTIVE	EX ST-O FS-O	Q - Q	GR-6	
4304	C-6 1237	GTV 1	AOV	C	3	B ACTIVE	EX ST-O ST-C FS-O	Q - - Q	VR-13 VR-13	THROTTLE DISCH TO ACTIVATE
4310	E-6 1237	GTV 1	AOV	C	3	B ACTIVE	EX ST-O ST-C FS-O	Q - - Q	VR-13 VR-13	THROTTLE DISCH TO ACTIVATE
4324	J-3 1237	GTV .75	SOV	C	3	B ACTIVE	EX ST-O	Q -	VR-6	
4325	C-4 1237	GTV .5	SOV	C	3	B ACTIVE	EX ST-O	Q -	VR-6	

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Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4326	F-3 1237	GTV .5	SOV	C	3	B ACTIVE	EX ST-O	Q -	VR-6	
4344	E-3 1237	GTV 4	MAN	C	3	B ACTIVE	EX	Q		
4345	C-3 1237	GTV 4	MAN	C	3	B ACTIVE	EX	Q		
4480	B-6 1237	GTV 1.5	AOV	C	3	B ACTIVE	EX ST-C FS-C	Q - Q	GR-6	
4481	F-6 1237	GTV 1.5	AOV	C	3	B ACTIVE	EX ST-C FS-C	Q - Q	GR-6	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
9629A	B-3 1238	GTV 4	MOV	C	3	B ACTIVE	EX ST-O PIT	Q QR R		
9629B	I-3 1238	GTV 4	MOV	C	3	B ACTIVE	EX ST-O PIT	Q QR R		
9700A	B-6 1238	CV 3	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
9700B	I-6 1238	CV 3	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
9701A	B-7 1238	GLV 3	MOV	O	3	B ACTIVE	EX ST-O PIT	Q QR R		
9701B	I-7 1238	GTV 3	MOV	O	3	B ACTIVE	EX ST-O PIT	Q QR R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
9703A	F-8 1238	GLV 3	MOV	C	3	B ACTIVE	EX ST-O PIT	Q QQ R		
9703B	F-8 1238	GLV 3	MOV	C	3	B ACTIVE	EX ST-O PIT	Q QQ R		
9704A	B-9 1238	SCV 3	MOV	C	2	BC ACTIVE	EX ST-O ST-C PIT CV-O CV-C	Q QQ QR R Q Q	 VR-27	
9704B	I-9 1238	SCV 3	MOV	C	2	BC ACTIVE	EX ST-O ST-C PIT CV-O CV-C	Q QQ QR R Q Q	 VR-27	
9705A	B-10 1238	CV 3	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q	 VR-27	

Valve Number	Coor. / P&ID.	Type / Size	Actuator	Norm Pos	Safety Class	Category / Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
9705B	I-10 / 1238	CV / 3	SAV	C	2	C / ACTIVE	CV-O CV-C	Q Q	VR-27	
9709A	B-3 / 1238	REV / 1	SAV	C	3	C / ACTIVE	RT	10Y		
9709B	I-3 / 1238	REV / 1	SAV	C	3	C / ACTIVE	RT	10Y		
9710A	C-7 / 1238	GLV / 1.5	AOV	C	3	B / ACTIVE	EX ST-O PIT FS-O	Q - R Q	VR-13	
9710B	H-7 / 1238	GLV / 1.5	AOV	C	3	B / ACTIVE	EX ST-O PIT FS-O	Q - R Q	VR-13	
9721A	C-3 / 1238	CV / .5	SAV	C	3	C / ACTIVE	CV-O CV-C	Q Q		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
9721B	G-3 1238	CV .5	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
9746	I-8 1238	GTV 3	MOV	O	3	B ACTIVE	EX ST-C PIT	Q Q R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5907	E-3 1239-1	GTV 1	SOV	O	3	B ACTIVE	EX ST-O ST-C FS-C	Q Q Q Q	 VR-18 VR-18	
5907A	E-3 1239-1	GTV .75	SOV	C	3	B ACTIVE	EX ST-O ST-C FS-O	Q Q Q Q	 VR-18 VR-18	
5908	E-9 1239-2	GTV 1	SOV	O	3	B ACTIVE	EX ST-O ST-C FS-C	Q Q Q Q	 VR-18 VR-18	
5908A	E-9 1239-2	GTV .75	SOV	C	3	B ACTIVE	EX ST-O ST-C FS-O	Q Q Q Q	 VR-18 VR-18	
5933A	G-11 1239-1	GTV 1.5	SOV	C	3	B ACTIVE	EX ST-O	Q Q	 VR-1	

Valve Number	Coor. P&ID:	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5933B	F-11 1239-1	GTV 1.5	SOV	C	3	B ACTIVE	EX ST-O	Q Q	VR-1	
5934A	C-2 1239-2	GTV 1.5	SOV	C	3	B ACTIVE	EX ST-O	Q Q	VR-1	
5934B	B-2 1239-2	GTV 1.5	SOV	C	3	B ACTIVE	EX ST-O	Q Q	VR-1	
5941A	F-1 1239-1	CV .75	SAV	C	3	C ACTIVE	CV-C	Q		
5942A	F-11 1239-2	CV .75	SAV	C	3	C ACTIVE	CV-C	Q		
5943A	F-1 1239-1	REV .5	SAV	C	3	C ACTIVE	RT	10Y		
5944A	F-11 1239-2	REV .5	SAV	C	3	C ACTIVE	RT	10Y		
5947B	F-1 1239-1	REV .75	SAV	C	3	C ACTIVE	RT	10Y		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5947C	G-1 1239-1	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
5948B	G-10 1239-2	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
5948C	F-10 1239-2	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
5955	I-1 1239-1	CV 3	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
5956	I-10 1239-2	CV 3	SAV	C	3	C ACTIVE	CV-O CV-C	Q Q		
5959	G-3 1239-1	REV 1.5	SAV	C	3	C ACTIVE	RT	10Y		
5960	G-8 1239-2	REV 1.5	SAV	C	3	C ACTIVE	RT	10Y		

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Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5960A	C-1 1239-1	CV 1.5	SAV	C	3	C ACTIVE				
							CV-O	R	VR-2	SAMPLE DISASSEMBLY
							CV-C	R	VR-2	SAMPLE DISASSEMBLY
5960B	C-11 1239-2	CV 1.5	SAV	C	3	C ACTIVE				
							CV-O	R	VR-2	SAMPLE DISASSEMBLY
							CV-C	R	VR-2	SAMPLE DISASSEMBLY
5961	I-4 1239-1	CV 2	SAV	C	3	C ACTIVE				
							CV-O	Q		
							CV-C	Q		
5962	I-8 1239-2	CV 2	SAV	C	3	C ACTIVE				
							CV-O	Q		
							CV-C	Q		

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Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
17	A-3 1245	GLV 1	AOV	O	3	B ACTIVE	EX ST-C FS-C PIT	Q Q Q R		
651	A-3 1245	REV 1	SAV	C	3	C ACTIVE	RT	10Y		
723A	D-6 1245	CV 10	SAV	C,O	3	C ACTIVE	CV-P CV-O CV-C	Q CS Q	CS-31	
723B	E-6 1245	CV 10	SAV	O,C	3	C ACTIVE	CV-P CV-O CV-C	Q CS Q	CS-31	
732	A-3 1245	REV 3	SAV	C	3	C ACTIVE	RT	10Y		
738A	F-3 1245	GTV 10	MOV	C	3	B ACTIVE	EX ST-O PIT	Q Q R		

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
	738B	H-4 1245	GTV 10	MOV	C	3	B ACTIVE	EX ST-O PIT	Q Q R		
*	823	D-2 1245	GTV 2	MOV	C	3	B PASSIVE	PIT	R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
743	C-6 1246-1	CV 2	SAV	C	2	AC ACTIVE	LT-J CV-C	R Q	GR-2	
745	B-6 1246-1	GLV 2	AOV	C	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	GR-2	
749A	B-5 1246-1	GTV 3	MOV	O	2	A ACTIVE	EX ST-C PIT LT-J	CS CS R R	CS-6 CS-6 GR-2	
749B	B-4 1246-1	GTV 3	MOV	O	2	A ACTIVE	EX ST-C PIT LT-J	CS CS R R	CS-6 CS-6 GR-2	
750A	C-5 1246-1	CV 4	SAV	O	2	AC ACTIVE	LT-J CV-C	R CS	GR-2 CS-7	
750B	C-3 1246-1	CV 4	SAV	O	2	AC ACTIVE	LT-J CV-C	R CS	GR-2 CS-7	

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Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
759A	I-5 1246-1	GTV 3	MOV	O	2	A ACTIVE				
							EX	CS	CS-6	
							ST-C	CS	CS-6	
							PIT	R		
							LT-J	R	GR-2	
759B	I-2 1246-1	GTV 3	MOV	O	2	A ACTIVE				
							EX	CS	CS-6	
							ST-C	CS	CS-6	
							PIT	R		
							LT-J	R	GR-2	
813	B-8 1246-1	GTV 6	MOV	O	2	A ACTIVE				
							EX	CS	CS-12	
							ST-C	CS	CS-12	
							PIT	R		
							LT-J	R	GR-2	
814	I-8 1246-1	GTV 6	MOV	O	2	A ACTIVE				
							EX	CS	CS-12	
							ST-C	CS	CS-12	
							PIT	R		
							LT-J	R	GR-2	

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
*	624	J-7 1247	BFV 8	AOV	O	2	B PASSIVE	EX	Q		
*	625	I-8 1247	BFV 8	AOV	O	2	B PASSIVE	EX	Q		
*	626	H-7 1247	BFV 6	AOV	C	2	B PASSIVE	EX	Q		
	697A	F-9 1247	CV 8	SAV	C	2	C ACTIVE	CV-P CV-O CV-C	CS R Q	CS-30 VR-29	
	697B	B-9 1247	CV 8	SAV	C	2	C ACTIVE	CV-P CV-O CV-C	CS R Q	CS-30 VR-29	
	700	G-1 1247	GTV 10	MOV	C	1	A ACTIVE	EX ST-O PIT LT-X	CS CS R R	CS-13 CS-13	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
701	G-2 1247	GTV 10	MOV	C	1	A ACTIVE	EX	CS	CS-14	
							ST-O	CS	CS-14	
							PIT	R		
							LT-X	R		
704A	D-4 1247	GTV 10	MOV	O	2	B ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
704B	C-4 1247	GTV 10	MOV	O	2	B ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
710A	F-6 1247	CV 8	SAV	C	2	C ACTIVE	CV-P	Q		
							CV-O	R	VR-20	
							CV-C	CS	CS-32	
710B	B-6 1247	CV 8	SAV	C	2	C ACTIVE	CV-P	Q		
							CV-O	R	VR-20	
							CV-C	CS	CS-32	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
720	I-2 1247	GTV 10	MOV	C	1	A ACTIVE	EX ST-O PIT LT-X	CS CS R R	CS-14 CS-14	
721	I-1 1247	GTV 10	MOV	C	1	A ACTIVE	EX ST-O PIT LT-X	CS CS R R	CS-13 CS-13	
850A	F-4 1247	GTV 10	MOV	C	2	B ACTIVE	EX ST-O PIT	Q Q R		
850B	B-4 1247	GTV 10	MOV	C	2	B ACTIVE	EX ST-O PIT	Q Q R		
* 851A	B-1 1247	GTV 8	MOV	O	2	B PASSIVE	PIT	R		
* 851B	B-2 1247	GTV 8	MOV	O	2	B PASSIVE	PIT	R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
854	G-4 1247	CV 10	SAV	C	2	C ACTIVE	CV-O	R	VR-4	
856	G-5 1247	GTV 10	MOV	O	2	B ACTIVE	EX ST-C PIT	CS CS R	CS-28 CS-28	
857A	C-11 1247	GTV 6	MOV	C	2	B ACTIVE	EX ST-O PIT	Q Q R		
857B	B-11 1247	GTV 6	MOV	C	2	B ACTIVE	EX ST-O PIT	Q Q R		
857C	B-11 1247	GTV 6	MOV	C	2	B ACTIVE	EX ST-O PIT	Q Q R		
* 1813A	E-3 1247	GTV 6	MOV	C	2	A PASSIVE	PIT LT-J	R R	GR-2	TEST NOT REQ BY ASME

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
* 1813B	B-4 1247	GTV 6	MOV	C	2	A PASSIVE	PIT LT-J	R R	GR-2	TEST NOT REQ BY ASME

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
8614	H-8 1248	GTV 4	MAN	C	3	B ACTIVE	EX	Q		
8654	H-2 1248	GTV 6	MAN	C	3	B ACTIVE	EX	Q		
8655	H-4 1248	CV 4	SAV	C	SSC	C ACTIVE	CV-O CV-C	Q Q		
8658	I-4 1248	CV 6	SAV	O	3	C ACTIVE	CV-O CV-C	Q Q		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4561	G-9 1250-3	BFV 14	AOV	O	3	B ACTIVE	EX ST-O PIT FS-O	Q Q R Q		
4562	G-10 1250-3	BFV 14	AOV	C	3	B ACTIVE	EX ST-O PIT FS-O	Q Q R Q		
4601	D-2 1250-1	CV 14	SAV	O,C	3	C ACTIVE	CV-P CV-O CV-C	Q R Q	 VR-17	ALSO REQ AFTER DISASSEMBLY SAMPLE DISASSEMBLY
4602	E-2 1250-1	CV 14	SAV	O,C	3	C ACTIVE	CV-P CV-O CV-C	Q R Q	 VR-17	ALSO REQ AFTER DISASSEMBLY SAMPLE DISASSEMBLY
4603	F-2 1250-1	CV 14	SAV	O,C	3	C ACTIVE	CV-P CV-O CV-C	Q R Q	 VR-17	ALSO REQ AFTER DISASSEMBLY SAMPLE DISASSEMBLY

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4604	G-2 1250-1	CV 14	SAV	O,C	3	C ACTIVE	CV-P CV-O CV-C	Q R Q	VR-17	ALSO REQ AFTER DISASSEMBLY SAMPLE DISASSEMBLY
4609	C-2 1250-1	BFV 8	MOV	O	3	B ACTIVE	EX ST-C PIT	Q Q R		
4613	D-6 1250-1	BFV 10	MOV	O	3	B ACTIVE	EX ST-C PIT	Q Q R		
4614	H-2 1250-3	BFV 10	MOV	O	3	B ACTIVE	EX ST-C PIT	Q Q R		
4615	J-9 1250-1	GTV 20	MOV	O	3	B ACTIVE	EX ST-O ST-C PIT	Q Q Q R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4616	A-9 1250-1	GTV 20	MOV	O	3	B ACTIVE	EX ST-O ST-C PIT	Q Q Q R		
4619C	F-6 1250-2	GTV 12	MAN	C	3	B ACTIVE	EX	CS	CS-4	
4620B	E-6 1250-2	GTV 12	MAN	C	3	B ACTIVE	EX	CS	CS-4	MANUALLY OPERATED MOV
4622A	H-7 1250-2	GTV 6	MAN	C	3	B ACTIVE	EX	CS	CS-4	
4627	B-3 1250-3	BFV 8	MAN	O	2	A ACTIVE	EX	Q		
4628	C-3 1250-3	BFV 8	MAN	O	2	A ACTIVE	EX	Q		
4629	B-7 1250-3	BFV 8	MAN	O	2	A ACTIVE	EX LT-X	Q R		IN LIEU OF LT-J

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4630	C-7 1250-3	BFV 8	MAN	O	2	A ACTIVE	EX LT-X	Q R		IN LIEU OF LT-J
4635	D-7 1250-3	BFV 2.5	MAN	O	2	A ACTIVE	EX	Q		
4636	F-7 1250-3	BFV 2.5	MAN	O	2	A ACTIVE	EX LT-X	Q R		IN LIEU OF LT-J
4641	G-3 1250-3	BFV 8	MAN	O	2	A ACTIVE	EX	Q		
4642	H-3 1250-3	BFV 8	MAN	O	2	A ACTIVE	EX	Q		
4643	G-7 1250-3	BFV 8	MAN	O	2	A ACTIVE	EX LT-X	Q R		IN LIEU OF LT-J
4644	H-7 1250-3	BFV 8	MAN	O	2	A ACTIVE	EX LT-X	Q R		IN LIEU OF LT-J

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4653	F-6 1250-2	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
4654	D-6 1250-2	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
4657	H-8 1250-2	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
4663	I-3 1250-3	GTV 6	MOV	O	3	B ACTIVE	EX ST-C PIT	Q Q R		
4664	H-2 1250-3	GTV 10	MOV	O	3	B ACTIVE	EX ST-C PIT	Q Q R		
4670	D-5 1250-1	GTV 10	MOV	O	3	B ACTIVE	EX ST-C PIT	Q Q R		
4733	I-3 1250-3	BFV 6	MOV	O	3	B ACTIVE	EX ST-C PIT	Q Q R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
4734	E-3 1250-2	BFV 14	MOV	O	3	B ACTIVE	EX ST-O ST-C PIT	Q Q Q R		
4735	B-2 1250-2	BFV 18	MOV	O	3	B ACTIVE	EX ST-O ST-C PIT	Q Q Q R		
4739B	B-11 1250-1	GTV 3	MAN	C	3	B ACTIVE	EX	CS	CS-4	
4757	E-7 1250-3	BFV 2.5	MAN	O	2	A ACTIVE	EX	Q		
4758	D-7 1250-3	BFV 2.5	MAN	O	2	A ACTIVE	EX LT-X	Q R		IN LIEU OF LT-J
4780	C-2 1250-1	BFV 8	MOV	O	3	B ACTIVE	EX ST-C PIT	Q Q R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
9627A	B-9 1250-2	CV 4	SAV	C	3	C ACTIVE	CV-P	Q		ALSO REQ AFTER DISASSEMBLY
							CV-O	R	VR-5	SAMPLE DISASSEMBLY
							CV-C	R	VR-5	SAMPLE DISASSEMBLY
9627B	B-10 1250-2	CV 4	SAV	C	3	C ACTIVE	CV-P	Q		ALSO REQ AFTER DISASSEMBLY
							CV-O	R	VR-5	SAMPLE DISASSEMBLY
							CV-C	R	VR-5	SAMPLE DISASSEMBLY
9632A	E-9 1250-2	GTV 1.5	AOV	O	3	B ACTIVE	EX	Q		
							ST-O	Q	GR-4	
							FS-O	Q		
9632B	E-10 1250-2	GTV 1.5	AOV	O	3	B ACTIVE	EX	Q		
							ST-O	Q	GR-4	
							FS-O	Q		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
9633A	E-9 1250-2	SCV 1.5	SAV	C	3	BC ACTIVE	EX CV-O	Q Q		
9633B	E-10 1250-2	SCV 1.5	SAV	C	3	BC ACTIVE	EX CV-O	Q Q		
9634B	F-10 1250-2	GLV 2	MAN	C	3	B ACTIVE	EX	CS	CS-4	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
430	B-8 1258	GLV 3	AOV	C	1	B ACTIVE				
							EX	CS	CS-10	
							ST-O	CS	CS-10	ST USING NITROGEN
							ST-C	CS	CS-10	ST USING NITROGEN
							PIT	R		
							FS-C	CS	CS-10	
431C	C-8 1258	GLV 3	AOV	C	1	B ACTIVE				
							EX	CS	CS-10	
							ST-O	CS	CS-10	ST USING NITROGEN
							ST-C	CS	CS-10	ST USING NITROGEN
							PIT	R		
							FS-C	CS	CS-10	
434	A-9 1258	REV 4	SAV	C	1	C ACTIVE				
							PIT	R	VR-7	
							RT	5Y		
435	C-9 1258	REV 4	SAV	C	1	C ACTIVE				
							PIT	R	VR-7	
							RT	5Y		
508	F-7 1258	GTV 2	AOV	C	2	A ACTIVE				
							EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
515	C-8 1258	GTV 3	MOV	O	1	B ACTIVE	EX ST-C PIT	Q Q R		
516	B-8 1258	GTV 3	MOV	O	1	B ACTIVE	EX ST-C PIT	Q Q R		
528	E-9 1258	CV 2	SAV	C	2	AC ACTIVE	LT-J CV-C	R Q	GR-2	
529	F-9 1258	CV 2	SAV	C	2	AC ACTIVE	LT-J CV-C	R Q	GR-2	
539	E-7 1258	GLV .375	AOV	C	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	GR-2	
546	E-8 1258	GLV .375	MAN	O	2	A ACTIVE	EX LT-J	Q R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
547	E-8 1258	GLV .75	MAN	C	2	A PASSIVE	LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
590	E-7 1260	GLV 1	SOV	C	2	B ACTIVE				
							EX	CS	CS-9	
							ST-O	CS	GR-4	
							-	-	CS-9	
							PIT	R		
							FS-C	CS	CS-9	
591	E-8 1260	GLV 1	SOV	C	2	B ACTIVE				
							EX	CS	CS-9	
							ST-O	CS	GR-4	
							-	-	CS-9	
							PIT	R		
							FS-C	CS	CS-9	
592	F-7 1260	GLV 1	SOV	C	2	B ACTIVE				
							EX	CS	CS-9	
							ST-O	CS	GR-4	
							-	-	CS-9	
							PIT	R		
							FS-C	CS	CS-9	
593	F-8 1260	GLV 1	SOV	C	2	B ACTIVE				
							EX	CS	CS-9	
							ST-O	CS	GR-4	
							-	-	CS-9	
							PIT	R		
							FS-C	CS	CS-9	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
852A	F-4 1260	GTV 6	MOV	C	1	A ACTIVE				
							EX	CS	CS-15	
							ST-O	CS	CS-15	
							ST-C	CS	CS-15	
							PIT	R		
							LT-X	R		
852B	F-4 1260	GTV 6	MOV	C	1	A ACTIVE				
							EX	CS	CS-15	
							ST-O	CS	CS-15	
							ST-C	CS	CS-15	
							PIT	R		
							LT-X	R		
853A	F-5 1260	CV 6	SAV	C	1	AC ACTIVE				
							LT-X	R	GR-5	EVENT V PIV - T.S. 4.3.3
							CV-P	CS	VR-3	
							CV-O	R	VR-3	CV-O AT 120 PSID
							CV-C	R	VR-14	
853B	F-5 1260	CV 6	SAV	C	1	AC ACTIVE				
							LT-X	R	GR-5	EVENT V PIV - T.S. 4.3.3
							CV-P	CS	VR-3	
							CV-O	R	VR-3	CV-O AT 120 PSID
							CV-C	R	VR-14	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
357	B-3 1261	CV 4	SAV	C	2	C ACTIVE	CV-O	CS	CS-25	
836A	H-3 1261	GLV 2	AOV	C	2	B ACTIVE	EX ST-O FS-O	Q Q Q		
836B	H-3 1261	GLV 2	AOV	C	2	B ACTIVE	EX ST-O FS-O	Q Q Q		
845C	F-4 1261	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
845D	F-4 1261	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
847A	G-5 1261	CV 2	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q		
847B	H-5 1261	CV 2	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
860A	E-7 1261	GTV 6	MOV	C	2	B ACTIVE	EX ST-O PIT	Q Q R		
860B	E-7 1261	GTV 6	MOV	C	2	B ACTIVE	EX ST-O PIT	Q Q R		
860C	I-7 1261	GTV 6	MOV	C	2	B ACTIVE	EX ST-O PIT	Q Q R		
860D	I-7 1261	GTV 6	MOV	C	2	B ACTIVE	EX ST-O PIT	Q Q R		
861	J-2 1261	REV .75	SAV	C	2	C ACTIVE	RT	10Y		
862A	E-8 1261	CV 6	SAV	C	2	AC ACTIVE	LT-J CV-O CV-C	R Q Q	GR-2 VR-24	MECH EXERCISE

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
	862B	I-8 1261	CV 6	SAV	C	2	AC ACTIVE	LT-J CV-O CV-C	R Q Q	GR-2 VR-24	MECH EXERCISE
*	875A	F-10 1261	GLV 2	MOV	C	2	B PASSIVE	EX ST-O PIT	Q QQ R		
*	875B	F-10 1261	GLV 2	MOV	C	2	B PASSIVE	EX ST-O PIT	Q QQ R		
*	876A	H-10 1261	GLV 2	MOV	C	2	B PASSIVE	EX ST-O PIT	Q QQ R		
*	876B	H-10 1261	GLV 2	MOV	C	2	B PASSIVE	EX ST-O PIT	Q QQ R		
	896A	C-2 1261	GTV 10	MOV	O	2	B ACTIVE	EX ST-C PIT	CS CS R	CS-17 CS-17	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
896B	D-2 1261	GTV 10	MOV	O	2	B ACTIVE	EX ST-C PIT	CS CS R	CS-17 CS-17	
897	C-7 1261	GLV 2	MOV	O	2	B ACTIVE	EX ST-C PIT	Q Q R		
898	C-7 1261	GLV 2	MOV	O	2	B ACTIVE	EX ST-C PIT	Q Q R		
1802	F-3 1261	REV .75	SAV	C	3	C ACTIVE	RT	10Y		
1819A	A-10 1261	GLV .75	MAN	O	2	A ACTIVE	EX LT-J	CS R	CS-19 GR-2	
1819B	A-9 1261	GLV .75	MAN	O	2	A ACTIVE	EX LT-J	CS R	CS-19 GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
1819C	B-10 1261	GLV .75	MAN	O	2	A ACTIVE	EX LT-J	CS R	CS-19 GR-2	
1819D	B-9 1261	GLV .75	MAN	O	2	A ACTIVE	EX LT-J	CS R	CS-19 GR-2	
1819E	C-10 1261	GLV .75	MAN	O	2	A ACTIVE	EX LT-J	CS R	CS-19 GR-2	
1819F	C-9 1261	GLV .75	MAN	O	2	A ACTIVE	EX LT-J	CS R	CS-19 GR-2	
1819G	C-10 1261	GLV .75	MAN	O	2	A ACTIVE	EX LT-J	CS R	CS-19 GR-2	
2850	B-2 1261	REV 6	SAV	C	2	C ACTIVE	RT	10Y		
2851	B-2 1261	REV 6	SAV	C	2	C ACTIVE	RT	10Y		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
825A	E-3 1262-1	GTV 8	MOV	C	2	B ACTIVE	EX ST-O PIT	Q QR R		
825B	F-3 1262-1	GTV 8	MOV	C	2	B ACTIVE	EX ST-O PIT	Q QR R		
826A	I-5 1262-1	GTV 8	MOV	O	2	B ACTIVE	EX ST-O ST-C PIT	Q QQ QR R		
826B	I-6 1262-1	GTV 8	MOV	C	2	B ACTIVE	EX ST-O ST-C PIT	Q QQ QR R		
826C	J-5 1262-1	GTV 8	MOV	O	2	B ACTIVE	EX ST-O ST-C PIT	Q QQ QR R		

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
	826D	J-6 1262-1	GTV 8	MOV	C	2	B ACTIVE	EX ST-O ST-C PIT	Q Q Q R		
	830A	A-6 1262-2	REV 1	SAV	C	2	C ACTIVE	RT	10Y		
	830B	E-6 1262-2	REV 1	SAV	C	2	C ACTIVE	RT	10Y		
*	834A	A-5 1262-2	GLV 1	AOV	C	2	B PASSIVE	PIT	R		
*	834B	E-5 1262-2	GLV 1	AOV	C	2	B PASSIVE	PIT	R		
*	835A	C-4 1262-2	GLV 1	AOV	C	2	B PASSIVE	PIT	R		
*	835B	G-5 1262-2	GLV 1	AOV	C	2	B PASSIVE	PIT	R		
*	839A	C-8 1262-2	GLV .75	AOV	C	2	B PASSIVE	PIT	R		

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
*	839B	D-8 1262-2	GLV .75	AOV	C	1	B PASSIVE				
								PIT	R		
*	840A	G-7 1262-2	GLV .75	AOV	C	2	B PASSIVE				
								PIT	R		
*	840B	H-7 1262-2	GLV .75	AOV	C	1	B PASSIVE				
								PIT	R		
	841	C-7 1262-2	GTV 10	MOV	O	2	B ACTIVE				
								EX	CS	CS-33	
								ST-C	CS	CS-33	
								PIT	CS		
	842A	D-7 1262-2	CV 10	SAV	C	1	AC ACTIVE				
								LT-X	R		
								CV-P	Q		ALSO REQ AFTER DISASSEMBLY
								CV-O	6Y	VR-8	VALVE DISASSEMBLY
								CV-C	6Y	VR-8	VALVE DISASSEMBLY
	842B	G-7 1262-2	CV 10	SAV	C	1	AC ACTIVE				
								LT-X	R		
								CV-P	Q		ALSO REQ AFTER DISASSEMBLY
								CV-O	6Y	VR-8	VALVE DISASSEMBLY
								CV-C	6Y	VR-8	VALVE DISASSEMBLY

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
*	844A	C-8 1262-2	GLV 1	AOV	C	2	B PASSIVE	PIT	R		
*	844B	G-8 1262-2	GLV 1	AOV	C	2	B PASSIVE	PIT	R		
	846	A-6 1262-1	GLV 1	AOV	C	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	 GR-2	
	865	G-7 1262-2	GTV 10	MOV	O	2	B ACTIVE	EX ST-C PIT	CS CS CS	CS-33 CS-33	
	867A	D-7 1262-2	CV 10	SAV	C	1	AC ACTIVE	LT-X CV-P CV-O CV-C	R R 6Y 6Y	GR-5 VR-9 VR-9	EVENT V PIV - T.S. 4.3.3 ALSO REQ AFTER DISASSEMBLY VALVE DISASSEMBLY VALVE DISASSEMBLY
	867B	H-7 1262-2	CV 10	SAV	C	1	AC ACTIVE	LT-X CV-P CV-O CV-C	R R 6Y 6Y	GR-5 VR-9 VR-9	EVENT V PIV - T.S. 4.3.3 ALSO REQ AFTER DISASSEMBLY VALVE DISASSEMBLY VALVE DISASSEMBLY

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
870A	C-7 1262-1	CV 3	SAV	C	2	AC ACTIVE	LT-J CV-P CV-O CV-C	R Q R Q	GR-2 VR-11	
870B	E-7 1262-1	CV 3	SAV	C	2	AC ACTIVE	LT-J CV-P CV-O CV-C	R Q R Q	GR-2 VR-11	
871A	D-7 1262-1	GTV 3	MOV	O	2	B ACTIVE	EX ST-C PIT	Q Q R		
871B	E-7 1262-1	GTV 3	MOV	O	2	B ACTIVE	EX ST-C PIT	Q Q R		
872A	C-2 1262-2	CV .75	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q		
872B	I-3 1262-2	CV .75	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q		

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
	877A	E-3 1262-2	CV 2	SAV	C	1	AC PASSIVE	LT-X	R	GR-5	EVENT V PIV - T.S. 4.3.3
	877B	I-6 1262-2	CV 2	SAV	C	1	AC PASSIVE	LT-X	R	GR-5	EVENT V PIV - T.S. 4.3.3
	878A	E-3 1262-2	GLV 2	MOV	C	2	A PASSIVE	PIT LT-X	R R	 GR-5	PIT DURING LT-X ONLY TECH SPEC PIV - T.S. 4.3.3
*	878B	D-4 1262-2	GLV 2	MOV	O	2	B PASSIVE	PIT	R		
	878C	I-5 1262-2	GLV 2	MOV	C	2	A PASSIVE	PIT LT-X	R R	 GR-5	PIT DURING LT-X ONLY TECH SPEC PIV - T.S. 4.3.3
*	878D	H-5 1262-2	GLV 2	MOV	O	2	B PASSIVE	PIT	R		
	878F	E-3 1262-2	CV 2	SAV	C	1	AC PASSIVE	LT-X	R	GR-5	EVENT V PIV - T.S. 4.3.3

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
878G	D-5 1262-2	CV 2	SAV	C	1	AC ACTIVE	LT-X CV-O CV-C	R R Q	GR-5 VR-10	EVENT V PIV - T.S. 4.3.3
878H	I-6 1262-2	CV 2	SAV	C	1	AC PASSIVE	LT-X	R	GR-5	EVENT V PIV - T.S. 4.3.3
878J	H-6 1262-2	CV 2	SAV	C	1	AC ACTIVE	LT-X CV-O CV-C	R R Q	GR-5 VR-10	EVENT V PIV - T.S. 4.3.3
879	G-5 1262-1	GLV .75	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
887	H-8 1262-2	REV .75	SAV	C	2	C ACTIVE	RT	10Y		
889A	C-5 1262-1	CV 3	SAV	C	2	AC ACTIVE	LT-J CV-P CV-O CV-C	R Q R Q	GR-2 VR-11	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
889B	F-6 1262-1	CV 3	SAV	C	2	AC ACTIVE	LT-J CV-P CV-O CV-C	R Q R Q	GR-2 VR-11	
891A	B-3 1262-1	CV 1.5	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q		
891B	D-5 1262-1	CV 1.5	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q		
891C	E-5 1262-1	CV 1.5	SAV	C	2	C ACTIVE	CV-O CV-C	Q Q		
1815A	D-4 1262-1	GTV 4	MOV	O	2	B ACTIVE	EX ST-O PIT	Q Q R		
1815B	D-3 1262-1	GTV 4	MOV	O	2	B ACTIVE	EX ST-O PIT	Q Q R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
1817	D-4 1262-1	REV .75	SAV	C	2	C ACTIVE	RT	10Y		
1828	E-2 1262-1	CV .75	SAV	C	2	C ACTIVE	CV-O	Q		
8623	A-3 1262-2	CV 1	SAV	C	2	AC ACTIVE	LT-J CV-C	R Q	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
8606A	B-4 1263	CV 1	SAV	C	2	AC ACTIVE	LT-X CV-C	R R	 VR-19	
8606B	G-4 1263	CV 1	SAV	C	2	AC ACTIVE	LT-X CV-C	R R	 VR-19	
8608A	C-4 1263	REV .75	SAV	C	2	C ACTIVE	RT	10Y		
8608B	G-4 1263	REV .75	SAV	C	2	C ACTIVE	RT	10Y		
8615A	B-6 1263	REV 1	SAV	C	2	C ACTIVE	RT	10Y		
8615B	F-6 1263	REV 1	SAV	C	2	C ACTIVE	RT	10Y		
8616A	B-7 1263	TWV .75	SOV	C	2	B ACTIVE	EX ST-O	CS -	CS-11 VR-15	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
8616B	G-7 1263	TWV .75	SOV	C	2	B ACTIVE	EX ST-O	CS -	CS-11 VR-15	
8619A	C-9 1263	TWV 1	SOV	C	2	B ACTIVE	EX ST-O ST-C	CS - -	CS-11 VR-15 VR-15	
8619B	G-9 1263	TWV 1	SOV	C	2	B ACTIVE	EX ST-O ST-C	CS - -	CS-11 VR-15 VR-15	
8630A	C-9 1263	CV 1	SAV	C	2	C ACTIVE	CV-O CV-C	CS CS	CS-11 CS-11	BY PORV TEST
8630B	G-9 1263	CV 1	SAV	C	2	C ACTIVE	CV-0 CV-C	CS CS	CS-11 CS-11	BY PORV TEST

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
123	E-9 1264	GLV .75	AOV	C	1	A PASSIVE				
							LT-X	R		
200A	B-11 1264	GLV 2	AOV	O,C	1	A ACTIVE				
							EX	CS	CS-26	
							ST-C	CS	CS-26	
							PIT	R		
							FS-C	CS	CS-26	
							LT-J	R	GR-2	
							LT-X	R		
200B	B-10 1264	GLV 2	AOV	O,C	1	A ACTIVE				
							EX	CS	CS-26	
							ST-C	CS	CS-26	
							PIT	R		
							FS-C	CS	CS-26	
							LT-J	R	GR-2	
							LT-X	R		
202	B-10 1264	GLV 2	AOV	C	1	A ACTIVE				
							EX	CS	CS-26	
							ST-C	CS	CS-26	
							PIT	R		
							FS-C	CS	CS-26	
							LT-J	R	GR-2	
							LT-X	R		
203	A-8 1264	REV 2	SAV	C	2	C ACTIVE				
							RT	10Y		

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
*	310	C-9 1264	GLV .75	AOV	C	1	B PASSIVE	PIT	R		
	371	B-7 1264	GLV 2	AOV	O	2	A ACTIVE	EX ST-C PIT FS-C LT-J	CS CS R CS R	CS-26 CS-26 CS-26 GR-2	
	702	A-10 1264	CV .75	SAV	C	2	C ACTIVE	CV-O	CS	CS-18	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
112B	F-3 1265-2	BFV 4	AOV	C	2	B ACTIVE				
							EX	CS	CS-25	
							ST-O	CS	CS-25	
							PIT	R		
							FS-C	CS	CS-25	
112C	D-3 1265-2	BFV 4	AOV	O	2	B ACTIVE				
							EX	CS	CS-24	
							ST-C	CS	CS-24	
							PIT	R		
							FS-O	CS	CS-24	
142	E-9 1265-2	GLV 2	AOV	O	2	B ACTIVE				
							EX	CS	CS-23	
							ST-O	-	GR-6	
							FS-O	CS	CS-23	
257	A-4 1265-2	REV 2	SAV	C	2	C ACTIVE				
							RT	10Y		
268	F-3 1265-2	BFV 4	MAN	O	2	B ACTIVE				
							EX	CS	CS-24	
270A	F-3 1265-1	GLV 2	AOV	O	2	B ACTIVE				
							EX	CS	CS-21	
							ST-C	CS	CS-21	
							PIT	R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
270B	F-6 1265-1	GLV 2	AOV	O	2	B ACTIVE	EX ST-C PIT	CS CS R	CS-21 CS-21	
283	H-6 1265-2	REV .75	SAV	C	2	C ACTIVE	RT	10Y		
284	F-6 1265-2	REV .75	SAV	C	2	C ACTIVE	RT	10Y		
285	E-6 1265-2	REV .75	SAV	C	2	C ACTIVE	RT	10Y		
302C	G-6 1265-1	CV 2	SAV	0	2	C ACTIVE	CV-O	Q		NORMAL OPS SEAL FLOW
302D	G-3 1265-1	CV 2	SAV	0	2	C ACTIVE	CV-O	Q		NORMAL OPS SEAL FLOW
304A	H-3 1265-1	CV 2	SAV	0	2	AC ACTIVE	LT-J CV-O CV-C	R Q CS	GR-2 CS-21	NORMAL OPS SEAL FLOW

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
304B	H-6 1265-1	CV 2	SAV	O	2	AC ACTIVE	LT-J CV-O CV-C	R Q CS	GR-2 CS-21	NORMAL OPS SEAL FLOW
313	D-8 1265-2	GTV 3	MOV	O	2	A ACTIVE	EX ST-C PIT LT-J	CS CS R R	CS-22 CS-22 GR-2	
314	B-4 1265-1	REV 2	SAV	C	2	C ACTIVE	RT	10Y		
358	F-3 1265-2	BFV 4	MAN	C	2	B ACTIVE	EX	CS	CS-25	
370B	B-2 1265-1	CV 2	SAV	O	1	AC ACTIVE	LT-J LT-X CV-O CV-C	R R CS CS	GR-2 CS-23 CS-23	
383B	H-2 1265-1	CV 2	SAV	C	2	AC ACTIVE	LT-J LT-X CV-C	R R CS	GR-2 CS-27	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
386	C-4 1265-1	GTV 1	AOV	O	2	B ACTIVE	EX	CS	CS-22	
							ST-C	CS	CS-22	
							PIT	R		
							FS-C	CS	CS-22	
392A	A-9 1265-1	GLV 2	AOV	C	1	BC ACTIVE	PIT	R		
							RT	R	VR-16	
393	A-10 1265-1	CV 2	SAV	C	1	C ACTIVE	CV-O	CS	CS-23	
9315	A-9 1265-1	CV 2	SAV	C	1	C ACTIVE	CV-O	CS	CS-23	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
1003A	D-4 1272-2	DIV 3	AOV	O	2	A ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	
1003B	E-4 1272-2	DIV 3	AOV	O	2	A ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	
1655	B-2 1272-2	GLV .375	MAN	O	2	A ACTIVE	EX	Q		
							LT-J	R	GR-2	
1713	A-3 1272-2	CV 1	SAV	C	2	AC ACTIVE	LT-J	R	GR-2	
							CV-C	CS	CS-34	
1721	D-2 1272-2	DIV 3	AOV	O	2	A ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
1786	B-5 1272-2	DIV 1	AOV	O	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q QR R Q R	 GR-2	
1787	B-5 1272-2	DIV 1	AOV	O	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q QR R Q R	 GR-2	
1789	B-5 1272-2	DIV .75	AOV	O	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q QR R Q R	 GR-2	
1793	A-3 1272-2	DIV 1	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
* 1811A	D-7 1272-2	GTV 2	MAN	C	2	B PASSIVE	-	-		CLASS BOUNDARY ID - NO TEST REQ
* 1811B	E-7 1272-2	GTV 2	MAN	C	2	B PASSIVE	-	-		CLASS BOUNDARY ID - NO TEST REQ

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
* 14	I-3 1273-2	GLV 2	AOV	C	SSC	B ACTIVE	EX PIT FS-C	Q R Q		

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C	ATTACHMENT B VALVE TESTING PROGRAM PLAN FOR THE 1990 - 1999 INTERVAL	System: H2 RECOMBINERS Dwg No: 33013-1275		
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	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
	1076A	B-7 1275-1	DIV 1	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
	1076B	E-8 1275-1	DIV 1	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
	1080A	E-1 1275-1	GTV 1	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
	1084A	D-7 1275-1	DIV 1	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
	1084B	G-8 1275-1	DIV 1	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
*	8423A	A-6 1275-2	CV 1	SAV	C	NC	C ACTIVE	CV-O	R		
*	8425A	G-5 1275-2	CV 2	SAV	C	NC	C ACTIVE	CV-O	R		
*	8427A	F-5 1275-2	CV .75	SAV	C	NC	C ACTIVE	CV-O	R		

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
*	8433A	D-5 1275-2	CV 2	SAV	C	NC	C ACTIVE	CV-O	R		
*	8435A	C-5 1275-2	CV .75	SAV	C	NC	C ACTIVE	CV-O	R		
	10205S1	B-7 1275-1	GTV 1	SOV	C	2	A PASSIVE	LT-J	R	GR-2	
	10209S1	D-7 1275-1	GTV 1	SOV	C	2	A PASSIVE	LT-J	R	GR-2	
	10211S1	E-8 1275-1	GTV 1	SOV	C	2	A PASSIVE	LT-J	R	GR-2	
	10213S1	G-8 1275-1	GTV 1	SOV	C	2	A PASSIVE	LT-J	R	GR-2	
	10214S1	C-1 1275-1	GTV 1	SOV	C	2	A PASSIVE	LT-J	R	GR-2	
	10215S1	E-1 1275-1	GTV 1	SOV	C	2	A PASSIVE	LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5701	C-3 1277-1	GLV 2	MAN	O	-2	A ACTIVE	EX LT-J	Q R	GR-2	
5702	H-3 1277-1	GLV 2	MAN	O	2	A ACTIVE	EX LT-J	Q R	GR-2	
5733	A-3 1277-1	GLV .75	MAN	O	2	A ACTIVE	EX LT-J	Q R	GR-2	
5734	F-3 1277-1	GLV .75	MAN	O	2	A ACTIVE	EX LT-J	Q R	GR-2	
5735	A-4 1277-1	GTV .75	AOV	O	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	GR-2	
5736	F-4 1277-1	GTV .75	AOV	O	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5737	H-4 1277-1	GTV 2	AOV	O	2	A ACTIVE				
							EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	
5738	C-4 1277-1	GTV 2	AOV	O	2	A ACTIVE				
							EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
921	G-1 1278-1	GTV .375	SOV	C	2	A ACTIVE				
							EX	Q		
							ST-O	Q	GR-4	
							ST-C	Q	GR-4	
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	
922	H-2 1278-1	GTV .375	SOV	C	2	A ACTIVE				
							EX	Q		
							ST-O	Q	GR-4	
							ST-C	Q	GR-4	
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	
923	J-1 1278-1	GTV .375	SOV	C	2	A ACTIVE				
							EX	Q		
							ST-O	Q	GR-4	
							ST-C	Q	GR-4	
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	
924	I-2 1278-1	GTV .375	SOV	C	2	A ACTIVE				
							EX	Q		
							ST-O	Q	GR-4	
							ST-C	Q	GR-4	
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
951	E-8 1278-1	GLV .375	AOV	O	1	B ACTIVE	EX ST-C PIT FS-C	Q Q R Q		
953	D-8 1278-1	GLV .375	AOV	O	1	B ACTIVE	EX ST-C PIT FS-C	Q Q R Q		
955	B-8 1278-1	GLV .5	AOV	C	1	B ACTIVE	EX ST-C PIT FS-C	Q Q R Q		
956D	B-9 1278-1	GLV .375	MAN	O	2	A ACTIVE	EX LT-J	Q R	GR-2	
956E	D-9 1278-1	GLV .375	MAN	O	2	A ACTIVE	EX LT-J	Q R	GR-2	
956F	E-9 1278-1	GLV .375	MAN	O	2	A ACTIVE	EX LT-J	Q R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
959	C-3 1278-2	GLV .375	AOV	C	2	B PASSIVE	PIT	R		
966A	E-9 1278-1	GLV .375	AOV	C	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	 GR-2	
966B	D-9 1278-1	GLV .375	AOV	C	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	 GR-2	
966C	B-9 1278-1	GTV .375	AOV	C	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	 GR-2	
7448	G-1 1278-1	GTV .375	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
7452	H-2 1278-1	GTV .375	MAN	C	2	A PASSIVE	LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
7456	I-1 1278-I	GTV .375	MAN	C	2	A PASSIVE	LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
1723	E-2 1279	DIV 3	AOV	O	2	A ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	
1728	F-2 1279	DIV 3	AOV	O	2	A ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
1554	C-5 / 1863	DIV / .5	MAN	C	2	A / PASSIVE	LT-J	R	GR-2	
1556	C-5 / 1863	DIV / .5	MAN	C	2	A / PASSIVE	LT-J	R	GR-2	
1557	C-5 / 1863	DIV / .5	MAN	C	2	A / PASSIVE	LT-J	R	GR-2	
1559	C-4 / 1863	DIV / .5	MAN	C	2	A / PASSIVE	LT-J	R	GR-2	
1560	D-5 / 1863	DIV / .5	MAN	C	2	A / PASSIVE	LT-J	R	GR-2	
1562	D-5 / 1863	DIV / .5	MAN	C	2	A / PASSIVE	LT-J	R	GR-2	
1563	J-5 / 1863	DIV / .5	MAN	C	2	A / PASSIVE	LT-J	R	GR-2	
1565	J-6 / 1863	DIV / .5	MAN	C	2	A / PASSIVE	LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
1566	J-5 1863	DIV .5	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
1568	J-6 1863	DIV .5	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
1569	B-11 1863	DIV .5	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
1571	B-11 1863	DIV .5	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
1572	B-12 1863	DIV .5	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
1574	B-12 1863	DIV .5	MAN	C	2	A PASSIVE	LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5869	F-9 1865	BFV 48	AOV	C	2	B ACTIVE	EX	R		OOS WITH FLANGE INSTALLED
							ST-C	R		
							PIT	R		
							FS-C	R		
7445	H-7 1865	BFV 6	AOV	O,C	2	A ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	
7478	H-8 1865	BFV 6	AOV	O,C	2	A ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C	ATTACHMENT B VALVE TESTING PROGRAM PLAN FOR THE 1990 - 1999 INTERVAL	System: CONTAINMENT HVAC PURGE EXHAUST Dwg No: 33013-1866		
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Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
1596	I-10 1866	GLV 1	MAN	O	2	A ACTIVE	EX LT-J	Q R	GR-2	
1597	I-9 1866	DIV 1	AOV	O	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	GR-2	
1598	G-10 1866	DIV 1	AOV	O	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	GR-2	
1599	G-10 1866	DIV 1	AOV	O	2	A ACTIVE	EX ST-C PIT FS-C LT-J	Q Q R Q R	GR-2	
5879	I-2 1866	BFV 48	AOV	C	2	B ACTIVE	EX ST-C PIT FS-C	R R R R		OOS WITH FLANGE INSALLED

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C	ATTACHMENT B VALVE TESTING PROGRAM PLAN FOR THE 1990 - 1999 INTERVAL	System: AUX/INT BUILDING HVAC Dwg No: 33013-1870		
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Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
7970	G-2 1870	BFV 6	AOV	O,C	2	A ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	
7971	G-4 1870	BFV 6	AOV	O,C	2	A ACTIVE	EX	Q		
							ST-C	Q		
							PIT	R		
							FS-C	Q		
							LT-J	R	GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
7443	E-9 1882	BFV 6	MOV	C	2	A PASSIVE	PIT LT-J	R R	 GR-2	
7444	J-5 1882	BFV 6	MOV	C	2	A PASSIVE	PIT LT-J	R R	 GR-2	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
7141	C-3 1886-2	GTV 2	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
7226	C-5 1886-2	CV 2	SAV	C	2	AC ACTIVE	LT-J CV-C	R CS	GR-2 CS-34	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5393	D-4 1887	CV 2	SAV	O	2	AC ACTIVE	LT-J CV-C	R R	GR-2 GR-3	

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5392	A-11 1893	GTV 2	AOV	O	2	A ACTIVE				
							EX	R	VR-12	
							ST-C	R	VR-12	
							PIT	R		
							FS-C	R	VR-12	
							LT-J	R	GR-2	

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C	ATTACHMENT B VALVE TESTING PROGRAM PLAN FOR THE 1990 - 1999 INTERVAL	System: PRIMARY WATER TREATMENT Dwg No: 33013-1908		
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Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
8418	A-4 1908-3	GLV 2	AOV	C	2	A ACTIVE				
							EX	Q		
							ST-C	Q		
							PIT	Q		
							FS-C	Q		
							LT-J	R	GR-2	
8419	A-5 1908-3	CV 2	SAV	C	2	AC ACTIVE				
							LT-J	R	GR-2	
							CV-C	CS	CS-20	

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C	ATTACHMENT B VALVE TESTING PROGRAM PLAN FOR THE 1990 - 1999 INTERVAL	System: CNMT HEATING STEAM & CONDENSATE Dwg No: 33013-1915		
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Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
6151	C-1 1915	GTV 2	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
6152	E-2 1915	GTV 2	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
6165	C-1 1915	GTV 2	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
6175	E-1 1915	GTV 2	MAN	C	2	A PASSIVE	LT-J	R	GR-2	

	Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
*	5133	C-8 1989	CV 10	SAV	C	SSC	C ACTIVE	CV-O	Q		
*	5134	C-7 1989	REV 6	SAV	C	SSC	C ACTIVE	RT	10Y		
*	5135	I-2 1989	REV 6	SAV	C	SSC	C ACTIVE	RT	10Y		
*	5136	I-3 1989	CV 10	SAV	C	SSC	C ACTIVE	CV-O	Q		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
* 5171	B-11 1990-I	GTV 10	MOV	O	SSC	B ACTIVE	EX ST-O ST-C PIT	Q Q Q R		

Valve Number	Coor. P&ID.	Type Size	Actuator	Norm Pos	Safety Class	Category Act/Pas	Required Tests	Freq	Rel.Req CSJ	Remarks
5129	D-7 1991	GTV 2	MAN	C	2	A PASSIVE	LT-J	R	GR-2	
9227	B-5 1991	GTV 4	AOV	C	2	A ACTIVE	EX	CS	CS-29	
							ST-C	CS	CS-29	
							PIT	R		
							FS-C	CS	CS-29	
							LT-J	R	GR-2	
9229	C-5 1991	CV 4	SAV	C	2	AC ACTIVE	LT-J	R	GR-2	
							CV-C	CS	CS-29	

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C PUMP AND VALVE TESTING PROGRAM ROCHESTER GAS & ELECTRIC CORPORATION		REV. 1	PAGE 1 OF 8
	EFFECTIVE DATE: June 1, 1991		
TITLE: ATTACHMENT C PUMP AND VALVE COLD SHUTDOWN JUSTIFICATION FOR THE 1990-1999 INTERVAL		SIGNATURE	DATE
	PREPARED BY:	KAMull	7/12/91
	Nuclear Safety & Licensing	[signature]	8-16-91
	Manager, Mechanical Engineering	[signature]	8/30/91

Cold Shutdown Justification

CS No.	Valve ID
CS-1	3516, 3517
CS-2	3518, 3519
CS-3	3410, 3411
CS-4	4619C, 4620B, 4622A, 4739B, 9634B
CS-5	Deleted (3992, 3993, see VR-21)
CS-6	749A/B, 759 A/B
CS-7	750A/B
CS-8	4269, 4270, 4271, 4272
CS-9	590, 591, 592, 593
CS-10	430, 431C
CS-11	8616A/B, 8619A/B, 8630A/B
CS-12	813, 814
CS-13	700, 721
CS-14	701, 720
CS-15	852A/B
CS-16	Deleted (853A/B, see VR-3)
CS-17	896A/B
CS-18	702
CS-19	1819A through G
CS-20	8419
CS-21	270A/B, 304A/B
CS-22	313, 386
CS-23	142, 370B, 393, 9315
CS-24	112C, 268
CS-25	112B, 357, 358
CS-26	371, 200A/B, 202
CS-27	383B
CS-28	856
CS-29	9227/9229
CS-30	697A/B
CS-31	723A/B
CS-32	710A/B
CS-33	841,865
CS-34	1713,7226

Cold Shutdown Justification

CS - 1: Valves 3516 and 3517 are main steam isolation valves. Closure of these valves during power operation could result in a reactor trip. Testing will be performed during cold shutdown.

CS - 2: Valves 3518 and 3519 are main steam line non-return valves. Exercising these valves to the closed position is not possible without isolating the main steam header. This would require a power reduction and possible undesirable system transients that can result in a reactor trip which is unacceptable from an operational view point. These valves will be verified closed during normal plant shutdown to cold shutdown, when the main steam isolation valves are closed. If the plant shutdown is a result of a plant trip, these valves will be verified closed subsequent to the plant trip.

CS - 3: Valves 3410 and 3411 are atmospheric relief valves. Exercising these valves during power operation would cause severe system transients that could result in a plant trip. Testing will be performed during cold shutdown.

CS - 4: Valves 4619C, 4620B, 4622A, 4739B and 9634B are redundant Station Service Water (SSW) outlet valves from Component Cooling Water heat exchangers, spent fuel pit heat exchangers, Safety Injection Pump motor coolers and Standby Auxiliary Feedwater room coolers. These valves are required to open to provide a flowpath for service water to the Deer Creek discharge pipe. These flowpaths would only be required when the normal discharge canal became blocked. Due to environmental restrictions on discharges to Deer Creek, quarterly testing is not practical. Testing will be performed during cold shutdown.

CS - 5: Deleted (3992 and 3993 are addressed in VR-21).

CS - 6: Valves 749 A & B and 759 A & B are Component Cooling Water (CCW) supply and return valves to the Reactor Coolant Pump (RCP) thermal barriers. Stroking these valves to the closed position during power operation would interrupt cooling flow to the RCP thermal

barriers. This could result in damage to an operating reactor coolant pump and a reactor trip. Testing will be performed during cold shutdown.

CS - 7: Valves 750 A & B are Component Cooling Water (CCW) supply check valves to the reactor coolant pump thermal barriers. Reverse flow exercising of these valves would require isolation of CCW to the thermal barriers. This could result in damage to an operating reactor coolant pump and a reactor trip. Testing will be performed during cold shutdown.

CS - 8: Valves 4269 and 4270 are main feedwater regulating valves. Valves 4271 and 4272 are their respective bypass valves. During power operation, exercising these valves would be impractical. Closing the valves during operation could isolate feedwater to the steam generators which can result in severe transients including loss of RCS heat sink and a reactor trip. Testing will be performed during cold shutdown.

CS - 9: Valves 590, 591, 592 and 593 are reactor vessel head vent valves. Stroking these valves during power operation should not be performed since exercising these valves would allow discharge of reactor coolant into the containment atmosphere. Also, exercising the inboard valve at power tends to burp the system, which could possibly unseat the closed valve. Furthermore, failure of any one of these valves in the open direction would reduce the system to single-valve-protection between RCS and Containment atmosphere. Testing will be performed during cold shutdown.

CS - 10: Valves 430 and 431C are Pressurizer Power Operated Relief Valves (PORV). Normally closed, these valves open to protect against excessive pressure surges. Exercising these valves during power operation could cause unplanned pressure transients in the RCS resulting in a reactor trip. Testing will be performed following power operation during cooldown (at a point >330°F, <350°F, <410 psig) to verify operability prior to LTOP operation. Testing will also be performed during cold shutdown prior to heatup.

CS - 11: Valves 8616 A & B are Overpressure Protection System (OPS) surge tank charging valves. Valves 8619 A & B are Nitrogen three way solenoid actuating valves for the power operated relief valves (PORVs). Valves 8630 A & B are the PORV actuating line check valves. Exercising these valves during power operation would actuate the power operated relief valves. Valve testing will be performed at cold shutdown in conjunction with the PORV exercising as described in CS - 10.

CS - 12: Valves 813 and 814 are the Component Cooling Water (CCW) supply and return valves to the reactor support coolers. Exercising these valves during power operation would isolate cooling water to the reactor vessel supports which could cause undue thermal stress. Testing will be performed during cold shutdown.

CS - 13: Valves 700 and 721 are the inboard isolation valves isolating the Reactor Coolant System (RCS) from Residual Heat Removal (RHR) suction and return lines. Exercising these valves is not possible due to a high pressure interlock which prevents the valves from opening when RCS pressure is above 410 psig. Testing will be performed during cold shutdown.

CS - 14: Valves 701 and 720 are outboard isolation valves isolating the Reactor Coolant System (RCS) from Residual Heat Removal (RHR) suction and return lines. Exercising these valves during power operation is impractical. Failure of one of these valves in the open position would reduce the system to single-valve-protection between the RCS and RHR systems. Leakage of the associated inboard valve could cause an inter-system LOCA. Testing will be performed during cold shutdown.

CS - 15: Valves 852A & B are Residual Heat Removal (RHR) discharge motor operated valves to the reactor vessel. These valves open to provide safety injection flow to the reactor vessel. These valves should not be exercised during normal power operation as this would reduce the system to single-valve-protection between the RCS and RHR system and could result in an intersystem LOCA outside of containment.

Testing will be performed during cold shutdown.

CS - 16: Deleted (853A/B are addressed in VR-3)

CS - 17: Valves 896 A & B are Refueling Water Storage Tank (RWST) outlet isolation valves. Exercising these valves during power operation is impractical. Failure of one of these valves in the closed position during power operation would render both containment spray and safety injection trains inoperable which would require shutting down the reactor. Testing will be performed during cold shutdown.

CS - 18 Valve 702 provides a flow path from the Residual Heat Removal (RHR) discharge line to the letdown header for pressure relief. Exercising this check valve during power operation would require isolating letdown which could result in loss of pressurizer level control and cause a reactor trip. Testing will be performed during cold shutdown.

CS - 19: Valves 1819A thru G are containment pressure transmitter isolation valves. These normally open valves are containment isolation valves. Exercising these valves during power operation can disable associated pressure channels and cause a plant trip function to be inoperable. Testing will be performed during cold shutdown.

CS - 20: Valve 8419 is the demineralized water inboard containment isolation valve. Demineralized water is isolated from containment during power operations. As the valve is normally closed in its safety function position during power operation, testing will be performed during cold shutdown.

CS - 21: Valves 304 A & B are Reactor Coolant Pump (RCP) seal injection line check valves. Valves 270 A & B are RCP seal water return line isolation valves. Exercising these valves would require isolation of seal injection/return to RCP seals which could damage seals and require the plant to shut down. Full flow capability will be verified quarterly based on normal operating seal injection flow, and valve exercising will be performed during cold shutdown.

CS - 22: Valves 313 and 386 are seal water return and seal bypass return line isolation valves. Stroking these valves in the closed position during normal operation would interrupt flow from RCP seals which could damage seals and require the plant to shut down. Testing will be performed during cold shutdown.

CS - 23: Valves 142 and 370 B are the charging flow control valve and charging header check valve. Valves 393 & 9315 are charging line to Reactor Coolant System (RCS) Loop B hot leg check valves. Exercising these valves during power operation would isolate charging flow to the RCS which could result in loss of pressurizer level control and cause a reactor trip. In addition, exercising these valves during power operation may result in excessive thermal cycles to the regenerative heat exchanger which could cause premature equipment failure and reduction in its expected service life. Testing will be performed during cold shutdown.

CS - 24: Valve - 112 C is the Volume Control Tank (VCT) outlet and valve 268 is the manual isolation. Exercising these valves during power operation would isolate the charging pumps normal suction path, and require placing an alternate flow path in service. Alternate suction flow paths would cause a sudden increase in RCS boron inventory and thereby cause a plant transient and possible shutdown. Testing will be performed during cold shutdown.

CS - 25: Valve - 112 B is the Refueling Water Storage Tank (RWST) to charging supply valve. Valve 357 is the RWST to charging suction line check. Valve 358 is the bypass valve for 112 B. Exercising these valves during power operation would cause a sudden increase in the RCS boron inventory, and thereby cause a plant transient and possible shutdown. Testing will be performed during cold shutdown.

CS - 26: Valves 200A, 200B, 202 and 371 are letdown isolation and containment isolation valves. Exercising these valves during power operation could isolate letdown flow from the Reactor Coolant System (RCS) which would result in loss of pressurizer level control and cause a reactor trip. Testing will be performed during cold shutdown.

CS - 27: Valve 383 B is the containment isolation valve for the alternate charging line. Reverse flow exercising of this valve is impractical during power operation because this test would result in substantial radiation exposure to test personnel. Surveys in the area of test connections during plant operation indicate neutron fields of approximately 500 mr/hr and gamma fields of 250 mr/hr. Total whole body dosage to test personnel is estimated to be 375 mrem. This valve will be reverse flow exercised at cold shutdowns.

CS - 28: Valve 856 is the Residual Heat Removal (RHR) pump suction supply valve from the RWST. This valve should not be exercised during power operation as this would isolate the RWST from the RHR system. This would render both RHR trains inoperable which would require plant shutdown. Testing will be performed during cold shutdown.

CS - 29: Valves 9227 and 9229 are Fire Service Water containment isolation valves. The safety function of these valves is to close to provide containment isolation. These valves are opened to provide service water to containment in the event of a fire, and are normally closed in their safety function position. Testing will be performed during cold shutdown.

CS - 30: Valves 697A and 697B are Residual Heat Removal (RHR) heat exchanger outlet check valves. These valves open to allow safety injection flow to the reactor vessel. Exercising these valves during power operation is not possible as RHR pump discharge is insufficient to overcome reactor coolant system pressure. These valves will be partial stroke exercised at cold shutdown and full stroke exercised at refueling outages.

CS - 31: Valves 723A and 723B are Component Cooling Water (CCW) pump discharge check valves. These valves open to allow CCW flow through the system. Exercising these valves during power operation to the full open position may cause the standby pump to auto start on low header pressure and possibly cause check valve cycling. These valves will be partial stroke open

exercised to 2500 GPM quarterly and full stroke open exercised to 2980 GPM during cold shutdown.

CS - 32: Valves 710A and 710B are Residual Heat Removal (RHR) pump discharge check valves. These valves close to prevent reverse flow during cold shutdown when the pump discharge headers are crosstied. Exercising these valves during power operation is not practical as this would require crosstying the discharge headers thus rendering both trains of RHR inoperable. Testing will be performed during cold shutdown.

CS - 33: Valves 841 and 865 are Safety Injection (SI) accumulator isolation valves. These valves are closed to isolate the SI accumulators during Reactor Coolant System (RCS) cooldown. Exercising these valves during power operation is not practical due to the Technical Specification requirement to maintain these valves locked open with power removed when RCS pressure is above 1600 psig. Failure of these valves in the closed position would require shutting down the reactor. Testing will be performed during cold shutdown.

CS - 34: Valves CV1713 and CV7226 are nitrogen and service air supply check valves to containment. CV1713 is isolated during power operation via locked closed manual valve 1793 thus precluding quarterly testing. CV7226 is used only during refueling outages and is isolated during power operation on both the upstream and downstream sides thus precluding quarterly testing. Testing of these valves will be performed during cold shutdown.

QUALITY ASSURANCE MANUAL GINNA STATION APPENDIX C PUMP AND VALVE TESTING PROGRAM ROCHESTER GAS & ELECTRIC CORPORATION	REV. 1	PAGE 1 OF 63
	EFFECTIVE DATE: June 1, 1991	
TITLE: ATTACHMENT D PUMP AND VALVE RELIEF REQUESTS FOR THE 1990-1999 INTERVAL		SIGNATURE / DATE
	PREPARED BY:	K A Mull / 7/12/91
	Nuclear Safety & Licensing	[signature] / 8-16-91
	Manager, Mechanical Engineering	E R Lui / 8/30/91

RELIEF REQUEST NO. CR - 1

1. CODE REQUIREMENT CONSIDERED IMPRACTICAL

IWA-1400 of the ASME Boiler and Pressure Vessel Code, Section XI, 1986 Edition requires that arrangements be made with an Authorized Inspection Agency to provide inspection services. In addition, the Code requires that certain administrative functions be performed by the "Enforcement Authority" and "Authorized Inspector".

Rochester Gas & Electric's Ginna Nuclear Power Plant is located in the state of New York. This state has not endorsed the ASME Nuclear Codes and therefore does not provide administrative organization and controls such as "Enforcement Authority", "Authorized Inspector" and "Reporting Systems". However, Ginna Station's Quality Assurance Program does provide for these administrative control requirements. Therefore, Rochester Gas & Electric requests that the Ginna Station Quality Assurance Program continue to be used in lieu of Code administrative functions.

2. BASIS FOR RELIEF

Rochester Gas & Electric's program for inservice pump and valve testing, governed by the Ginna Station Quality Assurance Manual, contains requirements and responsibilities for implementation of the program and procedures. Procedures have been prepared and approved by responsible organizations within Rochester Gas & Electric, (i.e., Ginna Station, Engineering, Research and Science, Electric Transmission and Distribution and Purchasing).

Approved procedures will be implemented to control the performance of tests and evaluation of corresponding results. These procedures include test personnel requirements, and provisions for recording names of test personnel. Qualifications for test personnel are in accordance with USNRC Regulatory Guide 1.58 "Qualification of Nuclear Plant Inspection, Examination and Testing personnel".

These procedures also include the method of performing the test, acceptance and rejection criteria, and test result reporting, evaluation and approval requirements.

In addition, Ginna Station procedures prescribe actions required when test results are determined to be unacceptable. Procedures are also utilized to govern repair, replacement and related retesting.

IST records and reports are developed and maintained by Rochester Gas & Electric and include such items as completed test procedures, data sheets, schedules and corrective action documentation.

The functions of the ASME authorized inspector, namely their reviews and verifications, will be performed by personnel of the Hartford Steam Boiler Inspection and Insurance Company. The qualifications of the inspectors, inspection specialists and inspection agency are in compliance with the Code.

3. ALTERNATIVE PROVISIONS

An NRC endorsed Quality Assurance Program that meets the requirements of 10CFR50 Appendix B shall assure that the inservice pump and valve testing related activities are conducted in accordance with the commitments of the IST Program.

RELIEF REQUEST NO. PR-1

SYSTEM: Various

PUMPS: All Safety Related Pumps

SAFETY CLASS: 2 and 3

FUNCTION: Various

TEST REQUIREMENT: Yearly Measurement of Bearing Temperature

BASIS FOR RELIEF:A) Bearings of certain pumps addressed in this relief request are cooled by their respective process fluid. Thus, bearing temperature measurements would be highly dependent on the temperature of the cooling medium.

B) Bearing temperatures taken at one-year intervals provide little data toward determining incremental degradation of a bearing or providing any meaningful trend information.

C) All pumps addressed by this relief request are subjected to vibration measurements on a quarterly basis in accordance with IWP-4500. Vibration measurements are a significantly more reliable indication of pump bearing degradation than are temperature measurements.

ALTERNATE TESTING: Pump mechanical condition of its bearings will be determined by quarterly vibration monitoring. Bearing temperatures will not be measured.

RELIEF REQUEST NO. PR-2

SYSTEM:	D/G Fuel Oil Transfer System
PUMPS:	Diesel Fuel Oil Transfer Pumps (PDG02A, PDG02B)
SAFETY CLASS:	3
FUNCTION:	Various
TEST REQUIREMENT:	Flow rate shall be measured using a rate or quantity meter installed in the pump test circuit. (IWP-4680).
BASIS FOR RELIEF:	Measurement of diesel fuel oil transfer pump flowrate is determined by observing the rate of change in the diesel generator day tanks as they are being filled. A graduated sight glass located on the day tank is the only practical means available to calculate flow rates.
ALTERNATE TESTING:	Flow rate will be determined by calculation of day tank level increase vs. time.

RELIEF REQUEST NO. PR-3

SYSTEM:	a. Containment Spray (CS) b. Safety Injection (SI)
PUMPS:	a. Containment Spray Pumps (SIAPCS 1, 2) b. Safety Injection Pumps (SIAPSI 1, 2, 3)
SAFETY CLASS:	2
FUNCTION:	Various
TEST REQUIREMENT:	Measure pump inlet pressure before pump start and during test (Table IWP-3100-1).
BASIS FOR RELIEF:	Due to system design, the SI and CS pumps do not have installed local or remote inlet pressure reading devices. The pumps are aligned to the Refueling Water Storage Tank (RWST) during testing and calibrated level indication is provided in the control room.
ALTERNATE TESTING:	Pump suction pressure for these systems will be calculated utilizing RWST levels.

RELIEF REQUEST NO. PR-4

SYSTEM:	Service Water (SW)
PUMPS:	Service Water Pumps (PSWO 1A, 1B, 1C, 1D)
SAFETY CLASS:	3
FUNCTION:	Supply Station Service Water to equipment and cooling units in the plant.
TEST REQUIREMENT:	Measure pump inlet pressure before pump start and during test (Table IWP-3100-1).
BASIS FOR RELIEF:	Service water pumps are submerged multistage vertical pumps and inlet pressure is assumed to correspond to that of the static head of the medium in which the pumps reside (lake). Since the lake level remains essentially constant throughout the duration of the test, only one measurement is required.
ALTERNATE TESTING:	For the Service Water pumps a single suction pressure will be calculated for each test based on submergence of the pump.

RELIEF REQUEST NO. PR-5

SYSTEM:	Service Water (SW)
PUMPS:	Service Water Pumps (PSWO 1A, 1B, 1C, 1D)
SAFETY CLASS:	3
FUNCTION:	Supply Station Service Water to equipment and cooling units in the plant.
TEST REQUIREMENT:	On a pump coupled to the driver, the vibration measurement shall be taken on the bearing housing near the coupling. (IWP-4510).
BASIS FOR RELIEF:	The Service Water pumps are vertical, multistage pumps submerged in their process fluid and thus are inaccessible. Therefore, vibration measurement is impractical.
ALTERNATE TESTING:	Vibration measurements will be taken on the pumps' associated motor bearing housing for indication of pump bearing degradation.

RELIEF REQUEST NO. PR-6

SYSTEM:	Various
PUMPS:	All safety related pumps
SAFETY CLASS:	2 and 3
FUNCTION:	Various
TEST REQUIREMENT:	The full scale range of each instrument shall be three times the reference value or less. (IWP-4120)
BASIS FOR RELIEF:	Vibration detectors usually have multiple overlapping scales rather than a single full range scale. It is not practical to apply the requirement of three times the reference value or less. When the reference value falls under 0.5 mils, a detector in the three-times-or-less scale would not allow a measurement in the required action range of 1.5 mils. (e.g, with a 0.3 mil reference value, using a detector with a range of 0.9 mils, determination of"Alert Range" (1-1.5 mils) or "Required Action Range" (>1.5 mils) could not be accomplished.
ALTERNATE TESTING:	A vibration detector with multiple overlapping scales will be used. The amplitude of vibration for each test will determine which scale is to be used.

RELIEF REQUEST NO. PR-7

SYSTEM:	Service Water (SW)
PUMPS:	Service Water Pumps (PSWO 1A, 1B, 1C, 1D)
SAFETY CLASS:	3
FUNCTION:	Supply Station Service Water to equipment and cooling units in the plant.
TEST REQUIREMENT:	Flowrate shall be measured using a rate or quantity meter installed in the pump test circuit. (IWP-4680).
BASIS FOR RELIEF:	The present system configuration and instrumentation does not provide flow indication at the SW pump discharge lines to provide a positive means of determining full flow during pump tests.
ALTERNATE TESTING:	SW pump flow testing will utilize calibrated flow instrumentation installed in the Containment Fan Cooler outlet lines. Accident flow rates are utilized to assess pump performance.

RELIEF REQUEST NO. PR-8

SYSTEM:	Residual Heat Removal (RHR)
PUMPS:	Residual Heat Removal Pumps (ACAPRH1,2)
SAFETY CLASS:	2
FUNCTION:	Supply safety injection flow to the reactor vessel.
TEST REQUIREMENT:	The resistance of the system shall be varied until either the measured differential pressure or the measured flow rate equals the corresponding reference value (IWP-3100).
BASIS FOR RELIEF:	During power operation the RHR pumps can only be tested utilizing the minimum-flow return lines. These lines have flow orifices installed and do not allow throttling to an established reference value for either flow or pressure.
ALTERNATE TESTING:	These pumps shall be tested quarterly measuring observed flow, differential pressure and vibration. During cold shutdowns/refueling outages these pumps shall be tested using the main flow path. Data from both test frequencies shall be trended as required by IWP-6000. (re, Generic Letter 89-04, Attachment 1 Position 9)

RELIEF REQUEST NO. PR-9

SYSTEM:	CVCS Charging
PUMPS:	Charging Pumps A, B & C (PCH01A, 1B, 1C)
SAFETY CLASS:	2
FUNCTION:	The charging pumps function to control RCS inventory, chemistry conditions, activity level, boron concentration and to provide seal water to the RCPs.
TEST REQUIREMENT:	The test quantities shown in Section XI, Table IWP-3100-1 (inlet pressure in particular) shall be measured or observed and recorded.
BASIS FOR RELIEF:	The charging pumps are positive displacement type pumps. The measurement of pump inlet (suction) pressure provides no useful data for evaluation of pump performance or for detecting pump degradation.
ALTERNATE TESTING:	Pump discharge pressure shall be measured in lieu of pump differential pressure per OMa-1988, Part 6 Table 2.

RELIEF REQUEST NO. GR - 1

SYSTEM:	Various
VALVES:	All Power Operated Valves
CATEGORY:	A and B
SAFETY CLASS:	Various
FUNCTION:	Various
TEST REQUIREMENT:	Valves shall be exercised to the position required to fulfill their function unless such operation is not practical during plant operation. If only limited operation is practical during plant operation, the valve shall be part-stroke exercised during plant operation and full-stroke exercised during cold shutdown. (IWV-3412(a))
BASIS FOR RELIEF:	All motor operated and air operated valves in the Ginna IST Program have a design logic that prohibits part-stroking of the valve. The circuits are such that when an open or close signal is received, the valve must complete a full stroke before the relay is released to allow the valve to stoke in the other direction. It is impractical to part-stroke the valves.
ALTERNATE TESTING:	Valves for which full-stroke exercise is not practical during power operation, will be full-stroke exercised during cold shutdown.

RELIEF REQUEST NO. GR - 2

SYSTEM: Containment Isolation

VALVES: All those valves identified with "LT-J" in the "Required Tests" column of the Pump and Valve Program Plan.

CATEGORY: A or A/C

SAFETY CLASS: Various

FUNCTION: Provide containment isolation.

TEST REQUIREMENT:

a. IWV-3421 through 3425 regarding leak rate test methodology.

b. IWV-3427(b) regarding leak rate trending requirements.

BASIS FOR RELIEF:

a. It is NRCs staff position as outlined in Generic Letter No. 89-04, Position 10 that leak test procedures and requirements for containment isolation valves specified in 10CFR50, Appendix J are equivalent to requirements of IWV-3421 through 3425.

b. Industry data shows that the variability of leak rates for valves six inches and larger is excessive. Ginna feels that this excessive variability shows the relative independence of one leak rate test to another. The tendency towards random leak rate data would cause unnecessary testing per IWV-3427(b), with no identifiable increase in benefit to public health and safety.

RELIEF REQUEST NO. GR - 2 (CONT.)

ALTERNATE TESTING: Containment isolation valves will be tested under the requirements of 10CFR50 Appendix J. Leakage shall be analyzed as required by IWV-3426 and corrective action initiated in accordance with IWV-3427 (a).

RELIEF REQUEST NO. GR - 3

SYSTEM:	Instrument Air
VALVES:	5393
CATEGORY:	A/C
SAFETY CLASS:	2
FUNCTION:	Provide containment isolation.
TEST REQUIREMENT:	Check valves shall be exercised at least once every 3 months, except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	When this valve is in operation there is no practical means to test valve closure. Valve closure cannot be verified due to system design. To perform a closure verification constitutes a leak test which presents a significant hardship during cold shutdown. Leak testing requires an extended period of time where instrument air must be secured. Securing instrument air would cause the loss of vital safety and operational functions.
ALTERNATE TESTING:	Verification of valve closure will be done in conjunction with the 10 CFR 50 Appendix J Type C leak tests (LT-J) conducted at least once every two years.

RELIEF REQUEST NO. GR - 4

SYSTEM:	See Attachment
VALVES:	See Attachment
CATEGORY:	See Attachment
SAFETY CLASS:	See Attachment
FUNCTION:	See Attachment
TEST REQUIREMENT:	ASME Code Section XI, Subarticle IWV-3417(a) requires trending stroke time test results for power operated valves and taking appropriate corrective action.
BASIS FOR RELIEF:	Since these valves are fast acting and stroke rapidly, measurement of the stroke time of these valves to the nearest second per IWV-3413(b) means that a very small increase in stroke time results in an extremely large percentage of change. Verification that test values meet a specified maximum stroke time of a relatively short duration provides adequate assurance of their operability.
ALTERNATE TESTING:	A maximum stroke time of two (2) seconds will be assigned for these valves. If this limiting stroke time is exceeded, the valve will be declared inoperable and corrective action taken. (re, Generic Letter 89-04, Attachment 1 - Position 6)

GR - 4 Attachment

Valve	System	Category	Safety Class	Function
590	RCS	B	2	F1
591	RCS	B	2	F1
592	RCS	B	2	F1
593	RCS	B	2	F1
5907	EDG	B	3	F2
5907A	EDG	B	3	F2
5908	EDG	B	3	F2
5908A	EDG	B	3	F2
921	Nuc. Sample	A	2	F3
922	Nuc. Sample	A	2	F3
923	Nuc. Sample	A	2	F3
924	Nuc. Sample	A	2	F3
9632A	SW	B	3	F4
9632B	SW	B	3	F4

F1: Provide venting capability from reactor vessel head to ensure core cooling during natural circulation cooldown.

F2: Provide diesel fuel oil transfer from fuel oil storage tanks to Diesel Generator day tanks.

F3: Isolate Containment Hydrogen Monitors

F4: Provide Service Water to Standby Auxiliary Feedwater (SAFW) Room Coolers

RELIEF REQUEST NO. GR - 5

SYSTEM:	See Attachment
VALVES:	See Attachment
CATEGORY:	See Attachment
SAFETY CLASS:	See Attachment
FUNCTION:	Provide reactor coolant system pressure isolation.
TEST REQUIREMENT:	Valve leak rate testing per ASME Code Section XI, Subarticle IWV-3421 through IWV-3427.
BASIS FOR RELIEF:	Leakage testing, including testing requirements is governed by plant Technical Specifications. These valves are adequately tested per Technical Specifications. Testing criteria utilized meets the intent of ASME Section XI leak rate testing. Therefore it is impractical to perform separate leak rate tests.
ALTERNATE TESTING:	These valves will be leak rate tested in accordance with RCS Pressure Isolation Valve leak rate testing per Technical Specifications.

GR - 5 Attachment

Valve	System	Category	Safety Class
853A	RHR	A/C	1
853B	RHR	A/C	1
867A	SI	A/C	1
867B	SI	A/C	1
878G	SI	A/C	1
878J	SI	A/C	1
878A	SI	A	2
878C	SI	A	2
877A	SI	A/C	1
877B	SI	A/C	1
878F	SI	A/C	1
878H	SI	A/C	1

RELIEF REQUEST NO. GR-6

SYSTEM:	See Attachment
VALVES:	See Attachment
CATEGORY:	B
SAFETY CLASS:	See Attachment
FUNCTION:	See Attachment
TEST REQUIREMENT:	The stroke time of all power operated valves shall be measured per IWV-3413 and evaluated per IWV-3417.
BASIS FOR RELIEF:	These valves are hand control valves which operate using a variable set air signal. They do not have a typical control switch. Position indication is not directly indicated, only the control air signal is indicated. Therefore, there is no consistent way to measure the stroke time of these valves. Stroke time limiting values are not established by the UFSAR or Technical Specifications for these valves.
ALTERNATE TESTING:	Operability of these hand control valves is verified during quarterly exercising tests. Measurement and evaluation of stroke time shall not be required for these valves.

GR-6 Attachment

Valve	System	Safety Class	Function
142	CVCS-Chg	2	F1
4297	AFW	3	F2
4298	AFW	3	F2
4480	AFW	3	F3
4481	AFW	3	F3

F1: Valve 142 is operated to control charging flow to the reactor coolant system.

F2: Valves 4297 and 4298 open to provide and control auxiliary feedwater flow from the turbine driven auxiliary feedwater pump to the steam generators.

F3: Valves 4480 and 4481 open to control auxiliary feedwater flow, from the A and B motor driven auxiliary feedwater pumps to the steam generators.

RELIEF REQUEST NO. GR - 7

SYSTEM:	Various
VALVES:	All Power Operated Valves
CATEGORY:	A and B
SAFETY CLASS:	Various
FUNCTION:	Various
TEST REQUIREMENT:	Evaluation of power operated valve stroke time and initiation of corrective action (IWV-3417(a)).
BASIS FOR RELIEF:	The intent of the Code requirement is to initiate increased testing to verify a valve can continue to perform its intended function when it has degraded. Due to the variance in testing frequencies some valves may degrade over a period of time. Measuring changes in stroke time from the reference value (established when the valve is known to be in good condition) is a better indication of valve degradation.
ALTERNATIVE TESTING:	Changes in stroke time shall be measured from the reference value when determining increased test frequency requirements and initiation of corrective action per IWV-3417(a). (re, Generic Letter 89-04, Attachment 1 - Position 5)

RELIEF REQUEST NO. VR - 1

SYSTEM:	Emergency Diesel Generator Air Starting System
VALVES:	5933A, 5933B, 5934A, 5934B
CATEGORY:	B
SAFETY CLASS:	3
FUNCTION:	These valves open to provide starting air to the diesel generators.
TEST REQUIREMENT:	Stroke time of power operated valves shall be measured per IWV-3413 and evaluated per IWV-3417.
BASIS FOR RELIEF:	These are rapid acting solenoid valves whose design prohibits visual observance of stroking as there are no external indicators on these valves. Diesel start times are affected by valve stroke times.
ALTERNATE TESTING:	Measurement and evaluation of stroke times shall not be performed. Valve exercising is performed monthly in conjunction with diesel generator start testing. Valve stroking parameters will be considered acceptable if the associated diesel generator start is acceptable. If the diesel generator failed to start, due to other identified malfunctions, repairs would be made and the air start valve stroking parameters will be verified during a restart following diesel generator corrective action.

RELIEF REQUEST NO. VR - 2

SYSTEM:	Emergency Diesel Generator Fuel Oil
VALVES:	5960A, 5960B
CATEGORY:	C
SAFETY CLASS:	NC.
FUNCTION:	These check valves open to provide a flow path for overflow from the fuel oil day tank to the fuel oil storage tank. These valves close to prevent reverse flow into the fuel oil day tank during recirculation of the fuel oil storage tank.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months, except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	During operation there is no practical means to exercise these valves. Valve closure cannot be verified due to system design. To perform a closure verification would require disassembly of mechanical joints in the piping, which would place the diesel in an inoperable condition.
ALTERNATE TESTING:	One valve will be disassembled, full-stroke exercised and inspected each refueling outage on a rotating basis. If that valve fails, the remaining valve will be disassembled, full-stroke exercised and inspected for operability during that same outage. (re, Generic Letter 89-04, Attachment 1 - Position 2)

RELIEF REQUEST NO. VR - 3

SYSTEM: Residual Heat Removal (RHR)

VALVES: 853A, 853B

CATEGORY: A/C

SAFETY CLASS: 1

FUNCTION: These RHR discharge check valves to the reactor vessel are normally closed valves and open with differential pressure to provide a flow path for reactor vessel low-head safety injection flow. In the closed position, they serve as reactor coolant system pressure isolation valves.

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

BASIS FOR RELIEF: Full or partial stroking during power operation is not possible because RHR pump discharge pressure is insufficient to overcome reactor coolant system (RCS) pressure. Even if pump discharge pressures were high enough, any stroking could cause the injection of cold borated water into the system, resulting in power and thermal transients.

These valves cannot be full-stroke exercised during cold shutdown because establishing required safety analysis flow through them could result in excessive RCS cooldown.

RELIEF REQUEST NO. VR - 3 (CONT)

ALTERNATE TESTING: These valves will be partial stroke exercised at cold shutdown and full stroke exercised at refueling during the refueling cavity fill.

RELIEF REQUEST NO. VR - 4

SYSTEM:	Residual Heat Removal (RHR)
VALVES:	854
CATEGORY:	C
SAFETY CLASS:	2
FUNCTION:	Valve 854 opens with differential pressure to provide a flow path from the Refueling Water Storage Tank (RWST) to low head safety injection pumps (RHR) during safety injection. This valve is normally closed during operation.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months, except as provided by IWV-3522. (IWV-3421)
BASIS FOR RELIEF:	Valve stroking is not possible during power operation because RHR pump discharge pressure is insufficient to overcome reactor coolant system (RCS) pressure. This valve cannot be full-stroke exercised during power operation since downstream valves to the Reactor Coolant System (RCS) cannot open against the higher RCS pressure. This valve cannot be full-stroke exercised during cold shutdown because establishing required safety analysis flow through it could result in excessive RCS cooldown.

RELIEF REQUEST NO. VR - 4 (CONT)

ALTERNATE TESTING: Valve 854 will be full stroke exercised during the refueling cavity fill at refueling outages.

RELIEF REQUEST NO. VR - 5

SYSTEM:	Standby Auxiliary Feedwater
VALVES:	9627A, 9627B
CATEGORY:	C
SAFETY CLASS:	3
FUNCTION:	These service water suction check valves close to prevent reverse flow from Standby Auxiliary Feedwater System (SAFW) piping back into the Service Water (SW) System and open to provide a flow path for service water to the SAFW pumps.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	Full-stroke exercising cannot be accomplished during power operation or cold shutdown as this would introduce Service Water to the Standby Auxiliary Feedwater system. Service water does not meet water purity requirements for the system or steam generators. Service water would be supplied to steam generators during required monthly pump tests if exercising valves 9627A and B was performed.

RELIEF REQUEST NO. VR - 5 (CONT)

ALTERNATE TESTING: Partial stroke exercising will be performed each quarter. One valve will be disassembled, full-stroke exercised and inspected each refueling outage on a rotating basis. If that valve fails, the remaining valve will be disassembled, full-stroke exercised and inspected for operability during that same outage. (re. Generic Letter 89-04 - Position 2).

RELIEF REQUEST NO. VR - 6

SYSTEM:	Station Service Water System
VALVES:	4324, 4325, 4326
CATEGORY:	B
SAFETY CLASS:	3
FUNCTION:	Valves open upon an auxiliary feedwater pump bearing cooling water supply high strainer differential pressure to provide cooling water to the driver's bearings.
TEST REQUIREMENT:	Measure stroke time and analyze per IWV-3413.
BASIS FOR RELIEF:	This is a rapid acting valve. These valves automatically actuate on high differential pressure across the supply strainer. Measurement of stroke times during manual actuation, for testing, is not practical and would not produce consistent , meaningful or trendable results. Failure of the valve to stroke in conjunction with a clogged strainer would result in a lack of pressure at the bearing cooler inlet..
ALTERNATE TESTING:	This valve will be stroke tested during associated auxiliary feedwater pump testing by closing the valve downstream of the strainer. Acceptable valve operation will be based on acceptable service water pressure at the bearing cooler inlet.

RELIEF REQUEST NO. VR - 7

SYSTEM:	Reactor Coolant Pressurizer
VALVES:	434, 435
CATEGORY:	C
SAFETY CLASS:	1
FUNCTION:	Pressurizer Safety Relief valves provide overpressurization protection for the reactor coolant system/pressurizer.
TEST REQUIREMENT:	Valves with remote position indicators shall be observed at least once every 2 years to verify that valve operation is accurately indicated. (IWV-3300).
BASIS FOR RELIEF:	These valves are mechanical spring-actuated valves. If these valves were actuated for a position indication test, they would need to be retested to ensure the set relief pressure is correct. This involves increased testing and unnecessary radiation exposure to testing personnel.
ALTERNATE TESTING:	These valves will be simulated to actuate using existing station calibration procedures. The procedure utilizes movement of the valve's coil (up/down) and verifies position via an alarm in the Control Room. Calibration of these position indicators is governed by Plant Technical Specifications and is performed on a refueling basis.

RELIEF REQUEST NO. VR - 8

SYSTEM:	Safety Injection
VALVES:	842A, 842B
CATEGORY:	A/C
SAFETY CLASS:	1
FUNCTION:	These valves open to provide flow from Safety Injection (SI) Accumulators to the reactor coolant system (RCS).
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	Full-stroke open and close exercising during normal power operation cannot be accomplished as system pressures required to perform the test are not enough to overcome RCS pressure. Full stroke exercising during cold shutdown requires injection into the RCS which could result in low temperature overpressuriation of the RCS, nitrogen binding of the RHR pumps, or flooding/radiological contamination if the test is conducted with the reactor vessel head removed. Also, additional radiological exposure (3-5 person-rem) would result and the plant would have to be maintained in an unusual condition. Use of freeze-plugs or core offloading (with consequential additional radiological exposure and increase in potential fuel handling incidents) would be required. Partial-stroke exercising is performed quarterly using the SI test header. Maintenance history and valve disassembly

RELIEF REQUEST NO. VR-8 (CONT)

and inspection have shown these valves to exhibit no evidence of excessive degradation.

ALTERNATE TESTING: Disassembly of both valves once every six years. Each valve shall be disassembled as determined by scheduling and plant conditions. If a valve fails, the remaining valve will be disassembled and inspected for operability at that same time.

RELIEF REQUEST NO. VR - 9

SYSTEM:	Safety Injection
VALVES:	867A, 867B
CATEGORY:	A/C
SAFETY CLASS:	1
FUNCTION:	Provides a flowpath from the accumulators or safety injection pumps to the Reactor Coolant System (RCS) cold legs.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	Full-stroke or part stroke exercising during normal power operation cannot be accomplished since system pressures required to perform the test are not enough to overcome RCS pressure. Full-stroke exercising during cold shutdown requires injection into the RCS, which could cause low temperature overpressurization of the RCS, nitrogen binding of the RHR pumps, or flooding/radiological contamination if the test is conducted with the reactor vessel head removed. Also, additional radiological exposure (3-5 person-rem) would result and the plant would have to be maintained in an unusual condition. Use of freeze-plugs or core offloading (with consequential additional radiological exposure and increase in potential fuel handling incidents) would be required. Partial flow exercising is accomplished each refueling by actual SI flow into the RCS. Maintenance history and valve

RELIEF REQUEST NO. VR-9 (CONT)

disassembly and inspection have shown these valves to exhibit no evidence of excessive degradation.

ALTERNATE TESTING: Disassembly of both valves once every six years. Each valve shall be disassembled as determined by scheduling and plant conditions. If a valve fails, the remaining valve will be disassembled and inspected for operability at that same time.

RELIEF REQUEST NO. VR - 10

SYSTEM:	Safety Injection
VALVES:	878G, 878J
CATEGORY:	A/C
SAFETY CLASS:	1
FUNCTION:	Provides a flowpath from safety injection pumps to A and B Accumulator cold leg injection lines.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	Full or partial stroking during power operation is not possible because safety injection pump discharge pressure is insufficient to overcome reactor coolant system pressure. Exercising during cold shutdowns could cause low temperature overpressurization of the reactor coolant system.
ALTERNATE TESTING:	These valves will be full-stroke exercised during refueling outages.

RELIEF REQUEST NO. VR - 11

SYSTEM:	Safety Injection
VALVES:	889A, 889B, 870A, 870B
CATEGORY:	C
SAFETY CLASS:	2
FUNCTION:	These normally closed valves open with differential pressure to provide a flow path from Safety Injection (SI) pumps to the Reactor Coolant System (RCS).
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	During operation, the safety injection pump discharge pressure is insufficient to overcome RCS pressure. SI pump recirculation test line size is insufficient to allow full stroke exercising during operation. Exercising during cold shutdowns could cause low temperature overpressurization of the Reactor Coolant System.
ALTERNATE TESTING:	These valves will be part-stroke exercised every three months during operation and full-stroke exercised during refueling outages.

RELIEF REQUEST NO. VR - 12

SYSTEM:	Instrument Air
VALVES:	5392
CATEGORY:	A
SAFETY CLASS:	2
FUNCTION:	Provides containment isolation for the instrument air line.
TEST REQUIREMENT:	Valves shall be exercised to the position required to fulfill their function once every three months. (IWV-3412)
BASIS FOR RELIEF:	Stroking valve 5392 during operation and cold shutdown is impractical because it would interrupt instrument air to containment and be disruptive to air-operated valves inside containment. Loss of instrument air would cause all air-operated valves to be actuated to their fail-safe position. During power operation, this would lead to a reactor trip and during cold shutdowns, this would compromise plant operation due to the loss of various components used in maintaining the reactor in a cold shutdown condition.
ALTERNATE TESTING:	This valve will be full-stroke exercised during refueling outages.

RELIEF REQUEST NO. VR - 13

SYSTEM:	Auxiliary Feedwater/Standby Auxiliary Feedwater (AFW/SAFW)
VALVES:	4291, 4304, 4310, 9710A, 9710B
CATEGORY:	B
SAFETY CLASS:	3
FUNCTION:	These valves open to allow recirculation of the AFW/SAFW pumps to prevent pump cavitation, overheating or deadheading upon low flow to the steam generators.
TEST REQUIREMENT:	Stroke time of power operated valves shall be measured per IWV-3413 and evaluated per IWV-3417.
BASIS FOR RELIEF:	These valves operate based upon a pressure/flow signal only. Manual activation of these valves is not practical in the present configuration. Lifting of leads or jumpers, or installation of new instrumentation or controls would be necessary. Stroke timing during normal valve operation is affected by variations in system parameters, therefore measurement of stroke times for these valves would not produce consistent, meaningful or trendable results.
ALTERNATE TESTING:	Measurement and evaluation of stroke times shall not be performed. These valves will be exercised and fail-safe tested quarterly.

RELIEF REQUEST NO. VR-14

SYSTEM:	Residual Heat Removal (RHR)
VALVES:	853A, 853B
CATEGORY:	A/C
SAFETY CLASS:	1
FUNCTION:	To provide reactor coolant boundary pressure isolation.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months, except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	During power operation, there is no practical means to test valve closure. Valve closure cannot be verified due to system design. To perform a closure verification constitutes a leak test which presents significant hardships during cold shutdown, such as excessive radiation exposure to test personnel and extended outage time..
ALTERNATE TESTING:	Verification of valve closure will be made in conjunction with ASME XI leak tests conducted during refueling outages.

RELIEF REQUEST NO. VR - 15

SYSTEM:	Overpressure Protection Nitrogen Supply System
VALVES:	8616A, 8616B, 8619A, 8619B
CATEGORY:	B
SAFETY CLASS:	2
FUNCTION:	These valves open to provide nitrogen to cycle power operated relief valves (PORV) providing Reactor Coolant System (RCS) overpressure protection.
TEST REQUIREMENT:	Stroke time of power operated valves shall be measured per IWV-3413 and evaluated per IWV-3417.
BASIS FOR RELIEF:	These are rapid acting valves whose design prohibits visual observance of stroking. These valves do not have remote position indicators. PORV stroke times are affected by stroke times of 8616A, 8616B, 8619A and 8619B.
ALTERNATE TESTING:	Valve stroke testing is performed during plant shutdown in conjunction with PORV overpressure protection testing. Valve stroking parameters will be considered acceptable if the associated PORV cycling is acceptable. If the PORV failed to operate, due to other identified malfunctions, nitrogen valve stroking parameters will be considered acceptable and reverified during a retest following PORV corrective action.

RELIEF REQUEST NO. VR - 16

SYSTEM:	CVCS Charging
VALVES:	392A
CATEGORY:	B/C
SAFETY CLASS:	2
FUNCTION:	Valve 392A functions as a relief valve when closed to provide a charging system flowpath to the reactor coolant system loop B hot leg.
TEST REQUIREMENT:	Relief valves shall be tested per ANSI OM-1 (IWV-3510).
BASIS FOR RELIEF:	Valve 392A is a welded , in line valve and will open with a 250 pound differential pressure across the disc. Due to its design, set pressure and seat tightness testing is not appropriate.
ALTERNATE TESTING:	Valve 392A will be tested in place each refueling outage by verifying that it will open and pass the required flow at design differential pressures.

RELIEF REQUEST NO. VR - 17

SYSTEM:	Service Water (SW)
VALVES:	4601, 4602, 4603, 4604
CATEGORY:	C
SAFETY CLASS:	3
FUNCTION:	These check valves are required to open upon start of their associated SW pumps to allow required service water flow to essential loads, and close when the pump is not operating.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months, to the position required to fulfill their safety function, except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	The present system configuration and instrumentation does not provide flow indication at the SW pump discharge lines to provide a positive means to verify full-stroke open capability of these check valves.
ALTERNATE TESTING:	These check valves are exercised at least quarterly during SW system testing during which required service water flow through each loop's containment fan cooler units is established and verified. However, actual SW flow through each check valve is not measured during these tests. The capability of these valves to close upon cessation or reversal of flow is verified at least quarterly during the SW system tests. The full-stroke open capability of these check valves shall be verified by disassembly inspection on a rotating sample basis each refueling outage. If

RELIEF REQUEST NO. VR - 17 (CONT)

the sample valve fails, all remaining valves shall be disassembled and inspected for operability during that same outage. (re, Generic Letter 89-04 - Position 2)

RELIEF REQUEST NO. VR - 18

SYSTEM:	Emergency Diesel Generator Fuel Oil
VALVES:	5907, 5907A, 5908, 5908A
CATEGORY:	B
SAFETY CLASS:	3
FUNCTION:	These valves open and close to direct fuel oil to Diesel Generator (D/G) day tanks or back to the diesel oil storage tanks.
TEST REQUIREMENT:	Stroke time of power operated valves shall be measured per IWV-3413 and evaluated per IWV-3417.
BASIS FOR RELIEF:	These are rapid acting solenoid valves whose design prohibits visual observation of stroking as there are no external indicators on these valves. These valves are automatically actuated as necessary based upon diesel oil day tank levels. These valves do not have control switches. Diesel generators are tested monthly (per Tech. Specs.), during which these valves actuate for filling the day tanks and for diesel oil recirculation. No history of diesel generator testing failure has been attributed to performance of these valves.
ALTERNATE TESTING:	Measurement and evaluation of stroke time shall not be performed. These valves shall be exercised and fail safe tested at least quarterly during diesel

RELIEF REQUEST NO. VR - 18 (CONT)

generator testing. Valve stroking parameters will be considered acceptable based upon satisfactory actuation as demonstrated by adequate fuel flow during the D/G tests.

RELIEF REQUEST NO. VR-19

SYSTEM:	Overpressure Protection Nitrogen Supply System
VALVES:	8606A, 8606B
CATEGORY:	A/C
SAFETY CLASS:	2
FUNCTION:	To provide pressure isolation for the overpressure protection system nitrogen accumulators.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months, except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	When these valves are in operation, there is no practical means to test valve closure. Valve closure cannot be verified due to system design. To perform a closure verification constitutes a leak test which presents a significant hardship during cold shutdown. Leak testing requires an extended period of time where the overpressure protection system would be out of service.
ALTERNATE TESTING:	Valve closure verification will be performed in conjunction with ASME XI leak tests conducted during refueling outages.

RELIEF REQUEST NO. VR - 20

SYSTEM:	Residual Heat Removal (RHR)
VALVES:	710A, 710B
CATEGORY:	C
SAFETY CLASS:	2
FUNCTION:	These check valves must open to allow full rated flow from each RHR pump for low pressure safety-injection.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months, to the position required to fulfill their safety function, except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	These valves cannot be full-stroke exercised during power operation since downstream valves to the Reactor Coolant System (RCS) cannot open against the higher RCS pressure. These valves cannot be full-stroke exercised during cold shutdown because establishing required safety analysis flow thru them could result in excessive RCS cooldown.
ALTERNATE TESTING:	These check valves are partial-flow exercised at least quarterly during RHR system testing. Full-stroke testing of these valves shall be performed during each refueling outage.

RELIEF REQUEST NO. VR - 21

SYSTEM:	Main Feedwater
VALVES:	3992, 3993
CATEGORY:	C
SAFETY CLASS:	2
FUNCTION:	These check valves open to provide feedwater to the steam generators and close to prevent diversion of auxiliary feedwater from the steam generators.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months except as provided by IWV-3522 (IWV-3521).
BASIS FOR RELIEF:	During operation there is no practical means to exercise these valves. These valves are tested only enroute to a cold/refueling shutdown not caused by a reactor trip. Personnel are dispatched prior to cessation of feedwater flow to install field instrumentation for local check valve closure verification. Due to time required to dispatch personnel and install test gauges, this test cannot be performed at the time of unplanned reactor trip. During cold shutdowns resulting from a plant trip, valves 3992 and 3993 cannot be exercised due to system operating conditions.

RELIEF REQUEST NO. VR-21

ALTERNATE TESTING: Testing of these valves will be performed during normal plant shutdowns to cold shutdown when feedwater flow is transferred to auxiliary feedwater system. If the valves cannot be tested during normal cold shutdown they will be tested for closure during refueling outages.

RELIEF REQUEST NO. VR - 22

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RELIEF REQUEST NO. VR - 23

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RELIEF REQUEST NO. VR - 24

SYSTEM:	Containment Spray (CS)
CLASS:	862A, 862B
CATEGORY:	AC
SAFETY CLASS:	2
FUNCTION:	These check valves open to provide flow from CS pumps to the containment spray header.
TEST REQUIREMENT:	A mechanical exerciser shall be used to move the valve disk when testing is performed without flow through the valve. "The force or torque delivered to the disk by the exerciser must be limited to less than 10% of the equivalent force or torque represented by the minimum emergency condition pressure differential acting on the disk..."
BASIS FOR RELIEF:	The existing system configuration does not allow for measurement of pressure differential acting on the disk.
ALTERNATE TESTING:	Verification of valve movement will be conducted quarterly by measuring and recording the breakaway force of the valve and comparing it to a reference value established when the valve was known to be in good condition. This method is consistent with guidelines in paragraph 4.3.2.4(b) of ASME/ANSI OMa-1988, Part 10.

RELIEF REQUEST NO. VR - 25

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(DELETED FOR 5941A AND 5942A)

RELIEF REQUEST NO. VR - 26

SYSTEM:	Auxiliary Feedwater
VALVES:	3998, 4000C, 4000D, 4003,4004, 4007, 4008
CATEGORY:	BC/C
SAFETY CLASS:	2/3
FUNCTION:	These check valves open to allow Auxiliary Feedwater flow to the steam generators. These valves close to prevent reverse flow thus preventing steam binding of the Auxiliary Feedwater Pumps.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months, except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	Plant Technical Specifications require the Auxiliary Feedwater System to be operable prior to exceeding 350°F in the Reactor Coolant System. At this condition there is insufficient pressure in the steam generators to perform a reverse flow verification of these valves. During normal operation the Plant Technical Specifications require monthly full flow pump tests. To retest the Auxiliary Feedwater pumps after achieving sufficient steam generator pressure would be an unwarranted burden on the plant and equipment.

RELIEF REQUEST NO. VR - 26 (CONT.)

ALTERNATE TESTING: During startup from cold shutdown or refueling outages when plant condtions do not exist to perform a reverse flow verification together with the normal pump operability test, the reverse flow verification will be performed at the next regularly scheduled monthly pump operability test when the required plant conditions exist.

RELIEF REQUEST NO. VR - 27

SYSTEM:	Standby Auxiliary Feedwater (SAFW)
VALVES:	9704A, 9704B, 9705A, 9705B
CATEGORY:	BC/C
SAFETY CLASS:	2
FUNCTION:	These check valves open to allow Standby Auxiliary Feedwater flow to the steam generators. These valves close to prevent reverse flow thus preventing steam binding of the pumps.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months, except as provided by IWV-3522. (IWV-3521)
BASIS FOR RELIEF:	Plant Technical Specifications require the Standby Auxiliary Feedwater System to be operable prior to exceeding 350°F in the Reactor Coolant System. At this condition there is insufficient pressure in the steam generators to perform a reverse flow verification of these valves. During normal operation the plant Technical Specifications require monthly full flow pump tests. To retest the Standby Auxiliary Feedwater pumps after achieving sufficient steam generator pressure would be an unwarranted burden on the plant and equipment.

RELIEF REQUEST NO. VR - 27 (CONT.)

ALTERNATE TESTING: During startup from cold shutdown or refueling outages when plant conditions do not exist to perform a reverse flow verification together with the normal pump operability test, the reverse flow verification will be performed at the next regularly scheduled monthly pump operability test when the required plant conditions exist.

RELEIF REQUEST NO. VR - 28

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RELIEF REQUEST NO. VR - 29

SYSTEM:	Residual Heat Removal (RHR)
VALVES:	697A, 697B
CATEGORY:	C
SAFETY CLASS:	2
FUNCTION:	These check valves must open to allow full rated flow from each RHR pump for low pressure safety injection.
TEST REQUIREMENT:	Check valves shall be exercised at least once every three months, to the position required to fulfill their safety function, except as provided by IWV-3522 (IWV-3521).
BASIS FOR RELIEF:	These valves cannot be full-stroke exercised during power operation since downstream valves to the Reactor Coolant System (RCS) cannot open against the higher RCS pressure. These valves cannot be full-stroke exercised during cold shutdown because establishing required safety analysis flow through them could result in excessive RCS cooldown.
ALTERNATE TESTING:	These valves will be full-stroke exercised during each refueling outage.