OYSTER CREEK

NUCLEAR GENERATING STATION

PUMP AND VALVE

INSERVICE TESTING PROGRAM

Revision 9
March 1996

LIST OF CHANGES FOR REVISION 9

SECTION

2.0	Changed reference to OM-6 to latest NRC approved version
3.0	Changed reference to OM-10 to latest NRC approved version and updated to perform seat leak testing in accordance with OM-10
4.0	Deleted sections 4.4 and 4.7

APPENDIX B VALVE TESTING

Table B5	Update valve test methods to meet and reference OM-10
Relief Request 2	Remove reference to Appendix J Leak Rate Test
Relief Request 3	Remove reference to Appendix J Leak Rate Test
Relief Request 9	Correct typo and remove reference to Appendix J Leak Rate Test
Relief Request 15	Correct category and function to be consistent with Appendix B Table and remove reference to Appendix J Leak Rate Test
Relief Request 17	Clarify basis and remove reference to Appendix J Leak Rate Test
Relief Request 31	Clarify basis and remove reference to Appendix J Leak Rate Test
Relief Request 47	Remove reference to Appendix J Leak Rate Test
Relief Request 50	Delete valves V-38-093 and 094 (valves no longer exist) and remove reference to Local Leak Rate Test for verifying accurate position and indication
Relief Request 51	Allow option of local observation or parameter response to verify accurate position indication

APPENDIX B TABLE 1

Containment Spray	Changed category and testing requirements for valves V-21-005, 011, 015 and 018 due to plant modifications.

PUMP AND VALVE TEST PROGRAM
FOR THE OYSTER CREEK NUCLEAR GENERATING STATION

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PUMP AND VALVE TEST PROGRAM
FOR THE OYSTER CREEK NUCLEAR GENERATING STATION

1.0 INTRODUCTION

The pump and valve test programs for the Oyster Creek Nuclear Generating Station are presented as Appendices A and B. Both programs were developed with consideration given to the boundary classification guidelines contained in 10 CFR 50.2(v) for Quality Group A and Regulatory Guide 1.26 for Quality Groups B and C. (Quality Group A is the same as ASME Class 1, Group B is Class 2, and Group C is Class 3). This program has been reviewed with respect to the requirements of NRC Generic Letter 89-04 "Guidance on Developing Acceptable Inservice Testing Programs". A basis document has been prepared for the Pump and Valve Inservice Test Program. This document is available for review at the Oyster Creek Site.

2.0 PUMP TEST PROGRAM

The pump test program shall be conducted in accordance with Subsection IWP of Section XI of the 1986 Edition of the ASME Boiler and Pressure Vessel Code except for relief requested under the provisions of 10 CFR 50.55a(g) (5) (iii). As permitted by 10CFR50.55a(f)(4)(iv) all Pump Vibration Monitoring will be performed in accordance with ASME/ANSI Part 6 OM_a-1988 Addenda to the OM-1987 Edition. Table A, Appendix A, includes a list of pumps which require operational testing under the guidelines of Section XI, Subsection IWP-1100. Specific requests for relief are noted in Appendix A. Test parameters which will be measured for each pump are indicated. Installed plant instrumentation will be used for required pump test measurements, except for vibration.

3.0 VALVE TEST PROGRAM

The valve test program shall be conducted in accordance with Subsection IWV of Section XI of the 1986 Edition of the ASME Boiler and Pressure Vessel Code except for relief requested under the provisions of 10 CFR 50.55a(g) (5) (iii). As permitted by 10CFR50.55a(f)(4)(iv) all Valve Stroke Time Testing will be performed by implementing the requirements of ASME/ANSI Part 10 OM_a-1988 Addenda to the OM-1987 Edition. All Seat Leak Testing will be performed by implementing the requirements of ASME/ANSI Part 10 OM_a-1988 Addenda to the OM-1987 Edition along with the additional requirements as specified in 10CFR.55a(b)(2)(vii) pertaining to Containment Isolation Valves. The valve test program is included as Appendix B. Specific requests for relief are noted in Table 1 of Appendix B.

4.0 GENERIC CODE RELIEFS

4.1 Stroke Time Acceptance Criteria

At Oyster Creek the limiting value of stroke time is the OM-10 acceptance criteria unless the requirements of the Technical Specifications or Safety Analysis are more restrictive.

Based upon years of experience it has become apparent that relief to the acceptance criteria for stroke time as specified in OM-10 is needed for certain valves. For some DC motor operated valves with stroke times slightly above 10 seconds, the ± 15% from the reference value is too restrictive and will result in declaring these valves inoperable inappropriately. The wider range in measured stroke times is due to variations in process variables, such as system pressure, and/or DC bus voltage at the time of testing. Another example where the OM-10 criteria can be too restrictive is when no direct position indication exists for a valve, and the stroke time is based upon an observed parameter change such as pressure or flow. Timing valves in this manner can result in wider variations in stroke time measurements due to the subjective nature of testing.

It is requested that in rare cases such as the above relief be granted from the stroke time acceptance criteria in OM-10. Any exceptions from the OM-10 acceptance criteria will require an Engineering Evaluation to record and justify the need and method used to establish the acceptance criteria. The acceptance criteria will be set to allow a reasonable deviation from the expected value without being overly restrictive such that the valves are declared inoperable inappropriately. The acceptance criteria used will be such that corrective action will be taken for a valve that may not perform its intended function. This methodology is consistent with the guidance provided in GL 89-04 and will provide an acceptable level of quality and safety.

4.2 System Out of Service

Paragraph IWV-3416 of Section XI requires that for any systems out of service, all valves in that system shall be tested before the system is returned to service.

Oyster Creek Technical Specifications do allow for reduced system availability to accomplish maintenance or modifications to safety related systems during shutdown periods. To require testing of all valves in that system before returning the system to a reduced system availability would conflict with the allowable provisions of the Technical Specifications.

When reduced system availability is permitted by Technical Specifications, testing will consist of those valves necessary to satisfy the reduced system availability as required by Technical Specifications. Prior to returning the entire system back to service, all valves in that system shall be tested.

Compliance with the plant Technical Specifications will provide an acceptable level of quality and safety.

4.3 DELETED

4.4 DELETED

4.5 DELETED

4.6 Safe Shutdown Testing Scope

The scope of ASME Section XI for valves (IWV 1100) requires the testing of valves that are used to shut down the reactor to the cold shutdown condition. The licensing basis for Oyster Creek is to bring the plant to Hot Standby. The IST program, therefore, will not include components specifically used to bring the reactor from hot standby to cold shutdown since this exceeds the plant licensing basis.

4.7 DELETED

5.0 COLD SHUTDOWN TESTING

Oyster Creek will commence testing as soon as the cold shutdown condition is achieved, but no later than 48 hours after cold shutdown, and will continue until all tests are complete or the plant is ready to return to power. Any testing not completed at one cold shutdown will be performed during any subsequent cold shutdowns that may occur before refueling to meet the Code specified testing frequency. For planned cold shutdowns, where Oyster Creek will complete all the valves identified in the IST program for testing in the cold shutdown mode, exception to the above 48 hour start time may be taken (refueling, etc.). In the case of frequent cold shutdowns, valve testing will not be performed more often than once every three months for Category A, B, and C valves.

6.0 EMERGENCY DIESEL SYSTEMS

The inservice operability testing of pumps and valves associated with the Emergency Diesels are excluded from the enclosed test programs. These components are an integral part of the Emergency Diesel System and are functionally tested with each Emergency Diesel test. The diesels are functionally tested twice a month. Thus, the functional operability testing of the pumps and valves is performed at a frequency greater than that required by Section XI for either pumps or valves. Additionally, the failure of a pump or valve to perform its intended function will be identified by the failure of the associated Emergency Diesel to meet its functional requirements.

APPENDIX A

OYSTER CREEK PUMP TEST PROGRAM

SUMMARY OF INFORMATION PROVIDED

The pump test table (Table 1) provides the following information:

- Individual pump identifier
- Speed
- Inlet Pressure
- Differential Pressure
- Flow Rate
- Vibration Amplitude
- Bearing Temperature
- An Indication whether Proper Lubricant Level is Observed
- Test Interval
- Relief Request (as applicable)

TABLE 1 OYSTER CREEK NUCLEAR POWER STATION
INSERVICE INSPECTION PUMP TEST PROGRAM

SYSTEM/PUMPS	SPEED[1]	INLET PRESSURE	DIFF. PRESSURE	FLOW RATE	VIBRATION	BEARING TEMP.	LUB. INDICATION	RELIEF REQUEST
LIQUID POISON:	NR	Q	Q	Q	Q	NR	YES	1
NP-02A								
NP-02B								
CORE SPRAY:	NR	Q	Q	Q	Q	NR	YES	1
NZ01-A								
NZ01-B								
NZ01-C								
NZ01-D								
NZ03-A								
NZ03-B								
NZ03-C								
NZ03-D								
CONTAINMENT SPRAY:	NR	Q	Q	Q	Q	NR	YES	1
51-A								
51-B								
51-C								
51-D								
SERVICE WATER:	NR	Q	Q	Q	Q	NR	YES	1
1-1								
1-2								
EMERGENCY SERVICE WATER:	NR	Q	Q	Q	Q	NR	NO[2]	1
1-1								
1-2								
1-3								
1-4								
CONDENSATE TRANSFER:	NR	Q	Q	Q	Q	NR	YES	1
1-1								
1-2								

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TABLE 1 OYSTER CREEK NUCLEAR POWER STATION
INSERVICE INSPECTION PUMP TEST PROGRAM (CONTINUED)

SYSTEM/PUMPS	SPEED[1]	INLET PRESSURE	DIFF. PRESSURE	FLOW RATE	VIBRATION	BEARING TEMP.	LUB. INDICATION	RELIEF REQUEST
REACTOR BUILDING CLOSED COOLING: 1-1 1-2	NR	Q	Q	Q	Q	NR	YES	1
FUEL POOL COOLING: NN01-A NN01-B	NR	Q	Q	Q	Q	NR	YES	1
AUGMENTED FUEL POOL COOLING[3]: NN01-C NN01-D	NR	Q	Q	Q	Q	NR	YES	1

LEGEND

M - MONTHLY
Q - QUARTERLY
NR - NOT REQUIRED
( ) - NOTE NUMBER

NOTE 1

Synchronous and induction motors are not required to have a speed check, per IWP-4400.

NOTE 2

Lubricant level or pressure is observed for all pumps listed, as required by Section XI (with the exception of the submerged water pumps, which have water lubricated bearings).

NOTE 3

Augmented Fuel Pool Cooling Pumps provide heat removal when Full Core Offload is performed. These pumps will be tested in accordance with Table 1 only when they are required to be used.

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RELIEF REQUEST 1

SYSTEM:	All
PUMPS:	All
CATEGORY:	Varied
FUNCTION:	Varied
TEST REQUIREMENT:	Annual bearing temperature measurement for all pump bearings in accordance with IWP-3300.
BASIS FOR RELIEF:	Vibration measurements taken on a quarterly basis are trended. Significant increases in these readings will necessitate further vibration measurement with the use of a real time spectrum analyzer to define the source of the increase. Use of the real time analyzer is a method to determine mechanical condition. OM-6 has removed the requirement for bearing temperature measurement because the increased vibration monitoring required by OM-6 provides a better method of determining mechanical condition. Bearing temperature measurements therefore contribute a redundant measure of bearing condition and thus need not be performed.
ALTERNATE TESTING:	Pump Vibration Monitoring will be performed in accordance with 1989 Edition ASME Section XI as set forth in OM-6.

RELIEF REQUEST 4

SYSTEM: Core Spray, Containment Spray, Emergency Service Water, Service Water, Condensate Transfer

PUMPS: Related to the above systems.

CATEGORY: Varied

FUNCTION: Suction pressure gages for above pumps.

TEST REQUIREMENT: IWP-4120 requires that full scale range of each instrument be three times the reference value or less.

BASIS FOR RELIEF: Containment Spray pump suction pressure (PI-21-349, 350, 351, 352)

Range: -15 psig to +15 psig

Accuracy: ±0.6 psig (±2% of 30)

Typical Reference Values:

	Containment Spray Pumps			
	A	B	C	D
Suction Pressure (P_S)	5	5	5	5.5
Discharge Pressure (P_D)	71	71	71	71.5

Justification: Suction pressure is only a fraction of pump discharge pressure (7.7%, at most). A small change in suction pressure will have minimal affects on the calculation of pump differential pressure. Since Containment Spray is a fixed resistance system, pump flow is used to track pump performance. Therefore, small changes in pump suction pressure will not impair analysis of pump performance.

Condensate Transfer pump suction pressure (PI-18, PI-20)

Range: -20 in Hg to +30 psig

Accuracy: ±.5 psig (±1.67%)

Typical Reference values:

	Condensate Transfer Pumps	
	A	B
Suction Pressure (P_S)	12.5	8.5
Discharge Pressure (P_D)	152.5	163

Justification:

Condensate Transfer Pump suction pressure varies directly with Condensate Storage Tank level. Only PI-20, for Condensate Transfer Pump B, does not meet the Code requirement for range. Pump B's suction pressure is only 5.2% of discharge pressure. A small change in the suction pressure reading will have a minimal effect on pump differential pressure values used for trending pump performance. Maintenance requirements and failure predictions are based on long-term performance trends, in which any errors in suction pressure reading will tend to average out over time, so ability to analyze pump performance is not impaired.

RELIEF REQUEST 4 (Con't)

Emergency Service Water suction pressure
(PI-533-1173, 1172)

Range: 0-10 psig

Accuracy: ±0.2 psig (±2%)

Typical Reference Values:

	Emergency Service Water Pumps			
	A	B	C	D
Suction Pressure (P_S)	2.4	2.5	2.5	2.5
Discharge Pressure (P_D)	157.0	165.8	148.5	149.5

Justification:

P_S is a small fraction of P_D (1.7% at most). A small change in P_S will have a minimal effect on calculated differential pressure. These gauges essentially read intake water level and are used for purposes other than reading ESW suction pressure. The gauges must be able to indicate at least 5.81 psig (corresponding to 8 ft. above mean sea level) in order to take appropriate procedural actions in the event of intake structure flooding. A change in range to a maximum of 7.2 psig to meet Code requirements would provide minimal benefit in increased accuracy and could possibly interfere with use of these gauges for purposes other than In-Service Testing. Also, a change from a 0-10 psig range would necessitate use of a non-standard gauge.

RELIEF REQUEST 4 (Con't)

Service Water pump suction pressure (PI-533-1173, 1172)

Range: 0-10 psig

Accuracy: ±0.2 psig (±2%)

Typical Reference values:

	Service Water Pumps	
	A	B
Suction Pressure (P_S)	2.4	2.8
Discharge Pressure (P_D)	63/60/49	72/65/60 (see Note 1)

Justification:

P_S is a small fraction of P_D (4.9% at most). A small change in P_S will have a minimal effect on calculated differential pressure. These gauges essentially read intake water level and are used for purposes other than reading Service Water suction pressure. The gauges must be able to indicate at least 5.81 psig (corresponding to 8 ft. above mean sea level) in order to take appropriate procedural actions in the event of intake structure flooding. A change in range to a maximum of 7.2 psig to meet Code requirements would provide minimal benefit in increased accuracy and could possibly interfere with use of these gauges for purposes other than In-Service Testing. Also, a change from a 0-10 psig range would necessitate use of a non-standard gauge.

NOTE 1

In order to test these pumps at the code required frequency each pump is baselined at three flow rates 4000, 5000, and 6000 gpm, respectively. Seasonal temperatures and varying heat loads require that certain flow rates be maintained to prevent plant transients and interfacing system trips.

RELIEF REQUEST 4 (Con't)

Core Spray main pump suction pressure (PI-25 A, B, C, D)

Range: 0-10 psig

Accuracy: ±0.2 psig (±2%)

Typical Reference values:

	Core Spray Pumps			
	A	B	C	D
Suction Pressure (P_S)	2.3	3	1.4	4.5
Discharge Pressure (P_D)	182	172	180	172

Justification:

P_S is a small fraction of P_D (2.6% at most). A small change in P_S will have a minimal effect on calculated differential pressure. Changing the range to meet Code requirements for the lowest reference value of 1.4 psig would make the high end a maximum of 4.2 psig. This maximum value would not accommodate the normal variation in pressure reading (torus water level plus any applied reference pressure) experienced for this pump from April 1987 to September 1992. Suction pressure readings have varied from 0.6 to 6.2 psig. All pumps experience similar variations in suction pressure:

	Core Spray Pumps			
	NZ01A	NZ01B	NZ01C	NZ01D
P_S range	1.4-4.2	2.5-4.8	0.6-6.2	1.7-5.9
P_S average	2.6	3.4	2.7	3.4

A 0-10 psig gauge is most suited to accommodate this variation in readings. Changing the range of three of these four gauges to meet Code requirements would be detrimental in one case (NZ01C), and would result in minimal gain in the other two cases.

APPENDIX B
OYSTER CREEK VALVE TEST PROGRAM

The Valve Test Program is presented in TABLE 1. TABLE 1 provides the following information:

- VALVE NUMBER
- SYSTEM NAME
- SYSTEM NUMBER
- PAGE NUMBER AND TOTAL PAGES WITHIN TABLE 1
- VALVE TYPE
- VALVE SIZE IN INCHES
- ACTUATOR TYPE
- CATEGORY AS PER ASME SECTION XI IWV
  CATEGORY A VALVES ARE SUBDIVIDED INTO THREE CLASSIFICATIONS:
  - A1 VALVES ARE CONTAINMENT ISOLATION ONLY
  - A2 VALVES ARE PRESSURE ISOLATION ONLY
  - A3 VALVES ARE FOR BOTH CONTAINMENT AND PRESSURE ISOLATION
- NORMAL POSITION
- POSITION TO PROVIDE NUCLEAR SAFETY FUNCTION
- ACTIVE OR PASSIVE
- CODE CLASS
- RELIEF NUMBER (if required)
- REQUIRED TEST
- ALTERNATE TEST
- SAFETY FUNCTION
- FLOW DRAWING
- ISI BOUNDARY DRAWING

NOTE: Relief Requests associated with the Valve Test Program are a part of Appendix B. To maintain consistency in Program History and Development, Relief Requests have not been renumbered when specific Relief Requests have been deleted. The following is a listing of Relief Requests that have been deleted and are no longer active. Relief Requests 3A, 4, 7, 12, 12A, 12B, 15A, 16, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 33, 34, 35, 36, 39, 41, 46, 48, 49, and 53.

APPENDIX B
EXPLANATION OF CODES AND SYMBOLS USED
IN THE OYSTER CREEK VALVE PROGRAM (TABLE 1)

PURPOSE:

The tables included in this section identify the codes and symbols used in the valve test program presented in Table 1. These tables can be removed from the report to assist in reviewing and understanding the information provided in the valve program. The Valve Test Program included in this Report is grouped by system.

List of Tables

TABLE B1
INDEX OF TABLE 1 SYSTEMS

SYSTEM	SYSTEM NUMBER	VALVE TABLE PAGE
MAIN STEAM	411	1
FEEDWATER	422	7
SERVICE WATER	531	8
EMERGENCY SERVICE WATER	532	9
REACTOR BUILDING CLOSED COOLING	541	11
INSTRUMENT AIR	852	13
CONDENSATE TRANSFER	424	14
REACTOR INSTRUMENTATION	622	17
ISOLATION CONDENSER	211	20
CONTROL ROD DRIVE	225	24
CLEANUP DEMINERALIZER	215	27
SHUTDOWN COOLING	214	29
FUEL POOL COOLING	251	31
STANDBY LIQUID CONTROL	213	32
CORE SPRAY	212	34
CONTAINMENT SPRAY	241	44
DRYWELL FLOOR AND EQUIPMENT	573	47
CONTAINMENT INERTING	242	48
REACTOR SAMPLE	551	51
DRYWELL AND SUPPRESSION	243	52
REACTOR BUILDING VENTILATION	822	56
REACTOR HEAD COOLING	216	58
RECIRCULATION	223	59
HYDROGEN AND OXYGEN MONITORING	666	65
POST ACCIDENT SAMPLING	555	68
TRAVELING INCORE PROBE	623	69

APPENDIX B

TABLE B2

SYMBOLS USED TO DESIGNATE VALVE TYPE

VALVE TYPES	
SYMBOL	MEANING
AN	ANGLE VALVE
BF	BUTTERFLY
BL	BALL
CK	CHECK
DA	DIAPHRAGM
GA	GATE
GL	GLOBE
PG	PLUG
RG	REGULATING
RL	RELIEF
SC	STOP CHECK
SK	SPRING CHECK

APPENDIX B

TABLE B3

SYMBOLS USED TO DESIGNATE VALVE ACTUATOR TYPE

VALVE ACTUATOR TYPES	
SYMBOL	MEANING
A	AIR OPERATOR
M	MANUAL OPERATOR
MO	MOTOR OPERATOR
SA	SELF ACTUATED
S	SOLENOID OPERATOR
H	HYDRAULIC OPERATOR
E	ELECTRICAL
XP	EXPLOSIVE OPERATOR

APPENDIX B

TABLE B4

SYMBOLS USED TO DESIGNATE VALVE POSITION

VALVE POSITION	
SYMBOLS	MEANING
O	OPEN
C	CLOSED
LO	LOCKED OPEN
LC	LOCKED CLOSED
TH	THROTTLED
O/C	VALVE POSITION DETERMINED BY OTHER SYSTEM PARAMETERS AS IN THE CASE OF ANY CHECK VALVE.

APPENDIX B
TABLE B5
SYMBOLS FOR VALVE TEST METHOD AND FREQUENCY

	CATEGORY A OR B VALVES
EF1	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY EVERY 3 MONTHS IN ACCORDANCE WITH SECTION XI, ARTICLE IWV-3410.
EF2	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY DURING COLD SHUTDOWN MODE ONLY.
EF3	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY DURING REFUELING MODE ONLY.
EF4	VERIFY VALVE POSITION IS ACCURATELY INDICATED AT LEAST ONCE EVERY TWO YEARS FOR VALVES WITH REMOTE POSITION INDICATION.
EF5	EXERCISE VALVE (WITH FAIL-SAFE ACTUATORS) TO OBSERVE PROPER OPERATION OF FAIL-SAFE MECHANISMS EVERY 3 MONTHS IN ACCORDANCE WITH SECTION XI, ARTICLE IWV-3410.
EF6	EXERCISE VALVE (WITH FAIL-SAFE ACTUATORS) TO OBSERVE PROPER OPERATION OF FAIL-SAFE MECHANISMS DURING COLD SHUTDOWN/
EF7	EXERCISE VALVE (WITH FAIL-SAFE ACTUATORS) TO OBSERVE PROPER OPERATION OF FAIL-SAFE MECHANISMS DURING REFUELING.
ET	EXERCISE VALVE TO MEASURE THE FULL STROKE TIME OF A POWER OPERATED VALVE. THE VALVE STROKE TEST WILL BE PERFORMED IN ACCORDANCE WITH OM-10.
SLT1	ALL SEAT LEAK TESTING WILL BE PERFORMED IN ACCORDANCE WITH OM-10. CONTAINMENT ISOLATION VALVES SHALL BE SEAT LEAKAGE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF 10CFR50 APPENDIX J. CATEGORY A VALVES THAT PERFORM A FUNCTION OTHER THAN, OR IN ADDITION TO, CONTAINMENT ISOLATION SHALL BE TESTED AT LEAST ONCE EVERY 2 YEARS.

APPENDIX B
TABLE B5
SYMBOLS FOR VALVE TEST METHOD AND FREQUENCY

	CATEGORY C VALVES
EF1	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY EVERY 3 MONTHS IN ACCORDANCE WITH SECTION XI, ARTICLE IWV-3500.
EF2	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY DURING COLD SHUTDOWN MODE ONLY, WITH FREQUENCY NOT TO EXCEED ONCE EVERY THREE MONTHS.
EF3	EXERCISE VALVE (FULL STROKE) FOR OPERABILITY DURING REFUELING MODE ONLY.
TF1	TESTING OF SAFETY, RELIEF AND VACUUM BREAKER VALVES IN ACCORDANCE WITH IWV-3510.
IN3	OPEN AND INSPECT ONE VALVE OF THE VALVE GROUPING AT EACH REFUELING. PARTIAL STROKE QUARTERLY WHEN POSSIBLE.
NOTE:	ON CATEGORY C CHECK VALVES, WHOSE FUNCTION IS TO PREVENT REVERSE FLOW, THE TEST WILL BE PERFORMED TO PROVE THAT THE DISK TRAVELS TO THE SEAT PROMPTLY ON CESSATION OR REVERSAL OF FLOW.
	CATEGORY D VALVES
XP1	OPERATIONAL CHECKS OF EXPLOSIVE CHARGES WILL BE PERFORMED IN ACCORDANCE WITH IWV-3610.

RELIEF REQUEST 1

SYSTEM:	Reactor Shutdown Cooling
VALVES:	V-17-1, V-17-2, V-17-3, V-17-19, V-17-54, V-17-55, V-17-56, V-17-57
CATEGORY:	B
FUNCTION:	These valves function to provide isolation of the Shutdown Cooling System from the Reactor Recirculation System. They open to allow operation of the Shutdown Cooling System (non-safety related in the open direction).
TEST REQUIREMENT:	Every three months, per IWV-3410.
BASIS FOR RELIEF:	Valves V-17-19 and V-17-54 are interlocked and will not open when reactor coolant temperature is greater than 350°F. Since the safety related function of these valves is to isolate the Shutdown Cooling System, the cycling of valves V-17-1, 2, 3, 55, 56, and 57 during power operation would degrade their isolation function and, hence, the safety of the plant.
ALTERNATE TESTING:	These valves will be tested on a cold shutdown frequency, when coolant temperature is below 350°F.

RELIEF REQUEST 2

SYSTEM:	Standby Liquid Control
VALVES:	V-19-16, V-19-20
CATEGORY:	A1C
FUNCTION:	These valves operate in the closed direction to prevent reverse flow from the Reactor Coolant System into the Standby Liquid Control System, as well as for containment isolation, and open direction to permit injection of poison into reactor vessel.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	These valves cannot be exercised during power operation since flow through these valves would pump highly concentrated sodium pentaborate into the RCS, causing plant shutdown. Performing this test during cold shutdowns requires flushing the Poison System for long periods of time resulting in large quantities of hazardous waste material and requires actuation of the explosive valves which would then require replacement. Performing this testing during cold shutdown would probably result in delaying plant startup.
ALTERNATE TESTING:	These valves will be full stroke exercised each refueling outage.

RELIEF REQUEST 3

SYSTEM:	Clean-up Demineralizer
VALVES:	V-16-62
CATEGORY:	A1C
FUNCTION:	This check valve acts as a containment isolation valve in the event of an accident. During normal operation this valve allows flow to pass into the reactor coolant from the Clean-up Demineralizer System.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	This valve cannot be exercised and verified closed (its safety position) during power operation due to the high pressure/temperature conditions in recirculation loop "B". This valve does not have an exercising mechanism nor is it provided with position indication.
ALTERNATE TESTING:	This valve will be exercised closed each refueling outage

RELIEF REQUEST 5

SYSTEM:	Hydraulic Control Unit
VALVES:	V-15 (126), V-15 (127)
CATEGORY:	B
FUNCTION:	These valves (137 of each) are the scram inlet/outlet valves. They function to scram the associated control rod.
TEST REQUIREMENT:	Full stroke, test failure modes and stroke time every three months, per IWV-3410.
BASIS FOR RELIEF:	CV-126 & 127 cannot be exercised during power operation since exercising these valves will scram the associated control rod. Withdrawal of the rod and rapid insertion at power could cause fuel damage to the core. These valves are not provided with indication for both positions and stroke in the order of milliseconds thus measuring of stroke time is impractical.
ALTERNATE TESTING:	Per Technical Specification requirements, a sample of 8 of these valves are tested during start-ups from cold shutdown if the sample has not tested in the previous 6 months. All valves are tested at refueling. Verifying the associated control rod meets the scram insertion time limits as defined in Technical Specifications is an acceptable method of detecting degradation of these valves.

RELIEF REQUEST 6

SYSTEM:	Hydraulic Control Unit
VALVES:	V-15 (106) (137 valves)
CATEGORY:	A2C
FUNCTION:	These stop-check valves act in the open position to charge the scram accumulators from the charging water header. They act in the closed position to allow a successful scram, in the event that the charging water header is depressurized and Reactor Pressure is less than 940 psia.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	Testing these valves during power operation would require depressurizing the scram charging system, causing a degradation of the scram systems and a loss of normal cooling for control rod drives.
ALTERNATE TESTING:	These valves (all 137) will be tested on a cold shutdown frequency by depressurizing the control rod drive charging water header and verifying by the depressurization rate of the associated Hydraulic Control Unit that the valves have shifted to the closed (safe) position.

RELIEF REQUEST 8

SYSTEM:	Hydraulic Control Unit
VALVES:	V-15 (108) (137 valves)
CATEGORY:	C
FUNCTION:	Opens to allow displacement of fluid for successful scram function.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	These valves (137) can only be verified open during the actual scram testing. Verifying the associated control rod meets the scram insertion times specified in technical specifications is an acceptable alternative method of verifying the full open position of these valves.
ALTERNATE TESTING:	Per Technical Specification requirements, a sample of 8 of the 137 valves are tested during start-up from cold shutdown if the sample has not been tested in the previous 6 months. All valves are tested at refueling.

RELIEF REQUEST 9

SYSTEM:	Control Rod Drive Hydraulic
VALVES:	V-15-27, V-15-28
CATEGORY:	A1C
FUNCTION:	These check valves act as containment isolation valves in the event of an accident. They normally allow excess flow from the Control Rod Drive Hydraulic System to pass to the reactor vessel.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	These valves must be open during operation of the CRD Hydraulic System. The CRD Hydraulic System must be operable during power operation and is normally kept operating even during periods when the reactor is shut down. These valves are not provided with exercise mechanisms or position indication, therefore closure of these valves can only be verified by indirect means.
ALTERNATE TESTING:	These valves will be exercised closed each refueling outage.

RELIEF REQUEST 10

SYSTEM:	Core Spray
VALVES:	V-20-150, V-20-151, V-20-152, V-20-153
CATEGORY:	A2C
FUNCTION:	These valves act as pressure isolation valves and to prevent reverse flow from the Reactor Coolant System to the Core Spray System.
TEST REQUIREMENT:	Every three months, per IWV-3410.
BASIS FOR RELIEF:	During normal operation the differential pressure across the valve disc exceeds 1,000 psi. The Core Spray System pumps are not designed to operate against that high of a head, and the valve test operator requires zero pressure differential across the valve disc in order to cycle the valve and/or reactor vessel.
ALTERNATE TESTING:	Exercise the valves for operability during cold shutdown using the test operator.

RELIEF REQUEST 11

SYSTEM:	Core Spray
VALVES:	V-20-60, V-20-61, V-20-88, V-20-89
CATEGORY:	C
FUNCTION:	These valves provide isolation between the Core Spray System and the Fire Protection System. These valves also provide a secondary source of makeup to the Reactor, utilizing fire water via the core spray piping.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3520.
BASIS FOR RELIEF:	Initiating flow through these valves will cause unacceptable water chemistry transients in the suppression pool and/or reactor vessel.
ALTERNATE TESTING:	Two valves are in series with no test taps between valves, therefore, the valves are tested as a pair. The closed position of each pair of these valves is verified quarterly by means of a leak test. These valves will be disassembled and inspected to verify open and close stroke as permitted by NRC generic letter 89-04 Position 2. Before reinstalling the valve cap, the disc is manually lifted and allowed to swing closed. Due to unacceptable water chemistry it is not possible to test open these valves by means of flow. After reassembly the closed position of each pair of valves is verified by a leak test. Non-intrusive techniques presently available would not be feasible since they require flow through the valve. These valves form a group in that they are the same size, manufacturer model and materials of construction and required to pass the same flowrate. Two of the subject check valves are mounted vertically, flow up, while the other two are in the horizontal. Since vertical is the more restrictive orientation a vertical valve was the first to be opened. No adverse conditions were observed. Therefore, these valves will be grouped with the horizontal valves. One valve of the group will be disassembled during each refueling outage such that over four refueling outages all of the valves will have been inspected. Also, because the vertical orientation is more restrictive a vertical valve will be selected every other refueling outage. While this is somewhat different than the GL 89-04 position it is GPUN opinion that since the valves do not see any active service and are of the same size and type, any wearing or degradation would be the same for all four valves. GPUN believes there is negligible benefit to safety by the disassembly of two valves each refueling outage as compared to the disassembly of one valve each refueling outage.

RELIEF REQUEST 13

SYSTEM:	Main Steam
VALVES:	V-01-173 (108A), V-01-174 (108B), V-01-175 (108C), V-01-176 (108D), V-01-177 (108E)
CATEGORY:	B
FUNCTION:	To provide automatic and manual pressure control for the RCS as well as providing for automatic depressurization of the RCS in case of an accident.
TEST REQUIREMENT:	Full stroke exercise and measure stroke time every three months, per IWV-3410.
BASIS FOR RELIEF:	Exercising these valves during power operation simulates a small-break transient, subjecting the RCS and related piping to unnecessary transients. These valves cannot be exercised at cold shutdown because reactor pressure is necessary to stroke the valves. No direct position indication exists for these valves. However, acoustic monitors do provide an indirect means to determine position and can be used to time the stroke of these valves.
ALTERNATE TESTING:	Valves will be full stroke exercised and stroke time measured during startup following a refueling outage; i.e., on a refueling outage frequency.

RELIEF REQUEST 14

SYSTEM:	Main Steam
VALVES:	V-1-190, V-1-191, V-1-192, V-1-193
CATEGORY:	C
FUNCTION:	These valves are installed on the discharge headers of the electromatic relief valves in the drywell and were designed to open upon a low pressure condition in the discharge line. Relief of the low pressure condition after initial lifting and reseating of the electromatic relief valves will prevent a water column from being established due to the pressure differential between the discharge line and the torus. This water column is undesirable due to the potential increase in hydraulic forces during subsequent relief valve lifts. These valves do not provide any over pressure relief.
TEST REQUIREMENT:	Every three months, per IWV-3520.
BASIS FOR RELIEF:	The drywell is a high radiation area that is normally kept inerted with a nitrogen atmosphere. These valves are not provided with any mechanisms for exercising the internals, and the test method used requires removal of the valve inlet screen and the use of a special tool rig to stroke and measure the opening force. At the completion of the test, the tool rig is removed and inlet screen reinstalled. The installation and removal of the test rig and inlet screen does not require any disassembly of the valve internals. Therefore, no post testing is required after this exercise test.
ALTERNATE TESTING:	Exercise at refueling, when conditions allow access to the drywell; i.e., when containment is de-inerted.

RELIEF REQUEST 15

SYSTEM:	Feedwater
VALVES:	V-2-71, V-2-72, V-2-73, V-2-74
CATEGORY:	A1C
FUNCTION:	These valves are containment isolation valves for the main feedwater lines.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	Exercising these valves during power operation would require isolation of the Feedwater System, which results in plant shutdown. Two of these valves are inaccessible during cold shutdown when the containment atmosphere is inerted. These valves are not fitted with exercise arms or position indication.
ALTERNATE TESTING:	These valves will be exercised to the close position (which is their safety related position) each refueling outage.

RELIEF REQUEST 17

SYSTEM:	Closed Cooling Water
VALVES:	V-5-165
CATEGORY:	A1C
FUNCTION:	This valve acts as a containment isolation valve for the Closed Cooling Water System.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	This valve is not fitted with an exercise arm or position indication. There is no direct means to exercise or verify the stroke of this valve. Special testing is required to exercise this valve which requires isolation of closed cooling water to all equipment in the Drywell.
ALTERNATE TESTING:	This valve will be exercised to the close position (safety related function) each refueling outage.

RELIEF REQUEST 18

SYSTEM:	Reactor Building Closed Cooling Water
VALVES:	V-5-147, V-5-166, V-5-167
CATEGORY:	A1
FUNCTION:	These valves act as containment isolation valves for the Closed Cooling Water System.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	Full stroke exercising of these valves isolates cooling water flow to the RECIRC pumps. Isolation of cooling water during normal plant operation can cause damage to these pumps, thus requiring plant shutdown.
ALTERNATE TESTING	During cold shutdown these valves will be full stroke exercised.

RELIEF REQUEST 25

SYSTEM: Instrumentation lines connected to the reactor coolant pressure boundary which penetrate primary containment.

VALVES:

V-1-180	V-37-30	V-130-4
V-1-181	V-37-38	V-130-5
V-1-184	V-37-39	V-130-6A
V-1-185	V-37-40	V-130-6B
V-14-49	V-37-41	V-130-7
V-14-50	V-37-49	V-130-8
V-14-52	V-37-50	V-130-9
V-14-53	V-37-51	V-130-10
V-14-54	V-37-52	V-130-21A
V-14-55	V-37-59	V-130-21B
V-14-56	V-37-66	V-130-26
V-20-172	V-37-68	
V-20-173	V-37-69	
V-37-5	V-37-70	
V-37-6	V-37-71	
V-37-7	V-37-72	
V-37-8	V-37-73	
V-37-16	V-37-74	
V-37-17	V-37-75	
V-37-18	V-130-1	
V-37-19	V-130-2A	
V-37-27	V-130-2B	
V-37-28	V-130-3	

CATEGORY: A1C

TEST REQUIREMENT: Exercise valves every three months and Seat Leak Test in accordance with Section XI.

BASIS FOR RELIEF: Instrumentation lines connected to the reactor coolant pressure boundary and which penetrate primary containment are designed in accordance with USNRC Regulatory Guide 1.11 which permits a flow restricting orifice inside containment and an excess flow check valve outside containment for isolation. This design configuration does not permit valve exercising or Local Seat Leak Tests to be performed.

ALTERNATE TESTING: The excess flow check valves are demonstrated to be functional in both the open and closed position in accordance with OC Tech Specification, Section 4.5.0. This requires testing for closure during refueling outages and open position whenever conditions may cause closure.

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RELIEF REQUEST 30

SYSTEM:	Main Steam
VALVES:	V-1-7, V-1-8, V-1-9, V-1-10
CATEGORY:	A1
FUNCTION:	The main steam isolation valves provide containment isolation of the Main Steam Line.
TEST REQUIREMENT:	Exercise valve (with fail-safe actuators) to observe proper operation of fail-safe mechanisms every three months per IWV-3410.
BASIS FOR RELIEF:	These valves are air operated and have fail-safe operators that are required to close the valves with no air assist. These valves currently cannot be tested every 3 months or during cold shutdown unless drywell access is available due to the configuration. Drywell entry is required to observe the operators function properly per IWV-3410(e).
ALTERNATE TESTING:	These valves will be fail-safe tested during cold shutdown when drywell access is available and during refueling outages.

RELIEF REQUEST 31

SYSTEM:	Instrument Air
VALVES:	V-6-393
CATEGORY:	A1C
FUNCTION:	This valve acts as a containment isolation valve for the Instrument Air System.
TEST REQUIREMENT:	Full stroke exercise every three months, per IWV-3410.
BASIS FOR RELIEF:	This valve is not fitted with an exercise arm or position indication. There is no direct means to exercise or verify the stroke of the valve. Special testing is required to exercise this valve which requires isolation of control air to all equipment in the Drywell.
ALTERNATE TESTING:	This valve will be exercised to the close position each refueling outage.

RELIEF REQUEST 32

SYSTEM:	Instrument Air
VALVES:	V-6-395
CATEGORY:	A1
FUNCTION:	This valve acts as a containment isolation valve for the Instrument Air System.
TEST REQUIREMENT:	Full stroke exercise and stroke time every three months, per IWV-3410.
BASIS FOR RELIEF:	Full stroke exercising of this valve isolates instrument air form the Main Steam Isolation Valves. Isolating the air supply could cause the MSIV's to begin to close causing unwanted transients.
ALTERNATE TESTING:	During cold shutdown and during refueling outages this valve will be full stroke exercised and timed.

RELIEF REQUEST 37

SYSTEM:	Core Spray
VALVES:	V-20-52, V-20-53, V-20-54, V-20-55
CATEGORY:	C
FUNCTION:	Core Spray Booster Pump Discharge Check Valves
TEST REQUIREMENT:	Full stroke exercise every three months.
BASIS FOR RELIEF:	The test line utilized for testing these valves will not pass the maximum flowrate of 4100 gpm. It will pass at least 3400 gpm.
ALTERNATE TESTING:	The valves will be partial flow tested every three months and whenever the valves are returned to service after open and inspection activities. These valves are of the same manufacturer, size, model and type. One valve of this group will be opened and inspected at each refueling outage.

RELIEF REQUEST 38

SYSTEM:	Reactor Building Closed Cooling Water, Service Water
VALVES:	V-5-153, V-5-154, V-3-62, V-3-63
CATEGORY:	C
FUNCTION:	Pump Discharge Check Valves
TEST REQUIREMENT:	Full stroke exercise, valve every three months.
BASIS FOR RELIEF:	These valves will be checked for closure by verifying acceptable hydraulic performance of the parallel pump. During certain times, both pumps must operate to provide cooling to Plant Systems and the Closure test is not possible without shutdown of the respective pump.
ALTERNATE TESTING:	The valves will be tested every three months except for those periods when both pumps must operate. In that case, the frequency will revert to testing every three months as soon as single pump operation is possible.

RELIEF REQUEST 40

SYSTEM:	Hydrogen and Oxygen Monitoring
VALVES:	V-38-9, V-38-10, V-38-16, V-38-17, V-38-22, V-38-23,
CATEGORY:	A1
FUNCTION:	Containment Isolation
TEST REQUIREMENT:	Full stroke exercise, time and test function of fail safe features every three months.
BASIS FOR RELIEF:	These valves cannot be stroked and timed without modifications. These valves do not have position indication. Verification of cycle is by indirect means.
ALTERNATE TESTING:	These valves will be exercised and the fail safe feature tested during refueling but, the cycle cannot be timed.

NOTE: The above valves are Non-Code Class components.

RELIEF REQUEST 42

SYSTEM:	Core Spray
VALVES:	V-20-8, V-20-9, V-20-16, V-20-22
CATEGORY:	C
FUNCTION:	Core Spray Main Pump Discharge Check Valves
TEST REQUIREMENT:	Full stroke exercise every three months.
BASIS FOR RELIEF:	The test line utilized for testing these valves will not pass the maximum flowrate of 4100 gpm. It will pass at least 3400 gpm.
ALTERNATE TESTING:	The valves will be partial flow tested every three months and whenever the valves are returned to service after open and inspection activities. These valves are of the same manufacturer, size, model and type. One valve of this group will be opened and inspected at each refueling outage.

RELIEF REQUEST 43

SYSTEM:	Liquid Poison
VALVES:	V-19-37, V-19-38
CATEGORY:	C
FUNCTION:	Pump Discharge Check Valves
TEST REQUIREMENT:	Exercise every three months.
BASIS FOR RELIEF:	The means for testing these valves in the closed direction would involve mechanical operations that could involve personal hazard due to the high pressure output of the liquid poison pumps. Reverse flow through a positive displacement pump is not a probable mode of failure and relief valve discharge and leakage is checked on a quarterly basis. These are the two possible paths should the pump discharge check valve fail in the open position. Quarterly pump testing and relief valve leakage testing would detect any excessive backflow and cause the operating pump to fail its acceptance criteria. If this condition were to occur, the involved components would be repaired or replaced.
ALTERNATE TESTING:	These valves are exercised every three months to verify full open position. No reverse flow test will be done.

RELIEF REQUEST 44

SYSTEM:	Control Rod Drive
VALVES:	V-15-119, V-15-120, V-15-121, V-15-133, V-15-134, V-15-135, V-15-136, V-15-137
CATEGORY:	B
FUNCTION:	Isolate the scram dump volume during a scram condition.
TEST REQUIREMENT:	Exercise stroke time and verify operation of failure mode feature every three months.
BASIS FOR RELIEF:	These valves can be exercised every three months but the test or exercise solenoid to bleed off control air is not the solenoid that would be used if the valves safety function were required. A full scram signal is required to actuate the safety function solenoids.
ALTERNATE TESTING:	The valves will be exercised every three months but the failure mode and stroke timing will be done at cold shutdown.

RELIEF REQUEST 45

SYSTEM:	Core Spray
VALVES:	V-20-50, V-20-51
CATEGORY:	C
FUNCTION:	Core Spray Booster Pump Bypass Check Valves
TEST REQUIREMENT:	Full stroke exercise every three months.
BASIS FOR RELIEF:	The test line utilized for testing these valves will not pass the maximum flowrate of 3700 gpm.
ALTERNATE TESTING:	The valves will be partial flow tested every three months and whenever the valves are returned to service after open and inspection activities. These valves are of the same manufacturer, size, model and type. One valve of this group will be opened and inspected at each refueling outage.

RELIEF REQUEST 47

SYSTEM:	Drywell and Suppression, Containment Spray
VALVES:	V-26-1, V-26-2, V-26-3, V-26-4, V-26-5, V-26-6, V-26-7, V-26-8, V-26-9, V-26-10, V-26-11, V-26-12, V-26-13, V-26-14, V-21-005, V-21-011
CATEGORY:	Various
FUNCTION:	Drywell and Torus Vacuum Breakers, and Torus Spray Valves
TEST REQUIREMENT:	Seat Leak Testing of each valve.
BASIS FOR RELIEF:	Valves cannot be individually isolated in that they have no isolation valves.
ALTERNATE TESTING:	Valves are tested as a group during a Drywell to Torus Leak Test. Combined limiting leakage is specified by the Technical Specifications.

RELIEF REQUEST 50

SYSTEM:	Various		
VALVES:	V-623-001	V-38-039	V-40-006
	V-623-002	V-38-040	V-40-008
	V-623-003	V-38-041	V-40-012
	V-623-004	V-38-043	V-40-024
	V-38-037	V-38-044	
	V-38-038	V-38-046	
CATEGORY:	A1		
FUNCTION:	Containment Isolation Valves		
TEST REQUIREMENT:	Valves with remote position indicators shall be observed at least once every 2 years to verify that valve operation is accurately indicated.		
BASIS FOR RELIEF:	The above valves are contained or sealed units such that valve position cannot be verified by local observation.		
ALTERNATE TESTING:	The position indicators for the above valves will be verified at least once every 2 years. This verification will use a parameter response such as pressure or flow to confirm accurate remote position indication.		

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RELIEF REQUEST 51

SYSTEM: Various

VALVES:

V-01-07	V-22-001	V-23-021
V-01-08	V-22-002	V-23-022
V-01-09	V-22-028	V-27-001
V-01-10	V-22-029	V-27-002
V-05-147	V-23-013	V-27-003
V-05-166	V-23-014	V-27-004
V-05-167	V-23-015	V-28-017
V-06-395	V-23-016	V-28-018
V-16-001	V-23-017	V-28-047
V-16-002	V-23-018	V-31-002
V-16-014	V-23-019	
V-16-061	V-23-020	

CATEGORY: A1

FUNCTION: Containment Isolation Valves

TEST REQUIREMENT: Valves with remote position indicators shall be observed at least once every 2 years to verify that valve operation is accurately indicated.

BASIS FOR RELIEF: The above valves are located in radiation areas. Local observation to verify the accuracy of the position indicators will result in unnecessary radiation exposure. Alternate means can be used to verify accurate position indication.

ALTERNATE TESTING: The position indicators for the above valves will be verified at least once every 2 years. Local observation or the following method will be used to verify accurate position indication. The remote position indicators provided on these valves are used to determine valve position prerequisite to system operation and local leak rate testing. Proper system operation will verify accurate open position indication and successful leak rate test results will verify accurate closed indication.

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RELIEF REQUEST 52

SYSTEM:	Control Rod Drive
VALVES:	V-15 (106) (137 valves one per Hydraulic Control Unit)
CATEGORY:	A2C
CLASS:	2
FUNCTION:	These stop-check valves act in the open position to charge the scram accumulators from the charging water header. They act in the closed position to allow a successful scram, in the event that the charging water header is depressurized and reactor pressure is less than 940 psia.
TEST REQUIREMENT:	Leak rate test per IWV-3420.
BASIS FOR RELIEF:	The owner established permissible leak rate for these valves is based upon maintaining the HCU pressure above a specific value for a given period of time. This can be demonstrated by observing the depressurization rate of the Hydraulic Control Units and verifying that they are within acceptable limits. This type of testing is done on all 137 Hydraulic Control Units simultaneously. Those valves that pass the owner established criteria are not tested further to determine the actual leak rate since a tight valve will take an indefinite period of time to depressurize the Hydraulic Control Unit.
ALTERNATE TESTING:	These valves (all 137) will be leak tested at least once every two years to ensure they are capable of performing their intended function. The leak test shall consist of monitoring the depressurization rate of each associated Hydraulic Control Unit to verify it is within the owner established limits.

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VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01-07(NS03A)	GL	24	A	A1	O	C	A	1	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									EF4		EF4	
									EF5	30	EF7	
									ET		ET	FLOW DRAWING BR 2002
									SLT1		SLT1	ISI DRAWING GU 3E-411-A1-001
V-01-08(NS03B)	GL	24	A	A1	O	C	A	1	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									EF4		EF4	
									EF5	30	EF7	
									ET		ET	FLOW DRAWING BR 2002
									SLT1		SLT1	ISI DRAWING GU 3E-411-A1-001
V-01-09(NS04A)	GL	24	A	A1	O	C	A	1	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									EF4		EF4	
									EF5	30	EF7	
									ET		ET	FLOW DRAWING BR 2002
									SLT1		SLT1	ISI DRAWING GU 3E-411-A1-001
V-01-10(NS04B)	GL	24	A	A1	O	C	A	1	EF1		EF1	CLOSE FOR CONATINMENT ISOLATION
									EF4		EF4	
									EF5	30	EF7	
									ET		ET	FLOW DRAWING BR 2002
									SLT1		SLT1	ISI DRAWING GU 3E-411-A1-001
V-01-160 28D	RL	6	SA	C	C	O	A	1	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF
												FLOW DRAWING BR 2002
												ISI DRAWING GU 3E-411-A1-001

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01-161 28E	RL	6	SA	C	C	O	A	1	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-162 28F	RL	6	SA	C	C	O	A	1	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-163 28G	RL	6	SA	C	C	O	A	1	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-164 28H	RL	6	SA	C	C	O	A	1	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-165 28J	RL	6	SA	C	C	O	A	1	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01-166 28K	RL	6	SA	C	C	O	A	1	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-167 28L	RL	6	SA	C	C	O	A	1	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-168 28M	RL	6	SA	C	C	O	A	1	TF1		TF1	OPEN FOR REACTOR PRESSURE RELIEF FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-173 108A	GL	6	E	B	C	O	A	1	EF1 ET	13	EF3 ET	OPEN FOR REACTOR PRESSURE CONTROL FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-174 108B	GL	6	E	B	C	O	A	1	EF1 ET	13	EF3 ET	OPEN FOR REACTOR PRESSURE CONTROL FLOW DPAWING BR 2002 ISI DRAWING GU 3E-411-A1-001

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01-175 108C	GL	6	E	B	C	O	A	1	EF1 ET	13	EF3 ET	OPEN FOR REACTOR PRESSURE CONTROL FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-176 108D	GL	6	E	B	C	O	A	1	EF1 ET	13	EF3 ET	OPEN FOR REACTOR PRESSURE CONTROL FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-177 108E	GL	6	E	B	C	O	A	1	EF1 ET	13	EF3 ET	OPEN FOR REACTOR PRESSURE CONTROL FLOW DRAWING BR 2002 ISI DRAWING GU 3E-411-A1-001
V-01-180	SK	.5	SA	A1C	O	C	A	1	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION FLOW DRAWING JC 19616 ISI DRAWING GU 3E-411-A1-001
V-01-181	SK	.5	SA	A1C	O	C	A	1	EF1 SLT1	25 25	EF3	OPEN FOR INSTRUMENT OPERABILITY CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION FLOW DRAWING JC 19616 ISI DRAWING GU 3E-411-A1-001

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01-184	SK	.5	SA	A1C	O	C	A	1	RF1	25	RF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING JC 19616
												ISI DRAWING GU 3R-411-A1-001
V-01-185	SK	.5	SA	A1C	O	C	A	1	RF1	25	RF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING JC 19616
												ISI DRAWING GU 3R-411-A1-001
V-01-190	CK	4	SA	C	C	O	A	2	RF1	14	RF3	OPEN TO PREVENT SIPHON EFFECT ON DOWNCOMMER LINE
												FLOW DRAWING BR 2002
												ISI DRAWING GU 3R-411-A1-001
V-01-191	CK	4	SA	C	C	O	A	2	RF1	14	RF3	OPEN TO PREVENT SIPHON EFFECT ON DOWNCOMMER LINE
												FLOW DRAWING BR 2002
												ISI DRAWING GU 3R-411-A1-001
V-01-192	CK	4	SA	C	C	O	A	2	RF1	14	RF3	OPEN TO PREVENT SIPHON EFFECT ON DOWNCOMMER LINE
												FLOW DRAWING BR 2002
												ISI DRAWING GU 3R-411-A1-001

SYSTEM 411 MAIN STEAM

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-01-193	CK	4	SA	C	C	O	A	2	EF1	14	EF3	OPEN TO PREVENT SIPHON EFFECT ON DOWNCOMMER LINE
												FLOW DRAWING BR 2002
												ISI DRAWING GU 3R-411-A1-001

SYSTEM 422 FEEDWATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-02-071	CK	18	SA	A1C	O	C	A	1	EF1 SLT1	15	EF3 SLT1	CLOSE FOR RCPB AND CONTAINMENT ISOLATION FLOW DRAWING BR 2003 ISI DRAWING GU 3R-422-A1-001
V-02-072	CK	18	SA	A1C	O	C	A	1	EF1 SLT1	15	EF3 SLT1	CLOSE FOR RCPB AND CONTAINMENT ISOLATION FLOW DRAWING BR 2003 ISI DRAWING GU 3R-422-A1-001
V-02-073	CK	18	SA	A1C	O	C	A	1	EF1 SLT1	15	EF3 SLT1	CLOSE FOR RCPB AND CONTAINMENT ISOLATION FLOW DRAWING BR 2003 ISI DRAWING GU 3R-422-A1-001
V-02-074	CK	18	SA	A1C	O	C	A	1	EF1 SLT1	15	EF3 SLT1	CLOSE FOR RCPB AND CONTAINMENT ISOLATION FLOW DRAWING BR 2003 ISI DRAWING GU 3R-422-A1-001

SYSTEM 531 SERVICE WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-03-062	SK	16	SA	C	O/C	O/C	A	3	EF1	38	EF1	OPEN FOR SERVICE WATER FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING BR 2005 ISI DRAWING GU 3R-531-A1-001
V-03-063	SK	16	SA	C	O/C	O/C	A	3	EF1	38	EF1	OPEN FOR SERVICE WATER FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING BR 2005 ISI DRAWING GU 3R-531-A1-001

SYSTEM 532 EMERGENCY SERVICE WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-03-065	CK	10	SA	C	O/C	O/C	A	3	EF1		EF1	OPEN FOR EMERGENCY SERVICE WATER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING BR 2005 ISI DRAWING GU 3E-532-A1-001
V-03-066	CK	10	SA	C	O/C	O/C	A	3	EF1		EF1	OPEN FOR EMERGENCY SERVICE WATER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING BR 2005 ISI DRAWING GU 3E-532-A1-001
V-03-067	CK	10	SA	C	O/C	O/C	A	3	EF1		EF1	OPEN FOR EMERGENCY SERVICE WATER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING BR 2005 ISI DRAWING GU 3E-532-A1-001
V-03-068	CK	10	SA	C	O/C	O/C	A	3	EF1		EF1	OPEN FOR EMERGENCY SERVICE WATER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING BR 2005 ISI DRAWING GU 3E-532-A1-001
V-03-087	BF	14	M	B	T	T	P	3	EF4		EF4	THROTTLED OPEN FOR ESW FLOW FLOW DRAWING BR 2005 ISI DRAWING GU 3E-532-A1-001

SYSTEM 532 EMERGENCY SERVICE WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-03-088	BF	14	M	B	T	T	P	3	RF4		RF4	THROTTLED OPEN FOR RSW FLOW
												FLOW DRAWING BR 2005
												ISI DRAWING GU 3R-532-A1-001
V-03-131	CK	2	SA	C	O	C	A	3	RF1		RF1	CLOSE TO PREVENT LOSS OF RSW FLOW TO SW SYSTEM
												FLOW DRAWING BR 2005
												ISI DRAWING GU 3R-532-A1-001
V-03-133	CK	2	SA	C	O	C	A	3	RF1		RF1	CLOSE TO PREVENT LOSS OF RSW FLOW TO SW SYSTEM
												FLOW DRAWING BR 2005
												ISI DRAWING GU 3R-532-A1-001

SYSTEM 541 CLOSED COOLING WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-05-147	GA	6	MO	A1	O	C	A	2	EP1	18	EP2	CLOSE FOR CONTAINMENT ISOLATION
									ET	18	ET	
									SLT1		SLT1	
									EP4	51	EP4	PLOW DRAWING BR 2006
												ISI DRAWING GU 3E-541-A1-001
V-05-153	CK	12	SA	C	O/C	O/C	A	3	EP1	38	EP1	OPEN FOR RBCCW PUMP FLOW
												CLOSE FOR PARALLEL PUMP FLOW
												PLOW DRAWING BR 2006
												ISI DRAWING GU 3E-541-A1-001
V-05-154	CK	12	SA	C	O/C	O/C	A	3	EP1	38	EP1	OPEN FOR RBCCW PUMP FLOW
												CLOSE FOR PARALLEL PUMP FLOW
												PLOW DRAWING BR 2006
												ISI DRAWING GU 3E-541-A1-001
V-05-165	CK	6	SA	A1C	O	C	A	2	EP1	17	EP3	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
												PLOW DRAWING BR 2006
												ISI DRAWING GU 3E-541-A1-001
V-05-166	GA	6	MO	A1	O	C	A	2	EP1	18	EP2	CLOSE FOR CONTAINMENT ISOLATION
									EP4	51	EP4	
									ET	18	ET	
									SLT1		SLT1	PLOW DRAWING BR 2006
												ISI DRAWING GU 3E-541-A1-001

SYSTEM 541 CLOSED COOLING WATER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-05-167	GA	6	MO	A1	O	C	A	2	RP1	18	RP2	CLOSE FOR CONTAINMENT ISOLATION
									ET	18	ET	
									SLT1		SLT1	
									RP4	51	RP4	FLOW DRAWING BR 2006
												ISI DRAWING GU 3E-541-A1-001

SYSTEM 852 INSTRUMENT AIR

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-06-393	CK	2	SA	A1C	O	C	A	NC	EP1	31	EP3	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
												FLOW DRAWING
												ISI DRAWING
V-06-395	GA	2	A	A1	O	C	A	NC	EP1	32	EP2	CLOSE FOR CONTAINMENT ISOLATION
									EP5	32	EP6	
									ET	32	ET	
									SLT1		SLT1	FLOW DRAWING
									EP4	51	EP4	ISI DRAWING

SYSTEM 424 CONDENSATE TRANSFER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-11-003	CK	2	SA	C	O/C	O	A	3	RP1			OPEN FOR CONDENSATE TRANSFER PUMP MINIMUM FLOW CONTINUED PUMP OPERATION CONFIRMS OPEN POSITION FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001
V-11-007	CK	2	SA	C	O/C	O	A	3	RP1			OPEN FOR CONDENSATE TRANSFER PUMP MINIMUM FLOW CONTINUED PUMP OPERATION CONFIRMS OPEN POSITION FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001
V-11-012	CK	3	SA	C	O/C	O/C	A	3	RP1		RP1	OPEN FOR CONDENSATE TRANSFER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001
V-11-013	CK	3	SA	C	O/C	C	A	3	RP1		RP1	OPEN FOR CONDENSATE TRANSFER PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001
V-11-033	CK	2.5	SA	C	C	O	A	3	RP1		RP1	OPEN FOR MAKEUP TO THR ISOLATION CONDENSERS FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001

SYSTEM 424 CONDENSATE TRANSFER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-11-034	GL	2.5	A	B	C	O	A	3	EP1 EP4 ET		EP1 EP4 ET	OPEN FOR MAKEUP TO THE ISOLATION CONDENSERS FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001
V-11-035	CK	2.5	SA	C	C	O	A	3	EP1		EP1	OPEN FOR MAKEUP TO THE ISOLATION CONDENSERS FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001
V-11-036	GL	2.5	A	B	C	O	A	3	EP1 EP4 ET		EP1 EP4 ET	OPEN FOR MAKEUP TO THE ISOLATION CONDENSERS FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001
V-11-042	CK	3	SA	C	C	O	A	3	EP1		EP1	OPEN FOR MAKEUP TO THE ISOLATION CONDENSERS FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001
V-11-044	DA	3	M	B	C	O	A	3	EP1		EP1	OPEN FOR FIRE WATER MAKEUP TO ISOLATION CONDENSERS FLOW DRAWING BR 2004 ISI DRAWING GU 3E-424-A1-001

SYSTEM 424 CONDENSATE TRANSFER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-11-049	DA	3	M	B	C	O	A	3	RF1		RF1	OPEN FOR FIRE WATER MAKEUP TO ISOLATION CONDENSERS
												FLOW DRAWING BR 2004
												ISI DRAWING GU 3E-424-A1-001

SYSTEM 622 REACTOR VESSEL INSTRUMENTATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-130-001	SK	1	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-002A	SK	1	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-002B	SK	1	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-003	SK	1	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-004	SK	1	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING

SYSTEM 622 REACTOR VESSEL INSTRUMENTATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-130-005	SK	1	SA	A1C	O	O/C	A	1	[illegible]	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									[illegible]	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-006A	SK	1	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-006B	SK	1	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-007	SK	1	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-008	SK	1	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING

SYSTEM 622 REACTOR VESSEL INSTRUMENTATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-130-009	SK	1	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-010	SK	1	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-021A	SK	1	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-021B	SK	1	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING
V-130-026	SK	1	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F712
												ISI DRAWING

SYSTEM 211 ISOLATION CONDENSER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-14-001	GL	.75	A	A1	O	C	A	2	EP1		EP1	CLOSE FOR CONTAINMENT ISOLATION
									EP5		EP5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING GE 148F262
									EP4		EP4	ISI DRAWING GU 3E-211-A1-001
V-14-005	GL	.75	A	A1	O	C	A	2	EP1		EP1	CLOSE FOR CONTAINMENT ISOLATION
									EP5		EP5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING GE 148F262
									EP4		EP4	ISI DRAWING GU 3E-211-A1-001
V-14-019	GL	.75	A	A1	O	C	A	NC	EP1		EP1	CLOSE FOR CONTAINMENT ISOLATION
									EP5		EP5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING GE 148F262
									EP4		EP4	ISI DRAWING GU 3E-211-A1-001
V-14-020	GL	.75	A	A1	O	C	A	NC	EP1		EP1	CLOSE FOR CONTAINMENT ISOLATION
									EP5		EP5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING GE 148F262
									EP4		EP4	ISI DRAWING GU 3E-211-A1-001
V-14-030	GA	10	MO	B	O	O/C	A	1	EP1		EP1	OPEN FOR ISOLATION CONDENSER OPERATION
									ET		ET	CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
									EP4		EP4	
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001

SYSTEM 211 ISOLATION CONDENSER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-14-031	GA	10	MO	B	O	O/C	A	1	EP1		EP1	OPEN FOR ISOLATION CONDENSER OPERATION
									ET		ET	CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
									EP4		EP4	
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-032	GA	10	MO	B	O	O/C	A	1	EP1		EP1	OPEN FOR ISOLATION CONDENSER OPERATION
									ET		ET	CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
									EP4		EP4	
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-033	GA	10	MO	B	O	O/C	A	1	EP1		EP1	OPEN FOR ISOLATION CONDENSER OPERATION
									ET		ET	CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
									EP4		EP4	
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-034	GA	10	MO	B	C	O/C	A	1	EP1		EP1	OPEN FOR ISOLATION CONDENSER OPERATION
									ET		ET	CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
									EP4		EP4	
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-035	GA	10\	MO	B	C	O/C	A	1	EP1		EP1	OPEN FOR ISOLATION CONDENSER OPERATION
									ET		ET	CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
									EP4		EP4	
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001

SYSTEM 211 ISOLATION CONDENSER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-14-036	GA	10	MO	B	O	O/C	A	1	EP1		EP1	OPEN FOR ISOLATION CONDENSER OPERATION
									EP4		EP4	CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
									ET		ET	
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-037	GA	10	MO	B	O	O/C	A	1	EP1		EP1	OPEN FOR ISOLATION CONDENSER OPERATION
									EP4		EP4	CLOSE FOR AUTO ISOLATION UPON PIPE BREAK
									ET		ET	
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-049	SK	.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-050	SK	.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-051	SK	.5	SA	1AC	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001

SYSTEM 211 ISOLATION CONDENSER

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-14-052	SK	.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-053	SK	.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-054	SK	.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-055	SK	.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001
V-14-056	SK	.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR INSTRUMENT LINE CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F262
												ISI DRAWING GU 3E-211-A1-001

SYSTEM 225 CONTROL ROD DRIVE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-15(106)	SC	0.5	SA	A2C	C	O/C	A	2	RF1	6	RF2	OPEN TO KEEP HYDRAULIC ACCUMULATORS CHARGED
									SLT1	52	SLT1	CLOSE TO MAINTAIN ACCUMULATOR CHARGE
												FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15(108)	SC	.75	SA	C	C	O	A	2	RF1	8	RF2	OPEN TO ALLOW SUCCESSFUL SCRAM OF CONTROL ROD
												FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15(126)	RG	1	A	B	C	O	A	2	RF1	5	RF2	OPEN TO SCRAM CONTROL ROD
									RT	5	RF2	
									RF4		RF4	
									RF5	5	RF7	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15(127)	RG	.75	A	B	C	O	A	2	RF1	5	RF2	OPEN TO SCRAM CONTROL ROD
									RT	5	RF2	
									RF4		RF4	
									RF5	5	RF7	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15(138)	CK	.5	SA	C	O	C	A	2	RF1		RF1	CLOSE TO ENSURE SCRAM OF CONTROL ROD
												FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001

SYSTEM 225 CONTROL ROD DRIVE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-15-027	CK	3	SA	A1C	O	C	A	1	EP1	9	EP3	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
												FLOW DRAWING GE 237E487
												ISI DRAWING GU 3E-225-A1-002
V-15-028	CK	3	SA	A1C	O	C	A	1	EP1	9	EP3	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
												FLOW DRAWING GE 237E487
												ISI DRAWING GU 3E-225-A1-002
V-15-119	GA	1	A	B	O	O/C	A	2	EP1	44	EP1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
									ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
									EP5	44	EP6	
									EP4		EP4	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15-120	GA	1	A	B	O	O/C	A	2	EP1	44	EP1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
									ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
									EP5	44	EP6	
									EP4		EP4	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15-121	GA	2	A	B	O	O/C	A	2	EP1	44	EP1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
									ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
									EP5	44	EP6	
									EP4		EP4	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001

SYSTEM 225 CONTROL ROD DRIVE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-15-133	GA	2	A	B	O	O/C	A	2	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
									ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
									EF5	44	EF6	
									EF4		EF4	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15-134	GA	2	A	B	O	O/C	A	2	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
									ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
									EF5	44	EF6	
									EF4		EF4	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15-135	GA	2	A	B	O	O/C	A	2	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
									ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
									EF5	44	EF6	
									EF4		EF4	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15-136	GA	1	A	B	O	O/C	A	2	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
									ET	44	ET	CLOSE TO ISOLATE SCRAM DUMP VOLUME
									EF5	44	EF6	
									EF4		EF4	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001
V-15-137	GA	1	A	B	O	O/C	A	2	EF1	44	EF1	OPEN TO KEEP SCRAM DUMP VOLUME DRAINED
									ET	44	ET	CLOSE TO ISOLATE SCRAN DUMP VOLUME
									EF5	44	EF6	
									EF4		EF4	FLOW DRAWING GE 197E871
												ISI DRAWING GU 3E-225-A1-001

SYSTEM 215 CLEANUP

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-16-001	GA	6	MO	A1	O	C	A	1	EP1		EP1	CLOSE FOR CONTAINMENT ISOLATION
									EP4	51	EP4	
									SLT1		SLT1	
									ET		ET	FLOW DRAWING GE 148F444
												ISI DRAWING GU 3E-215-A1-001
V-16-002	GA	6	MO	A1	O	C	A	1	EP1		EP1	CLOSE FOR CONTAINMENT ISOLATION
									EP4	51	EP4	
									SLT1		SLT1	
									ET		ET	FLOW DRAWING GE 148F444
												ISI DRAWING GU 3E-215-A1-001
V-16-014	GA	6	MO	A1	O	C	A	1	EP1		EP1	CLOSE FOR CONTAINMENT ISOLATION
									EP4	51	EP4	
									SLT1		SLT1	
									ET		ET	FLOW DRAWING GE 148F444
												ISI DRAWING GU 3E-215-A1-001
V-16-030	GA	.5	S	A1	C	C	P	2	SLT1		SLT1	CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F444
												ISI DRAWING GU 3E-215-A1-001
V-16-061	GA	6	MO	A1	O	C	A	1	EP1		EP1	CLOSE FOR CONTAINMENT ISOLATION
									EP4	51	EP4	
									SLT1		SLT1	
									ET		ET	FLOW DRAWING GE 148F444
												ISI DRAWING GU 3E-215-A1-001

SYSTEM 215 CLEANUP

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-16-062	CK	6	SA	A1C	O/C	C	A	1	RP1 SLT1	3	RP3 SLT1	CLOSE FOR CONTAINMENT ISOLATION FLOW DRAWING GE 148F444 ISI DRAWING GU 3E-215-A1-001

SYSTEM 214 SHUTDOWN COOLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-17-001	GA	10	MO	B	O/C	C	A	1	EP1	1	EP2	CLOSE FOR SYSTEM ISOLATION
									ET		ET	
									EP4		EP4	
												FLOW DRAWING GE 147F711
												ISI DRAWING GU 3E-214-A1-001
V-17-002	GA	10	MO	B	O/C	C	A	1	EP1	1	EP2	CLOSE FOR SYSTEM ISOLATION
									ET		ET	
									EP4		EP4	
												FLOW DRAWING GE 147F711
												ISI DRAWING GU 3E-214-A1-001
V-17-003	GA	10	MO	B	O/C	C	A	1	EP1	1	EP2	CLOSE FOR SYSTEM ISOLATION
									ET		ET	
									EP4		EP4	
												FLOW DRAWING GE 147F711
												ISI DRAWING GU 3E-214-A1-001
V-17-019	GA	14	MO	B	O/C	C	A	1	EP1	1	EP2	CLOSE FOR SYSTEM ISOLATION
									EP4		EP4	
									ET		ET	
												FLOW DRAWING GE 147F711
												ISI DRAWING GU 3E-214-A1-001
V-17-054	GA	14	MO	B	O/C	C	A	1	EP1	1	EP2	CLOSE FOR SYSTEM ISOLATION
									EP4		EP4	
									ET		ET	
												FLOW DRAWING GE 147F711
												ISI DRAWING GU 3E-214-A1-001

SYSTEM 214 SHUTDOWN COOLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-17-055	GL	8	MO	B	O/C	C	A	1	EF1	1	EF2	CLOSE FOR SYSTEM ISOLATION
									ET		ET	
									EF4		EF4	
												FLOW DRAWING GE 147F711
												ISI DRAWING GU 3E-214-A1-001
V-17-056	GL	8	MO	B	O/C	C	A	1	EF1	1	EF2	CLOSE FOR SYSTEM ISOLATION
									ET		ET	
									EF4		EF4	
												FLOW DRAWING GE 147F711
												ISI DRAWING GU 3E-214-A1-001
V-17-057	GL	8	MO	B	O/C	C	A	1	EF1	1	EF2	CLOSE FOR SYSTEM ISOLATION
									ET		ET	
									EF4		EF4	
												FLOW DRAWING GE 147F711
												ISI DRAWING GU 3E-214-A1-001

SYSTEM 251 FUEL POOL COOLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-18-007	CK	4	SA	C	O/C	O/C	A	3	EP1		EP1	OPEN FOR FUEL POOL COOLING PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING GE 237E756 ISI DRAWING GU 3E-251-A1-001
V-18-008	CK	4	SA	C	O/C	O/C	A	3	EP1		EP1	OPEN FOR FUEL POOL COOLING PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING GE 237E756 ISI DRAWING GU 3E-251-A1-001
V-18-076	CK	8	SA	C	C	O/C	A	3	EP1		EP1	P-18-001D DISCHARGE CHECK VALVE FLOW DRAWING GE 237E756 ISI DRAWING GU 3E-251-A1-001
V-18-077	CK	8	SA	C	C	O/C	A	3	EP1		EP1	P-18-001C DISCHARGE CHECK VALVE FLOW DRAWING GE 237E756 ISI DRAWING GU 3E-251-A1-001

SYSTEM 213 STANDBY LIQUID CONTROL

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-19-016	CK	1.5	SA	A1C	C	O/C	A	1	EF1	2	EF3	OPEN FOR LIQUID POISON INJECTION
									SLT1		SLT1	CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F723
												ISI DRAWING GU 3E-213-A1-001
V-19-020	CK	1.5	SA	A1C	C	O/C	A	1	EF1	2	EF3	OPEN FOR LIQUID POISON INJECTION
									SLT1		SLT1	CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 148F723
												ISI DRAWING GU 3E-213-A1-001
V-19-037	CK	1.5	SA	C	C	O/C	A	2	EF1	43	EF1	OPEN FOR LIQUID POISON PUMP FLOW
												CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 148F723
												ISI DRAWING GU 3E-213-A1-001
V-19-038	CK	1.5	SA	C	C	O/C	A	2	EF1	43	EF1	OPEN FOR LIQUID POISON PUMP FLOW
												CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 148F723
												ISI DRAWING GU 3E-213-A1-001
V-19-042	RL	1	SA	C	C	O/C	A	2	TF1		TF1	OPEN FOR PRESSURE RELIEF
												CLOSE TO PREVENT SYSTEM FLOW LOSSES
												FLOW DRAWING GE 148F723
												ISI DRAWING GU 3E-213-A1-001

SYSTEM 213 STANDBY LIQUID CONTROL

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-19-043	RL	1	SA	C	C	O/C	A	2	TF1		TF1	OPEN FOR PRESSURE RELIEF CLOSE TO PREVENT SYSTEM FLOW LOSSES FLOW DRAWING GE 148F723 ISI DRAWING GU 3E-213-A1-001
V-19-044	PG	1.5	XP	D	C	O	A	2	XP1		XP1	OPEN FOR POISON INJECTION TO REACTOR VESSEL FLOW DRAWING GE 148F723 ISI DRAWING GU 3E-213-A1-001
V-19-045	PG	1.5	XP	D	C	O	A	2	XP1		XP1	OPEN FOR POISON INJECTION TO REACTOR VESSEL FLOW DRAWING GE 148F723 ISI DRAWING GU 3E-213-A1-001

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-003	GA	12	MO	B	O	O	P	2	EP4		EP4	OPEN FOR CORE SPRAY PUMP SUCTION
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-004	GA	12	MO	B	O	O	P	2	EP4		EP4	OPEN FOR CORE SPRAY PUMP SUCTION
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-008	CK	8	SA	C	C	O/C	A	2	EP1	42	EP1	OPEN FOR CORE SPRAY MAIN PUMP FLOW
											IN3	CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-009	CK	8	SA	C	C	O/C	A	2	EP1	42	EP1	OPEN FOR CORE SPRAY MAIN PUMP FLOW
											IN3	CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-012	GA	8	MO	B	O/C	O	A	2	EP1		EP1	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									ET		ET	
									EP4		EP4	
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-015	GA	8	MO	A2	C	O/C	A	1	EP1		EP1	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									ET		ET	CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
									SLT1		SLT1	
									EP4		EP4	FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-016	CK	8	SA	C	C	O/C	A	2	EP1	42	EP1	OPEN FOR CORE SPRAY MAIN PUMP FLOW
											IN3	CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-018	GA	8	MO	B	O/C	O	A	2	EP1		EP1	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									ET		ET	
									EP4		EP4	
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-021	GA	8	MO	A2	C	O/C	A	1	EP1		EP1	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									ET		ET	CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
									SLT1		SLT1	
									EP4		EP4	FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-022	CK	8	SA	C	C	O/C	A	2	EP1	42	EP1	OPEN FOR CORE SPRAY MAIN PUMP FLOW
											IN3	CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-024	RL	2	SA	C	C	O/C	A	2	TF1		TF1	OPEN FOR PRESSURE RELIEF CLOSE TO PREVENT SYSTEM FLOW LOSSES FLOW DRAWING GE 885D781 ISI DRAWING GU 3E-212-A1-001
V-20-025	RL	2	SA	C	C	O/C	A	2	TF1		TF1	OPEN FOR PRESSURE RELIEF CLOSE TO PREVENT SYSTEM FLOW LOSSES FLOW DRAWING GE 885D781 ISI DRAWING GU 3E-212-A1-001
V-20-026	GL	6	MO	B	O/C	C	A	2	EP1 RT EP4		EP1 RT EP4	CLOSE TO PREVENT SYSTEM FLOW LOSSES TO TEST LINE FLOW DRAWING GE 885D781 ISI DRAWING GU 3E-212-A1-001
V-20-027	GL	6	MO	B	O/C	C	A	2	EP1 RT EP4		EP1 RT EP4	CLOSE TO PREVENT SYSTEM FLOW LOSSES TO TEST LINE FLOW DRAWING GE 885D781 ISI DRAWING GU 3E-212-A1-001
V-20-030	CK	6	SA	C	C	O	A	2	EP1		EP1	OPEN TO PASS PUMP MINIMUM FLOW FLOW DRAWING GE 885D781 ISI DRAWING GU 3E-212-A1-001

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-031	CK	6	SA	C	C	O	A	2	RF1		RF1	OPEN TO PASS PUMP MINIMUM FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-032	GA	12	MO	B	O	O	P	2	RF4		RF4	OPEN FOR CORE SPRAY PUMP SUCTION
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-033	GA	12	MO	B	O	O	P	2	RF4		RF4	OPEN FOR CORE SPRAY PUMP SUCTION
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-040	GA	8	MO	A2	C	O/C	A	1	RF1		RF1	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									RT		RT	CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
									SLT1		SLT1	
									RF4		RF4	FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-041	GA	8	MO	A2	C	O/C	A	1	RF1		RF1	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									RT		RT	CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
									SLT1		SLT1	
									RF4		RF4	FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-050	CK	10	SA	C	C	O/C	A	2	EP1	45	EP1	OPEN FOR CORE SPRAY MAIN PUMP FLOW
											IN3	CLOSE FOR CORE SPRAY BOOSTER PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001
V-20-051	CK	10	SA	C	C	O/C	A	2	EP1	45	EP1	OPEN FOR CORE SPRAY MAIN PUMP FLOW
											IN3	CLOSE FOR CORE SPRAY BOOSTER PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001
V-20-052	CK	10	SA	C	C	O/C	A	2	EP1	37	EP1	OPEN FOR CORE SPRAY BOOSTER PUMP FLOW
											IN3	CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001
V-20-053	CK	10	SA	C	C	O/C	A	2	EP1	37	EP1	OPEN FOR CORE SPRAY BOOSTER PUMP FLOW
											IN3	CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001
V-20-054	CK	10	SA	C	C	O/C	A	2	EP1	37	EP1	OPEN FOR CORE SPRAY BOOSTER PUMP FLOW
											IN3	CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-055	CK	10	SA	C	C	O/C	A	2	EP1	37	EP1	OPEN FOR CORE SPRAY BOOSTER PUMP FLOW
											IN3	CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-060	CK	6	SA	C	C	O/C	A	2	EP1	11	IN3	OPEN FOR FIRE WATER INJECTION TO REACTOR
												CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-061	CK	6	SA	C	C	O/C	A	2	EP1	11	IN3	OPEN FOR FIRE WATER INJECTION TO REACTOR
												CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-082	GA	6	M	B	C	O/C	A	3	EP1		EP1	OPEN FOR FIRE WATER INJECTION TO REACTOR
												CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-083	GA	6	M	B	C	O/C	A	3	EP1		EP1	OPEN FOR FIRE WATER INJECTION TO REACTOR
												CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-088	CK	6	SA	C	C	O/C	A	2	EP1	11	IN3	OPEN FOR FIRE WATER INJECTION TO REACTOR
												CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001
V-20-089	CK	6	SA	C	C	O/C	A	2	EP1	11	IN3	OPEN FOR FIRE WATER INJECTION TO REACTOR
												CLOSE TO PREVENT CROSS CONTAMINATION OF SYSTEMS
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001
V-20-092	GL	1.5	A	B	C	O	A	2	EP1		EP1	OPEN FOR MINIMUM FLOW PROTECTION OF PUMPS
									EP5		EP5	
									ET		ET	
									EP4		EP4	FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001
V-20-093	GL	1.5	A	B	C	O	A	2	EP1		EP1	OPEN FOR MINIMUM FLOW PROTECTION OF PUMPS
									EP5		EP5	
									ET		ET	
									EP4		EP4	FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001
V-20-094	GL	1.5	A	B	C	O	A	2	EP1		EP1	OPEN FOR MINIMUM FLOW PROTECTION OF PUMPS
									EP5		EP5	
									ET		ET	
									EP4		EP4	FLOW DRAWING GE 885D781
												ISI DRAWING GU 3R-212-A1-001

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-095	GL	1.5	A	B	C	O	A	2	EP1		EP1	OPEN FOR MINIMUM FLOW PROTECTION OF PUMPS
									EP5		EP5	
									ET		ET	
									EP4		EP4	FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-116	CK	1	SA	C	O	C	A	2	EP1		EP1	CLOSE TO PREVENT SYSTEM FLOW LOSSES
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-117	CK	1	SA	C	O	C	A	2	EP1		EP1	CLOSE TO PREVENT SYSTEM FLOW LOSSES
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-119	CK	1	SA	C	O	C	A	2	EP1		EP1	CLOSE TO PREVENT SYSTEM FLOW LOSSES
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-150	CK	8	SA	A2C	C	O/C	A	1	EP1	10	EP2	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									EP4		EP4	CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
									SLT1		SLT1	
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001

SYSTEM 213 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-151	CK	8	SA	A2C	C	O/C	A	1	EP1	10	EP2	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									EP4		EP4	CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
									SLT1		SLT1	
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-152	CK	8	SA	A2C	C	O/C	A	1	EP1	10	EP2	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									EP4		EP4	CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
									SLT1		SLT1	
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-153	CK	8	SA	A2C	C	O/C	A	1	EP1	10	EP2	OPEN FOR CORE SPRAY INJECTION TO REACTOR
									EP4		EP4	CLOSE FOR PRIMARY COOLANT PRESSURE BOUNDRY
									SLT1		SLT1	
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-172	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001
V-20-173	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001

SYSTEM 212 CORE SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-20-175	CK	1	SA	C	O	C	A	2	EF1		EF1	CLOSE TO PREVENT FLOW LOSSES
												FLOW DRAWING GE 885D781
												ISI DRAWING GU 3E-212-A1-001

SYSTEM 241 CONTAINMENT SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-21-001	GA	12	MO	B	O	O	P	2	EP4		EP4	OPEN FOR CONTAINMENT SPRAY PUMP SUCTION
												FLOW DRAWING GE 148F740
												ISI DRAWING GU 3E-241-A1-001
V-21-002	CK	10	SA	C	C	O/C	A	2	EF1		EF1	OPEN FOR CONTAINMENT SPRAY PUMP FLOW
												CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GE 148F740
												ISI DRAWING GU 3E-241-A1-001
V-21-003	GA	12	MO	B	O	O	P	2	EP4		EP4	OPEN FOR CONTAINMENT SPRAY PUMP SUCTION
												FLOW DRAWING GE 148F740
												ISI DRAWING GU 3E-241-A1-001
V-21-004	CK	10	SA	C	C	O/C	A	2	EF1		EF1	OPEN FOR CONTAINMENT SPRAY PUMP FLOW
												CLOSE FOR PARALLEL PUMP FLOW
												FLOW DRAWING GR 148F740
												ISI DRAWING GU 3E-241-A1-001
V-21-005	GA	14	MO	A2	C	O/C	A	2	EF1		EF1	OPEN FOR DRYWELL SPRAY MODE
									ET		ET	CLOSE FOR TORUS COOLING MODE
									EP4		EP4	
									SLT1	47	SLT1	FLOW DRAWING GE 148F740
												ISI DRAWING GU 3E-241-A1-001

SYSTEM 241 CONTAINMENT SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-21-007	GA	12	MO	B	O	O	P	2	EP4		EP4	OPEN FOR CONTAINMENT SPRAY PUMP SUCTION FLOW DRAWING GE 148F740 ISI DRAWING GU 3E-241-A1-001
V-21-008	CK	10	SA	C	C	O/C	A	2	EF1		EF1	OPEN FOR CONTAINMENT SPRAY PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING GE 148F740 ISI DRAWING GU 3E-241-A1-001
V-21-009	GA	12	MO	B	O	O	P	2	EP4		EP4	OPEN FOR CONTAINMENT SPRAY PUMP SUCTION FLOW DRAWING GE 148F740 ISI DRAWING GU 3E-241-A1-001
V-21-010	CK	10	SA	C	C	O/C	A	2	EF1		EF1	OPEN FOR CONTAINMENT SPRAY PUMP FLOW CLOSE FOR PARALLEL PUMP FLOW FLOW DRAWING GE 148F740 ISI DRAWING GU 3E-241-A1-001
V-21-011	GA	14	MO	A2	C	O/C	A	2	EF1 ET EP4 SLT1	 47	EF1 ET EP4 SLT1	OPEN FOR DRYWELL SPRAY MODE CLOSE FOR TORUS COOLING MODE FLOW DRAWING GE 148F740 ISI DRAWING GU 3E-241-A1-001

SYSTEM 241 CONTAINMENT SPRAY

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-21-013	GA	6	MO	B	C	O/C	A	2	EP1		EP1	OPEN FOR TORUS COOLING MODE
									ET		ET	CLOSE FOR DRYWELL SPRAY MODE
									EP4		EP4	
												FLOW DRAWING GE 148F740
												ISI DRAWING GU 3E-241-A1-001
V-21-015	GA	4	MO	B	O	O/C	A	2	EP1		EP1	OPEN FOR SPRAY DOWN OF TORUS
									ET		ET	CLOSED TO PREVENT PRESSURIZING TORUS
									EP4		EP4	
												FLOW DRAWING GE 148F740
												ISI DRAWING GU 3E-241-A1-001
V-21-017	GA	6	MO	B	C	O/C	A	2	ET		ET	OPEN FOR TORUS COOLING MODE
									EP1		EP1	CLOSE FOR DRYWELL SPRAY MODE
									EP4		EP4	
												FLOW DRAWING GE 148F740
												ISI DRAWING GU 3E-241-A1-001
V-21-018	GA	4	MO	B	O	O/C	A	2	EP1		EP1	OPEN FOR SPRAY DOWN OF TORUS
									ET		ET	CLOSED TO PREVENT PRESSURIZING TORUS
									EP4		EP4	
												FLOW DRAWING GE 148F740
												ISI DRAWING GU 3E-241-A1-001

SYSTEM 573 DRYWELL FLOOR AND EQUIP DRAINS

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-22-001	GA	2	A	A1	O	C	A	2	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									EF5		EF5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING JC 147434
									EF4	51	EF4	ISI DRAWING GU 3E-570-A1-001
V-22-002	GA	2	A	A1	O	C	A	2	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									EF5		EF5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING JC 147434
									EF4	51	EF4	ISI DRAWING GU 3E-570-A1-001
V-22-028	GA	2	A	A1	O	C	A	2	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									EF5		EF5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING JC 147434
									EF4	51	EF4	ISI DRAWING GU 3E-570-A1-001
V-22-029	GA	2	A	A1	O	C	A	2	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									EF5		EF5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING JC 147434
									EF4	51	EF4	ISI DRAWING GU 3E-570-A1-001

SYSTEM 242 CONTAINMENT INERTING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-23-013	BF	8	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EP1		EP1	
									EP4	51	EP4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EP5		EP5	ISI DRAWING
V-23-014	BF	8	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EP1		EP1	
									EP4	51	EP4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EP5		EP5	ISI DRAWING
V-23-015	BF	8	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EP1		EP1	
									EP4	51	EP4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EP5		EP5	ISI DRAWING
V-23-016	BF	8	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EP1		EP1	
									EP4	51	EP4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EP5		EP5	ISI DRAWING
V-23-017	GL	2	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EP1		EP1	
									EP4	51	EP4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EP5		EP5	ISI DRAWING

SYSTEM 242 CONTAINMENT INERTING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-23-018	GL	2	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									EF4	51	EF4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EF5		EF5	ISI DRAWING
V-23-019	GL	2	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									EF4	51	EF4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EF5		EF5	ISI DRAWING
V-23-020	GL	2	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									EF4	51	EF4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EF5		EF5	ISI DRAWING
V-23-021	GA	2	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									EF4	51	EF4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EF5		EF5	ISI DRAWING
V-23-022	GA	2	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									EF4	51	EF4	
									SLT1		SLT1	FLOW DRAWING SN 13432.19-1
									EF5		EF5	ISI DRAWING

SYSTEM 242 CONTAINMENT INERTING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-23-070	PG	1/4	S	A1	O	C	A	NC	SLT1		SLT1	CLOSE FOR CONTAINMENT ISOLATION
									EP1		EP1	
									EP3		EP5	
									ET		ET	FLOW DRAWING SN 13432.19-1
												ISI DRAWING
V-23-357	BF	8	M	B	O	C	A	NC	EP1		EP1	ISOLATE N2 SYSTEM FOR HARDENED VENT FROM DRYWELL
												FLOW DRAWING SN 13432.19-1
												ISI DRAWING
V-23-358	BF	8	M	B	C	O	A	NC	EP1		EP1	HARDENED VENT ISOLATION VALVE FOR CONTAINMENT
												FLOW DRAWING SN 13432.19-1
												ISI DRAWING

SYSTEM 551 REACTOR SAMPLE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-24-029	GL	.75	A	A1	O	C	A	1	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									EF5		EF5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING BR M0012
												ISI DRAWING
V-24-030	GL	.75	A	A1	O	C	A	1	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									EF5		EF5	
									ET		ET	
									SLT1		SLT1	FLOW DRAWING BR M0012
												ISI DRAWING

SYSTEM 243 DRYWELL AND SUPPRESSION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-26-001	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-002	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-003	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-004	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-005	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001

SYSTEM 243 DRYWELL AND SUPPRESSION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-26-006	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-007	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-008	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-009	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-010	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001

SYSTEM 243 DRYWELL AND SUPPRESSION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-26-011	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-012	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-013	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-014	CK	18	SA	A2C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO DRYWELL
									SLT1	47	SLT1	CLOSE TO PREVENT PRESSURIZING TORUS
									EF4		EF4	
									TF1		TF1	FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-015	CK	20	SA	A3C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO TORUS
									SLT1		SLT1	CLOSE FOR CONTAINMENT ISOLATION
									TF1		TF1	
												FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001

SYSTEM 243 DRYWELL AND SUPPRESSION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-26-016	BF	20	A	A3	C	O/C	A	2	ET		ET	OPEN TO PROVIDE VACUUM RELIEF TO TORUS
									EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EF4		EF4	FLOW DRAWING GU 3E-243-21-1000
									EF5		EF5	ISI DRAWING GU 3E-243-A1-001
									TF1		TF1	
V-26-017	CK	20	SA	A3C	C	O/C	A	2	EF1		EF1	OPEN TO PROVIDE VACUUM RELIEF TO TORUS
									SLT1		SLT1	CLOSE FOR CONTAINMENT ISOLATION
									TF1		TF1	
												FLOW DRAWING GU 3E-243-21-1000
												ISI DRAWING GU 3E-243-A1-001
V-26-018	BF	20	A	A3	C	O/C	A	2	ET		ET	OPEN TO PROVIDE VACUUM RELIEF TO TORUS
									EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EF4		EF4	FLOW DRAWING GU 3E-243-21-1000
									EF5		EF5	ISI DRAWING GU 3E-243-A1-001
									TF1		TF1	

SYSTEM 822 REACTOR BUILDING VENTILATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE/PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-27-001	BF	18	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									SLT1		SLT1	
									EF4	51	EF4	FLOW DRAWING BR 2011
									EF5		EF5	ISI DRAWING
V-27-002	BF	18	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									SLT1		SLT1	
									EF4	51	EF4	FLOW DRAWING BR 2011
									EF5		EF5	ISI DRAWING
V-27-003	BF	18	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									SLT1		SLT1	
									EF4	51	EF4	FLOW DRAWING BR 2011
									EF5		EF5	ISI DRAWING
V-27-004	BF	18	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									SLT1		SLT1	
									EF4	51	EF4	FLOW DRAWING BR 2011
									EF5		EF5	ISI DRAWING
V-28-017	BF	12	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									SLT1		SLT1	
									EF5		EF5	FLOW DRAWING BR 2011
									EF4	51	EF4	ISI DRAWING

SYSTEM 822 REACTOR BUILDING VENTILATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-28-018	BF	12	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									SLT1		SLT1	
									EF5		EF5	FLOW DRAWING BR 2011
									EF4	51	EF4	ISI DRAWING
V-28-047	GA	2	A	A1	O/C	C	A	NC	ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									EF1		EF1	
									SLT1		SLT1	
									EF5		EF5	FLOW DRAWING BR 2011
									EF4	51	EF4	ISI DRAWING

SYSTEM 216 HEAD COOLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-31-002	GA	2	A	A1	C	C	P	1	EP4 SLT1	51	EP4 SLT1	CLOSE FOR CONTAINMENT ISOLATION FLOW DRAWING GE 237E487 ISI DRAWING GU 3E-225-A1-001
V-31-005	CK	2	SA	A1C	C	C	P	1	SLT1		SLT1	CLOSE FOR CONTAINMENT ISOLATION FLOW DRAWING GE 237E487 ISI DRAWING GU 3E-225-A1-001

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-005	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-006	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-007	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-008	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-016	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-017	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-018	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-019	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-027	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-028	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-029	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-030	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-038	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-039	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-040	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-041	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-049	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-050	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-051	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001
V-37-052	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 237E798
												ISI DRAWING GU 3E-223-A1-001

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-066	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING
V-37-067	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING
V-37-068	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING
V-37-069	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING
V-37-070	SK	0.5	SA	A1C	O	O/C	A	1	EF1	25	EF3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING

SYSTEM 223 RECIRCULATION

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-37-071	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING
V-37-072	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING
V-37-073	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING
V-37-074	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING
V-37-075	SK	0.5	SA	A1C	O	O/C	A	1	EP1	25	EP3	OPEN FOR INSTRUMENT OPERABILITY
									SLT1	25		CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 107C5339
												ISI DRAWING

SYSTEM 666 HYDROGEN/OXYGEN MONITORING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-38-009	GL	3/4	S	A1	O	C	A	NC	EF1	40	EF3	CLOSE FOR CONTAINMENT ISOLATION
									EF5	40	EF7	
									SLT1		SLT1	
												FLOW DRAWING BR M0012
												ISI DRAWING
V-38-010	GL	3/4	S	A1	O	C	A	NC	EF1	40	EF3	CLOSE FOR CONTAINMENT ISOLATION
									EF5	40	EF7	
									SLT1		SLT1	
												FLOW DRAWING BR M0012
												ISI DRAWING
V-38-016	GL	3/4	S	A1	C	C	A	NC	EF1	40	EF3	CLOSE FOR CONTAINMENT ISOLATION
									EF5	40	EF7	
									SLT1		SLT1	
												FLOW DRAWING GU 3E-666-21-1000
												ISI DRAWING
V-38-017	GL	3/4	S	A1	C	C	A	NC	EF1	40	EF3	CLOSE FOR CONTAINMENT ISOLATION
									EF5	40	EF7	
									SLT1		SLT1	
												FLOW DRAWING GU 3E-666-21-1000
												ISI DRAWING
V-38-022	GL	1/4	S	A1	O	C	A	NC	EF1	40	EF3	CLOSE FOR CONTAINMENT ISOLATION
									EF5	40	EF7	
									SLT1		SLT1	
												FLOW DRAWING GU 3E-666-21-1000
												ISI DRAWING

SYSTEM 666 HYDROGEN/OXYGEN MONITORING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-38-023	GL	1/4	S	A1	O	C	A	NC	EF1	40	EF3	CLOSE FOR CONTAINMENT ISOLATION
									EF5	40	EF7	
									SLT1		SLT1	
												FLOW DRAWING GU 3E-666-21-1000
												ISI DRAWING
V-38-037	GL	1	S	A1	O/C	O/C	A	NC	EF1		EF1	OPEN FOR HYDROGEN MONITORING
									ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EF5		EF5	FLOW DRAWING GU 3E-666-21-1000
									EF4	50	EF4	ISI DRAWING
V-38-038	GL	1	S	A1	O/C	O/C	A	NC	EF1		EF1	OPEN FOR HYDROGEN MONITORING
									ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EF5		EF5	FLOW DRAWING GU 3E-666-21-1000
									EF4	50	EF4	ISI DRAWING
V-38-039	GL	1	S	A1	O/C	O/C	A	NC	EF1		EF1	OPEN FOR HYDROGEN MONITORING
									ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EF5		EF5	FLOW DRAWING GU 3E-666-21-1000
									EF4	50	EF4	ISI DRAWING
V-38-040	GL	1	S	A1	O/C	O/C	A	NC	EF1		EF1	OPEN FOR HYDROGEN MONITORING
									ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EF5		EF5	FLOW DRAWING GU 3E-666-21-1000
									EF4	50	EF4	ISI DRAWING

SYSTEM 666 HYDROGEN/OXYGEN MONITORING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-38-041	GL	1	S	A1	O/C	O/C	A	NC	EP1		EP1	OPEN FOR HYDROGEN MONITORING
									ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EP5		EP5	FLOW DRAWING GU 3E-666-21-1000
									EP4	50	EP4	ISI DRAWING
V-38-043	GL	1	S	A1	O/C	O/C	A	NC	EP1		EP1	OPEN FOR HYDROGEN MONITORING
									ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EP5		EP5	FLOW DRAWING GU 3E-666-21-1000
									EP4	50	EP4	ISI DRAWING
V-38-044	GL	1	S	A1	O/C	O/C	A	NC	EP1		EP1	OPEN FOR HYDROGEN MONITORING
									ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EP5		EP5	FLOW DRAWING GU 3E-666-21-1000
									EP4	50	EP4	ISI DRAWING
V-38-046	GL	1	S	A1	O/C	O/C	A	NC	EP1		EP1	OPEN FOR HYDROGEN MONITORING
									ET		ET	CLOSE FOR CONTAINMENT ISOLATION
									SLT1		SLT1	
									EP5		EP5	FLOW DRAWING GU 3E-666-21-1000
									EP4	50	EP4	ISI DRAWING

SYSTEM 555 POST ACCIDENT SAMPLING

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-40-006	GL	3/4	S	A1	LC	C	P	1	EP4 SLT1	50	EP4 SLT1	CLOSE FOR CONTAINMENT ISOLATION FLOW DRAWING BR M0012 ISI DRAWING
V-40-008	GL	3/4	S	A1	LC	C	P	NC	EP4 SLT1	50	EP4 SLT1	CLOSE FOR CONTAINMENT ISOLATION FLOW DRAWING BR M0012 ISI DRAWING
V-40-012	GL	3/4	S	A1	LC	C	P	NC	EP4 SLT1	50	EP4 SLT1	CLOSE FOR CONTAINMENT ISOLATION FLOW DRAWING BR M0012 ISI DRAWING
V-40-024	GL	3/4	S	A1	LC	C	P	NC	EP4 SLT1	50	EP4 SLT1	CLOSE FOR CONTAINMENT ISOLATION FLOW DRAWING BR M0012 ISI DRAWING

SYSTEM 623 TRAVELING INCORE PROBE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-623-0001	BL	3/8	S	A1	O/C	C	A	NC	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									ET		ET	
									EF5		EF5	
									SLT1		SLT1	FLOW DRAWING GE 147D8699
									EF4	50	EF4	ISI DRAWING
V-623-0002	BL	3/8	S	A1	O/C	C	A	NC	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									ET		ET	
									EF5		EF5	
									SLT1		SLT1	FLOW DRAWING GE 147D8699
									EF4	50	EF4	ISI DRAWING
V-623-0003	BL	3/8	S	A1	O/C	C	A	NC	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									ET		ET	
									EF5		EF5	
									SLT1		SLT1	FLOW DRAWING GE 147D8699
									EF4	50	EF4	ISI DRAWING
V-623-0004	BL	3/8	S	A1	O/C	C	A	NC	EF1		EF1	CLOSE FOR CONTAINMENT ISOLATION
									ET		ET	
									EF5		EF5	
									SLT1		SLT1	FLOW DRAWING GE 147D8699
									EF4	50	EF4	ISI DRAWING
V-623-0005	PG	.37	XP	D	O	C	A	NC	XP1		XP1	CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 147D8699
												ISI DRAWING

SYSTEM 623 TRAVELING INCORE PROBE

VALVE #	TYPE	SIZE	ACTUATOR	CAT	POSITION NORM	POSITION SAFE	ACTIVE PASSIVE	CODE CLASS	REQUIRED TEST	REQUIRED RELIEF	ACTUAL TEST	SAFETY FUNCTION
V-623-0006	PG	.37	XP	D	O	C	A	NC	XP1		XP1	CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 147D8699
												ISI DRAWING
V-623-0007	PG	.37	XP	D	O	C	A	NC	XP1		XP1	CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 147D8699
												ISI DRAWING
V-623-0008	PG	.37	XP	D	O	C	A	NC	XP1		XP1	CLOSE FOR CONTAINMENT ISOLATION
												FLOW DRAWING GE 147D8699
												ISI DRAWING