

SOUTH CAROLINA ELECTRIC AND GAS COMPANY  
VIRGIL C. SUMMER NUCLEAR STATION  
NUCLEAR OPERATIONS

NON-CONTROLLED  
COPY

GENERAL TEST PROCEDURE

GTP-002

GENERAL PROCEDURE FOR INSERVICE TESTING OF VALVES

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SAFETY RELATED

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## 1.0 PURPOSE

- 1.1 This procedure defines the general rules and requirements for testing of ASME Code Class 1, 2 and 3 valves in accordance with subsection IWV of reference 2.1.1 and provides for the scheduling of the Inservice Testing of those valves. In addition, this procedure provides the interface between the Preservice Inspection Program for valves which are the responsibility of the SCE&G Start-Up personnel and the Inservice Inspection Program which is the responsibility of SCE&G Nuclear Operations personnel.
- 1.2 Attachment I to this procedure lists those valves included in the scope of the Inservice Inspection program. The valve list was developed, with guidance from Branch Technical Position MEB No. 2, "Pump and Valve Operability Assurance Program, utilizing the following criteria:  

"Valves that are required to perform a specific function in shutting down the reactor to the cold shutdown condition or in mitigating the consequences of an Accident".
- 1.3 The detailed steps necessary for preservice testing of these valves are outlined in separate Preoperational/Functional Test Procedures.
- 1.4 The detailed steps necessary for the Inservice testing of these valves are outlined in separate Surveillance Test Procedures. Attachment IV to this procedure lists the Surveillance Test Procedures that are applicable for each valve.
- 1.5 The performance of Inservice Testing in accordance with Reference 2.1.1 shall be in addition to any other specified surveillance requirements.
- 1.6 Nothing contained in Reference 2.1.1 shall be construed to supersede the requirements of any Technical Specification.



## 2.0 REFERENCES AND GLOSSARY

### 2.1 References

- 2.1.1 American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components, 1977 Edition, Summer 1978 Addenda, Subsection IWV.
- 2.1.2 V. C. Summer Technical Specifications
- 2.1.3 AP-101, Development of Safety and Non-Safety Related Procedures, Revision 6
- 2.1.4 AP-406, Inservice Inspection Program
- 2.1.5 AP-801, Development of Technical Specifications Surveillance Test Procedures
- 2.1.6 AP-402, Control and Calibration of Measuring and Test Equipment
- 2.1.7 PTC 25.3 1976 - Power Test Codes, "Safety and Relief Valves with Atmospheric or Superimposed Backpressure Before Charging"
- 2.1.8 V. C. Summer Operational Quality Assurance Plan
- 2.1.9 V. C. Summer Final Safety Analysis Report
- 2.1.10 10 CFR 50.55a(g)
- 2.1.11 Branch Technical Position MEB No. 2, "Pump and Valve Operability Assurance Program"

### 2.2 Glossary

- 2.2.1 STP - Surveillance Test Procedure
- 2.2.2 AP - Administrative Procedure
- 2.2.3 GTP - General Test Procedure

2.2.4 PSI - Preservice Inspection - Preservice Inspection as used in this procedure refers to the establishment of reference values by conducting a Preservice Inspection test prior to service. The Preservice Inspection is conducted through the use of Preoperational/Functional tests.

2.2.5 ISI - Inservice Inspection - Inservice Inspection as used in this procedure refers to a special valve test whose results may be compared to previously established reference values to assess the operational readiness of a valve. The Inservice Inspection is conducted through the use of Surveillance Test Procedures.

Code - As used in this procedure, shall refer to ASME Code, Section XI, 1977 Edition, Summer 1978 Addenda, unless otherwise specified.

2.2.6 LCO - Limiting Condition for Operation

2.2.7 Categories of valves subject to the rules of this procedure are defined in accordance with reference 2.1.1 as follows:

- A. Category A - valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their function.
- B. Category B - valves for which seat leakage in the closed position is inconsequential for fulfillment of their function.
- C. Category C - valves which are self-actuating in response to some system characteristic, such as pressure (relief valves) or flow direction (check valves).
- D. Category D - valves which are actuated by an energy source capable of only one operation, i.e., Rupture Disks or Explosive-Actuated Valves.

NOTE: Combination of categories, such as categories A/C are to be used when more than one distinguishing category characteristic is applicable. In such cases, all requirements of each of the individual categories are applicable, although duplication or repetition of common testing requirements are not necessary.

- 2.2.8 "CHAMPS" - Comprehensive Handling and Maintenance Program System; i.e., Periodic Task Scheduling
- 2.2.9 ISI Coordinator - SCE&G Nuclear Operations Assistant Manager Maintenance Services or his designee will fill this position.
- 2.2.10 FS - Exercise valves (full stroke) for operability every three (3) months measuring time of stroke and comparing it to the previous measured time.
- 2.2.11 LT - Valves are leak tested at each refueling outage per Appendix J to 10 CFR50.55a.
- 2.2.12 CV - Exercise check valves to the position required to fulfill their function every three (3) months.
- 2.2.13 SRV - Safety and Relief valves are tested per Section XI Article IWV-3510.
- 2.2.14 CS - Exercise valves (full stroke) for operability every cold shutdown measuring time of stroke and comparing it to the previous measured time.
- 2.2.15 RS - Exercise valve (full stroke) for operability every refueling shutdown measuring time of stroke and comparing it to the previous measured time.
- 2.2.16 ANII - Authorized Nuclear Inservice Inspector
- 2.2.17 LOCA - Loss of Coolant Accident

### 3.0 RESPONSIBILITIES

- 3.1 The ISI Coordinator or his designated alternate is responsible for:
  - 3.1.1 Reviewing and analyzing the results of specified valve tests,

- 3.1.2 Developing and maintaining a summary of valve test results,
  - 3.1.3 Transmitting the results of review and analysis to the Assistant Manager-Support Services,
  - 3.1.4 Promptly informing the Assistant Manager-Operations and Assistant Manager-Support Services of unacceptable valve test results,
  - 3.1.5 Coordinating activities between the various responsible groups for resolution and/or disposition of unacceptable valve test results,
  - 3.1.6 Designating required tests after valve repair, rework and/or replacement.
- 3.2 The Assistant Manager-Maintenance Services or his designated alternate is responsible for:
- 3.2.1 Repair, replacement and/or rework of any valve not meeting the test requirements,
  - 3.2.2 Removing covers, collars, insulation, access plates as necessary to perform valve tests,
  - 3.2.3 Providing platforms, scaffolding and equipment supporting structures as necessary to perform valve tests,
  - 3.2.4 Informing the Assistant Manager-Support Services and ISI Coordinator when repair, replacement and/or rework activities have been completed.
- 3.3 The Assistant Manager-Operations or his designated alternate is responsible for:
- 3.3.1 Attaching safety tags to appropriate equipment and/or systems, when required.
  - 3.3.2 Draining appropriate piping systems/subsystems or other components as required,
  - 3.3.3 Performing and recording the results of valve tests in accordance with the applicable STPs,
  - 3.3.4 Promptly transmitting the results of the valve tests to the ISI Coordinator,

- 3.3.5 Directing necessary system hydrostatic and/or leakage tests subsequent to valve repairs, rework and/or replacement, as required.
- 3.4 The Assistant Manager-Support Services or his designated alternate is responsible for:
  - 3.4.1 Scheduling valve tests in accordance with the requirements of this procedure,
  - 3.4.2 Modify valve test schedule as recommended by the ISI Coordinator.
  - 3.4.3 Scheduling appropriate valve retests subsequent to valve maintenance activities,
  - 3.4.4 Informing the Assistant Manager-Operations of required retests.
- 3.5 The Assistant Manager-Technical Support or his designated alternate is responsible for:
  - 3.5.1 Provide engineering disposition, when required, for unacceptable valve test results.

#### 4.0 GENERAL

##### 4.1 Components

- 4.1.1 All valves which require inservice testing are listed on Attachment I. The guidelines of Branch Technical Position MEB No. 2, "Pump and Valve Operability Assurance Program" was used in developing this list.
- 4.1.2 Valve categories are listed on Attachment I. Valve categorization has been performed in accordance with subsection IWV-2100 of the Code.

##### 4.2 Preservice Examination

- 4.2.1 Each valve listed on Attachment I shall be given a Preservice Test, as required by subsection IWV of the Code, after installation and prior to entering service. This test will constitute the Preservice test required by subsection IWV-3100 of the Code.



- 4.2.2 The preservice examination shall be conducted in accordance with approved Preoperational/Functional test procedures.

#### 4.3 Valve Replacement/Repair and Maintenance

- 4.3.1 After a valve or its control system has either been replaced, repaired, or has undergone maintenance that could affect its performance, and prior to the time it is returned to service, it shall be tested as necessary to demonstrate that the performance parameters which could be affected by the replacement, repair, or maintenance are within acceptable limits.

EXAMPLE: Adjustment of stem packing; removal of the bonnet, stem assembly, or actuator; or disconnection of hydraulic or electrical lines are examples of maintenance that could affect valve performance parameters.

#### 4.4 Inservice Testing Requirements

##### 4.4.1 Category A & B Active Valves Exercising Test Frequency

- A. Category A & B valves shall be exercised at least once every 3 months with exceptions as noted in Section 4.4.2A and 4.4.2B.
- B. Category A & B valves in regular use which operate at a frequency which would satisfy the exercising requirements noted above need not be additionally exercised provided that the required observations are made, analyzed and recorded at the specified intervals.
- C. If Category A & B valves are located in a system which is out of service exercising is not required for such valves except immediately prior to returning the system to service.

NOTE: During plant shutdown Inservice test frequencies should be maintained where possible to minimize the number of tests required prior to returning to normal operation.

4.4.2 Category A & B Valves Exercising Procedure Scope

- A. Valves shall be exercised to the position required to fulfill their function unless such operation is not practical during plant operation. If only limited operation is practical during plant operation the valve shall be part-stroke exercised during plant operation and full-stroked during each cold shutdown; in case of frequent cold shutdowns these valves need not be exercised more often than once every 3 months. Normally closed valves that cannot be exercised during normal plant operation are identified on Attachment I and shall be exercised during each cold shutdown; in case of frequent cold shutdowns these valves need not be exercised more often than once every 3 months.
- B. Fail-Safe Valves. Where practical valves with fail-safe actuators shall be tested by observing the operation of the valves upon loss of actuator power. When these valves cannot be tested once every 3 months they shall be tested during each cold shutdown; in case of frequent cold shutdowns, these valves need not be tested more often than once every 3 months.
- C. The necessary valve stem or disk movement shall be established by exercising the valve while observing either an appropriate indicator which signals the required change of valve stem or disk position, or indirect evidence, such as changes in system pressure, flow rate or temperature which reflect stem or disk position.
- D. The following requirements apply to Category A & B Power Operated Valves.
  - 1. The limiting value of full stroke time of each power operated valve is listed on Attachment I.

2. The stroke time of all power-operated valves shall be measured to the nearest second or within 10% of the maximum allowable stroke time, whichever is less, whenever such a valve is full-stroke tested.
3. Stop watches or other appropriate timing devices shall be used when timing power operated valves.
4. Panel light indicators shall be used when verifying motor operated, air operated and valves with fail-safe actuators.

NOTE: At least once every two years, remote indication will be checked to verify that remote valve indications accurately reflect valve operation for valves which are inaccessible for direct observation during plant operation.

#### 4.4.3 Category A Valve Leak Test Frequency

- A. Category A valves shall be leak tested at the same or greater frequency as scheduled refueling outages but not less than once every two years.

#### 4.4.4 Category A Valve Leak Test Procedure Scope

- A. The Category A Valve seat leakage tests shall be made with the pressure differential in the same direction as will be applied when the valve is performing its function with the following exceptions:
  1. Any globe type valve may be tested with pressure under seat.
  2. Butterfly valves may be tested in either direction, provided their seat construction is designed for sealing against pressure on either side.
  3. Gate valves with two-piece disks may be tested by pressurizing such valves between the seats.



4. All valves (except check valves) may be tested in either direction if the function differential pressure is 15 psi or less.
5. The use of leakage tests involving pressure differentials lower than function pressure differentials are permitted in those types of valves in which service pressure will tend to diminish the overall leakage channel opening, as by pressing the disk into or onto the seat with greater force. Gate valves, check valves, and globe type valves having function pressure differential applied over the seat, are examples of valve applications satisfying this requirement. When leakage tests are made in such pressures lower than function maximum pressure differential, the observed leakage shall be adjusted to function maximum pressure differential value by calculation appropriate to the test media and the ratio between test and function pressure differential assuming leakage to be directly proportional to the pressure differential to the one-half power.
6. Any valves not qualifying for reduced pressure testing as defined above shall be leak tested at full maximum function pressure differential, with adjustment by calculation if needed to compensate for a difference between service and test media.
7. Valves which function in the course of plant operation in a manner that demonstrates functionally adequate seat tightness need not be leak tested. In such cases, the valve record shall provide the basis for the conclusion that operational observation constitutes satisfactory demonstration.

- B. Category A valve seat leakage may be determined by:
1. Draining the line, closing the valve and pressurizing the valve to be tested as outlined in Section 4.4.4.A and measuring leakage through a downstream telltale connection.
  2. Measuring the feed rate required to maintain pressure between two valves, or between two seats of a gate valve, provided the total apparent leak rate is charged to the valve or gate valve seat being tested, and that the conditions required above are satisfied.
- C. The detailed steps necessary to check seat leakage will be outlined in the STP or Preoperational/ Functional Test Procedure directing the test.
- D. The test medium shall be specified in the STP or Preoperational/Functional Test Procedure directing the test.
- E. The leakage limits associated with valve seat leakage are listed on Attachment V. These limits are established based on the following:
1. Technical Specifications 3.4.6.2f - 1 GPM leakage at a Reactor Coolant System Pressure Isolation Valve specified on Attachment VI, when RCS pressure is at 2235  $\pm$  20 psig.
  2. For penetration/containment Isolation Valves there are three limits (1) suggested limit so as not to exceed the .6 La limit, as specified in Appendix J, (2) an alert limit to identify those valves which might become a problem, and (3) the maximum limit when repairs or replacement should occur.
  3. For those valves which do not fall in the above two categories the ASME Section XI, subsection IWV-3426, applies.

#### 4.4.5 Category C Valves Test Frequency

- A. Safety/Relief valves shall be tested at the end of each time period as defined on Attachment I.
- B. Check valves shall be exercised every 3 months subject to the exceptions listed in section 4.4.6.B of this procedure.

#### 4.4.6 Category C Valves Test Procedure Scope

- A. Safety Valve and relief valve set points shall be tested in accordance with reference 2.1.7.
- B. Check valves shall be exercised to the position required to fulfill their function unless such operation is not practical during plant operation. If only limited operation is practical during plant operation the check valve shall be part-stroke exercised during plant operation and full-stroked during each cold shutdown. In case of frequent cold shutdowns these check valves need not be exercised more often than once every 3 months. Normally closed check valves that cannot be operated during normal plant operation are identified on Attachment I and shall be exercised during each cold shutdown. In case of frequent cold shutdowns these check valves need not be exercised more often than once every 3 months. The following section delineates the general methods to be used in testing either a normally open or normally closed check valve.
  - 1. Check valves which are normally open during plant operation whose function is to prevent reversed flow, shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow. Confirmation that the disk is on its seat shall be by visual observation, by an electrical signal initiated by a position indicating device, by observation of appropriate pressure indications in the system, or by other positive means.

2. Check valves which are normally closed during plant operation, whose function is to open on reversal of pressure differential, shall be tested by proving that the disk moves promptly away from the seat when the closing pressure differential is removed and flow through the valve is initiated, or a mechanical opening force is applied to the disk. Confirmation that the disk moves away from the seat shall be by visual observation, by electrical signal initiated by a position indicating device, by observation of substantially free flow through the valve as indicated by appropriate pressure indications in the system, or by other positive means.

This test may be with or without flow through the valve. If it is made without flow through the valve, a mechanical exerciser shall be used to move the disk. The force or torque delivered to the disk by the exerciser must be limited to no more than 10% of the equivalent force or torque represented by the minimum emergency condition pressure differential acting on the disk, or 200% of the actual observed force or torque required to perform the exercise on the valve when the valve is new and in good operating condition, whichever is less.

The disk movement shall be sufficient to prove that the disk moves freely off the seat. For swing or tilting disk type valves, if the test is made by use of fluid flow through the valve, the pressure differential for equivalent flow shall be no greater than that observed during the preservice test. For other types of check valves, it shall be shown that disk movement is sufficient to provide a flow area of no less than 50% of the area of the seat port, or to permit flow adequate for the function of the valve.

## 5.0 RECORDS

- 5.1 A file will be maintained for each group of valves covered by the ISI Program. The file will include the following:
  - 5.1.1 The applicable limiting values, test parameters and the baseline test results as recorded on Attachment III.
  - 5.1.2 A Valve Data Sheet and Summary (Attachment III).
  - 5.1.3 Records of results from ISI tests that have been conducted on a valve.
  - 5.1.4 Any additional data which would enhance the ability of plant personnel to analyze trends and assess operational readiness.
- 5.2 Relief requests, if any, shall be referenced on Attachment I. Such relief requests shall be indexed, stored and maintained under separate cover.

## 6.0 RESULTS

- 6.1 The results of Inservice Valve Tests shall be analyzed to assess the operational readiness of each valve.
- 6.2 The following points shall be observed when analyzing the results of the power operated Category A & B valve exercising test.
  - 6.2.1 If any power operated Category A & B valve shows an increase in the stroke time of 25% or more from the previous test for valves with stroke times greater than ten seconds or 50% or more for valves with stroke times less than or equal to ten seconds, the test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed. In any case, any abnormality or erratic action shall be reported.



- 6.2.2 If a power operated valve fails to exhibit the required change of valve stem or disk position by this testing, corrective action shall be initiated immediately. If the condition is not, or can not be corrected within 24 hours, the valve shall be declared inoperative. (The STP directing the test will outline any LCO's which apply.)
- 6.2.3 When corrective action is required as a result of the inservice tests made during cold shutdown, the condition shall be corrected before startup. A retest showing acceptable operation shall be run following any required corrective action before the valve is returned to service.
- 6.3 When analyzing the results of the Category A valve leakage tests the current test data shall be compared with the previous test data as well as with the maximum permissible leakage rate specified in the STP directing the test. If no specific permissible leakage rates have been established the values shown on Attachment V shall be used in evaluating test results. The following corrective action shall be observed if any Category A valve fails to satisfy the acceptance criteria of the STP on Preoperational/Functional Test directing the test.
- 6.3.1 Valves with leakage rates exceeding the values specified on Attachment V, shall be replaced or repaired and retested to demonstrate satisfactory operation before being returned to service.
- 6.3.2 For valves 6 in. and larger, if a leakage rate exceeds the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate by 50% or more, the test frequency shall be doubled and tests scheduled to coincide with a cold shutdown until corrective action is taken, at which time, the original test frequency shall be resumed. When tests show a leakage rate increasing with time, and a projection based on three or more tests indicates that the leakage rate of the next scheduled test will exceed the maximum permissible leakage rate by more than 10%, the valve shall be replaced or repaired and retested to demonstrate satisfactory operation before being returned to service.

- 6.3.3 The failure of a category A valve to satisfy the leakage rate acceptance criteria of the applicable STP constitutes an inoperable component and may require a Limiting Condition of operation per V. C. Summer Technical Specifications. The STP directing the test will outline any LCO's.
- 6.4 If any Category C safety/relief valve in a system fails to satisfy the Acceptance Criteria as specified in the STP directing the test the following corrective action steps will be observed.
- 6.4.1 Any safety/relief valve failing to function properly during test shall be repaired or replaced and shall successfully pass a retest before being returned to service.
- 6.4.2 If any safety/relief valve in a system fails to function properly during a regular test, additional valves in the system shall be tested as determined by an arbitrary assumption that a twelve month operating period has passed to another refueling, and the additional valves shall be tested to make the cumulative total tested at least  $N/60 \times \text{total valves in this category}$ , where N now includes the additional 12 months. (See Attachment II for definition of N.) If any of these additional valves fail to function properly on test, then all valves in the system in this category shall be tested.
- 6.4.3 If any safety/relief valve fails to satisfy the Acceptance Criteria of the applicable STP it shall be considered inoperable and may require a Limiting Condition for operation per V. C. Summer Technical Specifications. The STP directing the conditions of the test will outline any Limiting Condition of Operation.
- 6.5 If any Category C check valve fails to satisfy the acceptance criteria of the STP directing the exercising test the following points shall be observed.

- 6.5.1 Corrective action shall be initiated immediately. If the condition cannot be corrected within 24 hours, the check valve shall be declared inoperative. When corrective action is required as a result of tests made during cold shutdown, the condition shall be corrected before startup. A retest showing acceptable performance shall be run following any required corrective action before the valve is returned to service.
- 6.5.2 With a check valve inoperable certain Limiting Conditions for Operations as detailed in the V. C. Summer Technical Specifications may apply. The STP directing the test will list any applicable Limiting Condition for Operation.
- 6.6 The Nuclear Shift Supervisor or Shift Foreman will initially review the test data and compare it to the Acceptance Criteria detailed in the STP. If the results are satisfactory he will sign the data sheet. If the results are unsatisfactory, he shall initiate corrective action including any Limiting Condition for operation required by the V. C. Summer Technical Specifications.

NOTE: The STP conducting the performance of the test will list any Limiting Conditions of Operation.

#### 7.0 ATTACHMENTS

- 7.1 Attachment I - Valve List
- 7.2 Attachment II - Safety/Relief Valve Testing Schedule and Category A Permissible Leakage Rates
- 7.3 Attachment III - Sample Valve Data Sheet and Summary
- 7.4 Attachment IV - List of Applicable STP's
- 7.5 Attachment V - Allowed leakage for Category A Valves



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[illegible]

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VALVE NUMBER	SYS.	VALVE DESCRIPTION	VALVE CAT/CLS	DRAWING NUMBER	CO- ORD	NORM POS (NOTE #1)	POS IND (NOTE #2)	TEST REQ'MENT (NOTE #3)	RELIEF REQUEST (NOTE #4)	ALTERNATE TEST (NOTE #5)	REMARKS (NOTE #6)
IVV-7096	CC	SURGE TANK VENT 1 1/2" GLOBE VALVE	B 2b	302-611	F-12	NO	YES	FS	NO	N/A	STROKE TIME 5 SEC STP-122.003
XVC-9682A	CC	COMPONENT COOLING PP A DISCH CHECK 24" CHECK VALVE	C 2b	302-611	G-5	--	--	CV	NO	N/A	TESTED DURING MONTHLY PUMP TEST STP-122.001
XVC-9682B	CC	COMPONENT COOLING PP B DISCH CHECK 24" CHECK VALVE	C 2b	302-611	G-5	--	--	CV	NO	N/A	TESTED DURING MONTHLY PUMP TEST STP-122.001
XVC-9682C	CC	COMPONENT COOLING PP C DISCH CHECK 24" CHECK VALVE	C 2b	302-611	G-6	--	--	CV	NO	N/A	TESTED DURING MONTHLY PUMP TEST STP-122.001
XVG-9605	CC	CC Rx BLDG INTERNAL ISOL 8" MOTOR OPERATED VALVE	A 2a	302-612	G-12	NO	YES	FS	YES A-5	CS	STROKE TIME 42 SEC PENET 330 ISOL VALVE STP-130.001 & STP-115.016
								LT	NO	N/A	
XVG-9606	CC	CC Rx BLDG EXTERNAL ISOL 8" MOTOR OPERATED VALVE	A 2b	302-612	H-12	NO	YES	FS	YES A-5	CS	STROKE TIME 42 SEC PENET 330 ISOL STP-130.001 & STP-115.016
								LT	NO	N/A	
XVG-9568	CC	CC Rx BLDG EXTERNAL ISOL 8" MOTOR OPERATED VALVE	A 2a	302-612	H-11	NO	YES	FS	YES A-5	CS	STROKE TIME 42 SEC PENET 312 ISOL VALVE STP-130.001 & STP-115.016
								LT	NO	N/A	

VALVE NUMBER	SYS.	VALVE DESCRIPTION	VALVE CAT/CLS	DRAWING NUMBER	CO- ORD	NORM POS (NOTE #1)	POS IND (NOTE #2)	TEST REQ/MENT (NOTE #3)	RELIEF REQUEST (NOTE #4)	ALTERNATE TEST (NOTE #5)	REMARKS (NOTE #6)
XVC-9570	CC	CC R& BLDG INTERNAL CHECK 8" CHECK VALVE	A/C 2a	302-612	G-12	--	--	CV LT	YES A-1 NO	CS N/A	PENET 312 ISOL STP-130.001 & STP-115.016
XVG-9600	CC	R& BLDG EXTERNAL ISOL 3" MOTOR OPERATED VALVE	A 2a	302-612	F-2	NO	YES	FS LT	YES A-3 NO	CS N/A	STROKE TIME 19 SEC PENET 204 ISOL VALVE STP-130.001 & STP-115.016
XVC-9602	CC	R& BLDG INTERNAL CHECK 3" CHECK VALVE	A/C 2a	302-612	F-1	--	--	CV LT	YES A-2 NO	CS N/A	PENET 204 ISOL VALVE STP-130.001 & STP-115.016
XVR-9502A	CC	CCW PUMP 1C DISCH HEADER RELIEF	C 2b	D-302-611	G-7	--	--	SRV	NO	N/A	SETPOINT 150 psig STP-401.003
XVR-9502B	CC	CCW PUMP 1B DISCH HEADER RELIEF	C 2b	D-302-611	H-6	--	--	SRV	NO	N/A	SETPOINT 150 psig STP-401.003
XVR-9502C	CC	CCW PUMP 1A DISCH RELIEF VALVE	C 2b	D-302-611	G-5	--	--	SRV	NO	N/A	SETPOINT 150 psig STP-401.003
XVR-19545	CC	A SPENT FUEL HEAT EXCHANGER RELIEF	C 2b	D-302-613	F-11	--	--	SRV	NO	N/A	SETPOINT 160 psig STP-401.003
XVR-19544	CC	B SPENT FUEL HEAT EXCHANGER RELIEF	C 2b	D-302-613	H-11	--	--	SRV	NO	N/A	SETPOINT 160 psig STP-401.003





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VALVE NUMBER	SYS.	VALVE DESCRIPTION	VALVE CAT/CLS	DRAWING NUMBER	CO- ORD	NORM POS (NOTE #1)	POS IND (NOTE #2)	TEST REQ*MENT (NOTE #3)	RELIEF REQUEST (NOTE #4)	ALTERNATE TEST (NOTE #5)	REMARKS (NOTE #6)
XVG-8106	CS	CHG PUMPS MINI FLOW HDR ISOL 3" MOTOR OPERATED VALVE	B 2a	114E073 (3)	F-12	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC* STP-105.002
XVT-8109A	CS	CHG PUMPS MINI FLOW HDR ISOL 2" MOTOR OPERATED VALVE	B 2a	114E073 (3)	F-9	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC* STP-105.002
XVT-8109B	CS	CHG PUMP B MINI FLOW ISOL 2" MOTOR OPERATED VALVE	B 2a	114E073 (3)	D-9	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC* STP-105.002
XVT-8109C	CS	CHG PUMP C MINI FLOW ISOL 2" MOTOR OPERATED VALVE	B 2a	114E073 (3)	E-9	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC* STP-105.002
XVG-8107	CS	CHG HEADER ISOL 3" MOTOR OPERATED VALVE	A 2a	114E073 (3)	E-13	NO	YES	LT	NO	N/A	STROKE TIME 10 SEC PENET 409 ISOL VALVE STP-115.006 & STP-130.001
								FS	YES B-10	CS	
XVG-8108	CS	CHG HEADER ISOL 3" MOTOR OPERATED VALVE	A 2a	114E073 (3)	E-13	NO	YES	LT	NO	N/A	STROKE TIME 10 SEC PENET 409 ISOL VALVE STP-115.006 & STP-130.001
								FS	YES B-10	CS	
XVC-8481A	CS	CHG PUMP A DISCHARGE CK 3" CHECK VALVE	C 2a	114E073 (3)	E-9	--	--	CV	YES B-2	RS	STP-105.002 & STP-130.002
XVC-8481B	CS	CHG PUMP B DISCHARGE CHECK 3" CHECK VALVE	C 2a	114E073 (3)	C-9	--	--	CV	YES B-2	RS	STP-105.002 & STP-130.002



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XVC-8481C	CS	CHG PUMP B DISCHARGE CHECK 3" CHECK VALVE	C 2a	114E073 (3)	D-9	--	--	CV	YES B-2	RS	STP-105.002 & STP-130.002
LCV-115C	CS	VCT OUTLET ISOLATION 4" MOTOR OPERATED	B 2a	114E073 (3)	F-7	NO	YES	FS	YES B-1	CS	STROKE TIME 10 SEC STP-130.001
LCV-115E	CS	VCT OUTLET HDR ISOL 4" MOTOR OPERATED	B 2a	114E073 (3)	F-7	NO	YES	FS	YES B-1	CS	STROKE TIME 10 SEC STP-130.001
LCV-115B	CS	RWST ISOL TO CHARGE PUMP A SUCTION HEADER 8" MOTOR OPERATED	B 2a	114E073 (3)	D-6	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.002
LCV-115D	CS	RWST ISOL TO CHARGE PUMP B SUCTION HEADER 8" MOTOR OPERATED	B 2a	114E073 (3)	C-6	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.002
XVT-8104	CS	EMERGENCY BORATE VALVE 2" MOTOR OPERATED VALVE	B 2a	114E073 (3)	D-3	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.002
XVC-8442	CS	BA TO CHG PUMP C HEADER CHECK	C 2a	114E073 (3)	D-2	--	--	CV	YES B-7	CS	STP-130.001
XVC-8314A	CS	BORIC ACID TRANSFER PUMP A DISCH CHECK	C 2b	114E073 (5)	E-9	--	--	CV	NO	N/A	VALVE WILL BE TESTED WITH THE PUMP TEST STP-104.005

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XVC-972A	DG	2" CHECK VALVE	C 2b	302-351	G-14	--	--	CV	NO	N/A	STP-125.001
XVC-972B	DG	2" CHECK VALVE	C 2b	302-351	G-1	--	--	CV	NO	N/A	STP-125.001
XVC-970A	DG	2" CHECK VALVE	C 2b	302-351	G-12	--	--	CV	NO	N/A	STP-125.001
XVC-970B	DG	2" CHECK VALVE	C 2b	302-351	G-3	--	--	CV	NO	N/A	STP-125.001
XVC-971A	DG	3" CHECK VALVE	C 2b	302-351	G-11	--	--	CV	NO	N/A	STP-125.001
XVC-971D	DG	3" CHECK VALVE	C 2b	302-351	G-4	--	--	CV	NO	N/A	STP-125.001
XVR-979A	DG	DG FUEL OIL TRANSFER PUMP 141A DISCH HEADER RELIEF	C 2a	D-302-351	G-13	--	--	SRV	NO	N/A	SETPOINT 63 psig STP-401.003
XVR-980A	DG	DG FUEL OIL TRANSFER PUMP 4A DISCH HEADER RELIEF	C 2a	D-302-351	G-12	--	--	SRV	NO	N/A	SETPOINT 63 psig STP-401.003

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XVC-1039A	EF	EF HDR INLET CK TO A S/G 4" CHECK VALVE	C 2a	302-083	C-12	--	--	CV	YES C-1	CS	STP-130.001
XVC-1039B	EF	EF HDR INLET CK TO B S/G 4" CHECK VALVE	C 2a	302-083	E-12	--	--	CV	YES C-1	CS	STP-130.001
XVC-1039C	EF	EF HDR INLET CK TO C S/G 4" CHECK VALVE	C 2a	302-083	G-12	--	--	CV	YES C-1	CS	STP-130.001
XVC-1038A	EF	EF HDR SUPPLY CK TO A S/G 4" CHECK VALVE	C 2a	302-083	C-12	--	--	CV	YES C-1	CS	STP-130.001
XVC-1038B	EF	EF HDR SUPPLY CK TO B S/G 4" CHECK VALVE	C 2a	302-083	E-12	--	--	CV	YES C-1	CS	STP-130.001
XVC-1038C	EF	EF HDR SUPPLY CK TO C S/G 4" CHECK VALVE	C 2a	302-083	H-12	--	--	CV	YES C-1	CS	STP-130.001
XVC-1015B	EF	MOTOR DRIVE EFWP 21B DISCH CHECK 4" CHECK VALVE	C 2b	302-085	F-8	--	--	CV	YES C-2	CS	STP-130.001
XVC-1009A	EF	EF HDR DISCH CK VALVE ISOL S/G A 4" AIR OPERATED SPL CK	C 2a	302-085	B-12	NC	YES	FS	NO	N/A	STROKE TIME 3 SEC PENET 308 ISOL VALVE STP-120.004

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XVC-1009B	EF	EF HDR DISCH CK VALVE ISOL S/G B 4" AIR OPERATED SPL CK	C 2a	302-085	D-12	NC	YES	FS	/	N/A	STROKE TIME 3 SEC PENET 205 ISOL VALVE STP-120.004
XVC-1009C	EF	EF HDR DISCH CK VALVE ISOL S/G C 4" AIR OPERATED SPL CK	C 2a	302-085	G-12	NC	YES	FS	NO	N/A	STROKE TIME 3 SEC PENET 213 ISOL STP-120.004
IFV-3531	EF	EFWP MOTOR DRIVE EFWP TO A S/G 3" AIR OPERATED VALVE	B 2b	302-085	A-9	NO	YES	FS	NO	N/A	STROKE TIME 30 SEC STP-120.004
IFV-3541	EF	EFWP MOTOR DRIVE EFWP TO B S/G 3" AIR OPERATED VALVE	B 2b	302-085	D-9	NO	YES	FS	NO	N/A	STROKE TIME 30 SEC STP-120.004
IFV-3551	EF	EF FM MOTOR DRIVE EFWP TO C S/G 3" AIR OPERATED VALVE	B 2b	302-085	F-9	NO	YES	FS	NO	N/A	STROKE TIME 30 SEC STP-120.004
XVG-1001A	EF	SUPP FM SW TO EFWP 21A ISOL 6" MOTOR OPERATED VALVE	B 2b	302-085	D-5	NC	YES	FS	YES C-3	CS	STROKE TIME 33 SEC STP-130.001
XVG-1001B	EF	SUPP FW SW TO EFWP 21B ISOL 6" MOTOR OPERATED VALVE	B 2b	302-085	G-4	NC	YES	FS	YES C-3	CS	STROKE TIME 33 SEC STP-130.001
XVC-1014	EF	SUPP FM CST TO XPP 8A 8" CHECK VALVE	C 2b	302-085	H-5	--	--	CV	YES C-6	CS	STP-120.004 & STP-130.001



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XVG-1002	EF	SUPP FM SW LOOP A TO TURB DRIVE EFWP HDR ISOL 8" MOTOR OPERATED VALVE	B 2b	302-085	J-5	NC	YES	FS	YES C-4	CS	STROKE TIME 42 SEC STP-130,001
XVG-1008	EF	SUPP FW SW LOOP B TO TURB DRIVE EFWP HDR ISOL 8" MOTOR OPERATED VALVE	B 2b	302-085	J-6	NC	YES	FS	YES C-4	CS	STROKE TIME 42 SEC STP-130,001
XVG-1037A	EF	SUPP FM SW LOOP A TO TURB DRIVE EFWP MN ISOL 8" MOTOR OPERATED VALVE	B 2b	302-085	F-2	NC	YES	FS	YES C-4	CS	STROKE TIME 42 SEC STP-130,001
XVG-1037B	EF	SUPP FM SW LOOP B TO TURB DRIVE EFWP MN ISOL 8" MOTOR OPERATED VALVE	B 2b	302-085	G-2	NC	YES	FS	YES C-4	CS	STROKE TIME 42 SEC STP-130,001
IFV-3536	EF	EF FM TURB DRIVE EFWP TO A S/G 3" AIR OPERATED VALVE	B 2b	302-085	B-9	NO	YES	FS	NO	N/A	STROKE TIME 30 SEC STP-120,004
IFV-3546	EF	EF FM TURB EFWP TO B S/G 3" AIR OPERATED VALVE	B 2b	302-085	E-9	NO	YES	FS	NO	N/A	STROKE TIME 30 SEC STP-120,004
IFV-3556	EF	EF FM TURB EFWP TO C S/G 3" AIR OPERATED VALVE	B 2b	302-085	G-9	NO	YES	FS	NO	N/A	STROKE TIME 30 SEC STP-120,004
XVC-1016	EF	TURB DRIVE EFWP DISCH CK 4" CHECK VALVE	C 2b	302-085	H-9	--	--	CV	YES C-5	CS	STP-130,001

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XVC-1015A	EF	MOTOR DRIVE EFWP 21A DISCH 4" CHECK VALVE	C / 2b	302-085	A-8	--	--	CV	YES C-2	CS	STP-130.001
XVC-1013A	EF	SUPP FM CST TO 21A CHECK 6" CHECK VALVE	C / 2b	302-085	D-5	--	--	CV	YES C-6	CS	STP-120.004 & STP-130.001
XVC-1013B	EF	SUPP FM CST TO EFWP 21B CHECK 6" CHECK VALVE	C / 2b	302-085	F-4	--	--	CV	YES C-6	CS	STP-120.004 & STP-130.001
XVC-1023A	EF	MTR DRIVEN EF PP A RECIR HDR CHK VLV 2" CHECK VALVE	C / 2b	302-085	A-7	--	--	CV	NO	N/A	VALVE WILL BE TESTED DURING PUMP TEST STP-120.001
XVC-1023B	EF	MTR DRIVEN EF PP B RECIR HDR CHK VLV 2" CHECK VALVE	C / 2b	302-085	F-7	--	--	CV	NO	N/A	VALVE WILL BE TESTED DURING PUMP TEST STP-120.001
XVC-1027	EF	EF RECIR HEADER CHECK VALVE 4" CHECK VALVE	C / 2b	302.085	C-4	--	--	CV	NO	N/A	VALVE WILL BE TESTED DURING PUMP TEST STP-120.001
XVC-1024	EF	TURB DRIVEN EF PP RECIRC HDR CHK VLV 3" CHECK VALVE	C / 2b	302.085	H-8	--	--	CV	NO	N/A	VALVE WILL BE TESTED DURING PUMP TEST STP-120.002
XVK-1019A	EF	S/G A MOTOR DWN EFWP SUPPLY STAY CHECK 4" STAY CHECK VALVE	C / 2B	302.085	A-10	--	--	CV	YES C-8	CS	STP-130.001



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XVK-1019B	EF	S/G B MOTOR DR EFWP SUPPLY STOP CHECK 4" STOP CHECK VALVE	C / 2b	302.085	D-10	--	--	CV	YES C-8	CS	STP-130.001
XVK-1019C	EF	S/G MOTOR DR EFWP SUPPLY STOP CHECK 4" STOP CHECK VALVE	C / 2b	302.065	F-10	--	--	CV	YES C-8	CS	STP-130.001
XVC-1022A	EF	TURB DRIVEN EF PP SUCT CHECK FROM SW A	C / 2b	302-085	H-6	--	--	CV	YES C-7	RS	STP-130.002
XVC-1022B	EF	TURB DRIVEN EF PP SUCT CHECK FROM SW B	C / 2b	302-085	H-5	--	--	CV	YES C-7	RS	STP-130.002
XVC-1034A	EF	MOTOR DRIVEN EF PP SUCT CHECK FROM SW A	C / 2b	302-085	D-5	--	--	CV	YES C-7	RS	STP-130.002
XVC-1034B	EF	MOTOR DRIVEN EF PP SUCT CHECK FROM SW B	C / 2b	302-085	F-4	--	--	CV	YES C-7	RS	STP-130.002
XVK-1020A	EF	SG A TURB DR EFWP SUPPLY STOP CHECK 4" STOP CHECK VALVE	C / 2b	302.085	B-10	--	--	CV	YES C-8	CS	STP-130.001
XVK-1020B	EF	SG B TURB DR EFWP SUPPLY STOP CHECK 4" STOP CHECK VALVE	C / 2b	302.085	E-10	--	--	CV	YES C-8	CS	STP-130.001
XVK-1020C	EF	SG C TURB DR EFWP SUPPLY STOP CHECK 4" STOP CHECK VALVE	C / 2b	302.085	G-10	--	--	CV	YES C-8	CS	STP-130.001

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XVX-6051A	HR	RB SAMPLE TO H2 ANAL A 3/8" SOLENOID OPERATED VALVE	A 2a	302-861	B-12	NC	YES	FS	NO	N/A	STROKE TIME 5 SEC PENET 301 ISOL VALVE STP-138.001 & STP-115.021
								LT	NO	N/A	
XVX-6051C	HR	RB SAMPLE TO H2 ANAL A 3/8" SOLENOID OPERATED VALVE	A 2a	302-861	A-11	NC	YES	FS	NO	N/A	STROKE TIME 5 SEC PENET 301 ISOL STP-138.001 & STP-115.021
								LT	NO	N/A	
XVX-6050A	HR	RB SAMPLE TO H2 ANAL A 3/8" SOLENOID OPERATED VALVE	A 2a	302-861	C-12	NC	YES	FS	NO	N/A	STROKE TIME 5 SEC PENET 301 ISOL STP-138.001 & STP-115.021
								LT	NO	N/A	
XVX-6053A	HR	POST ACC H2 SUPP ISOL LOOP A 3/8" SOLENOID OPERATED VALVE	A 2a	302-861	B-10	NC	YES	FS	NO	N/A	STROKE TIME 5 SEC PENET 301 ISOL STP-138.001 & STP-115.021
								LT	NO	N/A	
XVX-6054	HR	POST ACC H2 CONT ISOL VALVE FOR PT 8254 3/8" SOLENOID OPERATED VALVE	A 2a	302-861	D-10	NC	YES	FS	NO	N/A	STROKE TIME 5 SEC PENET 301 ISOL STP-138.001 & STP-115.021
								LT	NO	N/A	
XVX-6052A	HR	POST ACC H2 RETURN ISOL 3/8" SOLENOID OPERATED VALVE	A 2a	302-861	C-10	NC	YES	FS	NO	N/A	STROKE TIME 5 SEC PENET 301 ISOL STP-138.001 & STP-115.021
								LT	NO	N/A	
XVX-6051B	HR	RB SAMPLE TO H2 ANAL B 3/8" SOLENOID OPERATED VALVE	A 2a	302-861	E-12	NC	YES	FS	NO	N/A	STROKE TIME 5 SEC PENET 105 ISOL STP-138.001 & STP-115.021
								LT	NO	N/A	
XVX-6050B	HR	RB SAMPLE TO H2 ANAL B 3/8" SOLENOID OPERATED VALVE	A 2a	302-861	F-12	NC	YES	FS	NO	N/A	STROKE TIME 5 SEC PENET 105 ISOL STP-138.001 & STP-115.021
								LT	NO	N/A	

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XVS-2806A	MS	MN STEAM LINE A SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	B-8	--	--	SRV	NO	N/A	STP-401.002
XVS-2806B	MS	MN STEAM LINE A SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	B-8	--	--	SRV	NO	N/A	STP-401.002
XVS-2806C	MS	MN STEAM LINE A SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	B-8	--	--	SRV	NO	N/A	STP-401.002
XVS-2806D	MS	MN STEAM LINE A SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	B-8	--	--	SRV	NO	N/A	STP-401.002
XVS-2806E	MS	MN STEAM LINE A SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	B-8	--	--	SRV	NO	N/A	STP-401.002
IPV-2000	MS	MS LINE A POWER RELIEF VALVE 8" AIR OPERATED VALVE	B 2a	302-011	B-7	NC	YES	FS	NO	N/A	PENET 428 ISOL STROKE TIME 3 SEC STP-121.002
XVM-2801A	MS	MN STEAM LINE A ISOL 32" AIR OPERATED VALVE	B 2a	302-011	B-5	NO	YES	FS	YES G-1	CS	STROKE TIME 5 SEC PENET 428 ISOL STP-130.001/121.001
XVM-2801B	MS	MN STEAM LINE B ISOL 32" AIR OPERATED VALVE	B 2a	302-011	D-3	NO	YES	FS	YES G-1	CS	STROKE TIME 5 SEC PENET 207 ISOL STP-130.001/121.001

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XVG-2869A	MS	MS LINE A ISOLATION BYLASS VALVE 4" AIR OPERATED VALVE	B 2a	302-011	C-4	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 428 ISOL VALVE STP-121.002
XVG-2869B	MS	MS LINE B ISOLATION BYPASS VALVE 4" AIR OPERATED VALVE	B 2a	302-011	E-3	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 207 ISOL VALVE STP-121.002
XVG-2869C	MS	MS LINE C ISOLATION BYPASS VALVE 4" AIR OPERATED VALVE	B 2a	302-011	G-4	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 202 ISOL VALVE STP-121.002
XVS-2806F	MS	MS STEAM LINE B SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	D-9	--	--	SRV	NO	N/A	STP-401.002
XVS-2806G	MS	MN STEAM LINE B SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	D-9	--	--	SRV	NO	N/A	STP-401.002
XVS-2806H	MS	MN STEAM LINE B SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	D-9	--	--	SRV	NO	N/A	STP-401.002
XVS-2806I	MS	MN STEAM LINE B SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	D-8	--	--	SRV	NO	N/A	STP-401.002
XVS-2806J	MS	MN STEAM LINE B SAFETY VALVE 6 x 10 RELIEF VALVE	C 2a	302-011	D-8	--	--	SRV	NO	N/A	STP-401.002

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IPV-2010	MS	MN STEAM LINE B POWER RELIEF 8" AIR OPERATED VALVE	B 2a	302-011	D-8	NC	YES	FS	NO	N/A	STROKE TIME 3 SEC PENET 207 ISOL VALVE STP-121.002
XVG-2802A	MS	MN STEAM LOOP B TO EFWP TURB 4" MOTOR OPERATED VALVE	B 2a	302-011	E-5	NO	YES	FS	NO	N/A	STROKE TIME 20 SEC PENET 207 ISOL VALVE STP-121.002
XVG-2802B	MS	MN STEAM LOOP C TO EFWP TURB 4" MOTOR OPERATED VALVE	B 2a	302-011	G-5	NO	YES	FS	NO	N/A	STROKE TIME 20 SEC PENET 202 ISOL VALVE STP-121.002
XVC-2876A	MS	MN STEAM LOOP B TO EFWP CK 4" CHECK VALVE	C 2b	302-011	E-5	--	--	CV	NO	N/A	STP-121.002
XVC-2876B	MS	MN STEAM LOOP C TO EFWP CK 4" CHECK VALVE	C 2b	302-011	F-5	--	--	CV	NO	N/A	STP-121.002
IFV-2030	MS	STEAM STOP VALVE TO EFWP TURB 4" AIR OPERATED VALVE	B 2b	302-011	E-4	NC	YES	FS	NO	N/A	STROKE TIME 3 SEC STP-121.002
IPV-2020	MS	MN STEAM LINE C POWER RELIEF 8" AIR OPERATED VALVE	B 2a	302-011	F-8	NC	YES	FS	NO	N/A	STROKE TIME 3 SEC PENET 202 ISOL VALVE STP-121.002
XVM-2801C	MS	MN STEAM LINE C ISOL 32" AIR OPERATED VALVE	B 2a	302-011	G-5	NO	YES	FS	YES G-1	CS	STROKE TIME 5 SEC PENET 202 ISOL VALVE STP-130.001/121.001

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XVD-8033	RC	P.R.T VENT & N2 HDR ISOL 1" AIR OPERATED (DIAPHRAGM)	A 2a	114E072 (2)	J-5	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 420 ISOL STP-142.001 & STP-115.005
								LT	NO	N/A	
XVD-8047	RC	P.R.T VENT & N2 HDR ISOL(IRC) 1" AIR OPERATED (DIAPHRAGM)	A 2a	114E072 (2)	I-5	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 420 ISOL STP-142.001 & STP-115.005
								LT	NO	N/A	
XVD-8028	RC	P.R.T SPRAY HDR ISOL (ORC) 3" AIR OPERATED	A 2a	114E072 (2)	I-2	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 422 ISOL STP-142.001 & STP-115.005
								LT	NO	N/A	
XVC-8046	RC	P.R.T SPRAY HDR CHECK 3" CHECK	A/C 2a	114E072 (2)	I-3	--	--	CV	NO	N/A	PENET 422 ISOL VALVE STP-142.001 & STP-115.005
								LT	NO	N/A	
XVR-8010A	RC	PRZR CODE SAFETY 6" RELIEF VALVE	C 1	114E072 (2)	G-9	--	--	SRV	NO	N/A	STP-401.001
XVR-8010B	RC	PRZR CODE SAFETY 6" RELIEF VALVE	C 1	114E072 (2)	G-11	--	--	SRV	NO	N/A	STP-401.001
XVR-8010C	RC	PRZR CODE SAFETY 6" RELIEF VALVE	C 1	114E072 (2)	G-12	--	--	SRV	NO	N/A	STP-401.001
XVT-8095A	RC	REACTOR VESSEL HEAD VENT 2" MOTOR OPERATED	A 1	114E072 (1)	F-4	NC	YES	FS	NO	N/A	STROKE TIME 16 SEC STP-407.002 & STP-115.035
								LT	NO	N/A	



VALVE NUMBER	SYS.	VALVE DESCRIPTION	VALVE CAT/CLS	DRAWING NUMBER	CO- ORD	NORM POS (NOTE #1)	POS IND (NOTE #2)	TEST REQ'MENT (NOTE #3)	RELIEF REQUEST (NOTE #4)	ALTERNATE TEST (NOTE #5)	REMARKS (NOTE #6)
XVT-8095B	RC	REACTOR VESSEL HEAD VENT 2" MOTOR OPERATED	A 1	114E072 (2)	F-5	NC	YES	FS	NO	N/A	STROKE TIME 16 SEC STP-142.001 & STP-115.005
								LT	NO	N/A	
XVT-8096A	RC	REACTOR VESSEL HEAD VENT 2" MOTOR OPERATED	A 1	114E072 (1)	F-4	NO	YES	FS	NO	N/A	STROKE TIME 16 SEC STP-142.001 & STP-115.005
								LT	NO	N/A	
XVT-8096B	RC	REACTOR VESSEL HEAD VENT 2" MOTOR OPERATED	A 1	114E072 (1)	F-4	NO	YES	FS	NO	N/A	STROKE TIME 16 SEC STP-142.001 & STP-115.005
								LT	NO	N/A	
PCV-445A	RC	PRZR PWR OP RELIEF 3" AIR OPERATED	B 1	114E072 (2)	G-13	NC	YES	FS	NO	N/A	STROKE TIME 2 SEC (ACTUATED W/HP NITROGEN) STP-127.001
PCV-445B	RC	PRZR PWR OP RELIEF 3" AIR OPERATED	B 1	114E072 (2)	F-13	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-127.001
PCV-444B	RC	PRZR PWR OP RELIEF 3" AIR OPERATED	B 1	114E072 (2)	F-13	NC	YES	FS	NO	N/A	STROKE TIME 2 SEC STP-127.001 (ACTUATED W/HP NITROGEN)
XVG-8000A	RC	PZR PWR OPER RELIEF VALVE ISOLATION 3" MOTOR OPERATED	B 1	114E072 (2)	G-13	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-127.001
XVG-8000B	RC	PZR PWR OPER RELIEF VALVE ISOLATION 3" MOTOR OPERATED	B 1	114E072 (2)	G-13	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-127.001

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XVC-8716B	RH	RH SUPPLY HDR B CHECK 10" CHECK VALVE	C 2a	114E074	I-10	--	--	CV	NO	N/A	STP-105.005
XVC-8716A	RH	RH SUPPLY HDR A CHECK 10" CHECK VALVE	C 2a	114E074	H-10	--	--	CV	NO	N/A	STP-105.005
FCV-602A	RH	RH PUMP A MINIFLOW VALVE 2" MOTOR OPERATED	B 2a	114E074	F-9	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.005
FCV-602B	RH	RH PUMP B MINIFLOW VALVE 2" MOTOR OPERATED	B 2a	114E074	F-9	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.005
XVR-8708A	RH	RHR A HDR RELIEF 3" RELIEF VALVE	A/C 2a	114E074	F-11	--	--	SRV	NO	N/A	SETPOINT 600 psig STP-401.003
								LT	NO	N/A	
XVR-8708B	RH	RHR B HDR RELIEF 3" RELIEF VALVE	A/C 2a	114E074	D-11	--	--	SRV	NO	N/A	SETPOINT 600 psig STP-401.003
								LT	NO	N/A	
XVG-8706A	RH	CHARGING PUMP SUCTION TO A LOOP RHR 8" MOTOR OPERATED VLV	B 2a	114E074	I-6	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.005
XVG-8706B	RH	CHARGING PUMP SUCTION TO B LOOP RHR 8" MOTOR OPERATED VLV	B 2a	114E074	G-6	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.005

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XVG-8801A	SI	BORON INJ TK OUTLET 3" MOTOR OPERATED VALVE	A 2a	114E075 (1)	G-12	NC	YES	LT	NO	N/A	STROKE TIME 10 SEC PENET 426 ISOL VALVE STP-130.002 & STP-115.007
								FS	YES J-16	RS	
XVG-8801B	SI	BORON INJ TK OUTLET 3" MOTOR OPERATED VALVE	A 2a	114E075 (1)	G-12	NC	YES	LT	NO	N/S	STROKE TIME 10 SEC PENET 426 ISOL VALVE STP-130.002 & STP-115.007
								FS	YES J-16	RS	
XVG-8885	SI	HI HD HOT LEG INJ ISOL 3" MOTOR OPERATED VALVE	A 2a	114E075 (1)	G-7	NC	YES	FS	YES J-13	CS	STROKE TIME 10 SEC* PENET 222 ISOL VALVE STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8998A	SI	LOW HD COLD LEG TO LOOP A CK 6" CHECK VALVE	A/C 1	114E075 (1)	J-13	--	--	CV	YES J-1	CS	STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8998B	SI	LOW HD COLD LEG TO LOOP B CK 6" CHECK VALVE	A/C 1	114E075 (1)	J-13	--	--	CV	YES J-1	CS	STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8998C	SI	LOW HD COLD LEG TO LOOP C CK 6" CHECK VALVE	A/C 1	114E075 (1)	J-13	--	--	CV	YES J-1		STP-130.001 & STP-115.007
								LT	NO	N/A	
XVG-8884	SI	HI HEAD HOT LEG INJECTION ISOLATION A TRAIN 3" MOTOR OPERATED VLV	A 2a	114E075 (1)	G-6	NC	YES	FS	YES J-13	CS	STROKE TIME 10 SEC* PENET 415 ISOL VALVE STP-130.001 & STP-115.007
								LT	NO	N/A	
XVG-8886	SI	HI HEAD HOT LEG INJECTION ISOLATION B TRAIN 3" MOTOR OPERATED VLV	A 2a	114E075 (1)	G-5	NC	YES	FS	YES J-13	CS	STROKE TIME 10 SEC* PENET 412 ISOL VALVE STP-130.001 & STP-115.007
								LT	NO	N/A	

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XVC-8997A	SI	HI HD COLD LEG LOOP A CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-13	--	--	CV	YES J-2	RS	PENET 426 ISOL STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8997B	SI	HI HD COLD LEG LOOP B CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-12	--	--	CV	YES J-2	RS	PENET 426 ISOL STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8997C	SI	HI HD COLD LEG LOOP C CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-12	--	--	CV	YES J-2	RS	PENET 426 ISOL STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8995A	SI	HI HD HOT LEG LOOP A CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-11	--	--	CV	YES J-3	RS	PENET 222 ISOL VALVE STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8995B	SI	HI HD HOT LEG LOOP B CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-10	--	--	CV	YES J-3	RS	PENET 222 ISOL VALVE STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8995C	SI	HI HD HOT LEG LOOP C CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-9	--	--	CV	YES J-3	RS	PENET 222 ISOL VALVE STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8988A	SI	RHR SUPPLY TO RCS LOOP A 6" CHECK VALVE	A/C 1	114E075 (1)	J-7	--	--	CV	YES J-4	CS	PENET 325 ISOL VALVE STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8988B	SI	RHR SUPPLY TO RCS LOOP B 6" CHECK VALVE	A/C 1	114E075 (1)	J-7	--	--	CV	YES J-4	CS	PENET 325 ISOL VALVE STP-130.001 & STP-115.007
								LT	NO	N/A	



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XVC-8993A	SI	HI HD HOT LEG LOOP A HDR CHECK 6" CHECK VALVE	A/C 1	114E075 (1)	J-3	--	--	CV	YES J-5	CS	STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8993B	SI	HI HD HOT LEG LOOP B HDR CK 6" CHECK VALVE	A/C 1	114E075 (1)	J-3	--	--	CV	YES J-5	CS	STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8993C	SI	HI HD HOT LEG LOOP C HDR CK 6" CHECK VALVE	A/C 1	114E075 (1)	J-3	--	--	CV	YES J-15	RS	STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8990A	SI	HI HD HOT LEG LOOP A CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-7	--	--	CV	YES J-6	RS	PENET 412 ISOL VALVE STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8990B	SI	HI HD HOT LEG LOOP B CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-6	--	--	CV	YES J-6	RS	PENET 412 ISOL VALVE STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8990C	SI	HI HD HOT LEG LOOP B CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-5	--	--	CV	YES J-6	RS	PENET 412 ISOL VALVE STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8992A	SI	HI HD HOT LEG LOOP A CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-5	--	--	CV	YES J-7	RS	PENET 415 ISOL VALVE STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-3992B	SI	HI HD HOT LEG LOOP B CHECK 2" CHECK VALVE	A/C 1	114E075 (1)	I-4	--	--	CV	YES J-7	RS	PENET 415 ISOL VALVE STP-130.002 & STP-115.007
								LT	NO	N/A	



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XVC-8992C	SI	HI HD HOT LEG LOOP C 2" CHECK VALVE	A/C 1	114E075 (1)	I-3	--	--	CV	YES J-7	RS	PENET 415 ISOL VALVE STP-130.002 & STP-115.007
								LT	NO	N/A	
XVG-8945A	SI	BORON INJ RECIRC HDR ISOL 1" AIR OPERATED VALVE	B 2a	114E075 (1)	F-12	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.003
XVG-8945B	SI	BORON INJ RECIRC HDR ISOL 1" AIR OPERATED VALVE	B 2a	114E075 (1)	F-12	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.003
XVG-8942	SI	BORON INJ RECIRC OUTLET HDR ISOL 1" AIR OPERATED VALVE	B 2a	114E075 (1)	D-11	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-105.003
XVG-8803A	SI	BORON INJ TK INLET 3" MOTOR OPERATED VALVE	B 2a	114E075 (1)	C-11	NO	YES	FS	YES J-14	CS	STROKE TIME 10 SEC STP-130.001
XVG-8803B	SI	BORON INJ TK INLET 3" MOTOR OPERATED VALVE	B 2a	114E075 (1)	B-11	NC	YES	FS	YES J-14	CS	STROKE TIME 10 SEC STP-130.001
XVG-8961	SI	ACCUM TEST LINE TO RWST (ORC) 3/4" AIR OPERATED VALVE	A 2a	114E075 (2)	I-12	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 321 ISOL VALVE STP-105.003 & 115.007
								LT	NO	N/A	
XVG-8871	SI	ACCUM TEST LINE TO RWST (IRC) 3/4" AIR OPERATED VALVE	A 2a	114E075 (2)	I-11	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 321 ISOL VALVE STP-105.003 & 115.007
								LT	NO	N/A	

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XVC-8948A	SI	SI OUTLET HDR OK TO RCS LOOP A 12" CHECK VALVE	A/C 1	114E075 (2)	I-13	--	--	CV	YES J-8	RS	STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8948B	SI	SI OUTLET HDR OK TO RCS LOOP B 12" CHECK VALVE	A/C 1	114E075 (2)	F-13	--	--	CV	YES J-8	RS	STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8948C	SI	SI OUTLET HDR OK TO RCS LOOP C 12" CHECK VALVE	A/C 1	114E075 (2)	D-13	--	--	CV	YES J-8	RS	STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8956A	SI	SI ACCUM A OUTLET HDR 12" CHECK VALVE	A/C 1	114E075 (2)	I-11	--	--	CV	YES J-8	RS	STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8956B	SI	SI ACCUM B OUTLET HDR 12" CHECK VALVE	A/C 1	114E075 (2)	F-11	--	--	CV	YES J-8	RS	STP-130.002 & STP-115.007
								LT	NO	N/A	
XVC-8956C	SI	SI ACCUM C OUTLET HDR 12" CHECK VALVE	A/C 1	114E075 (2)	D-11	--	--	CV	YES J-8	RS	STP-130.002 & STP-115.007
								LT	NO	N/A	
XVG-8808A	SI	SI ACCUM A OUTLET 12" MOTOR OPERATED VALVE	B 2a	114E075 (2)	I-8	NO	YES	FS	YES J-9	CS	STROKE TIME 15 SEC STP-130.001
XVG-8808B	SI	SI ACCUM B OUTLET 12" MOTOR OPERATED VALVE	B 2a	114E075 (2)	F-8	NO	YES	FS	YES J-9	CS	STROKE TIME 15 SEC STP-130.001

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XVG-8808C	SI	SI ACCUM C OUTLET 12" MOTOR OPERATED VALVE	B 2a	114E075 (2)	D-8	NO	YES	FS	YES J-9	CS	STROKE TIME 15 SEC STP-130.001
XVC-8947	SI	N2 SUPPLY TO ACCUM (IRC) 1" CHECK VALVE	A/C 2a	111E075 (2)	J-3	--	--	CV	NO	N/A	PENET 320 ISOL VALVE STP-115.007 & STP-105.003
								LT	NO	N/A	
XVG-8880	SI	N2 SUPPLY TO ACCUM (ORC) 1" AIR OPERATED VALVE	A 2a	114E075 (2)	J-2	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 320 ISOL VALVE STP-105.003 & STP-115.007
								LT	NO	N/A	
XVC-8861	SI	ACCUM FILL HDR ISOL (IRC) 1" CHECK VALVE	A/C 2a	114E075 (2)	D-3	--	--	CV	NO	N/A	PENET 317 ISOL VALVE STP-115.007 & STP-105.003
								LT	NO	N/A	
XVT-8860	SI	ACCUM FILL HDR ISOL (ORC) 1" AIR OPERATED	A 2a	114E075 (2)	D-2	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 317 ISOL VALVE STP-105.003 & STP-115.007
								LT	NO	N/A	
XVC-8974A	SI	SI HDR A CHECK (IRC) 10" CHECK VALVE	A/C 2a	114E075 (3)	F-12	--	--	CV	YES J-11	CS	PENET 322 ISOL VALVE STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8974B	SI	SI HDR B CHECK (IRC) 10" CHECK VALVE	A/C 2a	114E075 (3)	F-12	--	--	CV	YES J-11	CS	PENET 227 ISOL VALVE STP-130.001 & STP-115.007
								LT	NO	N/A	

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XVC-8973A	SI	SI TO RCS COLD LEG LOOP A HDR CHECK 6" CHECK VALVE	A/C 2a	114E075 (3)	F-13	--	--	CV	YES J-11	CS	STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8973B	SI	SI TO RCS COLD LEG LOOP B HDR CHECK 6" CHECK VALVE	A/C 1	114E075 (3)	F-13	--	--	CV	YES J-11	CS	STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8973C	SI	SI TO RCS COLD LEG LOOP C HDR CHECK 6" CHECK VALVE	A/C 1	114E075 (3)	E-13	--	--	CV	YES J-11	CS	STP-130.001 & STP-115.007
								LT	NO	N/A	
XVC-8958A	SI	RH PUMP A SUCTION HDR CHECK 14" CHECK VALVE	C 2a	114E075 (3)	F-4	--	--	CV	NO	N/A	STP-105.005
XVC-8958B	SI	RH PUMP B SUCTION HDR CHECK 14" CHECK VALVE	C 2a	114E075 (3)	E-4	--	--	CV	NO	N/A	STP-105.005
XVG-8811A	SI	CONT SUMP TO RHR PP A SUCTION ISOL (IRC) 14" MOTOR OPERATED VALVE	A 2a	114E075 (3)	B-9	NC	YES	FS	NO	N/A	STROKE TIME 17.1 SEC PENET 329 ISOL VALVE STP-105.003 & STP-115.004
								LT	NO	N/A	
XVG-8811B	SI	CONT SUMP TO RHR PP B SUCTION ISOL (IRC) 14" MOTOR OPERATED VALVE	A 2a	114E075 (3)	C-9	NC	YES	FS	NO	N/A	STROKE TIME 17.1 SEC PENET 425 ISOL VALVE STP-105.003 & STP-115.004
								LT	NO	N/A	
XVG-8812A	SI	RH PP A SUCT FROM SUMP 14" MOTOR OPERATED VALVE	B 2a	114E075 (3)	C-9	NC	YES	FS	NO	N/A	STROKE TIME 17 SEC STP-105.003

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XVG-8812B	SI	RH PP A SUCT FROM SUMP 14" MOTOR OPERATED VALVE	B 2a	114E075 (3)	B-9	NC	YES	FS	NO	N/A	STROKE TIME 17 SEC STP-105.003
XVC-8926	SI	RWST SUPP TO CHG PPS HDR CHK 8" CHECK VALVE	C 2a	114E075 (3)	G-3	--	--	CV	YES J-12	RS	STP-130.002
XVG-8888A	SI	RHR PUMP LOW HEAD SI DISCH ISOLATION 10" MOTOR OPERATED VLV	A 2a	114E075 (3)	F-12	NO	YES	FS	YES J-17	CS	STROKE TIME 12.2 SEC PENET 322 ISOL STP-130.001 & 115.007
								LT	NO	N/A	
XVG-8888B	SI	RHR PUMP LOW HEAD SI DISCH ISOLATION 10" MOTOR OPERATED VLV	A 2a	114E075 (3)	E-12	NO	YES	FS	YES J-17	CS	STROKE TIME 12.2 SEC PENET 227 ISOL STP-130.001 & 115.007
								LT	NO	N/A	
XVG-8889	SI	RHR DISCH TO HOT LEG RECIRC CONT ISOLATION 10" MOTOR OPERATED VLV	A 2a	114E075 (3)	H-12	NC	YES	FS	NO	N/A	STROKE TIME 12.2 SEC PENET 325 ISOL STP-105.003 & 115.007
								LT	NO	N/A	
XVG-8809A	SI	RHR LOW HEAD SI SUCT FROM RWST 14" MOTOR OPERATED VLV	B 2a	114E075 (3)	F-4	NO	YES	FS	YES J-18	CS	STROKE TIME 17 SEC STP-130.001
XVG-8809B	SI	RHR LOW HEAD SI SUCT FROM RWST 14" MOTOR OPERATED VALVE	B 2a	114E075 (3)	E-4	NO	YES	FS	YES J-18	CS	STROKE TIME 17 SEC STP-130.001



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XVG-3003A	SP	SPRAY HDR A ISOL 10" MOTOR OPERATED VALVE	A 2a	302-661	E-10	NC	YES	FS	NO	N/S	STROKE TIME 30 SEC PENET 401 ISOL VALVE STP-112.003 & STP-115.017
								LT	NO	N/A	
XVC-3009A	SP	SPRAY HDR A CHECK VALVE INSIDE R& BLDG 10" CHECK VALVE	A/C 2a	302-661	E-11	--	--	CV	YES K-1	RS	PENET 401 ISOL VALVE STP-130.002 & STP-115.017
								LT	NO	N/A	
XVG-3003B	SP	SPRAY HDR B ISOL 10" MOTOR OPERATED VALVE	A 2a	302-661	E-10	NC	YES	FS	NO	N/A	STROKE TIME 30 SEC PENET 303 ISOL VALVE STP-112.003 & STP-115.017
								LT	NO	N/A	
XVC-3009B	SP	SPRAY HDR B 10" CHECK VALVE INSIDE R& BLDG	A/C 2a	302-661	E-11	--	--	CV	YES K-1	RS	PENET 303 ISOL VALVE STP-130.002 & STP-115.017
								LT	NO	N/A	
XVG-3004A	SP	R& BLDG SPRAY SUMP ISOL VALVE A INSIDE 12" MOTOR OPERATED VALVE	A 2a	302-661	F-10	NC	YES	FS	NO	N/A	STROKE TIME 75 SEC PENET 327 ISOL VALVE STP-112.003 & STP-115.017
								LT	NO	N/A	
XVG-3004B	SP	R& BLDG SPRAY SUMP ISOL VALVE B INSIDE 12" MOTOR OPERATED VALVE	A 2a	302-661	H-10	NC	YES	FS	NO	N/A	STROKE TIME 75 SEC PENET 328 ISOL VALVE STP-112.003 & STP-115.017
								LT	NO	N/A	
XVG-3005A	SP	RB SPRAY SUMP ISOL VALVE A OUTSIDE 12" MOTOR OPERATED VALVE	B 2a	302-661	F-9	NC	YES	FS	NO	N/A	STROKE TIME 62 SEC STP-112.003
XVG-3005B	SP	RB SPRAY SUMP ISOL VALVE B OUTSIDE 12" MOTOR OPERATED VALVE	B 2a	302-661	H-9	NC	YES	FS	NO	N/A	STROKE TIME 62 SEC STP-112.003



VALVE NUMBER	SYS.	VALVE DESCRIPTION	VALVE CAT/CLS	DRAWING NUMBER	CO- ORD	NORM POS (NOTE #1)	POS IND (NOTE #2)	TEST REQ'MENT (NOTE #3)	RELIEF REQUEST (NOTE #4)	ALTERNATE TEST (NOTE #5)	REMARKS (NOTE #6)
XVG-3001A	SP	RWST TO SPRAY PP SUCTION A 12" MOTOR OPERATED VALVE	B 2a	302-661	D-4	NO	YES	FS	NO	N/A	STROKE TIME 15 SEC STP-112.003
XVG-3001B	SP	RWST TO SPRAY PP SUCTION A 12" MOTOR OPERATED VALVE	B 2a	302-661	E-3	NO	YES	FS	NO	N/A	STROKE TIME 15 SEC STP-112.003
XVC-3006A	SP	RWST TO SPRAY PP SUCTION 12" CHECK VALVE	C 2a	302-661	D-4	--	--	CV	NO	N/A	STP-112.002
XVC-3006B	SP	RWST TO SPRAY PP SUCTION 12" CHECK VALVE	C 2a	302-661	E-3	--	--	CV	NO	N/A	STP-112.002
XVC-3013A	SP	NaOH TO SPRAY PP SUCTION 3" CHECK VALVE	C 2a	302-661	F-4	--	--	CV	YES K-1	RS	STP-130.002
XVC-3013B	SP	NaOH TO SPRAY PP SUCTION 3" CHECK VALVE	C 2a	302-661	F-4	--	--	CV	YES K-1	RS	STP-130.002
XVG-3002A	SP	NaOH TO SPRAY PP A SUCTION 3" MOTOR OPERATED VALVE	B 2b	302-661	G-3	NC	YES	FS	YES K-2	CS	STROKE TIME 15 SEC STP-130-001

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VALVE NUMBER	SYS.	VALVE DESCRIPTION	VALVE CAT/CLS	DRAWING NUMBER	CO- ORD	NORM POS (NOTE #1)	POS IND (NOTE #2)	TEST REQ'MENT (NOTE #3)	RELIEF REQUEST (NOTE #4)	ALTERNATE TEST (NOTE #5)	REMARKS (NOTE #6)
XVA-9311A	SS	AIR HANDLING RAD MONITOR INSIDE SUCTION 1" AIR OPERATED VALVE	A 2a	302-771	D-13	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 407 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVA-9311B	SS	AIR HANDLING RAD MONITOR OUTSIDE SUCTION 1" AIR OPERATED VALVE	A 2a	302-771	D-14	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 407 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVA-9312A	SS	RAD MONITOR SAMPLE RETURN INSIDE 1" AIR OPERATED VALVE	A 2a	302-771	E-13	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 407 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVA-9312B	SS	RAD MONITOR SAMPLE RETURN OUTSIDE 1" AIR OPERATED VALVE	A 2a	302-771	E-14	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 407 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9356A	SS	STEAM SPACE HDR ISOL 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	C-12	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 405 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9356B	SS	LIQUID SPACE HDR ISOL 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	C-12	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 405 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9357	SS	PZR SAMPLE CONTAINMENT ISOL 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	C-10	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 405 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9364B	SS	LOOP B CONTAINMENT SAMPLE ISOL 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	D-11	NC	YES	FS	NO	N/A	STROKE TIME 10 SEC PENET 314 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	

VALVE NUMBER	SYS.	VALVE DESCRIPTION	VALVE CAT/CLS	DRAWING NUMBER	CO- ORD	NORM POS (NOTE #1)	POS IND (NOTE #2)	TEST REQ'MENT (NOTE #3)	RELIEF REQUEST (NOTE #4)	ALTERNATE TEST (NOTE #5)	REMARKS (NOTE #6)
XVM-9365B	SS	LOOP B CONTAINMENT SAMPLE ISOL 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	D-10	NC	YES	FS	NO	N/A	STROKE TIME < 10 SEC PENET 314 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9364C	SS	LOOP C CONTAINMENT SAMPLE ISOL 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	E-11	NC	YES	FS	NO	N/A	STROKE TIME < 10 SEC PENET 223 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9365C	SS	LOOP C CONTAINMENT SAMPLE ISOL 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	E-10	NC	YES	FS	NO	N/A	STROKE TIME < 10 SEC PENET 223 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9398A	SS	S/G A SAMPLE CONTAINMENT ISOL VALVE 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	F-10	NO	YES	FS	NO	N/A	STROKE TIME < 10 SEC PENET 411 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9398B	SS	S/G B SAMPLE CONTAINMENT ISOL VALVE 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	G-10	NO	YES	FS	NO	N/A	STROKE TIME < 10 SEC PENET 225 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9398C	SS	S/G C SAMPLE CONTAINMENT ISOL VALVE 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	H-10	NC	YES	FS	NO	N/A	STROKE TIME < 10 SEC PENET 220 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVM-9387	SS	ACCUM SAMPLE CONT ISOL VALVE 3/8" SOLENOID OPERATED VALVE	A 2a	302-771	J-10	NC	YES	FS	NO	N/A	STROKE TIME < 10 SEC PENET 323 ISOL VALVE STP-144.001 & STP-115.018
								LT	NO	N/A	
XVT-9339	SS	POST ACCIDENT SAMPLING RETURN HDR ISOLATION (IRC) 3/8" SOLENOID OPERATED VALVE	A 2a	302-772	J-3	NC	YES	FS	NO	N/A	STROKE TIME < 10 SEC PENET 417 ISOL VALVE STP-144.001 & 115.018
								LT	NO	N/A	





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XVC-3119A	SW	SERV WATER SUPP TO B D/G GEN CLR 8" CHECK VALVE	C / 2b	302-222	B-10	--	--	CV	NO	N/A	STP-123.003
XVC-3119B	SW	SERV WATER SUPP TO A D/G GEN CLR 8" CHECK VALVE	C / 2b	302-222	J-10	--	--	CV	NO	N/A	STP-123.003
XVC-3135A	SW	16" CHECK VALVE	C / 2b	302-222	C-5	--	--	CV	NO	N/A	STP-123.003
XVC-3135B	SW	16" CHECK VALVE	C / 2b	302-222	G-5	--	--	CV	NO	N/A	STP-123.003
XVB-3106A	SW	SW BOOSTER PP A DISCH 16" MOTOR OPERATED VALVE	A / 2a	302-222	C-5	NO	YES	FS	NO	N/A	STROKE TIME 60 SEC
								LT	NO	N/A	PENET 304 ISOL VALVE STP-123.003 & STP-115.012
XVB-3106B	SW	SW BOOSTER PUMP B DISCH 16" MOTOR OPERATED VALVE	A / 2a	302-222	G-5	NC	YES	FS	NO	N/A	STROKE TIME 60 SEC
								LT	NO	N/A	PENET 403 ISOL VALVE STP-123.002 & STP-115.012
XVB-3110A	SW	12" MOTOR OPERATED VALVE	A / 2a	302-222	B-5	NO	YES	FS	NO	N/A	STROKE TIME 60 SEC
								LT	NO	N/A	PENET 304 ISOL VALVE STP-123.002 & STP-115.012
XVB-3110B	SW	12" MOTOR OPERATED VALVE	A / 2a	302-222	H-5	NO	YES	FS	NO	N/A	STROKE TIME 60 SEC
								LT	NO	N/A	PENET 403 ISOL VALVE STP-123.003 & STP-115.012



VALVE NUMBER	SYS.	VALVE DESCRIPTION	VALVE CAT/CLS	DRAWING NUMBER	CO- ORD	NORM POS (NOTE #1)	POS IND (NOTE #2)	TEST REQ'MENT (NOTE #3)	RELIEF REQUEST (NOTE #4)	ALTERNATE TEST (NOTE #5)	REMARKS (NOTE #6)
XVC-3137A	SW	16" CHECK VALVE	A/C 2a	302-222	C-4	--	--	CV	NO	N/A	PENET 304 ISOL VALVE STP-123.003 & STP-115.012
								LT	NO	N/A	
XVC-3137B	SW	16" CHECK VALVE	A/C 2a	302-222	G-4	--	--	CV	NO	N/A	PENET 403 ISOL VALVE STP-123.003 & STP-115.012
								LT	NO	N/A	
XVG-3103A	SW	16" MOTOR OPERATED VALVE	A 2a	302-222	C-2	NO	YES	FS	NO	N/A	STROKE TIME 75 SEC STP-123.003 & STP-115.012 PENET 305 ISOL VALVE
								LT	NO	N/A	
XVG-3103B	SW	16" MOTOR OPERATED VALVE	A 2a	302-222	G-2	NO	YES	FS	NO	N/A	STROKE TIME 75 SEC STP-123.003 & STP-115.012 PENET 102 ISOL VALVE
								LT	NO	N/A	
XVG-3111A	SW	12" MOTOR OPERATED VALVE	B 2b	302-222	B-2	NO	YES	FS	NO	N/A	STROKE TIME 62 SEC STP-123.003
XVG-3111B	SW	12" MOTOR OPERATED VALVE	B 2b	302-222	F-2	NO	YES	FS	NO	N/A	STROKE TIME 62 SEC STP-123.003
XVT-3164	SW	DRPI COOLING HDR INLET ISOL 2" AIR OPERATED	B 2b	302-222	F-14	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-123.003
XVT-3169	SW	DRPI COOLING HDR OUTLET ISOL 2" AIR OPERATED	B 2b	302-222	J-14	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-123.003

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XVC-3115A	SW	SERV WATER PUMP A DISCH CK 24" CHECK VALVE	C 2b	302-221	F-2	--	--	CV	NO	N/A	STP-123.003
XVC-3115B	SW	SERV WATER PUMP B DISCH CK 24" CHECK VALVE	C 2b	302-221	F-10	--	--	CV	NO	N/A	STP-123.003
XVC-3115C	SW	SERV WATER PUMP C DISCH CK 24" CHECK VALVE	C 2b	302-221	G-6	--	--	CV	NO	N/A	STP-123.003
XVB-3116A	SW	SERV WATER PUMP A DISCH ISOL 24" MOTOR OPERATED VALVE	B 2b	302-221	G-2	A/NC	YES	FS	NO	N/A	STROKE TIME 60 SEC STP-123.003
XVB-3116B	SW	SERV WATER PUMP A DISCH ISOL 24" MOTOR OPERATED VALVE	B 2b	302-221	G-10	A/NC	YES	FS	NO	N/A	STROKE TIME 60 SEC STP-123.003
XVB-3116C	SW	SERV WATER PUMP C DISCH ISOL 24" MOTOR OPERATED VALVE	B 2b	302-221	G-6	A/NC	YES	FS	NO	N/A	STROKE TIME 60 SEC STP-123.003
XVT-3165	SW	DRPI COOLING HDR ISOL 2" AIR OPERATED	B 2b	302-222	F-14	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-123.003
XVB-3128A	SW	SW A TO HVAC CHILLER COND. B 6" MOTOR OPERATED	B 2b	302-222	D-11	NO	YES	FS	NO	N/A	STROKE TIME 15 SEC STP-123.003

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XVG-3108A	SW	RB COOLING UNIT 1A INLET ISOL 10" MOTOR OPERATED	B 2b	302-222	B-4	NO	YES	FS	NO	N/A	STROKE TIME 50 SEC STP-123.003
XVG-3108B	SW	RB COOLING UNIT 2A INLET ISOL 10" MOTOR OPERATED	B 2b	302-222	D-4	NO	YES	FS	NO	N/A	STROKE TIME 50 SEC STP-123.003
XVG-3108C	SW	RB COOLING UNIT 2A INLET ISOL 10" MOTOR OPERATED	B 2b	302-222	F-4	NO	YES	FS	NO	N/A	STROKE TIME 50 SEC STP-123.003
XVG-3108D	SW	RB COOLING UNIT 2B INLET ISOL 10" MOTOR OPERATED	B 2b	302-222	H-4	NO	YES	FS	NO	N/A	STROKE TIME 50 SEC STP-123.003
XVG-3109A	SW	RB COOLING UNIT 1A OUTLET ISOL 10" MOTOR OPERATED	B 2b	302-222	B-3	NO	YES	FS	NO	N/A	STROKE TIME 50 SEC STP-123.003
XVG-3109B	SW	RB COOLING UNIT 2A OUTLET ISOL 10" MOTOR OPERATED	B 2b	302-222	D-31	NO	YES	FS	NO	N/A	STROKE TIME 50 SEC STP-123.003
XVG-3109C	SW	RB COOLING UNIT 1B OUTLET ISOL 10" MOTOR OPERATED	B 2b	302-222	F-3	NO	YES	FS	NO	N/A	STROKE TIME 50 SEC STP-123.003
XVG-3109D	SW	RB COOLING UNIT 2B OUTLET ISOL 10" MOTOR OPERATED	B 2b	302-222	H-3	NO	YES	FS	NO	N/A	STROKE TIME 50 SEC STP-123.003

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XVB-3128C	SW	SW A TO HVAC CHILLER COND. C 6" MOTOR OPERATED	B 2b	302-222	E-11	NO	YES	FS	NO	N/A	STROKE TIME 15 SEC STP-123.003
XVG-3107A	SW	SW POND RBCU 1A & 2A RETURN ISOLATION VALVE 16" MOTOR OPERATED	B 2b	302-222	C-1	NC	YES	FS	YES L-1	CS	STROKE TIME 75 SEC STP-130.001
XVG-3107B	SW	SW POND RBCU 1B & 2B RETURN ISOLATION VALVE 16" MOTOR OPERATED	B 2b	302-222	G-1	NC	YES	FS	YES L-1	CS	STROKE TIME 75 SEC STP-130.001
XVG-3112A	SW	RBCU 1A & 2A CI SYSTEM RETURN VALVE 12" MOTOR OPERATED	B 2b	302-222	B-2	NO	YES	FS	NO	N/A	STROKE TIME 62 SEC STP-123.003
XVG-3112B	SW	RBCU 1B & 2B CI SYSTEM RETURN VALVE 12" MOTOR OPERATED	B 2b	302-222	E-2	NO	YES	FS	NO	N/A	STROKE TIME 62 SEC STP-123.003
XVC-3130A	SW	SW POND SW RETURN HDR A INLET CHECK VLV 30" CHECK VALVE	C 2b	302-222	A-5	-	-	CV	NO	N/A	STP-123.003
XVC-3130B	SW	SW POND SW RETURN HDR B INLET CHECK VLV 30" CHECK VALVE	C 2b	302-222	J-5	-	-	CV	NO	N/A	STP-123.003
XVB-3126A	SW	HVAC CHILLER CONDENSER A SW SUPPLY VALVE 6" MOTOR OPERATED	B 2b	302-222	D-11	NO	YES	FS	NO	N/A	STROKE TIME 30 SEC STP-123.003





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MVT-6412A	VU	A CHILLED WTR TO CB NON-ESS 3" AIR OPERATED VALVE	B 2b	302-842	E-12	NO	YES	FS	NO	N/A	STROKE TIME 5 SEC STP-129.002
MVT-6490A	VU	A CHILLED WTR TO CB NON-ESS 3" AIR OPERATED VALVE	B 2b	302-842	E-12	NO	YES	FS	NO	N/A	STROKE TIME 5 SEC STP-129.002
MVT-6385A	VL	A CHILLED WATER TO NON-ESS 2" AIR OPERATED	B 2b	302-842	G-3	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-129.002
MVT-6384A	VU	A CHILLED WTR TO IB NON-ESS 2" AIR OPERATED	B 2b	302-842	G-3	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-129.002
MVT-6412B	VU	B CHILLED WTR TO CB NON-ESS 3" AIR OPERATED	B 2b	302-843	C-13	NO	YES	FS	NO	N/A	STROKE TIME 5 SEC STP-129.002
MVT-6490B	VU	B CHILLED WTR TO CB NON-ESS 3" AIR OPERATED VALVE	B 2b	302-843	C-12	NO	YES	FS	NO	N/A	STROKE TIME 5 SEC STP-129.002
XVT-6384B	VU	B CHILLED WTR TO IB NON-ESS 2" AIR OPERATED VALVE	B 2b	302-843	G-3	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-129.002
XVT-6385B	VU	B CHILLED WTR TO IB NON-ESS 2" AIR OPERATED VALVE	B 2b	302-843	G-3	NO	YES	FS	NO	N/A	STROKE TIME 10 SEC STP-129.002



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XVG-6516	VU	A LOOP CHILLED WATER TO "A" COMP COOLING WTR PUMP MOTOR COOLER	B 3	302-842	G-14	NO	YES	FS	NO	N/A	STROKE TIME 7.5 SEC STP-129.002
XVG-6517	VU	B LOOP CHILLED WATER TO "B" COMP COOLING WTR PUMP MOTOR COOLER	B 3	302-843	J-9	NC	YES	FS	NO	N/A	STROKE TIME 7.5 SEC STP-129.002
XVG-6518	VU	A LOOP CHILLED WATER TO "C" COMP COOLING WTR PUMP MOTOR COOLER	B 3	302-842	G-13	NC	YES	FS	NO	N/A	STROKE TIME 7.5 SEC STP-129.002
XVG-6519	VU	B LOOP CHILLED WATER TO "B" COMP COOLING WTR PUMP MOTOR COOLER	B 3	302-842	G-13	NC	YES	FS	NO	N/A	STROKE TIME 7.5 SEC STP-129.002
XVC-6410A	VU	NON ESS EQUIP OUT VU RET HDR A CHECK VLV	C 2b	302-842	F-8	--	--	CV	NO	N/A	STP-129.002
XVC-6410B	VU	NON ESS EQUIP OUT VU RET HDR B CHECK VLV	C 2b	302-843	C-8	--	--	CV	NO	N/A	STP-129.002
XVC-6489A	VU	NON ESS EQUIP OUT VU RET HDR A CHECK VLV	C 2b	302-842	F-8	--	--	CV	NO	N/A	STP-129.002
XVC-6489B	VU	NON ESS EQUIP OUT VU RET HDR B CHECK VLV	C 2b	302-843	C-8	--	--	CV	NO	N/A	STP-129.002

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XVT-8102B	CS	B RCP SEAL SUPPLY ISOLATION 1 1/2 MOTOR OPERATED VALVE	A 2a	114E073 (1)	C-12	NO	YES	LT	YES P-1	APP J	CAT A PASSIVE VALVE LEAK TEST ONLY STP-115.006
XVT-8102C	CS	C RCP SEAL SUPPLY ISOLATION 1 1/2 MOTOR OPERATED VALVE	A 2a	114E073 (1)	C-12	NO	YES	LT	YES P-1	APP J	CAT A PASSIVE VALVE LEAK TEST ONLY STP-115.006
XVC-8103	CS	RCP SEAL RETURN ISOL BYPASS 3/4" CHECK VALVE	A/C 2a	114E073 (1)	H-2	--	--	LT	YES P-1	APP J	CAT A PASSIVE VALVE LEAK TEST ONLY STP-115.006
XVC-8368A	CS	RCP A SEAL SUPPLY HDR CHECK 1 1/2 CHECK VALVE	A/C 2a	114E073 (1)	D-13	--	--	LT	YES P-1	APP J	CAT A PASSIVE VALVE LEAK TEST ONLY STP-115.006
XVC-8368B	CS	RCP B SEAL SUPPLY HDR CHECK 1 1/2 CHECK VALVE	A/C 2a	114E073 (1)	D-13	--	--	LT	YES P-1	APP J	CAT A PASSIVE VALVE LEAK TEST ONLY STP-115.006
XVC-8368C	CS	RCP C SEAL SUPPLY HDR CHECK 1 1/2 CHECK VALVE	A/C 2a	114E073 (1)	D-13	--	--	LT	YES P-1	APP J	CAT A PASSIVE VALVE LEAK TEST ONLY STP-115.006
XVT-8102A	CS	RCP A SEAL SUPPLY ISOL 1 1/2 MOTOR OPERATED VALVE	A/C 2a	114E073 (1)	C-12	NO	YES	LT	YES P-1	APP J	CAT A PASSIVE VALVE LEAK TEST ONLY STP-115.006
XVR-8117	CS	CVCS LETDOWN LINE RELIEF VALVE	C 2a	114E073 (1)	J-8	--	--	LT	YES P-1	APP J	LEAK TEST ONLY STP-115.006



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A. SYSTEMS

1. RC - Reactor Coolant System
2. CS - Chemical and Volume Control System
3. RH - Residual Heat Removal System
4. SI - Safety Injection System
5. WL - Waste Processing System
6. MS - Main Steam System
7. FW - Feedwater System
8. EF - Emergency Feedwater System
9. SW - Service Water System
10. SA - Station Air System
11. IA - Instrument Air System
12. NG - Nitrogen Blanketing System
13. DG - Diesel Generator System
14. CC - Component Cooling Water System
15. SP - Reactor Building Spray System
16. SS - Nuclear Sampling System
17. BD - Steam Generator Blowdown System
18. ND - Reactor & Auxiliary Building Sump Pumps
19. VU - Chilled Water System
20. HR - Post Accident Hydrogen Removal System
21. AH - Ventilation Systems
22. FS - Fire Service System
23. AC - CRDM Cooling Water System



VALVE LIST NOTES

- NOTE 1      Normal Position - indicates the position of the valve, NO or NC, during plant operation.
- NOTE 2      Position Indication - a Yes in this column indicates that the valve has remote position indication.
- NOTE 3      Test Requirement - indicates those required test to a valve as listed in ASME code Section XI, Subsection IWV.
- NOTE 4      Relief Request - indicate whether or not relief has been requested. If a "Yes" appears in this column, it will be followed by a A-1, B-1, etc.; which indicates the relief request number in the relief request binder.
- NOTE 5      Alternate Test - if relief has been requested, the alternate test will be listed in this column.
- NOTE 6      Remarks - the stroke times listed here are the maximum stroke time for the applicable valves.

\* The stroke times with this indicator are the suggested maximum times, if exceeded, the ISI coordinator will determine operational readiness of the valves.

CATEGORY C: SAFETY AND RELIEF VALVES  
Testing Schedule

Time Period	Number of Valves to be Tested
Startup through first refueling	Minimum of $N_1^1$ x total valves in $\frac{60}{}$ this category.
First refueling through second refueling	Additional valves to make cumulative tested at least $N_2^1$ x total $\frac{60}{}$ valves in this category
Second refueling through third refueling	Additional valves to make cumulative tested at least $N_3^1$ x total $\frac{60}{}$ valves in the category
etc.	etc.

<sup>1</sup>  $N_1, N_2, N_3$ , etc., equal number of months from startup to first refueling, second refueling, third refueling, etc. When N is a number larger than 60, all valves which have not been tested during the preceding five year period shall be tested. The following period shall then be considered to be the same as "startup to first refueling" for purposes of determining test frequency, with the added requirement that at each refueling all valves which have not been tested during the preceding five year period shall be tested. Subsequent period will be considered the same as first refueling to second refueling, etc., with N determined by counting months from the new starting point.

VALVE DATA SHEET AND SUMMARY  
SYSTEM \_\_\_\_\_

GT  
ATTACHMENT III  
PAGE 1 OF 1  
REVISION 3

VALVE NUMBER	CAT	STROKE		STROKE TIME					P			TRAVEL VERIFIED			LEAK (ML)	MAX. ALLOW LEAKAGE	RESULTS		STP	DATE	INIT
				TEST (1)		BASE LINE (2)		% CHANGE													
		PAR	FULL	OPEN (SEC)	CLOSE (SEC)	OPEN (SEC)	CLOSE (SEC)	(+) (-)	UP	DOWN	DP	STEM	LIGHTS	OTHER (3)			SAT	UNSAT			

NOTE: All spaces adjacent to valve no. must be filled with an Initial, NA (not applicable), or quantity.

- (1) This time is the minimum response time for containment Isolation or system Initiation.
- (2) This time is the "suggested maximum" stroke time. If exceeded, the ISI Coordinator will determine operational readiness of the valve.
- (3) List in comments method used in determining valve travel.

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TEST EQUIPMENT

TYPE	/	EQUIPMENT NO.	/	CAL DUE DATE
	/		/	
	/		/	
	/		/	
	/		/	
	/		/	

PREPARED BY: \_\_\_\_\_ /  
ISI COORDINATOR                      DATE

LIST OF APPLICABLE STPS

STP-104.005 - Boric Acid Transfer Pump Test  
STP-105.001 - Charging/SI Pump Test  
STP-105.002 - Charging System Valve Operability Test  
STP-105.003 - Safety Injection Valve Operability Test  
STP-105.005 - RHR System Valve Operability Test  
STP-112.002 - RB Spray Pump Test  
STP-112.003 - RB Spray System Valve Operability Test  
STP-120.001 - Emergency Feedwater Pump (Electrical) Test  
STP-120.002 - Emergency Feedwater Pump (Turbine) Test  
STP-120.004 - Emergency Feedwater Valve Operability Test  
STP-121.001 - Main Steam Line Isolation Valve Test  
STP-121.002 - Component Cooling Water Pump Test  
STP-122.002 - Component Cooling Water Pump Test  
STP-122.003 - Component Cooling Valve Operability Test  
STP-123.003 - Service Water Valve Operability Test  
STP-125.002 - Diesel Generator Operability Test  
STP-127.001 - PORV Operability Test  
STP-128-013 - Fire Valve Operability Test  
STP-129.002 - Chilled Water Valve Operability Test  
STP-130.001 - Valve Operability Test (Cooldown and Shutdown)  
STP-130.002 - Valve Operability Test (Refueling Shutdown)  
STP-136.001 - Steam Generator Blowdown Valve Operability Test  
STP-138.001 - Post Accidents H<sub>2</sub> Removal Valve Operability Test  
STP-139.001 - Reactor Building Instrument Air Valve Operability Test  
STP-140.001 - RB & Auxiliary Building Nuclear Drains Valve Operability Test  
STP-142.001 - RCS Valve Operability Test  
STP-144.001 - Nuclear Sampling Valve Operability Test  
STP-145.001 - Liquid Waste Valve Operability Test  
STP-148.001 - Feedwater Valve Operability Test  
STP-401.001 - Pressurizer Code Safety ASME XI Test  
STP-401.002 - Main Steam Code Safety ASME XI Test  
STP-401.003 - Code Relief Valves ASME XI Test

LIST OF APPLICABLE STPS

STP-115.005 - RCS Valve Leakage Test  
STP-115.006 - Charging System Valve Leakage Test  
STP-115.007 - Safety Injection Valve Leakage Test  
STP-115.008 - RHR Valve Leakage Test  
STP-115.009 - Waste Processing Valve Leakage Test  
STP-115.012 - Service Water Valve Leakage Test  
STP-115.013 - Station Air Valve Leakage Test  
STP-115.014 - Instrument Air Valve Leakage Test  
STP-115.015 - N<sub>2</sub> Blanketing Valve Leakage Test  
STP-115.016 - Component Cooling Valve Leakage Test  
STP-115.017 - RB Spray Valve Leakage Test  
STP-115.018 - Sampling System Valve Leakage Test  
STP-115.019 - S/G Blowdown Valve Leakage Test  
STP-115.020 - Nuclear Drains Valve Leakage Test  
STP-115.021 - Post Accident Hydrogen Removal Valve Leakage Test  
STP-115.022 - RB Purge & Exhaust Valve Leakage Test  
STP-115.023 - Fire Protection Valve Leakage Test  
STP-115.025 - Demineralized Water Valve Leakage Test  
STP-115.029 - CRDM Cooling System Leakage Test

<u>SIZE</u>	<u>SUGGESTED APP. J. LIMIT (1)</u>	<u>ALERT LIMIT (2)</u>	<u>SUGGESTED MAX ASME LIMIT (3)</u>
3/8"	450	575	700
3/4"	450	575	700
3"	500	625	750
1"	500	625	750
1-1/2"	500	625	750
2"	500	625	750
4"	500	625	750
6"	675	850	1050
8"	725	925	1125
10"	800	1025	1200
12"	900	1150	1350
14"	900	1150	1350
16"	950	1225	1400
36"	2000	2500	3000

NOTES:

- (1) This is the suggested leakage limit in order not to exceed the .6 La limit. Penetration leakage can exceed this limit provided other penetration leakage is below their limit making up the difference and not exceeding the .6 La limit.
- (2) The Alert limit is to inform the personnel that the penetration is or could become a problem. If a penetration exceeds the alert limit, but still does not cause exceeding the .6 La limit, the penetration test frequency should be doubled and scheduled to coincide with a cold shutdown until corrective action is taken.
- (3) Valves/Penetrations with leakage rates exceeding the suggested maximum ASME limit shall be replaced or repaired.

NOTE: Some valve/penetration leakages are limited by technical specification and do not fall into this category.



REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES  
LIMITED TO 1 GPM LEAKAGE

<u>VALVE NO.</u>	<u>DESCRIPTION</u>
XVC-8993 A,B,C	SI to Hot Legs
XVC-8992 A,B,C	SI High Head to Hot Legs
XVC-8990 A,B,C	SI High Head to Hot Legs
XVC-8988 A,B	SI Low Head to Hot Legs
XVC-8997 A,B,C	Primary SI High Head to Cold Legs
XVC-8995 A,B,C	Alternate SI High Head to Cold Legs
XVC-8998 A,B,C	SI to Cold Legs
XVC-8973 A,B,C	RHR Low Head to Cold Legs
XVC-8948 A,B,C	Accumulators to Cold Legs
XVC-8956 A,B,C	Accumulators to Cold Legs
XVG-8701 A,B	RHR Suction from Hot Legs
XVG-8702 A,B	RHR Suction from Hot Legs
XVC-8974 A,B	RHR Low Head to Cold Legs

ALLOWED LEAKAGE FOR NON-PENETRATION/CONTAINMENT  
ISOLATION CATEGORY A VALVES IN CC/MINUTE

VALVE SIZE	NON- CHECK	CHECK VALVE
1/8	10	20
1/4	30	60
3/8	50	100
3/4	150	300
1.0	200	350
1 1/2	250	500
2	300	600
3	450	900
4	590	1180
6	885	1770
8	1180	2359
10	1475	2949
12	1769	3538
14	2064	4128
16	2359	4718
18	2654	5308
32	4718	9436
36	5308	10616

VALVE TEST RELIEF REQUEST INDEX

A. System: Component Cooling Water System (CC)

A.1 Valve: XVC-9570 PAGE 1

A.2 Valve: XVC-9602 PAGE 2

A.3 Valve: XVG-9600 PAGE 3

A.5 Valve: XVG-9605 PAGE 4  
XVG-9606  
XVG-9568

**NON-CONTROLLED  
COPY**

B. System: Chemical and Volume Control System (CS)

B.1 Valve: LCV-115C PAGE 5  
LCV-115E

B.2 Valve: XVC-8481A PAGE 6  
XVC-8481B  
XVC-8481C

B.7 Valve: XVC-8442 PAGE 7

B.8 Valve: XVT-8152 PAGE 8

B.9 Valve: XVC-8381 PAGE 9

B.10 Valve: XVG-8107 PAGE 10  
XVG-8108

C. System: Emergency Feedwater System (EF)

C.1 Valve: XVC-1039A PAGE 11  
XVC-1039B  
XVC-1039C  
XVC-1038A  
XVC-1038B  
XVC-1038C

C.2 Valve: XVC-1015A PAGE 12  
XVC-1015B

C.3 Valve: XVG-1001A PAGE 13  
XVG-1001B

C.4 Valve: XVG-1002 PAGE 14  
XVG-1008  
XVG-1037A  
XVG-1037B

VALVE TEST RELIEF REQUEST INDEX

C. System: Emergency Feedwater System (EF) (Continued)

C.5 Valve: XVC-1016 PAGE 15

C.6 Valve: XVC-1013A PAGE 16  
XVC-1013B  
XVC-1014

C.7 Valve: XVC-1022A PAGE 17  
XVC-1022B  
XVC-1034A  
XVC-1034B

C.8 Valve: XVC-1019A PAGE 18  
XVC-1019B  
XVC-1019C  
XVC-1020A  
XVC-1020B  
XVC-1020C

D. System: Main Feedwater System (FW)

D.1 Valve: XVG-1611A PAGE 19  
XVG-1611B  
XVG-1611C

F. System: Instrument Air System (IA)

F.2 Valve: XVC-2661 PAGE 20

G. System: Main Steam System (MS)

G.1 Valve: XVG-2801A PAGE 21  
XVG-2801B  
XVG-2801C

J. System: Safety Injection System (SI)

J.1 Valve: XVC-8998A PAGE 22  
XVC-8998B  
XVC-8998C

J.2 Valve: XVC-8997A PAGE 23  
XVC-8997B  
XVC-8997C

J.3 Valve: XVC-8995A PAGE 24  
XVC-8995B  
XVC-8995C

VALVE TEST RELIEF REQUEST INDEX

J. System: Safety Injection System (SI)

J.4 Valve: XVC-8988A PAGE 25  
XVC-8988B

J.5 Valve: XVC-8993A PAGE 26  
XVC-8993B

J.6 Valve: XVC-8990A PAGE 27  
XVC-8990B  
XVC-8990C

J.7 Valve: XVC-8992A PAGE 28  
XVC-8992B  
XVC-8992C

J.8 Valve: XVC-8948A PAGE 29  
XVC-8948B  
XVC-8948C  
XVC-8956A  
XVC-8956B  
XVC-8956C

J.9 Valve: XVG-8808A PAGE 30  
XVG-8808B  
XVG-8808C

J.11 Valve: XVC-8974A PAGE 31  
XVC-8974B  
XVC-8973A  
XVC-8973B  
XVC-8973C

J.12 Valve: XVC-8926 PAGE 32

J.13 Valve: XVG-8884 PAGE 33  
XVG-8885  
XVG-8886

J.14 Valve: XVG-8803A PAGE 34  
XVG-8803B

J.15 Valve: XVC-8993C PAGE 35

J.16 Valve: XVG-8801A PAGE 36  
XVG-8801B

VALVE TEST RELIEF REQUEST INDEX

J. System: Safety Injection System (SI)

J.17 Valve: XVG-8888A PAGE 37  
XVG-8888B

J.18 Valve: XVG-8809A PAGE 38  
XVG-8809B

K. System: Reactor Building Spray System (SP)

K.1 Valve: XVC-3009A PAGE 39  
XVC-3009B  
XVC-3013A  
XVC-3013B

K.2 Valve: XVG-3002A PAGE 40  
XVG-3002B

L. System: Service Water System (SW)

L.1 Valve: XVG-3107A PAGE 41  
XVG-3107B

M. System: CRDM Cooling System

M.1 Valve: XVG-7501 PAGE 42  
XVG-7502  
XVG-7503  
XVG-7504

N. System: Ventilation

N.1 Valve: XVB-0001A PAGE 43  
XVB-0001B  
XVB-0002A  
XVB-0002B

P. System: Passive Containment Isolation Valves

P.1 Valve: XVC-7541 PAGE 44  
XVC-7544  
XVC-9689  
XVT-8102A  
XVT-8102B  
XVT-8102C



VALVE TEST RELIEF REQUEST INDEX

P. System: Passive Containment Isolation Valves  
(Continued)

P.1 Valve: XVC-8103 PAGE 44

XVC-8368A  
XVC-8368B  
XVC-8368C  
XVR-8117  
XVC-8703A  
XVC-8703B  
XVG-8702A  
XVG-8702B  
XVC-6587 - Manual-  
XVC-2913  
XVT-2912  
XVX-9387  
XVG-8701A  
XVG-8701B  
XVC-6799

## VALVE TEST RELIEF REQUESTS

A. SYSTEM: COMPONENT COOLING WATER SYSTEM (CC)

A.1 Valve: XVC-9570

Category: A/C

Class: 2a

Function: Prevent reverse flow from the reactor containment to the component cooling water system.

Test Requirement: Check valves will be exercised to the positions required to fulfill their function every three (3) months.

Basis for Relief: Testing this valve would require securing cooling water to the reactor coolant pumps. During plant operation this could damage the pumps.

Alternate Test: Valve will be tested during each cold shutdown, when the RHR System is in operation and the reactor coolant pumps can be shutdown.

VALVE TEST RELIEF REQUESTS

A.2 Valve: XVC-9602

Category: A/C

Class: 2b

Function: Prevent reverse flow from the reactor containment into the component cooling water system.

Test Requirement: Check valves will be exercised to the position required to fulfill their function, every three (3) months.

Basis for Relief: Testing this valve would require securing cooling water to the reactor coolant pumps. During plant operation this could damage the pumps.

Alternate Test: Valve will be tested during each cold shutdown, when the RHR System is in operation and the reactor coolant pump can be shutdown.

VALVE TEST RELIEF REQUESTS

..3 Valve: XVG-9600

Category: A

Class: 2b

Function: Isolation component cooling water to the reactor containment from the component cooling water booster pumps.

Test Requirement: Exercise valve (full stroke) for operability every three (3) months.

Basis for Relief: Testing this valve would require securing cooling water to the reactor coolant pumps. During plant operation this could damage the pumps.

Alternate Test: Valve will be tested during each cold shutdown, when the RHR System is in operation and the reactor coolant pumps can be shutdown.

VALVE TEST RELIEF REQUESTS

A.5 Valve: XVG-9605 & 9606 & 9568

Category: A

Class: 2a

Function: Isolate component cooling water to the reactor containment.

Test Requirement: Exercise valves (full stroke) for operability every three (3) months.

Basis for Relief: Testing these valves would require securing cooling water to the reactor coolant pumps. During plant operation this could damage the reactor coolant pumps.

Alternate Test: Valves will be tested during each cold shutdown.

## VALVE TEST RELIEF REQUESTS

B. SYSTEM: CHEMICAL AND VOLUME CONTROL SYSTEM (CS)

B.1 Valve: LCV-115C & 115E

Category: B

Class: 2a

Function: Volume control tank outlet header isolation

Test Requirement: Exercise valve (full stroke) for operability  
every three (3) months.

Basis for Relief: Testing these valves during plant operations  
would require shifting charging pump suction  
from the VCT to the RWST. This would cause  
an inadvertant boration and plant shutdown.

Alternate Test: Valve will be tested during each cold  
shutdown



## VALVE TEST RELIEF REQUESTS

B-2 Valve: XVC-8481A, 8481B and 8481C

Category: C

Class: 2a

Function: Charging pump discharge header check valves

Test Requirement: Check valves will be exercised to the position required to fulfill their function every three (3) months.

Basis for Relief: Exercising these valves during normal operations would require establishing full charging flow into the RCS causing a overpressure condition and possible reactor trip. During cold shut down, full charging flow would cause a pressure surge and exceed the maximum pressure for the low temperature of the RCS.

Alternate Test: Valve will be partial stroke tested quarterly and full flow exercised each refueling shut-down when the vessel head is removed.

VALVE TEST RELIEF REQUESTS

B.7 Valve: XVC-8442

Category: C

Class: 2a

Function: Emergency Borate Check Valve

Test Requirement: Check valves will be exercised to the position required to fulfill their function every three months.

Basis for Relief: Testing this valve during plant operations would inject high concentrated boric acid into the suction of the charging pump causing an inadvertent boration and plant shutdown.

Alternate Test: Valve will be tested each cold shutdown.

VALVE TEST RELIEF REQUESTS

B.8 Valve: XVT-8152

Category: A

Class: 2a

Function: Letdown flow containment isolation

Test Requirement: Exercise valve (full stroke) for operability  
three (3) months.

Basis for Relief: Testing this valve during plant operation  
would isolate letdown which could cause  
thermal shock to charging connection. Could  
also cause lifting of letdown relief (XVR-8117).

Alternate Test: Valves will be tested during each cold  
shutdown.

VALVE TEST RELIEF REQUESTS

B.9 Valve: XVC-8381

Category: A/C

Class: 2a

Function: Containment isolate check valve for normal charging.

Test Requirement: Check valves will be exercised to the position required to fulfill their function every three (3) months.

Basis for Relief: Testing this valve during normal plant operation would require securing charging and letdown flow which could result in a loss of volume control and pressurizer level causing a reactor trip.

Alternate Test: This valve will be tested during each cold shutdown.

## VALVE TEST RELIEF REQUESTS

B.10 Valve: KVG-8107 & 8108

Category: A

Class: 2a

Function: Isolate charging flow to the containment.

Test Requirement: Exercise valves (full stroke) for operability every three (3) months.

Basis for Relief: Testing these valves during normal plant operations would require securing charging and letdown flow, which could result in a loss of volume control and pressurized level causing a reactor trip.

Alternate Test: Valves will be tested during each cold shutdown.

## VALVE TEST RELIEF REQUESTS

C. SYSTEM: EMERGENCY FEEDWATER SYSTEM (EF)

C.1 Valve: XVC-1039A, B & C and XVC-1038A, B & C

Category: C

Class: 2a

Function: Prevent reverse flow from the steam generator  
into the Emergency Feedwater System.

Test Requirement: Check valves will be exercised to the position  
required to fulfill their function every  
three (3) months.

Basis for Relief: Testing any one of these valves during plant  
operation would introduce cold auxiliary  
feedwater to the steam generator inducing  
unnecessary thermal stress on the Emergency  
Feedwater Piping.

Alternate Test: These valves will be tested during each cold  
shutdown.



VALVE TEST RELIEF REQUESTS

C.2 Valve: XVC-101SA & B

Category: C

Class: 2b

Function: Prevent reverse flow from the associated steam generator to the emergency feedwater system.

Test Requirement: Check valves will be exercised to the position required to fulfill their function, every three (3) months.

Basis for Relief: Testing these valves during plant operation will require establishing emergency feedwater flow to the associated steam generator placing unnecessary thermal stress on the feedwater piping.

Alternate Test: Valves will be tested during each cold shutdown.

## VALVE TEST RELIEF REQUESTS

C.3 Valve: XVG-1001A & B

Category B

Class: 2b

Function Isolate service water from the Emergency Feedwater System.

Test Requirement: Exercise valves (full stroke) for operability every three (3) months.

Basis for Relief: Testing these valves during normal plant operation could introduce service water into the emergency feedwater pump suction lines and eventually cause chemistry control problems in the steam generator.

Alternate Test: Valves will be tested at each cold shutdown.

VALVE TEST RELIEF REQUESTS

C.4 Valve: XVG-1002, 1008 and 1037A & B

Category: B

Class: 2b

Function: Isolate service water from the Emergency Feedwater  
System

Test Requirement: Exercise valves (full stroke) for operability  
every three (3) months.

Basis for Relief: Testing these valves during normal plant operation  
could introduce service water into the emergency  
feedwater pump suction lines and eventually cause  
chemistry control problems in the steam generators.

Alternate Test: Valves will be tested at each cold shutdown.

## VALVE TEST RELIEF REQUESTS

C.5 Valve: XVC-1016

Category: C

Class: 2b

Function: Prevent reverse flow to an idle emergency feedwater pump.

Test Requirement: Check valves will be exercised to the position required to fulfill their function, every (3) months.

Basis for Relief: Testing this valve during plant operation will require establishing emergency feedwater flow to a steam generator placing unnecessary thermal stress on the feedwater piping.

Alternate Test: Valve will be tested during each cold shutdown.

## VALVE TEST RELIEF REQUESTS

C.6 Valve: XVC-1013A & B and XVC-1014

Category: C

Class: 2a

Function: Emergency feedwater pumps discharge check valves.

Test Requirement: Check valves will be exercised to the position required to fulfill their function, every (3) months.

Basis for Relief: Check valves will be partial stroke exercised quarterly during the EFW Pump Test. Full flow testing during normal plant operations would require establishing emergency feedwater flow to the steam generators placing unnecessary thermal stresses on the emergency feedwater piping.

Alternate Test: Valves will be full flow exercised during the plant shutdown from minimum load to cold shutdown.

VALVE TEST RELIEF REQUESTS

C.7 Valve: XVC-1022A & B and XVC-1034A & B

Category: C

Class: 2B

Function: Prevent reverse flow from Emergency Feedwater System into the Service Water System

Test Requirement: Check valves will be exercised to the position required to fulfill their function every three (3) months.

Basis for Relief: Testing this valve during plant operations could introduce service water into the Emergency Feedwater System and eventually into the Steam Generators causing severe chemistry control problems. Testing valves during cold shutdown would contaminate the Condensate Storage Tank. Partial stroke exercising these valves during normal operation would require isolating the applicable Emergency Feedwater pump which would be a violation of tech. specs.

Alternate Test: Valves will be disassembled and inspected each refueling shutdown.



## VALVE TEST RELIEF REQUESTS

C.8 Valve: XVC-1019A, B & C and XVC-1020A, B & C

Category: C

Class: 2b

Function: Prevent flow from Steam Generators into the  
Emergency Feedwater pump discharge piping.

Test Requirement: Check valves will be exercised to the position  
required to fulfill their function every three  
(3) months.

Basis for Relief: Testing these valves during normal operations  
would require establishing emergency feedwater  
flow to the steam generators placing unnecessary  
thermal stress on the emergency feedwater piping  
and causing steam generator level control problems  
which could result in a reactor trip.

Alternate Test: Valves will be tested during shutdown from  
minimum load to cold shutdown.

VALVE TEST RELIEF REQUESTS

D. SYSTEM: MAIN FEEDWATER SYSTEM (FW)

D.1 Valve: XVG-1611A, B & C

Category: B

Class: 2a

Function: Provides a flow path from the main feedwater pumps to the associated steam generator.

Test Requirement: Exercise valves (full stroke) for operability every three (3) months.

Basis for Relief: Testing these valves during plant operation would isolate feedwater to the associated steam generator which could result in a reactor trip.

Alternate Test: Valves will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

F.2 Valve: XVC-2661

Category: A/C

Class: 2a

Function: Prevent reverse flow from the reactor containment into the instrument air system.

Test Requirement: Check valves will be exercised to the position required to fulfill their function, every three (3) months.

Basis for Relief: Testing this valve requires entry into the Reactor Building. During plant operation this could cause overexposure to the test personnel.

Alternate Test: This valve will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

G. SYSTEM: MAIN STEAM SYSTEM (MS)

G.1 Valve: XVG-2801A, B & C

Category: B

Class: 2a

Function: Provides the flow path from the associated steam generator to the main steam line header.

Test Requirement: Exercise valves (full stroke) for operability every three (3) months.

Basis for Relief: Testing any one of these valves during plant operation would isolate the associated steam generator from the main steam line header which would result in a reactor trip.

Alternate Test: Valves will be tested during each cold shutdown.

NOTE: These valves are partially stroked every three (3) months following Surveillance Test Procedure (STP) 121.002 - Main Steam Valve Operability Test.

VALVE TEST RELIEF REQUESTS

J. SYSTEM: SAFETY INJECTION SYSTEM (SI)

J.1 Valve: XVC-8998 A, B & C

Category: A/C

Class: 1

Function: Prevents reverse flow from the reactor coolant system to the low pressure safety injection system.

Test Requirement: Exercise check valves to the position required to fulfill their function every three (3) months.

Basis for Relief: Testing these valves during plant operation will require establishing flow from the low head safety injection system. The RHR pumps do not develop sufficient head to overcome RCS pressure and open the check valves.

Alternate Test: These valves will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

J.2 Valve: XVC-8997A, B & C

Category: A/C

Class: 1

Function: Prevent reverse flow from the reactor coolant system to the Boron Injection System.

Test Requirement: Exercise check valves to the position required to fulfill their function, every three (3) months.

Basis for Relief: Testing these valves during plant operation will require establishing charging flow through the Boron Injection tank, not only placing unnecessary thermal stresses on the high head injection piping, but also diluting the boric acid concentration in the Boron Injection tank and causing an inadvertent boration. Testing these valves during cold shutdown also requires establishing charging flow through the high head injection lines. With the RCS at such a low pressure and temperature, we would have an uncontrolled injection of a large volume of water which could cause a pressure spike in the system and exceed the pressure temperature limits.

Alternate Test: These valves will be tested during each refueling when the vessel head is removed and the refueling pool can be used to contain the large volume of water.



VALVE TEST RELIEF REQUESTS

J.3 Valve: XVC-8995A, B & C

Category: A/C

Class: 1

Function: Prevent reverse flow from the reactor coolant system to the High Head Safety Injection System.

Test Requirement: Exercise check valves to the position required to fulfill their function every three (3) months.

Basis for Relief: Testing these valves during plant operations requires establishing charging flow through the cold leg recir. lines placing unnecessary thermal stresses on the recir. lines.

Testing these valves during cold shutdown also requires establishing charging flow through the cold leg recir. lines. With the RCS at such a low pressure and temperature we would have an uncontrolled injection of a large volume of water which could cause a pressure spike in the system and exceed the pressure temperature limits.

Alternate Test: These valves will be tested at each refueling when the vessel head is removed and the refueling pool can be used to contain the large volume of water.

VALVE TEST RELIEF REQUESTS

J.4 Valve: XVC-8988A & B

Category: A/C

Class: 1

Function: Prevent reverse flow from the reactor coolant system to the residual heat removal system.

Test Requirement: Exercise check valves to the position required to fulfill their function, every three (3) months.

Basis for Relief: Testing these valves during plant operations will require initiating flow, using the RHR pumps, into the reactor coolant system. RCS pressure will be higher than RHR pump discharge pressure precluding flow into the RC system.

Alternate Test: Valves will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

J.5 Valve: XVC-8993A & B

Category: A/C

Class: 1

Function: Prevent reverse flow from the reactor coolant system to the low pressure safety injection system.

Test Requirement: Exercise check valves to the position required to fulfill their function every three (3) months.

Basis For Relief: Testing these valves during plant operations requires establishing RHR flow into the RCS. The RHR pumps (low head safety injection) do not develop enough head to overcome RCS pressure and establish flow.

Alternate Test: These valves will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

J.6 Valve: XVC-8990A, B & C

Category: A/C

Class: 1

Function: Prevent reverse flow from the reactor coolant system to the High Head Safety Injection System.

Test Requirement: Exercise check valves to the position required to fulfill their function, every three (3) months.

Basis for Relief: Testing these valves during normal operations would require establishing charging flow through the hot leg recir. lines, placing unnecessary thermal stresses on the recir. lines. Testing these valves during cold shutdown also requires establishing charging flow through the hot leg recir. lines. With the RCS at such a low pressure and temperature we would have an uncontrolled injection of a large volume of water which could cause a pressure spike in the system and exceed the pressure temperature limits.

Alternate Test: These valves will be tested at each refueling when the vessel head is removed and the refueling pool can be used to contain the large volume of water.

VALVE TEST RELIEF REQUESTS

J.7 Valve: XVC-8992A, B & C

Category: A/C

Class: 1

Function: Prevent reverse flow from the reactor coolant system to the High Head Safety Injection System.

Test Requirement: Exercise check valves to the position required to fulfill their function every three (3) months.

Basis for Relief: Testing these valves during normal operations would require establishing charging flow through the hot leg recir. lines, placing unnecessary thermal stresses on the recir. lines. Testing these valves during cold shutdown also requires establishing charging flow through the hot leg recir. lines. With the RCS at such a low pressure and temperature we would have an uncontrolled injection of a large volume of water which could cause a pressure spike in the system and exceed the pressure temperature limits.

Alternate Test: These valves will be tested at each refueling when the vessel head is removed and the refueling pool can be used to contain the large volumes of water.

## VALVE TEST RELIEF REQUESTS

J.3 Valve: XVC-8948A, B & C and 8956A, B & C

Category: A/C

Class: 1

Function: Prevent reverse flow from the reactor coolant system to the safety injection accumulators.

Test Requirement: Exercise check valves to the poaition required to fulfill their function, every three (3) months.

Basis for Relief: Testing these valves during plant operations would require initiating flow from the SI accumulator to the Reactor Coolant System. The SI accumulator does not have the required pressure to overcome normal Reactor Coolant System pressure, therefore, flow could not be established. During cold shutdown, the RCS would not have the volume to contain the large volume of water required to test these valves causing an overpressure condition for the low temperature. During refueling shutdown, exercising these valves could damage the reactor internals due to the large volume of high pressure water.

Alternate Test: Valves will be disassembled and inspected on an alternating basis to achieve a representative sampling during each refueling shutdown. Should any disassembly and inspection reveal any problems, all valves will be disassembled and inspected.



VALVE TEST RELIEF REQUESTS

J.9 Valve: XVG-8808A, B & C

Category: B

Class: 2a

Function: Isolate the Safety Injection Accumulator from  
the reactor coolant loops.

Test Requirement: Exercise valves (full stroke) for operability  
every three (3) months.

Basis for Relief: Valves are required by Technical Specifications  
to remain open during normal plant operation.

Alternate Test: Valves will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

J.11 Valve: XVC-8974A & B and XVC-8973A, B & C

Category: A/C

Class: 2a and 1

Function: Prevent reverse flow from the reactor coolant system to the low pressure safety injection system.

Test Requirement: Check valves will be exercised to the position required to fulfill their function, every three (3) months.

Basis for Relief: These valves cannot be tested during plant operations, because the low pressure safety injection pumps do not develop sufficient discharge head to establish a flow path to the reactor coolant system.

Alternate Test: These valves will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

J.12 Valve: XVC-8926

Category: C

Class: 2a

Function: Prevent reverse flow from the Charging Pump  
Suction/VCT to the refueling water storage  
tank.

Test Requirement: Check valves will be exercised to the position  
required to fulfill their function, every  
three (3) months.

Basis for Relief: Testing this valve during normal plant operations  
would cause an inadvertant boration due to the  
high concentration of boric acid in the RWST,  
thus a plant shutdown. During cold shutdown,  
the RCS does not have the volume to contain the  
large volume of water required to test the  
valve and you would exceed the maximum pressure  
for the low temperature.

Alternate Test: The valve will be tested at each refueling  
when the vessel head is removed and the  
refueling pool can be used to contain the  
large volume of water.

VALVE TEST RELIEF REQUESTS

J.13 Valve: XVG-8884, 8885 and XVG-8886

Category: A

Class: 2a

Function: High head hot leg injection isolation valves.

Test Requirement: Exercise valves (full stroke) for operability  
every three (3) months.

Basis for Relief: Testing these valves during normal plant operation  
will place charging flow through the high pressure  
safety injection line placing unnecessary thermal  
stresses on the safety injection piping.

Alternate Test: Valves will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

J.14 Valve: KVG-8803A & B

Category: B

Class: 2a

Function: Isolate charging to the Boron Injection Tank

Test Requirement: Exercise valves (full stroke) for operability  
every three (3) months.

Basis for Relief: Exercising these valves during normal plant  
operations could dilute the boron injection  
tank below the minimum concentration required  
by Technical Specifications.

Alternate Test: Valves will be tested during each cold shutdown.

## VALVE TEST RELIEF REQUESTS

J.15 Valve: XVC-8993C

Category: A/C

Class: 1

Function: Prevent reverse flow from the Reactor Coolant System to the cold leg injection lines.

Test Requirement: Exercise check valves to the position required to fulfill their function every three (3) months.

Basis for Relief: Testing this valve during normal plant operation would cause an inadvertant boration due to the high concentration of boric acid in the RWST, thus a plant shutdown. During cold shutdown the RCS does not have the volume to contain the large volume of water required to test the valve and you would exceed the maximum pressure for the low temperature.

Alternate Test: Valve will be tested at the end of each refueling when the vessel head is removed and the refueling pool can be used to contain the large volume of water.



VALVE TEST RELIEF REQUESTS

J.16 Valve: XVG-8801A and 8801B

Category: A

Class: 2a

Function: Boron Injection Tank outlet isolation valves

Test Requirement: Exercise valves (full stroke) for operability every three (3) months.

Basis for Relief: Testing these valves during normal operation could inject high concentration of boric acid into the high head injection lines and thus into the RCS causing an inadvertent boration and plant shutdown. During cold shutdown exercising these valves could cause migration of the high concentration of boric acid into the high head injection lines, which are not heat traced, causing solidification and blockage of these lines.

Alternate Test: Valves will be exercised each refueling shutdown with the high head injection check valves.

VALVE TEST RELIEF REQUESTS

J.17 Valve: XVG-8888A and B

Category: A

Class: 2a

Function: RHR pump low head Safety Injection Isolation

Test Requirement: Exercise valve (full stroke) for operability  
every three (3) months.

Basis for Relief: Testing these valves during normal plant operations  
would require isolating one of the RHR loops.  
This would violate the Technical Specification  
Requirement, requiring two independent Emergency  
Core Cooling Systems (ECCS) operable.

Alternate Test: Valves will be tested during cold shutdown  
when one loop of the RHR can be shutdown and  
tested.

VALVE TEST RELIEF REQUESTS

J.18 Valve: XVG-8809A and B

Category: B

Class: 2a

Function: Isolate RHR pump suction from the RWST

Test Requirement: Exercise valve (full stroke) for operability every three (3) months.

Basis for Relief: Testing these valves during normal operation would isolate the RWST from the suction of the RHR pumps, violating Technical Specification Requirements, requiring two (2) Emergency Core Cooling Systems operable with flow path capable of taking suction from the refueling water storage tank on a safety injection signal.

Alternate Test: Values will be tested during cold shutdown when one loop of the RHR can be shutdown and tested.

VALVE TEST RELIEF REQUESTS

K. SYSTEM: REACTOR BUILDING SPRAY SYSTEM (SP)

K.1 Valve: XVC-3009A & B and XVC-3013A & B

Category: A/C

Class: 2a

Function: Prevent reverse flow from the reactor containment into the Reactor Building Spray System.

Test Requirement: Check valves will be exercised to the position required to fulfill their function every three (3) months.

Basis for Relief: Testing these valves during plant operation would require placing the Reactor Building Spray System in operation which would result in dousing the containment and filters.

Alternate Test: Valves will be disassembled and inspected on an alternating basis to achieve a representative sampling during each refueling shutdown. Should any disassembly and inspection reveal any problems, all valves will be disassembled and inspected.

VALVE TEST RELIEF REQUESTS

K.2 Valves: XVG-3002A & B

Category: 3

Class: 2a

Function: NaOH to spray pump suction isolations and checks.

Test Requirement: Exercise valves (full stroke) for operability  
every three (3) months.

Basis for Relief: Testing these valves during normal plant operation  
would require isolating the NaOH storage tank,  
which would violate the Technical Specifications.

Alternate Test: Valves will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

L. SYSTEM: SERVICE WATER SYSTEM (SW)

L.1 Valve: XVG-3107A & B

Category: A

Class: 2b

Function: Isolate service water from the reactor containment.

Test Requirement: Exercise valves (full stroke) for operability  
every three (3) months.

Basis for Relief: Testing these valves during plant operations  
will cause service water to mix with the industrial  
cooling water, causing a problem with the chemistry  
control of the industrial cooling water system.

Alternate Test: Valves will be tested during cold shutdown.



VALVE TEST RELIEF REQUESTS

M. SYSTEM: CRDM COOLING SYSTEM

M.1 Valve: XVG-7501, 7502, 7503 and 7504

Category: A

Class: 2a

Function: Containment isolations valves for the CRDM Cooling System.

Test Requirement: Valves will be exercised (full stroke) for operability every three (3) months.

Basis for Relief: In the event that maintenance is required, upon the failure of either of these valves, by testing, during plant operation, it could cause overheating of the CRDM's.

Alternate Test: Valves will be tested during each cold shutdown.

VALVE TEST RELIEF REQUESTS

N.1 Valve: XVB-0001A & B and XVB-0002A & B

Category: A

Class: 2a

Function: Isolate the Reactor Building purge supply and exhaust.

Test Requirement: Exercise valves (full stroke) for operability every three (3) months.

Basis for Relief: During normal plant operations these valves are locked closed and required by technical specifications to remain closed.

Alternate Test: Valves will be full stroke exercised during cold shutdown.

VALVE TEST RELIEF REQUESTS

P. System: PASSIVE CONTAINMENT ISOLATION VALVES

P.1 VALVES: XVC-7541, XVC-7544, XVC-9689, XVT-8102A,  
XVT-8102B, XVT-8102C, XVC-8103, XVC-8368A,  
XVC-8368B, XVC-8368C, XVR-8117, XVC-8703A,  
XVC-8703B, XVG-8702A, XVG-8702B, XVC-6587,  
XVC-2913, XVT-2912, XVX-9387, XVC-6799,  
XVG-8701A, XVG-8701B.

CATEGORY: A/C for check valves. A for other valves.

CLASS: 2A

FUNCTION: Provide Containment Isolation for various  
systems.

TEST  
REQUIREMENT: Leak test in accordance with ASME  
Section XI Code every two (2) years.

BASIS FOR  
RELIEF: Valves are required to be tested every  
eighteen (18) months to two (2) years  
in accordance with Appendix J and/or  
Technical Specifications.

ALTERNATE: Leak test valves in accordance with the  
requirements of Appendix J, Technical  
Specifications and/or Surveillance Test  
Procedures.