

BVPS UNIT 1
INSERVICE TESTING PROGRAM
FOR
PUMPS AND VALVES

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ISSUE 2
REVISION 6

RVPS-1 IST

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SECTION I. PUMP TESTING REQUIREMENTS

Per IWP-3500 each pump shall run at least 5 minutes under conditions as stable as the system permits prior to measurement of the specified parameters (when bearing temperature measurements are not required). When bearing temperature measurements are required, each pump shall be run until the bearing temperatures stabilize prior to making the specified measurements. A bearing temperature is considered stable when three successive readings taken at 10 minute intervals do not vary by more than 3%. Bearing temperature measurements are required annually (normally in August).

At certain times plant conditions may preclude returning a pump to the same reference condition for its normally scheduled surveillance. Since IWP-3112 permits the establishment of additional sets of reference values, a pump curve which is merely a graphical representation of these reference values will be used.

Records of the results of inservice tests and corrective actions as required by subsection IWP-6000 are trended in graphic and tabular form. **Pump performance characteristics will be examined for trends.**

The following two sections of this document are the "Pump Testing Outlines" and "Pump Relief Requests" sections. The "Pump Testing Outlines" section is a listing of all the pumps in the IST Program, their testing requirements, and their specific relief request reference numbers. The pumps are arranged according to system and pump mark number. The following abbreviations and designations are used on the Pump Testing Outlines and throughout the IST Program for pumps:

1. Under Parameter column
 - a. (N) - Speed
 - b. (Pi) - Inlet Pressure
 - c. (ΔP) - Differential Pressure
 - d. (Q) - Flowrate
 - e. (V) - Vibration
 - f. (Tb) - Bearing Temperature
 - g. (L) - Lubricant Level or Pressure

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2. Under OST column
 - a. (BVT) - Beaver Valley Test
 - b. (OST) - Operating Surveillance Test
 - c. (Q) - Quarterly Test Frequency
 - d. (A) - Annual Test Frequency
 - e. (R) - Refueling Test Frequency
 - f. (NA) - Not Applicable
3. Under Req'd column
 - a. (RR) - Relief Request
 - b. (X) - **Meets or exceeds ASME requirements**
 - c. (E) - Exempt
 - d. (NA) - Not Applicable

The "Pump Relief Requests" section contains the detailed technical description of particular conditions and equipment installations prohibiting the testing of some of the characteristics of safety-related pumps. An alternate test method and the frequency of revised testing is also included to meet the intent of 10CFR50.55a. The relief request(s) for a specific pump is referenced by the number(s) listed on the pump's testing outline sheet.

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SECTION II. PUMP TESTING OUTLINES

B.V.P.S.-1 I.S.T.

PUMP TESTING OUTLINE

Pump Name: 1A Charging Pump		Pump Number: CH-P-1A	Code Class: 2	System: 7 Chemical and Volume Control
Function: To provide normal RCS Inventory and Hi Head Safety Injection		Remarks: See RR1 and RR2		
Parameter	OST (Frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
Pi	1.7.4 (Q)	RR2	No installed instrumentation to measure suction pressure. Calculate Pi using VCI level or RWST level.	
ΔP	1.7.4 (Q)	X	ΔP is calculated using the pump discharge pressure indicator [PI-1CH-151] and the calculated Pi.	
Q	1.7.4 (Q)	X	Calculated by adding the flows for the seal water to the RCP(s) [FI-CH-130], [FI-CH-127], [FI-CH-124] & charging flow [FI-CH-122A] & mini flow.	
V	1.7.4 (Q)	RR1	Portable monitoring equipment using velocity units.	
Tb	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	1.7.4 (Q)	X	Lubricant oil filter pressure gauge [FI-1CH-161A1].	

B.V.P.S.-1 I.S.T.

PUMP TESTING OUTLINE

Pump Name: 1B Charging Pump		Pump Number: CH-P-1B	Code Class: 2	System: 7 Chemical and Volume Control
Function: To provide normal RCS Inventory and Hi Head Safety Injection		Remarks: See RR1 and RR2		
Parameter	OST (Frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
Pi	1.7.5 (Q)	RR2	No installed instrumentation to measure suction pressure. Calculate Pi using VCI level or RWST level.	
ΔP	1.7.5 (Q)	X	ΔP is calculated using the pump discharge pressure indicator [PI-1CH-152] and the calculated Pi.	
Q	1.7.5 (Q)	X	Calculated by adding the flows for the seal water to the RCP(s) [FI-CH-130], [FI-CH-127], [FI-CH-124] & charging flow [FI-CH-122A] & mini flow.	
V	1.7.5 (Q)	RR1	Portable monitoring equipment using velocity units.	
Tb	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	1.7.5 (Q)	X	Lubricant oil filter pressure gauge [FI-1CH-161B1].	

B.V.P.S.-1 I.S.T.

PUMP TESTING OUTLINE

Pump Name: 1C Charging Pump		Pump Number: CH-P-1C	Code Class: 2	System: 7 Chemical and Volume Control
Function: To provide normal RCS Inventory and Hi Head Safety Injection		Remarks: See RR1 and RR2		
Parameter	OST (Frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
Pi	1.7.6 (Q)	RR2	No installed instrumentation to measure suction pressure. Calculate Pi using VCI level or RWST level.	
ΔP	1.7.6 (Q)	X	ΔP is calculated using the pump discharge pressure indicator [PI-1CH-153] and the calculated Pi.	
Q	1.7.6 (Q)	X	Calculated by adding the flows for the seal water to the RCP(s) [FI-CH-130], [FI-CH-127], [FI-CH-124] & charging flow [FI-CH-122A] & mini flow.	
V	1.7.6 (Q)	RR1	Portable monitoring equipment using velocity units.	
Ib	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	1.7.6 (Q)	X	Lubricant oil filter pressure gauge [FI-1CH-161C1].	

B.V.P.S.-1 I.S.T.

PUMP TESTING OUTLINE

Pump Name: Chemical Injection Pumps		Pump Number: QS-P-4A	Code Class: 2	System: 13 Containment Depressurization
Function: Chemical Injection during Containment Depressurization			Remarks: See RR1 and RR5.	
Parameter	OSI (Frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
Pi	1.13.10A (Q)	RR5	Positive displacement pump. No suction pressure indication provided.	
ΔP	1.13.10A (Q)	RR5	Positive displacement pump. Based on pump discharge pressure indicator.	
Q	1.13.10A (Q)	X	Will check using recirculation line flow indicator [FI-1QS-108].	
V	1.13.10A (Q)	RR1	Portable monitoring equipment using velocity units.	
Tb	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	NA	NA	No lubricant level or pressure to observe. Bearings are grease lubricated.	

B.V.P.S.-1 I.S.T.

PUMP TESTING OUTLINE

Pump Name: 1A Component Cooling Water Pump		Pump Number: CC-P-1A	Code Class: 3	System: 15 Reactor Plant Cooling Water
Function: To provide cooling water to Rx Plant Components.			Remarks: See RR1.	
Parameter	OST (Frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
Pi	1.15.1 (Q)	X	Local pressure indicators [PI-100-181, 183, or 185].	
ΔP	1.15.1 (Q)	X	Calculated using discharge pressure Indicator [PI-100-100A], local, and pump suction pressure.	
Q	1.15.1 (Q)	X	Total flow from [FI-100-117], [FI-100-118], and [FI-100-119].	
V	1.15.1 (Q)	RR1	Portable monitoring equipment using velocity units.	
Ib	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	1.15.1 (Q)	X	Bearing housing provided with oil level reservoir indicator, local.	

B.V.P.S.-1 I.S.T.

PUMP TESTING OUTLINE

Pump Name: 1B Component Cooling Water Pump	Pump Number: CC-P-1B	Code Class: 3	System: 15 Reactor Plant Cooling Water
Function: To provide cooling water to Rx Plant Components.		Remarks: See RR1.	
Parameter	OST (Frequency)	Req'd	Comments
N	NA	NA	Constant speed induction motor.
Pi	1.15.2 (Q)	X	Local pressure indicators [PI-1CC-181, 183, or 185].
ΔP	1.15.2 (Q)	X	Calculated using discharge pressure Indicator [PI-1CC-1008], local, and pump suction pressure.
Q	1.15.2 (Q)	X	Total flow from [FI-1CC-117], [FI-1CC-118], and [FI-1CC-119].
V	1.15.2 (Q)	RR1	Portable monitoring equipment using velocity units.
Tb	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.
L	1.15.2 (Q)	X	Bearing housing provided with oil level reservoir indicator, local.

B.V.P.S.-1 I.S.T.
PUMP TESTING OUTLINE

Pump Name: 1C Component Cooling Water Pump	Pump Number: CC-P-1C	Code Class: 3	System: 15 Reactor Plant Cooling Water.
Function: To provide water to Rx Plant Components.		Remarks: See RRI.	
Parameter	OST (Frequency)	Req'd	Comments
N	NA	NA	Constant speed induction motor.
Pi	1.15.3 (Q)	X	Local pressure indicators [PI-100-181, 183, or 185].
ΔP	1.15.3 (Q)	X	Calculated using discharge pressure indicator [PI-100-100C], local, and pump suction pressure.
Q	1.15.3 (Q)	X	Total flow from [FI-100-117], [FI-100-118], and [FI-100-119].
V	1.15.3 (Q)	RR1	Portable monitoring equipment using velocity units.
Tb	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.
L	1.15.3 (Q)	X	Bearing housing provided with oil level reservoir indicator, local.

B.V.P.S.-1 I.S.I.

PUMP OUTLINE TESTING

Pump Name: 1A River Water Pump		Pump Number: WR-7-1A	Code Class: 3	System: 30 River Water
Function: To provide a source of water during normal and emergency conditions to primary plant heat exchangers and equipment.		Remarks: See RR1 and RR2.		
Parameter	OSI (Frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
PI	1.30.2 (Q)	RR2	No installed instrumentation to measure suction pressure. Calculate PI using the Ohio River level.	
ΔP	1.30.2 (Q)	X	ΔP is calculated using the pump discharge pressure indicator [PI-1RW-101A] and the calculated PI.	
Q	1.30.2 (Q)	X	Flow indicator [FI-1RW-102A] (VB, Section A).	
V	1.30.2 (Q)	RR1	Portable monitoring equipment using velocity units.	
Tb	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	NA	NA	No lubricant level or pressure to observe. Lubrication is by the fluid being pumped.	

PUMP TESTING OUTLINE

Pump Name: 1B River Water Pump		Pump Number: WR-P-1B	Code Class: 3	System: 30 River Water
Function: To provide a source of water during normal and emergency conditions to primary plant heat exchangers and equipment.			Remarks: See RR1 and RR2.	
Parameter	OST (Frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
Pi	1.30.3 (Q)	RR2	Calculate Pi using the Ohio River level. No installed instrumentation to measure suction pressure.	
ΔP	1.30.3 (Q)	X	ΔP is calculated using the pump discharge pressure indicator [PI-1RW-101B] and the calculated Pi.	
Q	1.30.3 (Q)	X	Flow indicator [FI-1RW-102B] (VB, Section A).	
V	1.30.3 (Q)	RR1	Portable monitoring equipment using velocity units.	
Tb	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	NA	RA	No lubricant level or pressure to observe. Lubrication is by the fluid being pumped.	

B.V.P.S.-1 I.S.T.

PUMP TESTING OUTLINE

Pump Name: 1C River Water Pump		Pump Number: WR-P-1C	Code Class: 3	System: 30 River Water
Function: To provide a source of water during normal and emergency conditions to primary plant heat exchangers and equipment.		Remarks: See RR1 and RR2.		
Parameter	OST (frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
Pi	1.30.6 (Q)	RR2	Calculate Pi using the Ohio River level. No installed instrumentation to measure suction pressure.	
ΔP	1.30.6 (Q)	X	ΔP is calculated using the pump discharge pressure indicator [PI-1RW-101C] and the calculated Pi.	
Q	1.30.6 (Q)	X	Flow indicator [FI-1RW-102C] (VB, Section A).	
V	1.30.6 (Q)	RR1	Portable monitoring equipment using velocity units.	
Tb	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	NA	NA	No lubricant level or pressure to observe. Lubrication is by the fluid being pumped.	

SECTION III. PUMP TESTING RELIEF REQUESTS

RELIEF REQUEST 4

Pump Mark No(s): RH-P-1A
RH-P-1B

Code Test Requirement: Quarterly pump testing.

Basis for Relief: Testing the RHR pumps quarterly would require making an entry into the subatmospheric containment. In addition, any testing done at power would be limited to the pump recirculation flow path due to pressure and temperature interlocks between the RHR and RC Systems which prevent lining up the two systems at power. The pump recirculation flow path lacks the necessary instrumentation to measure pump flow rate.

Alternate Test: These pumps will be tested during cold shutdowns per OST 1.10.1.

RELIEF REQUEST 5

Pump Mark No(s): QS-P-4A
QS-P-4B
QS-P-4C
QS-P-4D

Code Test Requirements: Measure suction pressure, ΔP and flow.

Basis for Relief: The function of these pumps is to provide 32 gpm of NaOH water to the suction of the quench spray pumps during an accident. Since these pumps are positive displacement, flow rate and differential pressure are independent variables. Unlike centrifugal style pumps, it is not necessary to measure both parameters to assess the hydraulic performance of these pumps.

Alternate Test: Pump discharge pressure and flow rate will be utilized for evaluating pump performance.

RELIEF REQUEST 12

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SECTION IV. VALVE TESTING REQUIREMENTS

Check valves will be exercised to the position required to fulfill their function every three months, unless such operation is not practical during plant operation. If only limited operation is practical during plant operation, the check valve will be part-stroke exercised at power and full-stroke exercised every cold shutdown, not to exceed more than once every three months. Check valves that are normally open during plant operation and 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. Check valves that are normally closed during plant operation and 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 when a mechanical opening force is applied to the disk.

If a check valve fails to exhibit the required change of disk position by this testing, then the check valve shall be declared inoperable **immediately and an evaluation of the check valve's condition with respect to system operability and technical specifications shall be made as follows:**

1. If the inoperable check valve is in a system covered by a technical specification, an assessment of its condition must be made to determine if it makes the system inoperable. If the condition of the check valve renders the system inoperable, then the applicable system technical specification action statements must be followed.
2. Corrective action (ie., MWR) shall be initiated immediately for the check valve's repair or replacement.
3. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supercede the requirements of any technical specification.
4. If the check valve is not covered by any technical specifications and the condition of the check valve cannot be corrected within 24 hours, then the check valve shall be declared inoperable per ASME.

Before returning the check valve to service after corrective action, a retest showing acceptable operation will be run.

- C. Category D valves are valves which are actuated by an energy source capable of only one operation, such as rupture disks or explosively actuated valves. There are no ASME Class 1, 2, or 3 Category D valves at BVPS, Unit 1.

5. The test requirements will be listed using the abbreviations below:

- QS - Quarterly Stroke
- QST - Quarterly Stroke and Time
- LT - Leak Rate Test
- SPT - Set Point Test
- LM - Leakage Monitoring
- POS - Position Verification
- NA - Not Applicable

6. The specific Cold Shutdown Justification (CSJ) reference number or the Relief Request (RR) reference number will be listed.

7. The specific test procedure number, frequency, type of testing, and any comments will be listed using the abbreviations below:

- OM - Operating Manual
- BVT - **Beaver Valley Test (Unit 1)**
- OST - **Operating Surveillance Test**
- CMP - Corrective Maintenance Procedure
- CSD - Cold Shutdown
- R - Refueling
- RD - Reverse Direction
- SA - Semiannual
- Q - Quarterly
- W - Weekly
- M - Monthly
- S - Shiftly
- FS - Full Stroke
- PS - Partial Stroke
- FD - Forward Direction

- B. The "Cold Shutdown Justification" section contains the detailed technical description of conditions prohibiting the required testing of safety-related valves and an alternate test method to be performed during cold shutdowns. Cold shutdown valve testing will commence within 48 hours of reaching cold shutdown conditions, but need not be completed more often than once every 92 days. Attempts will be made to complete testing prior to entering Mode 4. However, completion will not be a Mode 4 requirement. The testing will resume where left off when next entering Mode 5. For planned cold shutdowns, where ample time is available to complete testing on all valves identified for the cold shutdown test frequency, exceptions to the 48 hour requirement can be taken.

The BVPS, Unit 1 reactor containment is maintained subatmospheric as required by technical specifications. The subatmospheric condition presents a hazardous working environment for station personnel and is considered inaccessible for surveillance testing. Surveillance testing that requires reactor containment entry will be performed at cold shutdown and refueling.

- C. The "Valve Relief Requests" section contains the detailed technical description of conditions prohibiting the required testing of safety-related valves, an alternate test method and frequency of revised testing.

SECTION V. VALVE TESTING OUTLINES

VALVE TESTING OUTLINE

SYSTEM NAME: Reactor Coolant SystemSYSTEM NUMBER: 6

Valve Mark Number	Class	Valve Category						NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P							
1RC-68	2	X		X				RM155B	B-2	QS	RR2	1BVT 1.47.5-FS,RD by Leak Test (R)	
										LT	RR1	1BVT 1.47.5-Leak Test (R)	
1RC-72	2	X		X				RM155B	B-2	QS	RR3	1BVT 1.47.5-FS,RD by Leak Test (R)	
										LT	RR1	1BVT 1.47.5-Leak Test (R)	
TV-1RC-101	2	X					S	RM155B	B-1	QST		OST 1.47.3A-Stroke and Time (Q)	
										LT	RR1	1BVT 1.47.5-Leak Test (R)	
SOV-1RC-102A	1		X				LS	RM155B	A-8	QST	CSJ1	OST 1.1.10-Stroke & Time (CSD)	
SOV-1RC-102B	1		X				LS	RM155B	A-8	QST	CSJ1	OST 1.1.10-Stroke & Time (CSD)	
SOV-1RC-103A	1		X				LS	RM155B	A-5	QST	CSJ1	OST 1.1.10-Stroke & Time (CSD)	
SOV-1RC-103B	1		X				LS	RM155B	A-5	QST	CSJ1	OST 1.1.10-Stroke & Time (CSD)	
SOV-1RC-104	1		X				LS	RM155B	B-5	QST	CSJ1	OST 1.1.10-Stroke & Time (CSD)	
SOV-1RC-105	1		X				LS	RM155B	B-5	QST	CSJ1	OST 1.1.10-Stroke & Time (CSD)	
1RC-277	2	X				X	S	RM155B	C-10	LT	RR1	1BVT 1.47.5-Leak Test (R)	
1RC-278	2	X				X	S	RM155B	C-10	LT	RR1	1BVT 1.47.5-Leak Test (R)	
PCV-1RC-455C	1		X				A	RM155B	A-9	QST	CSJ2	OST 1.6.8-Stroke & Time (CSD)	
PCV-1RC-455D	1		X				A	RM155B	B-9	QST	CSJ2	OST 1.6.8-Stroke & Time (CSD)	

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VALVE TESTING OUTLINE

SYSTEM NUMBER: 6SYSTEM NAME: Reactor Coolant System

Valve Mark Number	Class	Valve Category					NSA	Drawing C/W No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
PCV-1RC-456	1		X				A	RM155B	B-9	QST	CSJ2	OST 1.1.10-Stroke & Time (CSD)
TV-1RC-519	2	X					S	RM155B	B-1	QST LT		OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
MOV-1RC-535	1		X				O	RM155B	A-9	QST		OST 1.6.6-Stroke & Time (M) OST 1.6.8-Stroke Only (CSD)
MOV-1RC-536	1		X				O	RM155B	B-9	QST		OST 1.6.6-Stroke & Time (M) OST 1.1.10-Stroke & Time (CSD)
MOV-1RC-537	1		X				O	RM155B	B-9	QST		OST 1.6.6-Stroke & Time (M) OST 1.6.8-Stroke Only (CSD)
RV-1RC-551A	1			X				RM155B	A-6	SPT		1BVT 1.60.5--(R)
RV-1RC-551B	1			X				RM155B	A-7	SPT		1BVT 1.60.5--(R)
RV-1RC-551C	1			X				RM155B	A-7	SPT		1BVT 1.60.5--(R)

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VALVE TESTING OUTLINE

SYSTEM NAME: Chemical and Volume ControlSYSTEM NUMBER: 7

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1CH-22	2			X				RM159A	F-2	QS		OST 1.7.4-PS,FD (Q)
										QS		OST 1.7.5(6)-FS,RD (Q)
										QS	RR4	OST 1.11.14-FS,FD (R)
1CH-23	2			X				RM159A	F-4	QS		OST 1.7.5-PS,FD (Q)
										QS		OST 1.7.4(6)-FS,RD (Q)
										QS	RR4	OST 1.11.14-FS,FD (R)
1CH-24	2			X				RM159A	F-5	QS		OST 1.7.6-PS,FD (Q)
										QS		OST 1.7.4(5)-FS,RD (Q)
										QS	RR4	OST 1.11.14-FS,FD (R)
1CH-25	2		X			X	LO	RM159A	F-2	POS		Locked or sealed valve log
1CH-26	2		X			X	LO	RM159A	E-4	POS		Locked or sealed valve log
1CH-27	2		X			X	LO	RM159A	E-5	POS		Locked or sealed valve log
1CH-31	2	X		X				RM159A	B-5	QS	RR5	18VT 1.47.11-FS,RD by Leak Test (R)
										LT		18VT 1.47.11-Leak Test (R)
1CH-75	3			X				RM159B	G-4	QS		OST 1.7.1-PS,FD (Q)
										QS	CSJ3	OST 1.1.10-FS,FD (CSD)
1CH-76	3			X				RM159B	G-5	QS		OST 1.7.2-PS,FD (Q)
										QS	CSJ3	OST 1.1.10-FS,FD (CSD)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: Chemical and Volume ControlSYSTEM NUMBER: 7

Valve Mark Number	Class	Valve Category						NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P							
1CH-84	3			X				RM159A	E-8	QS	CSJ9	OST 1.1.10-FS, FD (CSD)	
FCV-1CH-113A	3		X				A	RM159A	E-8	QST		OST 1.47.3A-Stroke & Time (Q)	
MOV-1CH-115B	2		X				S	RM159A	F-6	QST		OST 1.47.3A-Stroke & Time (Q)	
MOV-1CH-115C	2		X				O	RM159A	D-7	QST	CSJ4	OST 1.1.10-Stroke & Time (CSD)	
MOV-1CH-115D	2		X				S	RM159A	F-6	QST		OST 1.47.3A-Stroke & Time (Q)	
MOV-1CH-115E	2		X				O	RM159A	D-7	QST	CSJ4	OST 1.1.10-Stroke & Time (CSD)	
1CH-135	3		X				S	RM159A	E-7	QS		OST 1.47.3A-Stroke Only (Q)	
1CH-136	3			X				RM159A	F-7	QS	CSJ9	OST 1.1.10-FS, FD (CSD)	
1CH-141	2			X				RM159A	G-7	QS	CSJ5	OST 1.1.10-FS, FD (CSD)	
MOV-1CH-142	2	X				X	S	RM159A	B-4	LT	RR1	1BVT 1.47.5-Leak Test (R)	
1CH-152	2			X				RM159A	F-2	QS		OST 1.7.4-FS, FD (Q)	
										QS		OST 1.7.5(6)-FS, RD (Q)	
1CH-153	2			X				RM159A	F-4	QS		OST 1.7.5-FS, FD (Q)	
										QS		OST 1.7.4(6)-FS, RD (Q)	
1CH-154	2			X				RM159A	F-5	QS		OST 1.7.6-FS, FD (Q)	
										QS		OST 1.7.4(5)-FS, RD (Q)	

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Chemical and Volume ControlSYSTEM NUMBER: 7

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1CH-158	2		X			X	LO	RM159A	E-2	POS		Locked or sealed valve log
1CH-159	2		X			X	LO	RM159A	E-4	POS		Locked or sealed valve log
FCV-1CH-160	2	X				X	S	RM159A	B-5	LT		1BVT 1.47.11-Leak Test (R)
1CH-161	2		X			X	LO	RM159A	E-5	POS		Locked or sealed valve log
1CH-170	1	X		X		X		RM159A	B-5	LT		1BVT 1.47.11-Leakage corrected for functional P during leak test (R)
1CH-181	2	X		X				RM159A	D-2	QS	RR6	1BVT 1.47.11-FS,RD by Leak Test (R)
										LT		1BVT 1.47.11-Leak Test (R)
1CH-182	2	X		X				RM159A	D-3	QS	RR6	1BVT 1.47.11-FS,RD by Leak Test (R)
										LT		1BVT 1.47.11-Leak Test (R)
1CH-183	2	X		X				RM159A	D-4	QS	RR6	1BVT 1.47.11-FS,RD by Leak Test (R)
										LT		1BVT 1.47.11-Leak Test (R)
TV-1CH-200A	2	X					S	RM159A	A-4	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1,RR7	1BVT 1.47.5-Leak Test (R)
TV-1CH-200B	2	X					O	RM159A	A-4	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1,RR7	1BVT 1.47.5-Leak Test (R)

BVPS-1 1ST
VALVE TESTING OUTLINE

SYSTEM NAME: Chemical and Volume Control

SYSTEM NUMBER: 7

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1CH-200C	2	X					S	RM159A	A-4	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1,RR7	1BVT 1.47.5-Leak Test (R)
RV-1CH-203	2	X		X				RM159A	A-4	SPT		1BVT 1.60.5-(R)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CH-204	2	X					O	RM159A	B-5	QST	CSJ6	OST 1.1.10-Stroke & Time (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
RV-1CH-209	2			X				RM159A	B-8	SPT		1BVT 1.60.5-(R)
RV-1CH-257	2			X				RM159A	B-7	SPT		1BVT 1.60.5-(R)
MOV-1CH-275A	2		X				O	RM159A	F-3	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1CH-275B	2		X				O	RM159A	F-4	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1CH-275C	2		X				O	RM159A	F-5	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1CH-289	2	X					O	RM159A	B-5	QST	CSJ6	OST 1.1.10-Stroke & Time (CSD)
										LT		1BVT 1.47.11-Leak Test (R)
MOV-1CH-308A	2	X					O	RM159A	D-2	QST	RR10	OST 1.1.10-Stroke & Time (CSD)(R)
										LT		1BVT 1.47.11-Leak Test (R)
MOV-1CH-308B	2	X					O	RM159A	D-3	QST	RR10	OST 1.1.10-Stroke & Time (CSD)(R)
										LT		1BVT 1.47.11-Leak Test (R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Chemical and Volume ControlSYSTEM NUMBER: 7

Valve Mark Number	Class	Valve Category						NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P							
MOV-1CH-303C	2	X					0	RM159A	D-4	QST	RR10	OST 1.1.10-Stroke & Time (CSD)(R)	
										LT		1BVT 1.47.11-Leak Test (R)	
MOV-1CH-310	1		X				0	RM159A	A-2	QST	CSJ7	OST 1.1.10-Stroke & Time (CSD)	
MOV-1CH-350	3		X				5	RM159A	G-7	QST		OST 1.47.3A-Stroke & Time (Q)	
1CH-369	2	X		X				RM159A	D-5	QS	RR8	1BVT 1.47.5-FS, RD by Leak Test (R)	
										LT	RR1, RR9	1BVT 1.47.5-Leak Test (R)	
MOV-1CH-370	2		X				0	RM159A	E-2	QST	RR11	OST 1.1.10-Stroke & Time (CSD)(R)	
MOV-1CH-373	2		X				0	RM159A	D-6	QST	CSJ8	OST 1.1.10-Stroke & Time (CSD)	
MOV-1CH-378	2	X					0	RM159A	D-5	QST	RR12	OST 1.1.10-Stroke & Time (CSD)(R)	
										LT	RR1, RR9	1BVT 1.47.5-Leak Test (R)	
MOV-1CH-381	2	X					0	RM159A	D-5	QST	RR12	OST 1.1.10-Stroke & Time (CSD)(R)	
										LT	RR1	1BVT 1.47.5-Leak Test (R)	
RV-1CH-382A	2			X				RM159A	C-4	SPT		1BVT 1.60.5-(R)	
RV-1CH-382B	2			X				RM159A	C-7	SPT		1BVT 1.60.5-(R)	
RV-1CH-383	2			X				RM159A	B-3	SPT		1BVT 1.60.5-(R)	

VALVE TESTING OUTLINE

SYSTEM NAME: Chemical and Volume Control

SYSTEM NUMBER: 7

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
LCV-1CH-460A	1		X				0	RM159A	A-2	QST	CSJ7	OST 1.1.10-Stroke & Time (CSD)
LCV-1CH-460B	1		X				0	RM159A	A-3	QST	CSJ7	OST 1.1.10-Stroke & Time (CSD)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 9

Reactor Plant Vents and Drains

SYSTEM NAME:

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1DA-100A	2	X					A	RM169A	G-5	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
TV-1DA-100B	2	X					O	RM169A	G-5	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
TV-1DG-108A	2	X					O	RM169A	G-8	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
TV-1DG-108B	2	X					O	RM169A	G-8	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
TV-1DG-109A1	2	X					A	RM169A	A-9	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
TV-1DG-109A2	2	X					A	RM169A	A-8	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)

BVFS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 10

SYSTEM NAME: Residual Heat Removal

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1RH-3	2			X				RM156A	E-2	QS	CSJ10	OST 1.10.1-FS,FD,RD (CSD)
1RH-4	2			X				RM156A	E-3	QS	CSJ10	OST 1.10.1-FS,FD,RD (CSD)
1RH-14	2	X				X	S	RM156A	D-7	LT	RR1	1BVT 1.47.5-Leak Test (R)
1RH-15	2	X				X	S	RM156A	C-8	LT	RR1	1BVT 1.47.5-Leak Test (R)
1RH-16	2	X				X	S	RM156A	C-9	LT	RR1	1BVT 1.47.5-Leak Test (R)
MOV-1RH-700	1	X					S	RM156A	F-6	QSI	CSJ11	OST 1.10.4-Stroke & Time (CSD)
										LM		OST 1.10.5-Leakage Monitoring (R)
MOV-1RH-701	1	X					S	RM156A	F-6	QSI	CSJ11	OST 1.10.4-Stroke & Time (CSD)
										LM		OST 1.10.5-Leakage Monitoring (R)
MOV-1RH-720A	1	X					S	RM156A	D-9	QSI	CSJ11	OST 1.10.4-Stroke & Time (CSD)
										LM		Continuous Monitoring of RHR Pump Discharge Pressure
MOV-1RH-720B	1	X					S	RM156A	E-9	QSI	CSJ11	OST 1.10.4-Stroke & Time (CSD)
										LM		Continuous Monitoring of RHR Pump Discharge Pressure
RV-1RH-721	2			X				RM156A	D-7	SPT		1BVT 1.60.5-(R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: Safety Injection SystemSYSTEM NUMBER: 11

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1SI-1	2			X				RM167A	G-3	QS	RR13	Sample Visual Inspection per CMP 1-75-ALOYCO-1M (R)
1SI-2	2			X				RM167A	G-5	QS	RR13	Sample Visual Inspection per CMP 1-75-ALOYCO-1M (R)
1SI-5	2			X				RM167A	F-6	QS		OST 1.11.1(2)-PS,FD (Q)
										QS	RR14	OST 1.11.14-FS,FD (R)
1SI-6	2			X				RM167A	F-3	QS		OST 1.11.1-PS,FD (Q)
										QS		OST 1.11.2-FS,FD (Q)
										QS	RR15	OST 1.11.14-FS,FD (R)
1SI-7	2			X				RM167A	F-6	QS		OST 1.11.1-FS,FD (Q)
										QS		OST 1.11.2-PS,FD (Q)
										QS	RR15	OST 1.11.14-FS,FD (R)
1SI-10	1	X		X				RM167B	C-2	QS	RR16	OST 1.11.16-FS,FD by Leak Test (R)
										QS	RR16	OST 1.11.14-FS,FD (R)
										LT		OST 1.11.16-Leak Test (R)
1SI-11	1	X		X				RM167B	B-2	QS	RR16	OST 1.11.16-FS,FD by Leak Test (R)
										QS	RR16	OST 1.11.14-FS,FD (R)
										LT		OST 1.11.16-Leak Test (R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Safety Injection SystemSYSTEM NUMBER: 11

Valve Mark Number	Class	Valve Category						NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P							
1SI-12	1	X		X				RM167E	B-2	QS	RR16	OST 1.11.16-FS,RD by Leak Test (R)	
										QS	RR16	OST 1.11.14-FS,FD (R)	
										LT		OST 1.11.16-Leak Test (R)	
1SI-13	2	X		X		X		RM167B	C-9	LT		1BVT 1.47.11-Leak Test (R)	
1SI-14	2	X		X		X		RM167B	B-9	LT		1BVT 1.47.11-Leak Test (R)	
1SI-15	1	X		X		X		RM167B	B-2	LT		OST 1.11.19-Leak Test (R)	
1SI-16	1	X		X		X		RM167B	B-2	LT		OST 1.11.19-Leak Test (R)	
1SI-17	1	X		X		X		RM167B	B-2	LT		OST 1.11.19-Leak Test (R)	
1SI-20	1			X				RM167B	A-1	QS	RR17	OST 1.11.14-FS,FD (R)	
1SI-21	1			X				RM167B	A-1	QS	RR17	OST 1.11.14-FS,FD (R)	
1SI-22	1			X				RM167B	A-1	QS	RR17	OST 1.11.14-FS,FD (R)	
1SI-23	1	X		X				RM167B	B-1	QS	RR18	OST 1.11.16-FS,RD by Leak Test (R)	
										QS	RR18	OST 1.11.14-FS,FD (R)	
										LT		OST 1.11.16-Leak Test (R)	
1SI-24	1	X		X				RM167B	B-1	QS	RR18	OST 1.11.16-FS,RD by Leak Test (R)	
										QS	RR18	OST 1.11.14-FS,FD (R)	
										LT		OST 1.11.16-Leak Test (R)	

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Safety Injection SystemSYSTEM NUMBER: 11

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1SI-25	1	X		X				RM167B	B-1	QS	RR18	OST 1.11.16-FS, RD by Leak Test (R)
										QS	RR18	OST 1.11.14-FS, FD (R)
										LT		OST 1.11.16-Leak Test (R)
1SI-27	2			X				RM167	E-7	QS		OST 1.7.4, 5 or 6-PS, FD (Q)
										QS	RR19	OST 1.11.14-FS, FD (R)
1SI-28	2			X				167A	F-5	QS		OST 1.11.1-FS, RD (Q)
										QS		OST 1.11.2-FS, FD (Q)
1SI-29	2			X				RM167A	F-3	QS		OST 1.11.1-FS, FD (Q)
										QS		OST 1.11.2-FS, RD (Q)
1SI-41	2	X				X	LS	RM167A	D-2	POS		Locked or sealed valve log
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1SI-42	2	X		X		X		RM167B	D-9	LT	RR1	1BVT 1.47.5-Leak Test (R)
1SI-48	1	X		X				RM167B	G-3	QS	RR20	1BVT 1.11.3-FS, FD (R)
										LT		OST 1.11.4B-Leak Test (R)
1SI-49	1	X		X				RM167B	F-6	QS	RR20	1BVT 1.11.3-FS, FD (R)
										LT		OST 1.11.4B-Leak Test (R)
1SI-50	1	X		X				RM167B	D-3	QS	RR20	1BVT 1.11.3-FS, FD (R)
										LT		OST 1.11.4B-Leak Test (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 11

SYSTEM NAME: Safety Injection System

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ Relief Request	Comments
		A	B	C	D	P						
1S1-51	1	X		X				RM167B	G-2	QS LT	RR20	1BVT 1.11.3-FS, FD (R) OST 1.11.4A-Leak Test (R)
1S1-52	1	X		X				RM167B	F-2	QS LT	RR20	1BVT 1.11.3-FS, FD (R) OST 1.11.4A-Leak Test (R)
1S1-53	1	X		X				RM167B	E-2	QS LT	RR20	1BVT 1.11.3-FS, FD (R) OST 1.11.4A-Leak Test (R)
1S1-83	1	X		X				RM167B	A-7	QS LT	RR21	OST 1.11.14-FS, FD (R) 1BVT 1.47.11-Leak Test (R)
1S1-84	1	X		X				RM167B	A-7	QS LT	RR21	OST 1.11.14-FS, FD (R) 1BVT 1.47.11-Leak Test (R)
1S1-94	2	X		X				RM167B	B-7	QS LT	RR22	OST 1.11.14-FS, FD (R) 1BVT 1.47.11-Leak Test (R)
1S1-95	2	X		X				RM167B	B-7	QS LT	RR22	OST 1.11.14-FS, FD (R) 1BVT 1.47.11-Leak Test (R)
1S1-100	1			X				RM167B	B-2	QS	RR17	OST 1.11.14-FS, FD (R)
1S1-101	1			X				RM167B	B-2	QS	RR17	OST 1.11.14-FS, FD (R)

BVPS-1 IST
VALVE TESTING OUTLINE

SYSTEM NAME: Safety Injection System

SYSTEM NUMBER: 11

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1SI-101-1	2	X					S	RM167B	C-9	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1SI-101-2	2	X					S	RM167B	C-9	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1SI-102	1			X				RM167B	B-2	QS	RR17	OST 1.11.14-FS,FD (R)
1SI-447	2		X			X	LO	RM167A	G-3	POS		Locked or sealed valve log
1SI-448	2		X			X	LO	RM167A	G-5	POS		Locked or sealed valve log
1SI-451	2		X			X	LO	RM167A	E-2	POS		Locked or sealed valve log
1SI-452	2		X			X	LO	RM167A	E-2	POS		Locked or sealed valve log
MOV-1SI-836	2	X					S	RM167A	A-2	QST	CSJ12	OST 1.1.10-Stroke & Time (CSD)
										LT		1BVT 1.47.11-Leak Test (R)
MOV-1SI-842	2	X					S	RM167B	D-9	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
RV-1SI-845A	2			X				RM167A	E-3	SPT		1BVT 1.60.5-(R)
RV-1SI-845B	2			X				RM167A	E-3	SPT		1BVT 1.60.5-(R)
RV-1SI-845C	2			X				RM167A	E-5	SPT		1BVT 1.60.5-(R)

VALVE TESTING OUTLINE

SYSTEM NAME: Safety Injection SystemSYSTEM NUMBER: 11

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
RV-1SI-857	2			X				RM167A	A-4	SPT		1BVT 1.60.5-(R)
RV-1SI-858A	2			X				RM167B	F-3	SPT		1BVT 1.60.5-(R)
RV-1SI-858B	2			X				RM167B	E-6	SPT		1BVT 1.60.5-(R)
RV-1SI-858C	2			X				RM167B	C-3	SPT		1BVT 1.60.5-(R)
MOV-1SI-860A	2	X					S	RM167A	G-2	QST	CSJ13	OST 1.1.10-Stroke & Time (CSD)
										LT		1BVT 1.47.11-Leak Test (R)
MOV-1SI-860B	2	X					S	RM167A	G-5	QST	CSJ13	OST 1.1.10-Stroke & Time (CSD)
										LT		1BVT 1.47.11-Leak Test (R)
MOV-1SI-862A	2		X				O	RM167A	G-4	QST		OST 1.11.6-Stroke & Time (Q)
MOV-1SI-862B	2		X				O	RM167A	G-5	QST		OST 1.11.7-Stroke & Time (Q)
MOV-1SI-863A	2		X				S	RM167A	E-4	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1SI-863B	2		X				S	RM167A	E-6	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1SI-864A	2		X				O	RM167A	E-3	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1SI-864B	2		X				O	RM167A	E-3	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1SI-865A	2		X			X	O	RM167B	G-3	POS		Log L-5 (S); OST 1.11.9 (M)

BVPS-1 ISI

VALVE TESTING OUTLINE

SYSTEM NUMBER: 11

SYSTEM NAME: Safety Injection System

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
MOV-1SI-865B	2		X			X	O	RM167B	E-6	POS		Log L-5 (S); OST 1.11.9 (M)
MOV-1SI-865C	2		X			X	O	RM167B	D-3	POS		Log L-5 (S); OST 1.11.9 (M)
MOV-1SI-867A	2		X				S	RM167A	C-7	QST	RR23	OST 1.11.14-Stroke and Time (R)
MOV-1SI-867B	2		X				S	RM167A	C-7	QST	RR23	OST 1.11.14-Stroke and Time (R)
MOV-1SI-867C	2	X					S	RM167A	B-2	QST	RR24	OST 1.11.14-Stroke & Time (R)
										LT		18VT 1.47.11-Leak Test (R)
MOV-1SI-867D	2	X					S	RM167A	B-2	QST	RR24	OST 1.11.14-Stroke & Time (R)
										LT		18VT 1.47.11-Leak Test (R)
MOV-1SI-869A	2	X					S	RM167A	A-2	QST	CSJ12	OST 1.1.10-Stroke & Time (CSD)
										LT		18VT 1.47.11-Leak Test (R)
MOV-1SI-869B	2	X					S	RM167A	C-4	QST	CSJ14	OST 1.1.10-Stroke & Time (CSD)
										LT		18VT 1.47.11-Leak Test (R)
TV-1SI-884A	2		X				O	RM167A	A-5	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1SI-884B	2		X				O	RM167A	A-5	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1SI-884C	2		X				O	RM167A	B-6	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1SI-885A	2		X				O	RM167A	E-2	QST		OST 1.47.3A-Stroke & Time (Q)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: Safety Injection SystemSYSTEM NUMBER: 11

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
MOV-1SI-885B	2		X				O	RM167A	E-3	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1SI-885C	2		X				O	RM167A	E-3	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1SI-885D	2		X				O	RM167A	E-3	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1SI-889	2	X					S	RM167A	D-1	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
MOV-1SI-890A	2	X				X	S	RM167A	E-2	LT		1BVT 1.47.11-Leak Test (R)
MOV-1SI-890B	2	X				X	S	RM167A	E-2	LT		1BVT 1.47.11-Leak Test (R)
MOV-1SI-890C	2	X					O	RM167A	E-2	QST	CSJ15	OST 1.1.10-Stroke & Time (CSD)
										LT		1BVT 1.47.11-Leak Test (R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Containment Vacuum and Leakage Monitoring SYSTEM NUMBER: 12

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1LM-100A1	2	X					S	RM168A	C-3	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1LM-100A2	2	X					S	RM168A	C-4	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CV-101A	2	X					O	RM168A	D-7	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CV-101B	2	X					O	RM168A	D-7	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CV-102	2	X					O	RM168A	E-7	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CV-102-1	2	X					O	RM168A	E-8	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CV-150A	2	X					O	RM168A	F-7	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1,RR40	1BVT 1.47.5-Leak Test (R)
TV-1CV-150B	2	X					S	RM168A	F-7	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1,RR40	1BVT 1.47.5-Leak Test (R)
TV-1CV-150C	2	X					O	RM168A	F-7	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1,RR41	1BVT 1.47.5-Leak Test (R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Containment Vacuum and Leakage Monitoring SYSTEM NUMBER: 12

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1CV-150D	2	X					S	RM168A	F-7	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1, RR41	1BVT 1.47.5-Leak Test (R)
HCV-1CV-151	2	X				X	LS	RM168A	F-8	LT	RR1	1BVT 1.47.5-Leak Test (R)
HCV-1CV-151-1	2	X				X	LS	RM168A	F-7	LT	RR1	1BVT 1.47.5-Leak Test (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 13

SYSTEM NAME: Containment Depressurization (Q&RS)

Valve Mark Number	Class	Valve Category				NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P					
1QS-3	2	X		X			RM165A	B-5	QS LT	CSJ16 RR1	OST 1.1.10-FS,FD (CSD) 1BVT 1.47.5-Leak Test (R)
1QS-4	2	X		X			RM165A	B-5	QS LT	CSJ16 RR1	OST 1.1.10-FS,FD (CSD) 1BVT 1.47.5-Leak Test (R)
MOV-1QS-100A	2		X				RM165A	C-7	QS*		OST 1.47.3A-Stroke & Time (Q)
MOV-1QS-100B	2		X				RM165A	C-7	QST		OST 1.47.3A-Stroke & Time (Q)
RV-1QS-100A	2			X			RM165A	E-8	SPT		1BVT 1.60.5-(R)
RV-1QS-100B	2			X			RM165A	E-8	SPT		1BVT 1.60.5-(R)
MOV-1QS-101A	2	X					RM165A	B-5	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
MOV-1QS-101B	2	X					RM165A	B-5	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
MOV-1QS-103A	2		X				RM165A	C-5	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1QS-103B	2		X				RM165A	C-6	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1QS-104A	2		X				RM165A	E-8	QST		OST 1.13.10A-Stroke & Time (Q)
MOV-1QS-104B	2		X				RM165A	E-7	QST		OST 1.13.10B-Stroke & Time (Q)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 1

SYSTEM NAME: Containment Depressurization (Q&RS)

Valve Mark Number	Class	Valve Category					Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P					
1RS-100	2	X		X			RM165A	E-5	QS	CSJ16	OST 1.1.10-FS, FD (CSD)
									LT	RR1	1BVT 1.47.5-Leak Test (R)
1RS-01	2	X		X			RM165A	E-5	QS	CSJ16	OST 1.1.10-FS, FD (CSD)
									LT	RR1	1BVT 1.47.5-Leak Test (R)
MOV-1RS-155A	2		X				RM165A	G-6	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1RS-155B	2		X				RM165A	G-7	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1RS-156A	2		X				RM165A	E-5	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1RS-156B	2		X				RM165A	E-5	QST		OST 1.47.3A-Stroke & Time (Q)
1RS-157	2		X				RM165A	E-6	QS		OST 1.47.3A-Stroke Only (Q)
1RS-158	2			X			RM165A	E-6	QS	RR25	Sample Visual Inspection per CMP 1/2-75-VELAN CHECK-1M (R)
1RS-159	2		X				RM165A	E-7	QS		OST 1.47.3A-Stroke Only (Q)
1RS-160	2			X			RM165A	E-7	QS	RR25	Sample Visual Inspection per CMP 1/2-75-VELAN CHECK-1M (R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 14

SYSTEM NAME: Sample System

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
IV-1SS-100A1	2	X					0	RM179A	B-4	QSI LI	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
IV-1SS-100A2	2	X					0	RM179A	B-5	QSI LI	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
IV-1SS-102A1	2	X					0	RM179A	A-4	QSI LI	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
IV-1SS-102A2	2	X					0	RM179A	A-5	QSI LI	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
IV-1SS-103A1	2	X					0	RM179A	C-4	QSI LI	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
IV-1SS-103A2	2	X					0	RM179A	C-5	QSI LI	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
IV-1SS-104A1	2	X					0	RM179A	C-4	QSI LI	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
IV-1SS-104A2	2	X					0	RM179A	C-5	QSI LI	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
IV-1SS-105A1	2	X					0	RM179A	B-4	QSI LI	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 14

SYSTEM NAME: Sample System

Valve Mark Number	Class	Valve Category				NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P					
TV-1SS-105A2	2	X					RM179A	B-5	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 18VT 1.47.5-Leak Test (R)
TV-1SS-109A1	2	X					RM179A	C-4	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 18VT 1.47.5-Leak Test (R)
TV-1SS-109A2	2	X					RM179A	C-5	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 18VT 1.47.5-Leak Test (R)
TV-1SS-111A1	2	X					RM179A	B-4	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 13VT 1.47.5-Leak Test (R)
TV-1SS-111A2	2	X					RM179A	B-5	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 18VT 1.47.5-Leak Test (R)
TV-1SS-112A1	2	X					RM179A	C-4	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 18VT 1.47.5-Leak Test (R)
TV-1SS-112A2	2	X					RM179A	C-5	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 18VT 1.47.5-Leak Test (R)
TV-1SS-117A	2		X				RM179A	D-1	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1SS-117B	2		X				RM179A	D-1	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1SS-117C	2		X				RM179A	D-1	QST		OST 1.47.3A-Stroke & Time (Q)

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VALVE TESTING OUTLINE

SYSTEM NUMBER: 15

SYSTEM NAME: Component Cooling Water

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1CC-4	3			X				RM157A	E-6	QS		OST 1.15.1-FS,FD (Q)
										QS		OST 1.15.2(3)-FS,RD (Q)
1CC-5	3			X				RM157A	E-6	QS		OST 1.15.2-FS,FD (Q)
										QS		OST 1.15.1(3)-FS,RD (Q)
1CC-6	3			X				RM157A	E-7	QS		OST 1.15.3-FS,FD (Q)
										QS		OST 1.15.1(2)-FS,RD (Q)
TV-1CC-103A	2	X					0	RM157D	A-4	QST	RR26	OST 1.1.10-Stroke & Time (CSD)(R)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CC-103A1	2	X					0	RM157D	A-4	QST	RR26	OST 1.1.10-Stroke & Time (CSD)(R)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CC-103B	2	X					0	RM157D	A-3	QST	RR26	OST 1.1.10-Stroke & Time (CSD)(R)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CC-103B1	2	X					0	RM157D	A-3	QST	RR26	OST 1.1.10-Stroke & Time (CSD)(R)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CC-103C	2	X					0	RM157D	A-3	QST	RR26	OST 1.1.10-Stroke & Time (CSD)(R)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CC-103C1	2	X					0	RM157D	A-3	QST	RR26	OST 1.1.10-Stroke & Time (CSD)(R)
										LT	RR1	1BVT 1.47.5-Leak Test (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 15

SYSTEM NAME: Component Cooling Water

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1CC-105D1	2	X					0	RM157D	G-6	QST LT	RR26 RR1	OST 1.1.10-Stroke & Time (CSD)(R) 1BVT 1.47.5-Leak Test (R)
TV-1CC-105D2	2	X					0	RM157D	G-6	QST LT	RR26 RR1	OST 1.1.10-Stroke & Time (CSD)(R) 1BVT 1.47.5-Leak Test (R)
TV-1CC-105E1	2	X					0	RM157D	G-5	QST LT	RR26 RR1	OST 1.1.10-Stroke & Time (CSD)(R) 1BVT 1.47.5-Leak Test (R)
TV-1CC-105E2	2	X					0	RM157D	G-5	QST LT	RR26 RR1	OST 1.1.10-Stroke & Time (CSD)(R) 1BVT 1.47.5-Leak Test (R)
TV-1CC-107D1	2	X					0	RM157D	G-5	QST LT	RR26 RR1	OST 1.1.10-Stroke & Time (CSD)(R) 1BVT 1.47.5-Leak Test (R)
TV-1CC-107D2	2	X					0	RM157D	G-5	QST LT	RR26 RR1	OST 1.1.10-Stroke & Time (CSD)(R) 1BVT 1.47.5-Leak Test (R)
TV-1CC-107E1	2	X					0	RM157D	G-4	QST LT	RR26 RR1	OST 1.1.10-Stroke & Time (CSD)(R) 1BVT 1.47.5-Leak Test (R)
TV-1CC-107E2	2	X					0	RM157D	G-4	QST LT	RR26 RR1	OST 1.1.10-Stroke & Time (CSD)(R) 1BVT 1.47.5-Leak Test (R)
TV-1CC-107A	3		X				0	RM157D	C-5	QST	RR26	OST 1.1.10-Stroke & Time (CSD)(R)

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REVISION 6

BVPS-1 IST
VALVE TESTING OUTLINE

SYSTEM NAME: Component Cooling Water

SYSTEM NUMBER: 15

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1CC-107B	3		X				O	RM157D	D-5	QST	RR26	OST 1.1.10-Stroke & Time (CSD)(R)
TV-1CC-107C	3		X				O	RM157D	F-5	QST	RR26	OST 1.1.10-Stroke & Time (CSD)(R)
RV-1CC-109	3			X				RM157B	D-6	SPT		1BVT 1.60.5-(R)
RV-1CC-110	3			X				RM157B	D-6	SPT		1BVT 1.60.5-(R)
TV-1CC-110D	2	X					O	RM129B	G-3	QST	CSJ19	OST 1.1.10-Stroke & Time (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CC-110E2	2	X					O	RM129B	A-2	QST	CSJ19	OST 1.1.10-Stroke & Time (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CC-110E3	2	X					O	RM129B	A-3	QST	CSJ19	OST 1.1.10-Stroke & Time (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1CC-110F1	2	X				X	S	RB129B	G-2	LT	RR1,RR27	1BVT 1.47.5-Leak Test (R)
TV-1CC-110F2	2	X					O	RB129B	G-2	QST	CSJ19	OST 1.1.10-Stroke & Time (CSD)
										LT	RR1,RR27	1BVT 1.47.5-Leak Test (R)
RV-1CC-111A	3			X				RM157B	B-5	SPT		1BVT 1.60.5-(R)
TV-1CC-111A1	2	X					O	RM157C	A-9	QST	CSJ17	OST 1.1.10-Stroke & Time (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 15

SYSTEM NAME: Component Cooling Water

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1CC-111A2	2	X					0	RM157C	A-9	QST LT	CSJ17 RR1	OST 1.1.10-Stroke & Time (CSD) 1BVT 1.47.5-Leak Test (R)
RV-1CC-111B	3			X				RM157B	B-5	SPT		1BVT 1.60.5-(R)
TV-1CC-111D1	2	X					0	RM157C	G-8	QST LT	CSJ17 RR1	OST 1.1.10-Stroke & Time (CSD) 1BVT 1.47.5-Leak Test (R)
TV-1CC-111D2	2	X					0	RM157C	G-8	QST LT	CSJ17 RR1	OST 1.1.10-Stroke & Time (CSD) 1BVT 1.47.5-Leak Test (R)
RV-1CC-112A	3			X				RM129B	B-1	SPT		1BVT 1.60.5-(R)
RV-1CC-112A1	3			X				RM129B	C-1	SPT		1BVT 1.60.5-(R)
MOV-1CC-112A2	2	X					S	RM157D	A-5	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
RV-1CC-112A2	3			X				RM129B	E-1	SPT		1BVT 1.60.5-(R)
MOV-1CC-112A3	2	X					S	RM157D	G-6	QST LT	RR1	OST 1.47.3A-Stroke & Time (Q) 1BVT 1.47.5-Leak Test (R)
RV-1CC-112B	3			X				RM129B	B-3	SPT		1BVT 1.60.5-(R)
RV-1CC-112B1	3			X				RM129B	C-3	SPT		1BVT 1.60.5-(R)

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BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Component Cooling WaterSYSTEM NUMBER: 15

Valve Mark Number	Class	Valve Category						NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P							
MOV-1CC-112B2	2	X					S	RM157D	A-7	QST		OST 1.47.3A-Stroke & Time (Q)	
										LT	RR1	1BVT 1.47.5-Leak Test (R)	
RV-1CC-112B2	3			X				RM129B	E-3	SPT		1BVT 1.60.5-(R)	
MOV-1CC-112B3	2	X					S	RM157D	G-7	QST		OST 1.47.3A-Stroke & Time (Q)	
										LT	RR1	1BVT 1.47.5-Leak Test (R)	
RV-1CC-112C	3			X				RM129B	B-5	SPT		1BVT 1.60.5-(R)	
RV-1CC-112C1	3			X				RM129B	C-5	SPT		1BVT 1.60.5-(R)	
RV-1CC-112C2	3			X				RM129B	E-5	SPT		1BVT 1.60.5-(R)	
RV-1CC-113A	3			X				RM157C	B-7	SPT		1BVT 1.60.5-(R)	
RV-1CC-113B	3			X				RM157C	B-8	SPT		1BVT 1.60.5-(R)	
RV-1CC-113C	3			X				RM157C	B-9	SPT		1BVT 1.60.5-(R)	
RV-1CC-115A	3			X				RM157D	B-3	SPT		1BVT 1.60.5-(R)	
RV-1CC-115B	3			X				RM157D	D-3	SPT		1BVT 1.60.5-(R)	
RV-1CC-115C	3			X				RM157D	E-3	SPT		1BVT 1.60.5-(R)	
RV-1CC-116A	3			X				RM157D	C-4	SPT		1BVT 1.60.5-(R)	

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 15

SYSTEM NAME: Component Cooling Water

Valve Mark Number	Class	Valve Category						NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P							
RV-1CC-116B	3			X				RM157D	D-5	SPT			1BVT 1.60.5-(R)
RV-1CC-116C	3			X				RM157D	F-4	SPT			1BVT 1.60.5-(R)
RV-1CC-117	3			X				RM157D	B-7	SPT			1BVT 1.60.5-(R)
RV-1CC-118	3			X				RM157D		SPT			1BVT 1.60.5-(R)
RV-1CC-119A	3			X				RM157D	C-5	SPT			1BVT 1.60.5-(R)
RV-1CC-119B	3			X				RM158D	E-7	SPT			1BVT 1.60.5-(R)
TV-1CC-121-1	3		X				0	RM157D	A-1	QST			CST 1.47.3A-Stroke & Time (Q)
TV-1CC-121-2	3		X				0	RM157D	G-2	QST			OST 1.47.3A-Stroke & Time (Q)
TV-1CC-125	3		X				0	RM157B	A-2	QST			OST 1.47.3A-Stroke & Time (Q)
TV-1CC-125-1	3		X				0	RM157A	F-5	QST			OST 1.47.3A-Stroke & Time (Q)
TV-1CC-125-2	3		X				0	RM157A	F-5	QST			OST 1.47.3A-Stroke & Time (Q)
TV-1CC-126	3		X				0	RM157B	A-3	QST			OST 1.47.3A-Stroke & Time (Q)
TV-1CC-126-1	3		X				0	RM157A	G-8	QST			OST 1.47.3A-Stroke & Time (Q)
TV-1CC-126-2	3		X				0	RM157A	G-8	QST			OST 1.47.3A-Stroke & Time (Q)
TV-1CC-127	3		X				0	RM157B	B-4	QST			OST 1.47.3A-Stroke & Time (Q)

ISSUE 2
REVISION 6

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 15

SYSTEM NAME: Component Cooling Water

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1CC-127-1	3		X				0	RM157A	F-8	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-127-2	3		X				0	RM157A	F-8	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-128	3		X				0	RM157B	B-5	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-129	3		X				0	RM157B	A-9	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-129-1	3		X				0	RM157A	A-9	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-129-2	3		X				0	RM157A	D-9	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-130	3		X				0	RM157B	D-6	QST	CSJ20	OST 1.1.10-Stroke & Time (CSD)
TV-1CC-132	3		X				0	RM157B	D-5	QCT	CSJ20	OST 1.1.10-Stroke & Time (CSD)
TV-1CC-133-2	3		X				0	RM157B	G-7	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-133-3	3		X				0	RM157B	G-6	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-134-1	3		X				0	RM157B	A-7	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-134-2	3		X				0	RM157B	B-7	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-134-3	3		X				0	RM157B	G-6	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-136	3		X				0	RM157P	A-4	QST		OST 1.47.3A-Stroke & Time (Q)
RV-1CC-136A	3			X				RM157D	B-6	SPT		1BVT 1.60.5-(R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 15

SYSTEM NAME: Component Cooling Water

Valve Mark Number	Class	Valve Category				NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P					
RV-1CC-136B	3			X			RM157D	D-6	SPT		1BVT 1.60.5-(R)
TV-1CC-137	3		X				RM157D	A-1	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-137A	3		X				RM157D	D-1	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1CC-137B	3		X				RM157D	E-1	QST		OST 1.47.3A-Stroke & Time (Q)
RV-1CC-139A	3			X			RM157D	D-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139B	3			X			RM157D	D-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139C	3			X			PM157D	D-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139D	3			X			RM157D	E-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139E	3			X			RM157D	E-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139F	3			X			RM157D	F-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139G	3			X			RM157D	F-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139H	3			X			RM157D	F-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139I	3			X			RM157D	F-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139J	3			X			RM157D	F-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139K	3			X			RM157D	G-8	SPT		1BVT 1.60.5-(R)

ISSUE 2
REVISION 6

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 15

SYSTEM NAME: Component Cooling Water

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
RV-1CC-139L	3			X				RM157D	G-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139M	3			X				RM157D	E-8	SFT		1BVT 1.60.5-(R)
RV-1CC-139N	3			X				RM157D	E-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139P	3			X				RM157D	E-8	SPT		1BVT 1.60.5-(R)
RV-1CC-139R	3			X				RM157D	D-8	SPT		1BVT 1.60.5-(R)
RV-1CC-140A	3			X				RM157D	B-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140B	3			X				RM157D	B-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140C	3			X				RM157D	E-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140D	3			X				RM157D	C-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140E	3			X				RM157D	C-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140F	3			X				RM157D	C-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140G	3			X				RM157D	D-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140H	3			X				RM157D	D-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140I	3			X				RM157D	D-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140J	3			X				RM157D	D-10	SPT		1BVT 1.60.5-(R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Component Cooling WaterSYSTEM NUMBER: 15

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
RV-1CC-140K	3			X				RM157D	E-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140L	3			X				RM157D	E-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140M	3			X				RM157D	C-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140N	3			X				RM157D	C-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140P	3			X				RM157D	B-10	SPT		1BVT 1.60.5-(R)
RV-1CC-140R	3			X				RM157D	B-10	SPT		1BVT 1.60.5-(R)
1CC-247	2	X					LS	RM157D	A-5	QS	CSJ18	OM Chapter 10.4.A-Stroke Only (CSD)
										LT	RR1	1BVT 1.47.5 - Leak Test (R)
1CC-248	2	X					LS	RM157D	A-7	QS	CSJ18	OM Chapter 10.4.A-Stroke Only (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1CC-251	2	X					LS	RM157D	G-6	QS	CSJ18	OM Chapter 10.4.A-Stroke Only (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1CC-252	2	X					LS	RM157D	G-6	QS	CSJ18	OM Chapter 10.4.A-Stroke Only (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1CC-289	3			X				RM157D	C-3	QS	RR29	1BVT 1.60.7-FS, RD by Leak Test (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 15

SYSTEM NAME: Component Cooling Water

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1CC-290	3			X				RM157D	D-3	QS	RR28	1BVT 1.60.7-FS, RD by Leak Test (R)
1CC-291	3			X				RM157D	F-3	QS	RR28	1BVT 1.60.7-FS, RD by Leak Test (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 20

SYSTEM NAME: Fuel Pool Cooling and Purification System

Valve Mark Number	Class	Valve Category				NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P					
1PC-9	2	X				X	RM162A	D-7	POS LT	RR	Locked Valve Log 1BVT 1.47.5-Leak Test (R)
1PC-10	2	X				X	RM162A	D-7	POS LT	RR1	Locked Valve Log 1BVT 1.47.5-Leak Test (R)
1PC-37	2	X				X	RM162A	D-7	POS LT	RR1	Locked Valve Log 1BVT 1.47.5-Leak Test (R)
1PC-38	2	X				X	RM162A	D-7	POS LT	RR1	Locked Valve Log 1BVT 1.47.5-Leak Test (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 21

SYSTEM NAME: Main Steam

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comment
		A	B	C	D	P						
1MS-15	2		X				LO	RM120A	C-2	QS	CSJ21	OST 1.24.9-Stroke Only (CSD) OST 1.24.4-Stroke Only (Q)
1MS-16	2		X				LO	RM120A	D-2	QS	CSJ21	OST 1.24.9-Stroke Only (CSD) OST 1.24.4-Stroke Only (Q)
1MS-17	2		X				LS	RM120A	F-2	QS	CSJ21	OST 1.24.9-Stroke Only (CSD) OST 1.24.4-Stroke Only (Q)
1MS-18	2							RM120A	F-5	QS		OST 1.24.4-PS,FD (Q)
								QS		RR29	OST 1.24.9-FS,FD (CSD)	
								QS		RR29	1BVT 1.60.7-FS,RD by Leak Test (R)	
1MS-19	2				X			RM120A	G-5	QS		OST 1.24.4-PS,FD (Q)
								QS		RR29	OST 1.24.9-FS,FD (CSD)	
								QS		RR29	1BVT 1.60.7-FS,RD by Leak Test (R)	
1MS-20	2				X			RM120A	G-5	QS		OST 1.24.4-PS,FD (Q)
								QS		RR29	OST 1.24.9-FS,FD (CSD)	
								QS		RR29	1BVT 1.60.7-FS,RD by Leak Test (R)	
1MS-80	2				X			RM120A	C-3	QS	RR30	Sample Visual Check per CMP 1-75-CRANE VCM-60A-1M (R)
1MS-81	2				X			RM120A	D-3	QS	RR30	Sample Visual Check per CMP 1-75-CRANE VCM-60A-1M (R)
1MS-82	2				X			RM120A	E-3	QS	RR30	Sample Visual Check per CMP 1-75-CRANE VCM-60A-1M (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: Main SteamSYSTEM NUMBER: 21

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
MOV-1MS-101A	2		X				S	RM120A	C-3	QST		OST 1.47.3A-Stroke & Time (Q)
NRV-1MS-101A	2		X	X			O	RM120A	C-3	QST	CSJ22	OST 1.1.10-Stroke Only (CSD)
PCV-1MS-101A	2		X				A	RM120A	C-3	QST	CSJ23	OST 1.1.10-Stroke & Time (CSD)
SV-1MS-101A	2			X				RM120A	C-3	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
TV-1MS-101A	2		X				O	RM120A	C-3	QS	CSJ24	OST 1.21.1-Partial stroke only (Q)
										QST	CSJ24	OST 1.21.4-Stroke & Time (CSD)
MOV-1MS-101B	2		X				S	RM120A	D-3	QST		OST 1.47.3A-Stroke & Time (Q)
NRV-1MS-101B	2		X	X			O	RM120A	D-3	QST	CSJ22	OST 1.1.10-Stroke Only (CSD)
PCV-1MS-101B	2		X				A	RM120A	D-3	QST	CSJ23	OST 1.1.10-Stroke & Time (CSD)
SV-1MS-101B	2			X				RM120A	D-3	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
TV-1MS-101B	2		X				O	RM120A	D-3	QS	CSJ24	OST 1.21.2-Partial Stroke Only (Q)
										QST	CSJ24	OST 1.21.5-Stroke & Time (CSD)
MOV-1MS-101C	2		X				S	RM120A	F-3	QST		OST 1.47.3A-Stroke & Time (Q)
NRV-1MS-101C	2		X	X			O	RM120A	F-3	QST	CSJ22	OST 1.1.10-Stroke Only (CSD)
PCV-1MS-101C	2		X				A	RM120A	E-3	QST	CSJ23	OST 1.1.10-Stroke & Time (CSD)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: Main SteamSYSTEM NUMBER: 21

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
SV-1MS-101C	2			X				RM120A	F-3	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
TV-1MS-101C	2		X				0	RM120A	F-3	QS	CSJ24	OST 1.21.3-Partial Stroke Only (Q)
										QST	CSJ24	OST 1.21.6-Stroke & Time (CSD)
SV-1MS-102A	2			X				RM120A	C-3	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-102B	2			X				RM120A	D-3	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-102C	2			X				RM120A	E-3	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-103A	2			X				RM120A	C-2	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-103B	2			X				RM120A	D-2	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-103C	2			X				RM120A	E-2	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-104A	2			X				RM120A	C-2	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-104B	2			X				RM120A	D-2	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-104C	2			X				RM120A	E-2	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-105A	2			X				RM120A	C-2	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-105B	2			X				RM120A	D-2	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)
SV-1MS-105C	2			X				RM120A	E-2	SPT		1BVT 1.21.1 or 1BVT 1.21.2-(R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 21

SYSTEM NAME: Main Steam

Valve Mark Number	Class	Valve Category					Drawing CM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	F					
TV-1MS-105A	3		X				RM120A	G-5	QST		OST 1.24.4-Stroke & Time (Q)
TV-1MS-105B	3		X				RM120A	G-5	QST		OST 1.24.4-Stroke & Time (Q)
MOV-1MS-105	3		X				RM120A	G-5	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1MS-111A	2		X				RM137A	A-1	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1MS-111B	2		X				RM137A	B-1	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1MS-111C	2		X				FM137A	C-1	QST		OST 1.47.3A-Stroke & Time (Q)

BVPS-1 ISI

VALVE TESTING OUTLINE

SYSTEM NUMBER: 24

SYSTEM NAME: Feedwater

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1FW-33	3			X				RM124A	E-5	QS	CSJ25	OST 1.24.9-FS, FD (CSD)
										QS	CSJ25	OST 1.24.8-FS, RD (CSD)
1FW-34	3			X				RM124A	F-3	QS	CSJ25	OST 1.24.8-FS, FD, RD (CSD)
1FW-35	3			X				RM124A	F-4	QS	CSJ25	OST 1.24.8-FS, FD, RD (CSD)
1FW-36	3		X				LO	RM124A	F-2	QS		OST 1.24.4-Stroke Only (Q)
1FW-37	3		X				LO	RM124A	F-3	QS		OST 1.24.2-Stroke Only (Q)
1FW-38	3		X				S	RM124A	F-4	QS		OST 1.24.3-Stroke Only (Q)
1FW-39	3		X				S	RM124A	F-5	QS		OST 1.24.4-Stroke Only (Q)
1FW-40	3		X				S	RM124A	F-3	QS		OST 1.24.2-Stroke Only (Q)
1FW-41	3		X				LO	RM124A	F-4	QS		OST 1.24.3-Stroke Only (Q)
1FW-42	2			X				RM124A	B-3	QS	CSJ25	OST 1.24.8-FS, FD (CSD)
										QS		FS, RD by Log L3-18(Q) & OST 1.24.11(R)
1FW-43	2			X				RM124A	C-3	QS	CSJ25	OST 1.24.8-FS, FD (CSD)
										QS		FS, RD by Log L3-18(Q) & OST 1.24.11(R)
1FW-44	2			X				RM124A	F-3	QS	CSJ25	OST 1.24.8-FS, FD (CSD)
										QS		FS, RD by Log L3-18(Q) & OST 1.24.11(R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 24

SYSTEM NAME: Feedwater

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1FW-50	3			X				RM124A	F-5	QS		OST 1.24.4-FS, FD (Q)
1FW-51	3			X				RM124A	F-3	QS		OST 1.24.2-FS, FD (Q)
1FW-52	3			X				RM124A	F-4	QS		OST 1.24.3-FS, FD (Q)
1FW-68	3			X				RM124A	F-6	QS		OST 1.24.4-FS, FD (Q)
1FW-69	3			X				RM124A	F-3	QS		OST 1.24.2-FS, FD (Q)
1FW-70	3			X				RM124A	F-4	QS		OST 1.24.3-FS, FD (Q)
MOV-1FW-151A	2		X				0	RM124A	E-3	QST		OST 1.24.1-Stroke & Time (Q)
MOV-1FW-151B	2		X				0	RM124A	D-3	QST		OST 1.24.1-Stroke & Time (Q)
MOV-1FW-151C	2		X				0	RM124A	D-3	QST		OST 1.24.1-Stroke & Time (Q)
MOV-1FW-151D	2		X				0	RM124A	D-3	QST		OST 1.24.1-Stroke & Time (Q)
MOV-1FW-151E	2		X				0	RM124A	B-3	QST		OST 1.24.1-Stroke & Time (Q)
MOV-1FW-151F	2		X				0	RM124A	B-3	QST		OST 1.24.1-Stroke & Time (Q)
RV-1FW-155	2			X				RM124A	F-6	SPT		1BVI 1.60.5 (R)
MOV-1FW-156A	2		X	X			0	RM124A	B-3	QST	CSJ26	OST 1.1.10-Stroke & Time (CSD)
MOV-1FW-156B	2		X	X			0	RM124A	C-3	QST	CSJ26	OST 1.1.10-Stroke & Time (CSD)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 24

SYSTEM NAME: Feedwater

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
MOV-1FW-156C	2		X	X			0	RM124A	D-3	QST	CSJ26	OST 1.1.10-Stroke & Time (CSD)
HCV-1FW-158A	2		X			X	0	RM124A	B-3	POS		OST 1.24.10 (M)
HCV-1FW-158B	2		X			X	0	RM124A	C-3	POS		OST 1.24.10 (M)
HCV-1FW-158C	2		X			X	0	RM124A	E-3	POS		OST 1.24.10 (M)
FCV-1FW-478	2		X				T	RM124A	B-5	QST	CSJ29	OST 1.1.10 Stroke & Time (CSD)
FCV-1FW-479	2		X				T	RM124A	B-6	QST	CSJ30	OST 1.1.10 Stroke & Time (CSD)
FCV-1FW-488	2		X				T	RM124A	C-5	QST	CSJ29	OST 1.1.10 Stroke & Time (CSD)
FCV-1FW-489	2		X				T	RM124A	C-6	QST	CSJ30	OST 1.1.10 Stroke & Time (CSD)
FCV-1FW-498	2		X				T	RM124A	D-5	QST	CSJ29	OST 1.1.10 Stroke & Time (CSD)
FCV-1FW-499	2		X				T	RM124A	D-6	QST	CSJ30	OST 1.1.10 Stroke & Time (CSD)
1FW-622	2			X				RM124A	E-3	QS	CSJ25	OST 1.24.8-FS, FD, RD (CSD)
1FW-623	2			X				RM124A	E-3	QS	CSJ25	OST 1.24.8-FS, FD, RD (CSD)
1FW-624	2			X				RM124A	D-3	QS	CSJ25	OST 1.24.8-FS, FD, RD (CSD)
1FW-625	2			X				RM124A	D-3	QS	CSJ25	OST 1.24.8-FS, FD, RD (CSD)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: FeedwaterSYSTEM NUMBER: 24

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1FW-626	2			X				RM124A	B-3	QS	CSJ25	OST 1.24.8-FS, FD, RD (CSD)
1FW-627	2			X				RM124A	B-3	QS	CSJ25	OST 1.24.8-FS, FD, RD (CSD)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 25

SYSTEM NAME: Steam Generator Blowdown

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1BD-100A	2		X				0	RM180A	B-4	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1BD-100B	2		X				0	RM180A	D-5	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1BD-100C	2		X				0	RM180A	F-4	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1BD-101A1	2		X				0	RM180A	B-4	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1BD-101A2	2		X				0	RM180A	B-4	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1BD-101B1	2		X				0	RM180A	D-4	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1BD-101B2	2		X				0	RM180A	D-4	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1BD-101C1	2		X				0	RM180A	F-4	QST		OST 1.47.3A-Stroke & Time (Q)
TV-1BD-101C2	2		X				0	RM180A	F-4	QST		OST 1.47.3A-Stroke & Time (Q)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: Auxiliary SteamSYSTEM NUMBER: 27

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1SV-100A	2	X					S	RM122A	B-7	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1AS-278	2	X		X				RM122A	B-7	QS		OST 1.47.3A-FS,FD (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
HYV-1AS-101A	3		X				O	RM122A	F-2	QST		OST 1.47.3A-Stroke & Time (Q)
HYV-1AS-101B	3		X				O	RM122A	F-1	QST		OST 1.47.3A-Stroke & Time (Q)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: River WaterSYSTEM NUMBER: 30

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1RW-57	3			X				RM127B	F-2	QS		OST 1.30.2-FS,FD (Q)
										QS		OST 1.30.3,6-FS,RD (Q)
1RW-58	3			X				RM127B	F-3	QS		OST 1.30.3-FS,FD (Q)
										QS		OST 1.30.2,6-FS,RD (Q)
1RW-59	3			X				RM127B	F-4	QS		OST 1.30.6-FS,FD (Q)
										QS		OST 1.30.2,3-FS,RD (Q)
1RW-95	3			X				RM127B	F-1	QS		OST 1.30.2-FS,FD (Q)
1RW-96	3			X				RM127B	F-2	QS		OST 1.30.3-FS,FD (Q)
1RW-97	3			X				RM127B	F-3	QS		OST 1.30.6-FS,FD (Q)
RV-1RW-101A	2			X				RM127B	D-1	SPT		1BVT 1.60.5-(R)
RV-1RW-101B	2			X				RM127B	E-1	SPT		1BVT 1.60.5-(R)
RV-1RW-101C	2			X				RM127B	F-1	SPT		1BVT 1.60.5-(R)
RV-1RW-101D	2			X				RM127B	F-1	SPT		1BVT 1.60.5-(R)
RV-1RW-102A	3			X				RM127B	B-	SPT		1BVT 1.60.5-(R)
MOV-1RW-102A1	3						S	RM127B	F-2	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1RW-102A2	3		X				O	RM127B	F-2	QST		OST 1.47.3A-Stroke & Time (Q)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: River WaterSYSTEM NUMBER: 30

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
RV-1RW-102B	3			X				RM127B	B-3	SPT		1BVT 1.60.5-(R)
MOV-1RW-102B1	3		X				S	RM127B	F-3	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1RW-102B2	3		X				S	h B	F-3	QST		OST 1.47.3A-Stroke & Time (Q)
RV-1RW-102C	3			X				RM127B	C-3	SPT		1BVT 1.60.5-(R)
MOV-1RW-102C1	3		X				S	RM127B	F-4	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1RW-102C2	3		X				S	RM127B	F-4	QST		OST 1.47.3A-Stroke & Time (Q)
MOV-1RW-103A	3		X				S	RM127A	D-4	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-103B	3		X				S	RM127A	D-4	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-103C	3		X				S	RM127A	F-4	QST		OST 1.30.5-Stroke & Time (Q)
MOV-1RW-103D	3		X				S	RM127A	F-4	QST		OST 1.30.5-Stroke & Time (Q)
MOV-1RW-104	3		X				S	RM127A	E-4	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-104A	2		X				O	RM127A	F-3	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-104B	2		X				O	RM127A	E-3	QST		OST 1.30.5-Stroke & Time (Q)
MOV-1RW-104C	2		X				O	RM127A	E-3	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-104D	2		X				O	RM127A	F-3	QST		OST 1.30.5-Stroke & Time (Q)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: River WaterSYSTEM NUMBER: 30

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
MOV-1RW-105A	2		X				0	RM127A	D-1	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-105B	2		X				0	RM127A	F-1	QST		OST 1.30.5-Stroke & Time (Q)
MOV-1RW-105C	2		X				0	RM127A	E-1	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-105D	2		X				0	RM127A	F-1	QST		OST 1.30.5-Stroke & Time (Q)
MOV-1RW-106A	3		X				0	RM127A	D-5	QST		OST 1.30.4-Stroke & Time (Q)
RV-1RW-106A	3			X				RM127A	F-4	SPT		1BVT 1.60.5-(R)
MOV-1RW-106B	3		X				0	RM127A	E-5	QST		OST 1.30.5-Stroke & Time (Q)
RV-1RW-106B	3			X				RM127A	G-4	SPT		1BVT 1.60.5-(R)
1RW-106	3			X				RM127A	F-8	QS		OST 1.30.2,6-FS,FD (Q)
										QS	RR31	OST 1.30.8-FS,RD (R)
1RW-107	3			X				RM127A	F-8	QS		OST 1.30.3,6-FS,FD (Q)
										QS	RR31	OST 1.30.8-FS,RD (R)
1RW-108	3			X				RM127A	D-4	QS		OST 1.30.2,6-FS,FD (Q)
1RW-109	3			X				RM127A	F-4	QS		OST 1.30.3,6-FS,FD (Q)

VALVE TESTING OUTLINE

SYSTEM NAME: River WaterSYSTEM NUMBER: 30

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1RW-110	3			X				RM127A	F-5	QS		OST 1.36.1-PS, FD (Q)
										QS	RR32	Sample Visual Inspection per CMP 1/2-75-WAFER CHECK-1M (R)
1RW-111	3			X				RM127A	F-5	QS		OST 1.36.1-PS, FD (Q)
										QS	RR32	Sample Visual Inspection per CMP 1/2-75-WAFER CHECK-1M (R)
1RW-112	3			X				RM127A	G-5	QS		OST 1.36.2-PS, FD (Q)
										QS	RR32	Sample Visual Inspection per CMP 1/2-75-WAFER CHECK-1M (R)
1RW-113	3			X				RM127A	G-5	QS		OST 1.36.2-PS, FD (Q)
										QS	RR32	Sample Visual Inspection per CMP 1/2-75-WAFER CHECK-1M (R)
MOV-1RW-113A	3		X				S	RM127A	G-5	QST		OST 1.30.5-Stroke & Time (Q)
MOV-1RW-113B	3		X				S	RM127A	G-5	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-113C	3		X				S	RM127A	G-5	QST		OST 1.30.5-Stroke & Time (Q)
MOV-1RW-113D1	3		X				S	RM127A	G-5	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-114A	3		X				O	RM127A	D-5	QST		OST 1.30.4-Stroke & Time (Q)
MOV-1RW-114B	3		X				O	RM127A	E-5	QST		OST 1.30.5-Stroke & Time (Q)
MOV-1RW-116	3		X				S	RM127A	D-4	QST		OST 1.30.4-Stroke & Time (Q)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: River WaterSYSTEM NUMBER: 30

Valve Mark Number	Class	Valve Category						NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P							
MOV-1RW-116A	3		X					S	RM127A	F-8	QST		OST 1.30.1A-Stroke & Time (Q)
MOV-1RW-116B	3		X					S	RM127A	F-8	QST		OST 1.30.1B-Stroke & Time (Q)
MOV-1RW-117	3		X					S	RM127A	D-5	QST		OST 1.30.5-Stroke & Time (Q)
1RW-135	3			X					RM127A	A-7	QS	RR33	Full-stroke verified by placing Control Room Redundant Cooling Coil into service.
1RW-136	3			X					RM127A	B-9	QS	RR33	Full-stroke verified by placing Control Room Redundant Cooling Coil into service.
1RW-158	3			X					RM127A	C-6	QS		OST 1.30.14-FS,FD (Q)
1RW-159	3			X					RM127A	B-6	QS		OST 1.30.14-FS,FD (Q)
1RW-193	2			X					RM127A	D-3	QS		OST 1.30.2,6-FS,FD (Q)
1RW-194	2			X					RM127A	E-3	QS		OST 1.30.2,6-FS,FD (Q)
1RW-195	2			X					RM127A	E-3	QS		OST 1.30.3,6-FS,FD (Q)
1RW-196	2			X					RM127A	F-3	QS		OST 1.30.3,6-FS,FD (Q)
1RW-197	3			X					RM127A	D-1	QS	RR34	Sample Visual Inspection per CMP 1/2-75-WAFER CHECK-1M (R)
											QS		OST 1.30.2,3,6 & iBVT 1.30.2-PS,FD (Q,R)

B/PS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 30

SYSTEM NAME: River Water

Valve Mark Number	Class	Valve Category					NSA	Drawing GM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1RW-198	3			X				RM127A	D-1	QS	RR34	Sample Visual Inspection per CMP 1/2" 5-WAFER CHECK-1M (R)
1RW-206	3			X			LS	RM124A	G-6	QS		OST 1.30.2, 3, 6 & 18VT 1.30.2-PS, FD (Q, R)
1RW-207	3			X			S	RM124A	G-6	QS		OST 1.24, 10-Stroke Only (M)
1RW-208	3			X			S	RM124A	F-5	QS		OST 1.24, 10-Stroke Only (M)
1RW-209	3			X			S	RM124A	F-3	QS		OST 1.24, 10-Stroke Only (M)
1RW-210	3			X			S	RM124A	F-4	QS		OST 1.24, 10-Stroke Only (M)
1RW-486	3				X			RM127B	F-2	QS		OST 1.30.2-FS, FD, RD (Q)
1RW-487	3				X			RM127B	F-3	QS		OST 1.30.3-FC, FD, RD (Q)
1RW-488	3				X			RM127B	F-4	QS		OST 1.30.6-FS, FD, RD (Q)
1RW-675	3				X			RM127B	F-1	QS	RR35	OST 1.30.2-FS, FD (R)
1RW-676	3				X			RM127B	F-2	QS	RR35	OST 1.30.3-FS, FD (R)
1RW-677	3				X			RM127B	F-3	QS	RR35	OST 1.30.6-FS, FD (R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Fire ProtectionSYSTEM NUMBER: 33

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
TV-1FP-105	2	X					S	RB116C	C-4	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1FP-106	2	X					S	RB116C	C-4	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
TV-1FP-107	2	X					S	RB116C	C-5	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1FP-800	2	X		X				RB116C	D-4	QS	CSJ27	OST 1.1.10-FS,FD,RD (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1FP-804	2	X		X				RB116C	D-4	QS	CSJ27	OST 1.1.10-FS,FD,RD (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1FP-827	2	X		X				RB116C	D-5	QS	CSJ27	OST 1.1.10-FS,FD,RD (CSD)
										LT	RR1	1BVT 1.47.5-Leak Test (R)

BVPS-1 IS:

VALVE TESTING OUTLINE

SYSTEM NAME: Compressed Air (SA & 1A)

SYSTEM NUMBER: 34

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1SA-14	2	X				X	LS	RM140A	D-8	LT	RR1	1BVT 1.47.5-Leak Test (R)
1SA-15	2	X		X		X		RM140A	D-8	LT	RR1	1BVT 1.47.5-Leak Test (R)
11A-90	2	X				X	LS	RM140D	E-3	LT	RR1	1BVT 1.47.5-Leak Test (R)
11A-91	2	X		X		X		RM140D	E-4	LT	RR1	1BVT 1.47.5-Leak Test (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: 4KV ElectricalSYSTEM NUMBER: 36

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1DA-100	3			X				RM151A	A-1	QS		OST 1.36.1-FS, RD (Q)
1DA-101	3			X				RM151A	A-5	QS		OST 1.36.1-FS, RD (Q)
SOV-1DA-101	3		X				S			QST	RR36	OST 1.36.1-Stroke & Time (M)
SOV-1DA-102	3		X				S			QST	RR36	OST 1.36.2-Stroke & Time (M)
SOV-1DA-103	3		X				S			QST	RR36	OST 1.36.1-Stroke & Time (M)
SOV-1DA-104	3		X				S			QST	RR36	OST 1.36.2-Stroke & Time (M)
1DA-104	3		X			X	LS	RM151A	A-3	POS		Locked or sealed valve log
1DA-130	3			X				RM151A	A-6	Q		OST 1.36.2-FS, RD (Q)
1DA-131	3			X				RM151A	A-10	QS		OST 1.36.2-FS, RD (Q)
1DA-134	3		X			X	LS	RM151A	A-8	POS		Locked or sealed valve log
1FO-7	3			X				RM151A	G-4	QS		OST 1.36.1-FS, FD, RD (M)
1FO-8	3			X				RM151A	G-4	QS		OST 1.36.1-FS, FD, RD (M)
1FO-9	3			X				RM151A	E-4	QS		OST 1.36.2-FS, FD, RD (M)
1FO-10	3			X				RM151A	E-4	QS		OST 1.36.2-FS, FD, PD (M)
1FO-15	3		X			X	S	RM151A	F-4	NA		NA

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: 4KV ElectricalSYSTEM NUMBER: 36

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1FO-16	3		X			X	S	RM151A	F-4	NA		NA
1FO-35	3			X				RM151A	G-2	QS		OST 1.36.1-FS,FD (M)
1FO-36	3			X				RM151A	F-2	QS		OST 1.36.2-FS,FD (M)
RV-1EE-101A	3			X				RM151A	F-4	SPT		1BVT 1.60.5-(R)
RV-1EE-101B	3			X				RM151A	F-4	SPT		1BVT 1.60.5-(R)
RV-1EE-101C	3			X				RM151A	E-4	SPT		1BVT 1.60.5-(R)
RV-1EE-101D	3			X				RM151A	E-4	SPT		1BVT 1.60.5-(R)
RV-1EE-201A	3			X				RM151A	B-1	SPT		1BVT 1.60.5-(R)
RV-1EE-201B	3			X				RM151A	B-1	SPT		1BVT 1.60.5-(R)
RV-1EE-201C	3			X				RM151A	B-1	SPT		1BVT 1.60.5-(R)
RV-1EE-202A	3			X				RM151A	B-5	SPT		1BVT 1.60.5-(R)
RV-1EE-202B	3			X				RM151A	B-5	SPT		1BVT 1.60.5-(R)
RV-1EE-202C	3			X				RM151A	B-5	SPT		1BVT 1.60.5-(R)
RV-1EE-203A	3			X				RM151A	B-6	SPT		1BVT 1.60.5-(R)
RV-1EE-203B	3			X				RM151A	B-6	SPT		1BVT 1.60.5-(R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 36

hkv Electrical

SYSTEM NAME:

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
RV-1EE-203C	3			X				RM151A	C-6	SPT		1BVT 1.60.5-(R)
RV-1EE-204A	3			X				RM151A	B-10	SPT		1BVT 1.60.5-(R)
RV-1EE-204B	3			X				RM151A	B-10	SPT		1BVT 1.60.5-(R)
RV-1EE-204C	3			X				RM151A	C-10	SPT		1BVT 1.60.5-(R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: Control Air VentSYSTEM NUMBER: 44

Valve Mark Number	Class	Valve Category						NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P							
RV-1VS-101A	3			X				RM140B	E-3	SPT		1BVT 1.60.5-(R)	
TV-1VS-101A	3		X				S	RM140B	E-3	OST	RR37	3BVT 1.44.1-Stroke Only (R)	
RV-1VS-101B	3			X				RM140B	D-3	SPT		1BVT 1.60.5-(R)	
TV-1VS-101B	3		X				S	RM140B	D-3	QST	RR37	3BVT 1.44.1-Stroke Only (R)	
RV-1VS-101C	3			X				RM140B	D-3	SPT		1BVT 1.60.5-(R)	
TV-1VS-101C	3		X				S	RM140B	D-3	QST	RR37	3BVT 1.44.1-Stroke Only (R)	
RV-1VS-101D	3			X				RM140B	C-3	SPT		1BVT 1.60.5-(R)	
TV-1VS-101D	3		X				S	RM140B	C-3	QST	RR37	3BVT 1.44.1-Stroke Only (R)	
RV-1VS-101E	3			X				RM140B	C-3	SPT		1BVT 1.60.5-(R)	
TV-1VS-101E	3		X				S	RM140B	C-3	QST	RR37	3BVT 1.44.1-Stroke Only (R)	
1VS-D-5-3A	2	X					LS	RB102A	E-7	QST	CSJ28	OST 1.1.10-Stroke & Time (CSD)	
										LT	RR1,RR38	1BVT 1.47.5-Leak Test (R)	
1VS-D-5-3B	2	X					LS	RB102A	E-7	QST	CSJ28	OST 1.1.10-Stroke & Time (CSD)	
										LT	RR1,RR38	1BVT 1.47.5-Leak Test (R)	
1VS-D-5-5A	2	X					LS	RB102A	E-7	QST	CSJ28	OST 1.1.10-Stroke & Time (CSD)	
										LT	RR1,RR39	1BVT 1.47.5-Leak Test (R)	

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NUMBER: 44

SYSTEM NAME: Control Air Vent

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1VS-D-5-5B	2	X					LS	RB102A	E-7	QST LT	CSJ28 RR1,RR39	OST 1.1.10-Stroke & Time (CSD) 1BVT 1.47.5-Leak Test (R)
1VS-D-5-6	2	X				X	S	RB102A	F-7	LT	RR1,RR39	1BVT 1.47.5-Leak Test (R)

VALVE TESTING OUTLINE

SYSTEM NAME: Post DBA H2 ControlSYSTEM NUMBER: 46

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1HY-101	2	X					LS	RM150B	C-2	QS		OST 1.47.3A-Stroke Only (Q)
										LT	RR1,RR40	1BVT 1.47.5-Leak Test (R)
1HY-102	2	X					LS	RM150B	C-2	QS		OST 1.47.3A-Stroke Only (Q)
										LT	RR1,RR41	1BVT 1.47.5-Leak Test (R)
MOV-1HY-102A	2		X				S	RM150B	C-5	QST		OST 1.47.3A-Stroke & Time (Q)
SOV-1HY-102A1	2	X					S	RM150C	A-3	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
SOV-1HY-102A2	2	X					S	RM150C	A-5	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
MOV-1HY-102B	2		X				S	RM150B	E-5	QST		OST 1.47.3A-Stroke & Time (Q)
SOV-1HY-102B1	2	X					S	RM150C	D-2	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
SOV-1HY-102B2	2	X					S	RM150C	E-5	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1HY-103	2	X					LS	RM150B	C-2	QS		OST 1.47.3A-Stroke Only (Q)
										LT	RR1,RR40	1BVT 1.47.5-Leak Test (R)

BVPS-1 IST

VALVE TESTING OUTLINE

SYSTEM NAME: Post DBA H2 ControlSYSTEM NUMBER: 46

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
SOV-1HY-103A1	2	X					S	RM150C	B-2	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
SOV-1HY-103A2	2	X					S	RM150C	B-5	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
SOV-1HY-103B1	2	X					S	RM150C	E-2	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
SOV-1HY-103B2	2	X					S	RM150C	E-5	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1HY-104	2	X					LS	RM150B	E-2	QS		OST 1.47.3A-Stroke Only (Q)
										LT	RR1,RR41	1BVT 1.47.5-Leak Test (R)
SOV-1HY-104A1	2	X					S	RM150C	C-2	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
SOV-1HY-104A2	2	X					S	RM150C	C-5	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
SOV-1HY-104B1	2	X					S	RM150C	F-2	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
SOV-1HY-104B2	2	X					S	RM150C	F-5	QST		OST 1.47.3A-Stroke & Time (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: Post DBA H2 ControlSYSTEM NUMBER: 46

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1HY-110	2	X					LS	RM150B	D-1	QS		OST 1.47.3A-Stroke Only (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1HY-111	2	X					LS	RM150B	F-1	QS		OST 1.47.3A-Stroke Only (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1HY-196	2	X					LS	RM150B	D-2	QS		OST 1.47.3A-Stroke Only (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)
1HY-197	2	X					LS	RM150B	F-2	QS		OST 1.47.3A-Stroke Only (Q)
										LT	RR1	1BVT 1.47.5-Leak Test (R)

BVPS-1 1ST
VALVE TESTING OUTLINE

SYSTEM NAME: Containment

SYSTEM NUMBER: 47

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1VS-167	2	X				X	S	OM Fig 47-5		LT	RR1	1BVT 1.47.5-Leak Test (R)
1VS-168	2	X				X	S	OM Fig 47-5		LT	RR1	1BVT 1.47.5-Leak Test (R)
1VS-169	2	X				X	S	OM Fig 47-5		LT	RR1	1BVT 1.47.5-Leak Test (R)
1VS-170	2	X				X	S	OM Fig 47-5		LT	RR1	1BVT 1.47.5-Leak Test (R)
1VS-176	3		X			X	S	OM Fig 47-5		NA		NA
1VS-177	3		X			X	S	OM Fig 47-5		NA		NA
1VS-178	3		X			X	S	OM Fig 47-5		NA		NA
1VS-179	3		X			X	S	OM Fig 47-5		NA		NA
1VS-183	2	X				X	S	OM Fig 47-7		LT		1BVT 1.47.10-Type B Leak Test (SA)
1VS-184	2	X				X	S	OM Fig 47-7		LT		1BVT 1.47.10-Type B Leak Test (SA)

SECTION VI. VALVE TESTING COLD SHUTDOWN JUSTIFICATIONS

COLD SHUTDOWN JUSTIFICATION 1

Valve No.:	SOV-RC-102A	SOV-RC-103B
	SOV-RC-102B	SOV-RC-104
	SOV-RC-103A	SOV-RC-105

Category B Class 1

Function: Reactor coolant system high point vents.

Test Requirements: Quarterly full stroke and time.

Basis for CSJ: These valves are closed during normal operation and are designed to vent the RCS in an emergency to assure that core cooling during natural circulation will not be inhibited by a buildup of noncondensable gases. Periodic stroking of these valves at power could degrade this system by repeatedly challenging the downstream valves due to a phenomenon known as "burping". This phenomenon has been previously described in ASME report "Spurious Opening of Hydraulic-Assisted, Pilot-Operated Valves - An Investigation of the Phenomenon". The phenomenon involves a rapid pressure surge buildup at the valve inlet caused by opening the upstream valve in a series double isolation arrangement or closing a valve in a parallel redundant flow path isolation arrangement. The pressure surge is sufficient enough to lift the valve plug until a corresponding pressure increase in a control chamber above the pilot and disc can create enough downward differential pressure to close the valve.

Alternate Test: Full stroke exercise and time at cold shutdowns per OST 1.1.10. This frequency is consistent with T.S. 3.4.12 which was written to comply with the requirements of NUREG 0737, "Clarification of TMI Action Plan Requirements".

COLD SHUTDOWN JUSTIFICATION 2

Valve No.: PCV-RC-455C
PCV-RC-455D
PCV-RC-456

Category 1 Class B

Function: PORVs

Test Requirements: Quarterly stroke and time.

Basis for CSJ: The PORVs are not needed for overpressure protection during power operation since the pressurizer code safety valves fulfill this function. In the event that a PORV was to fail or stick open while being cycled at power, the potential loss of RCS inventory through this relief path could lead to a forced plant shutdown. Therefore, stroking these valves at power is not considered practical.

Additionally, when the plant is shutdown only two of the three valves ([PCV-1RC-455C and D]) are actually utilized to provide protection against exceeding 10CFR50, Appendix G limits during periods of RCS water solid operation. The third PORV ([PCV-RC-456]) does not have a low pressure set point to the logic controlling it.

Alternate Test: Full stroke exercise and timing will be performed each cold shutdown per OST 1.6.8 for the two valves used for overpressure protection. The third valve will be exercised and timed at the normal cold shutdown frequency per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 3

Valve No.: CH-75
CH-76

Category C Class 3

Function: Discharge check valves for the boric acid transfer pumps.

Test Requirements: Quarterly stroke.

Basis for CSJ: These valves can only be full-stroke exercised by initiating flow through the emergency boration path and verifying it using the installed flow instrumentation in this flowpath. Testing in this manner would cause an undesired reactivity transient through the direct injection of 7,000 ppm borated water to the suction of the charging pumps. The resultant over boration of the RCS would cause a temperature transient as Tavg dropped to compensate and could cause a plant shutdown.

Alternate Test: Valves to be full-stroked open during cold shutdown per OST 1.1.10. Valves are part-stroke exercised quarterly when the boric acid transfer pumps are tested through their recirculation flow paths per OST 1.7.1 & 1.7.2.

COLD SHUTDOWN JUSTIFICATION 4

Valve No.: MOV-CH-115C
MOV-CH-115E

Category B Class 2

Function: Volume Control Tank outlet isolation valves.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: These valves are normally open and cannot be exercised during power operation without isolating the Volume Control Tank from the charging pumps. This would result in a loss of normal Reactor Cooling System makeup and reactor coolant pump seal injection water causing possible pump and system degradation.

Alternate Test: Full-stroke exercise and time at cold shutdown per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 5

Valve No.: CH-141

Category C Class 2

Function: Emergency boration line check valve.

Test Requirements: Quarterly full-stroke.

Basis for CSJ: This valve is closed during normal operation and can only be exercised by initiating flow through the emergency boration path. Testing in this manner would cause an undesired reactivity transient through the direct injection of 7,000 ppm borated water to the suction of the charging pumps. The resultant over boration of the RCS would cause a temperature transient as Tavg dropped to compensate and could cause a plant shutdown.

Alternate Test: Valve to be full stroked open during cold shutdown per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 6

Valve No.: MOV-CH-289
TV-CH-204

Category A Class 2

Function: Reactor coolant makeup and letdown outside containment isolation valves.

Test Requirements: Quarterly full stroke and time.

Basis for CSJ: Quarterly stroking at power of either valve to its closed position would cause an undesirable transient in the reactor coolant makeup and letdown systems. A failure of either valve in the closed position could lead to a loss of pressurizer level control and require a plant shutdown.

Alternate Test: Full-stroke exercise and time at cold shutdowns per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 7

Valve No.: MOV-CH-310
LCV-CH-460A
LCV-CH-460B

Category B Class 1

Function: Reactor coolant makeup and letdown isolation valves.

Test Requirements: Quarterly full-stroke and time.

Basis for CSJ: Quarterly stroking at power to their closed position would cause an undesirable transient in the reactor coolant makeup and letdown systems. A failure of one or more valves in the closed position could lead to a loss of pressurizer level control and require a plant shutdown.

Alternate Test: Full-stroke exercise and time at cold shutdowns per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 8

Valve No.: MOV-CH-373

Category B Class 2

Function: HHS1 pump to VCT miniflow isolation valve.

Test Requirements: Quarterly full-stroke and time.

Basis for CSJ: Quarterly stroke testing at power is considered impractical since it would cause an undesirable flow perturbation in the reactor coolant makeup system. Also the failure of this valve in the closed position could result in damage to all three charging pumps.

Alternate Test: Full-stroke exercise and time at cold shutdowns per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 9Valve No.: CH-34
CH-136Category C Class 3

Function: Alternate Emergency Boration Flow Path Check Valves

Test Requirements: Quarterly full-stroke

Basis for CSJ: These valves must open to fulfill their safety function to provide an alternate emergency boration flow path from the boric acid tanks to the reactor coolant system. They can only be exercised by initiating flow through the emergency boration path. Testing in this manner would cause an undesired reactivity transient through the direct injection of 7,000 ppm borated water to the suction of the charging pumps. The resultant over-boration of the RCS would cause a temperature transient as Tavg dropped to compensate and could lead to a forced plant shutdown.

Alternate Test: Full-stroked open during cold shutdowns per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 10

Valve No.: RH-3
RH-4

Category C Class 2

Function: Residual Heat Removal Pumps Discharge Check Valves

Test Requirements: Quarterly full-stroke

Basis for CSJ: These valves can only be full stroke exercised when the RHR Pumps are running. The RHR Pumps are only run during cold shutdowns. Quarterly part stroking is also not possible due to the inaccessibility of the valves and pumps which are located inside the subatmospheric containment building.

Alternate Test: Forward and reverse flow exercised per OST 1.10.1 during cold shutdowns.

COLD SHUTDOWN JUSTIFICATION 11

Valve No.: MOV-RH-700 MOV-RH-720A
MOV-RH-701 MOV-RH-720B

Category A Class 1

Function: Residual Heat Removal System Inlet and Outlet isolation valves.

Test Requirements: Quarterly full stroke and time.

Basis for CSJ: Cycling these valves could subject the RHR system to pressure greater than design. These valves are normally closed and de-energized during power operation and are required to be closed during an accident.

Alternate Test: These valves are full stroke exercised and timed each plant cooldown or heatup from cold shutdown per OST 1.10.4.

COLD SHUTDOWN JUSTIFICATION 12

Valve No.: MOV-SI-836
MOV-SI-869A

Category A Class 2

Function: Outside containment isolation valves from the fill and charging headers to the RCS hot and cold legs.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: These valves are shut at power and are required to remain shut at the onset of an accident. Cycling them at power would thermal shock the RCS cold leg nozzles and compromise system integrity.

Alternate Test: Full-stroke exercise and time at cold shutdown per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 13

Valve No.: MOV-SI-860A
MOV-SI-860B

Category A Class 2

Function: Low Head Safety Injection pump containment sump suction valves.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: These valves are containment isolation valves exposed to containment atmosphere. Failure of these valves in the open position during power operation would compromise containment integrity.

Alternate Test: Full-stroke and time during cold shutdown per OST 1.1.10.

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COLD SHUTDOWN JUSTIFICATION 14

Valve No.: MOV-SI-869B

Category A Class 2

Function: Charging header BIT bypass to RCS hot legs outside containment isolation.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: This valve is shut at power operation and is required to change position to fulfill its initial safety function. The valve is only opened during the simultaneous cold and hot leg recirculation phase. In addition, stroking this valve would thermal stress the hot leg injection nozzle. Therefore, relief from full- or part-stroke exercising of this valve at power is requested.

Alternate Test: Full-stroke and time at cold shutdown per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 15

Valve No.: MOV-SI-890C

Category A Class 2

Function: Low Head Safety Injection outside containment isolation to RCS cold legs.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: This valve is open during normal operation and is required to remain open to fulfill its safety function at the onset of an accident. Relief from full- or part-stroke exercising at power is requested because failure of this valve to reopen would render LHSI cold leg injection from both trains inoperable.

Alternate Test: Full-stroke and time at cold shutdown per OST 1.1.10.

BVPS-1 IST

COLD SHUTDOWN JUSTIFICATION 16

Valve No.: QS-3 RS-100
QS-4 RS-101

Category A/C Class 2

Function: Inside containment isolation discharge check valves for the quench spray and recirculation spray pumps.

Test Requirements: Quarterly full-stroke.

Basis for CSJ: These valves are all physically located in the sub-atmospheric containment building. Also the valves cannot be full-stroked open since any test requiring injecting water through the spray nozzles would cause damage to electrical equipment and result in a significant contamination cleanup effort in the containment building.

Alternate Test: Full-stroke open at cold shutdown per OST 1.1.10 utilizing their weighted swing arms.

COLD SHUTDOWN JUSTIFICATION 17

Valve No.: TV-CC-111A1 TV-CC-111D1
TV-CC-111A2 TV-CC-111D2

Category A Class 2

Function: Containment isolation valve for CRDM shroud cooler cooling water supply.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: This valve is normally open during power operation and is required to close to fulfill its safety function upon a CIB signal. Relief from at power full- or part-stroke testing is requested because shutting this valve and isolating cooling water, while the control or shutdown rods are energized, or the plant is above 250 degrees Fahrenheit, would result in component damage.

Alternate Test: Full-stroke and time at cold shutdown per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 18

Valve No.: CC-247 CC-251
CC-248 CC-252

Category A Class 2

Function: Outside containment isolation for component cooling water supply to the RHR heat exchangers.

Test Requirements: Quarterly full-stroke.

Basis for CSJ: These valves are normally closed during power operation but are required to open to place the residual heat removal (RHR) system in service. These valves cannot be stroked quarterly without the possibility of violating containment integrity.

Alternate Test: Full-stroke exercise during cold shutdowns by Operating Manual Chapter 10.4.A, "Startup of the RHR System."

COLD SHUTDOWN JUSTIFICATION 19

Valve No.: TV-CC-110E2 TV-CC-110D
TV-CC-110E3 TV-CC-110F2

Category A Class 2

Function: Cooling water supply and return from the containment air recirculation cooling coils and instrument air compressors containment isolation valves.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: These valves are normally open during power operations. The failure of any one of these valves in its closed position during quarterly stroke testing would result in the loss of containment cooling and containment instrument air and require a plant shutdown.

Alternate Test: Full-stroke and time at cold shutdowns per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 20

Valve No.: TV-C-130
TV-CC-132

Category B Class 3

Function: Cooling water inlet isolation valves to the Seal Water and Non-Regenerative heat exchangers.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: These valves are normally open during power operations and must be stroked closed to test them. Their failure in the closed position would result in the loss of cooling water to either the Seal Water or Non-Regenerative heat exchanger causing an undesirable temperature transient. Such a transient has the potential for damaging the plant demineralizers and the RCP radial bearings.

Alternate Test: Full-stroke and time at cold shutdowns per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 21

Valve No.: MS-15
MS-16
MS-17

Category B Class 2

Function: S/G Supply to FW-P-2 manual isolation.

Test Requirements: Quarterly full-stroke.

Basis for CSJ: These valves will be stroked quarterly except in the event of a steam generator tube leak. In this case, the valve from the affected steam generator must remain closed to prevent the spread of radioactivity into the auxiliary feed system.

Alternate Test: Full-stroke exercise quarterly per OST 1.24.4 or during cold shutdowns per OST 1.24.9.

COLD SHUTDOWN JUSTIFICATION 22

Valve No.: NRV-MS-101A
NRV-MS-101B
NRV-MS-101C

Category B/C Class 2

Function: Main steam non-return check valves.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: Relief is requested from stroke testing these valves at power because these valves must be open in order to remain at power. Relief from timing the stroke is also requested because the valve operator only holds the valve in position for maintenance. It does not physically operate the valve.

Alternate Test: Full stroke closed at cold shutdown per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 23

Valve No.: PCV-MS-101A
PCV-MS-101B
PCV-MS-101C

Category B Class 2

Function: Atmospheric steam dump pressure control valves.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: In order to test these valves, manual isolation valves must first be closed. The manual valves are located in a potentially hazardous area and could be damaged when they are reopened against a 1000 psi Δp . Also, stroking the PCV valves could cause Reactor power transients.

Alternate Test: Full stroke and time at cold shutdown per OST 1.1.10.

COLD SHUTDOWN JUSTIFICATION 24

Valve No.: TV-MS-101A
TV-MS-101B
TV-MS-101C

Category b Class 2

Function: Main steam line isolation valve (pneumatically opened).

Test Requirements: Quarterly stroke and time.

Basis for CSJ: Stroking these valves during power operation would cause a reactor trip and a possible safety injection. Therefore, relief is requested from quarterly full-stroke testing.

Alternate Test: Full stroke and time in hot standby per OST 1.21.4, 5 and 6. Part stroke quarterly per OST 1.21.1, 2 and 3.

COLD SHUTDOWN JUSTIFICATION 25

Valve No.:	FW-33	FW-42	FW-622	FW-625
	FW-34	FW-43	FW-623	FW-626
	FW-35	FW-44	FW-624	FW-627

Category C Class 3

Function: Auxiliary feedwater pumps discharge end loop check valves.

Test Requirements: Quarterly full-stroke.

Basic for CSJ: The safety position for these check valves is open for auxiliary feed system injection and closed to provide header separation in the event of a linebreak. Relief is requested from stroking the valves at power due to the thermal shock at the auxiliary and main feedwater interface caused by the sudden injection of cold water into the steam generators. Also, feeding the steam generators with cold water would result in large level transients.

Alternate Test: All valves full stroked in the forward direction at cold shutdowns per either OST 1.24.8 or 9. Valves FW-33 thru 35 and FW-622 thru 627 full stroked in the reversed direction at cold shutdowns per OST 1.24.8. Reversed direction testing of FW-42 through 44 will be by monitoring upstream pipe temperatures at least quarterly and by leak test OST 1.24.11 at refuelings.

BVPS-1 1ST

COLD SHUTDOWN JUSTIFICATION 26

Valve No.: MOV-FW-156A
MOV-FW-156B
MOV-FW-156C

Category B/C Class 2

Function: A, B and C loop feedwater containment isolation check valves.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: Full- and part-stroke testing these valves during power operation could cause a loss of feedwater resulting in a reactor trip. Also, the motor operator associated with these valves will only operate with a very small or no differential pressure across the valve. It is not for use at power.

Alternate Test: Full stroke and time at cold shutdown per OST 1.1.10 and as an additional test of the check valve verify closure by a leak test per OST 1.24.13 at refuelings.

COLD SHUTDOWN JUSTIFICATION 27

Valve No.: FP-800
FP-804
FP-827

Category A/C Class 2

Function: Fire protection, deluge system to RHR area, to cable penetration area and to containment hose reels inside containment check valves.

Test Requirements: Quarterly full-stroke.

Basis for CSJ: These valves are normally closed during power operation and are only required to open in the event fire protection water is needed. Full and part stroke exercising is not possible during power operation due to the inaccessibility of the valves.

Alternate Test: Full-stroke exercise at cold shutdowns per OST 1.1.10 using the weighted arm.

COLD SHUTDOWN JUSTIFICATION 28

Valve No.: 1VS-D-5-3A 1VS-D-5-5A
1VS-D-5-3B 1VS-D-5-5B

Category A Class 2

Function: Containment isolation valves for refueling purge and exhaust lines.

Test Requirements: Quarterly stroke and time.

Basis for CSJ: These dampers are shut during power operation and are required to remain shut to fulfill their safety function. These dampers cannot be full or part stroke exercised during power operation without violating containment integrity.

Alternate Test: Full-stroked and timed per OST 1.1.10 during cold shutdown.

COLD SHUTDOWN JUSTIFICATION 29

Valve No.: FCV-1FW-478
FCV-1FW-488
FCV-1FW-498

Category B Class 2

Function: Steam Generator main feedwater regulating valves.

Test Requirements: Quarterly full-stroke and time.

Basis for CSJ: Valves are normally open during power operation. Their safety position is closed for feedwater isolation. Full-stroke and time testing cannot be performed at power since this would isolate feedwater flow to the steam generators resulting in a plant trip and shutdown.

Alternate Test: Full-stroked and timed per OST 1.1.10 during cold shutdown.

COLD SHUTDOWN JUSTIFICATION 30

Valve No.: FCV-1FW-479
FCV-1FW-489
FCV-1FW-499

Category B Class 2

Function: Steam Generator bypass feedwater regulating valves.

Test Requirements: Quarterly full-stroke and time.

Basis for CSJ: At power these valves are typically set at 5% open but could be at any position. Their safety position is closed for feedwater isolation. Quarterly full-stroke and time testing is not practical at power since this can cause the main feedwater regulating valves to cycle to compensate for the loss of flow through these valves when closed. The resulting transient on the steam generators may result in a plant trip and shutdown.

Alternate Test: Full-stroked and timed per OST 1.1.10 during cold shutdowns.

BVPS-1 IST

SECTION VII. VALVE TESTING RELIEF REQUESTS

RELIEF REQUEST 1

Valve No.: See list of Containment Isolation Valves on next page.

Category A or A/C Class 2

Function: Containment Isolation.

Test Requirements: Leak tested per IWV-3420 at least once every 2 years.

Basis for Relief: These containment isolation valves are leak tested in accordance with 10CFR50, Appendix J, Type C. Since the acceptance criteria for Appendix J, Type C is more limiting than the ASME Section XI, additional leak testing in accordance with ASME Section XI would be redundant.

Alternate Test: Leak tested during refueling outages in accordance with 10CFR50, Appendix J, IWV-3426 and IWV-3427(a) per 1BVT 1.47.5. The additional requirements of IWV-3427(b) for valves six inches or larger will not be followed. The usefulness of IWV-3427(b) does not justify the burden of complying with this requirement. Unnecessary repair or replacement of a valve or additional leak testing, if attempted at cold shutdown, could delay plant startup. Per 10CFR50.55a(a)(3)(ii) compliance with the specified requirements of IWV-3427(b) would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. For the valves listed on the next page of this relief request, an asterisk to the left of the valve mark number indicates its size as six inches or larger. As a special test, after maintenance has been performed on any Type C relief valve, 1BVT 2.47.2 may also be performed to leak test the valve in lieu of 1BVT 1.47.5.

RELIEF REQUEST 1Containment Isolation Valves

*MOV-CC-112A2	TV-CC-107E2	TV-LM-100A2	TV-CV-150B
*CC-247	TV-CC-105E1	TV-SS-111A1	HY-101
*MOV-CC-112B3	TV-CC-105E2	TV-SS-111A2	TV-CV-150A
*CC-252	TV-CH-200A	TV-SS-100A1	HY-103
*MOV-CC-112A3	TV-CH-200B	TV-SS-100A2	*HCV-CV-151
*CC-251	TV-CH-200C	TV-SS-102A1	*HCV-CV-151-1
*MOV-CC-112B2	RV-CH-203	TV-SS-102A2	SOV-HY-102B1
*CC-248	MOV-CH-142	TV-SS-105A1	SOV-HY-102B2
TV-CC-107D1	TV-CH-204	TV-SS-105A2	SOV-HY-103B1
TV-CC-107D2	TV-DG-108A		SOV-HY-103B2
*TV-CC-111D1	TV-DG-108B		SOV-HY-104B1
*TV-CC-111D2	FP-804		SOV-HY-104B2
*TV-CC-110D	TV-FP-105		TV-SS-104A1
*TV-CC-110F1	FP-800	*TV-CC-103A1	TV-SS-104A2
*TV-CC-110F2	TV-FP-106	*TV-CC-103A	TV-SS-103A1
FP-827	TV-DA-100A	*QS-4	TV-SS-103A2
TV-FP-107	TV-DA-100B	*MOV-QS-101B	*PC-38
*TV-CC-110E3	SA-15	*QS-3	*PC-37
*TV-CC-110E2	SA-14	*MOV-QS-101A	*PC-9
*TV-CC-111A2	TV-CV-102-1	*RS-101	*PC-10
*TV-CC-111A1	TV-CV-102	*RS-100	TV-SS-112A1
*TV-CC-103B1	TV-CV-101A	HY-196	TV-SS-112A2
*TV-CC-103B	TV-CV-101B	HY-111	MOV-SI-842
*TV-CC-103C1	RC-72	HY-197	TV-SI-889
*TV-CC-103C	TV-RC-519	HY-110	SOV-HY-102A1
MOV-CH-378	IA-91	*AS-278	SOV-HY-102A2
CH-369	IA-90	*TV-SV-100A	SOV-HY-103A1
MOV-CH-381	TV-DG-109A2	*VS-D-5-3B	SOV-HY-103A2
SI-42	TV-DG-109A1	*VS-I-5-3A	SOV-HY-104A1
SI-41	RC-68	*VS-I-5-5B	SOV-HY-104A2
*RH-14	TV-RC-101	*VS-D-5-5A	RC-277
RH-16	TV-SI-101-2	*VS-D-5-6	RC-278
*RH-15	TV-SI-101-1	TV-CV-150C	VS-169
*TV-CC-105D1	TV-SS-109A1	HY-102	VS-170
*TV-CC-105D2	TV-SS-109A2	TV-CV-150D	VS-167
TV-CC-107E1	TV-LM-100A1	HY-104	VS-168

* Indicates valve size six inches or larger.

RELIEF REQUEST 2

Valve No.: RC-68

Category A/C Class 2

Function: Inside containment isolation on the N₂ makeup line to the Pressurizer Relief Tank.

Test Requirements: Quarterly full-stroke.

Basis for Relief: This valve is normally closed and is opened only during nitrogen makeup to the Pressurizer Relief Tank. Its safety position is closed for containment isolation. The only means for verifying closure is during the 10CFR50, Appendix J leak rate test performed at refuelings.

Alternate Test: Valve closure is verified by a leak test during refueling outages per 1BVT 1.47.5.

RELIEF REQUEST 3

Valve No.: RC-72

Category A/C Class 2

Function: Inside containment isolation on the primary grade water supply to the Pressurizer Relief Tank.

Test Requirements: Quarterly full-stroke.

Basis for Relief: This valve is normally closed and is opened only during makeup to or while depressurizing the Pressurizer Relief Tank. Its safety position is closed for containment isolation. The only means for verifying closure is during the 10CFR50, Appendix J leak rate test performed at refuelings.

Alternate Test: Valve closure is verified by a leak test during refueling outages per 1BVT 1.47.5.

BVPS-1 IST

RELIEF REQUEST 4

Valve No.: CH-22
CH-23
CH-24

Category C

Class 2

Function:

Normal pump discharge check valves for the charging pumps.

Test Requirements:

Quarterly full-stroke.

Basis for Relief:

The design function of these check valves is to prevent reverse flow during pump shutdown and to stroke full open for safety injection flow. A full design flow test is required to ensure full stroke. However, during normal operation, the charging pump will not develop the required flow. Therefore, relief from quarterly full-stroke exercising is requested during normal operation. Relief is also requested from cold shutdown exercising because full flow testing could result in a low temperature overpressurization of the RCS.

Alternate Test:

Part-stroked open and full-stroked closed quarterly per OST 1.7.4, 5 and 6. Full-stroke open during refueling outages per OST 1.11.14.

BVPS-1 IST

RELIEF REQUEST 5

Valve No.: CH-31

Category A/C

Class 2

Function: Charging header inside containment isolation check valve.

Test Requirements: Quarterly full-stroke.

Basis for Relief: This normally open check valve must close to fulfill its safety function. Valve closure can only be checked by a leak test and there is no instrumentation to monitor upstream pressure. Therefore, relief is requested from quarterly and cold shutdown stroke tests.

Alternate Test: Valve closure is verified by a leak test during refueling outages per 1BVT 1.47.11.

RELIEF REQUEST 6

Valve No.: CH-181
CH-182
CH-183

Category A/C

Class 2

Function: Reactor coolant seal injection inside containment isolation check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These valves are open during power operation but are required to close to fulfill their safety function. Closing the valves during power operation, or anytime the system is pressurized to greater than 100 psig, would secure seal injection water to the reactor coolant pump seals, resulting in seal damage. In addition, valve closure can only be checked by leak testing since they have no position indication or weighted arms. Therefore, relief is requested from quarterly and cold shutdown exercising.

Alternate Test: Valve closure is verified by a leak test during refueling outages per 1BVT 1.47.11.

BVPS-1 IST

RELIEF REQUEST 7

Valve No.: TV-CH-200A
TV-CH-200B
TV-CH-200C

Category 4 Class 2

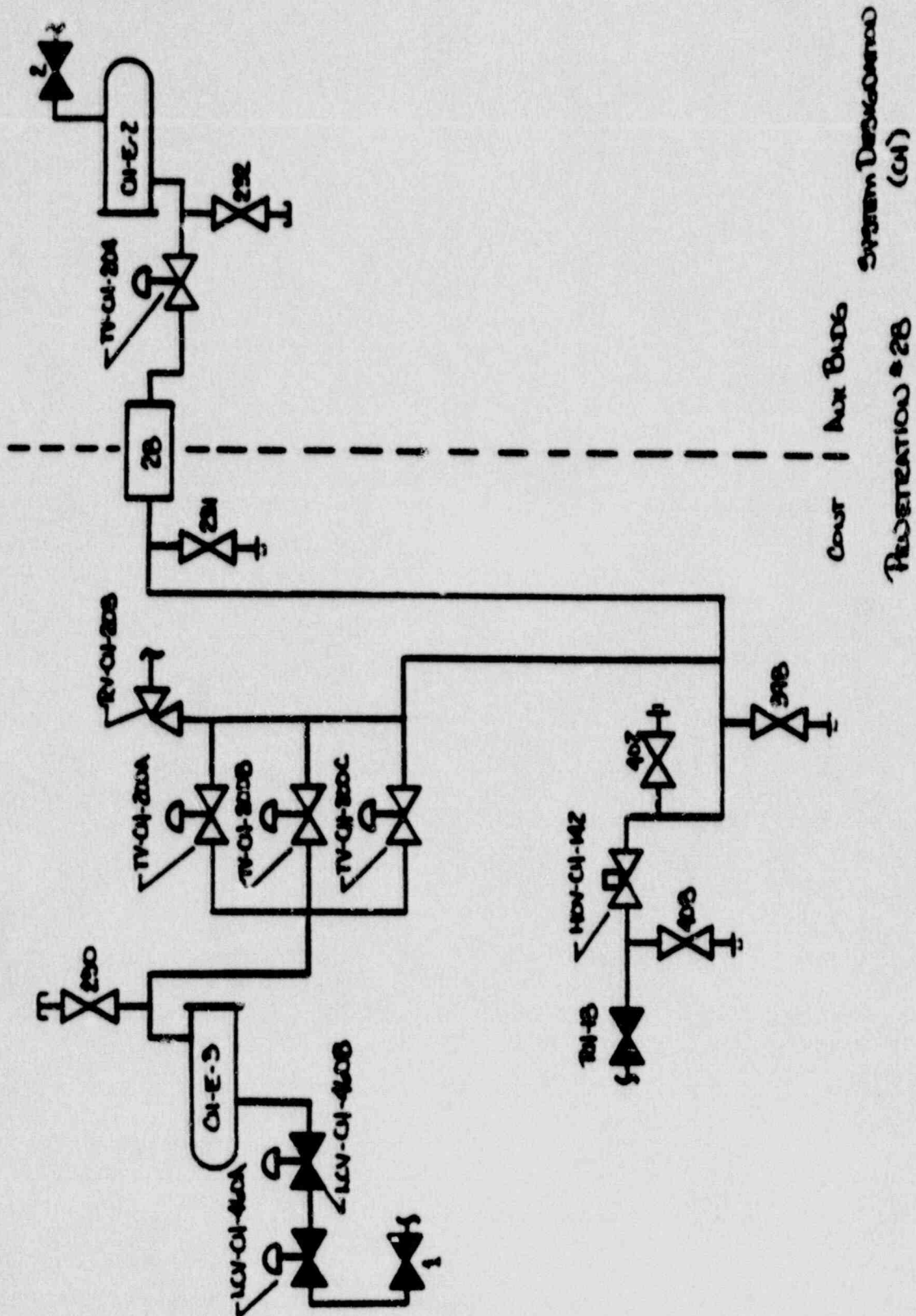
Function: Reactor coolant letdown orifice inside
containment isolation valves.

Test Requirements: IWV-3426 and 27(a) require Owner specified
maximum permissible leakage rates for specific
valves as a function of valve size and type
and provide the corrective action to be
followed when these limits are exceeded.

Basis for Relief: As shown on the attached figure for
penetration #28, the configuration of this
containment penetration (i.e. three inside
containment isolation valves in parallel) is
such that individual leakage rates for each
specific valve cannot be determined using the
test method of 10CFR50, Appendix J. In this
case, assigning maximum permissible leakage
rates for each valve would not be practical.

Alternate Test: Assign a maximum permissible leakage rate for
the entire barrier to then be used as the
criteria for initiating corrective action in
accordance with IWV-3427(a).

RELIEF REQUEST 7



BVPS-1 IST

RELIEF REQUEST 8

Valve No.: CH-369

Category A/C

Class 2

Function: Penetration 19 pressure relief check around
[MOV-CH-378].

Test Requirements: Quarterly full stroke.

Basis for Relief: This valve is normally closed during power operation and is required to remain closed to fulfill its safety function. Full stroking can only be verified by the leak test. Therefore, relief is requested from quarterly and cold shutdown stroke tests.

Alternate Test: Valve closure is verified by a leak test during refueling outages per IBVT 1.47.5.

RELIEF REQUEST 9Valve No.: MOV-CH-378
CH-369Category A; A/C Class 2

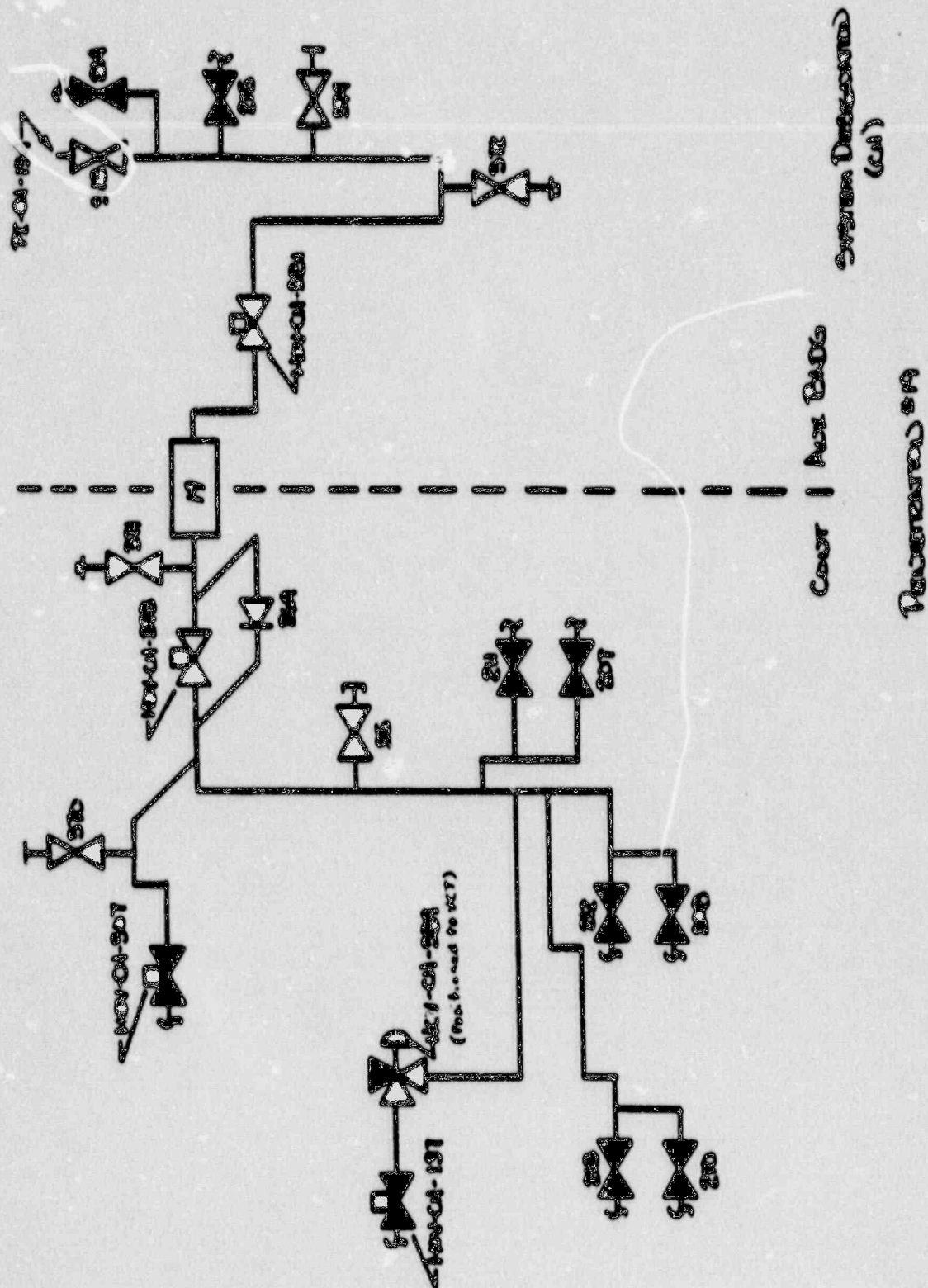
Function: RCP seal water return line inside containment isolation valves.

Test Requirements: IWV-3426 and 3427(a) require Owner specified maximum permissible leakage rates for specific valves as a function of valve size and type and provide the corrective action to be followed when these limits are exceeded.

Basis for Relief: As shown on the attached figure for penetration #19, the configuration of this containment penetration (i.e. two inside containment isolation valves in parallel) is such that individual leakage rates for each specific valve cannot be determined using the test method of 10CFR50, Appendix J. In this case, assigning maximum permissible leakage rates for each valve would not be practical.

Alternate Test: Assign a maximum permissible leakage rate for the entire barrier to then be used as the criteria for initiating corrective action in accordance with IWV-3427(a).

RELIEF REQUEST 9



RELIEF REQUEST 10

Valve No.: MOV-CH-308A
MOV-CH-308B
MOV-CH-308C

Category A Class 2

Function: Reactor Coolant Seal Injection outside
containment isolation motor-operated valves.

Test Requirements: Quarterly full stroke and time.

Basis for Relief: These valves are open during power operation but are required to close to fulfill their safety function. Closing the valves during power operation would secure seal injection water to the reactor coolant pump seals, resulting in seal damage. In addition, seal injection flow is required anytime the system is pressurized to greater than 100 psig.

Alternate Test: The MOVs will be full-stroke exercised and timed during cold shutdowns when RCS pressure has been reduced to below 100 psig and refueling outages per OST 1.1.10.

BVPS-1 1ST

RELIEF REQUEST 11

Valve No.: MOV-CH-370

Category B Class 2

Function: Charging supply isolation to Reactor Coolant Pump Seal Injection.

Test Requirements: Quarter full stroke and time.

Basis for Relief: This valve is normally open during power operation. Closing it during power operation would secure seal injection water to the reactor coolant pump seals, resulting in seal damage. In addition, seal injection flow is required any time the system is pressurized to greater than 100 psig.

Alternate Test: Full stroke exercise and time during cold shutdowns when RCS pressure has been reduced to below 100 psig and refueling outages per OST 1.1.10.

RELIEF REQUEST 12

Valve No.: MOV-CH-378
MOV-CH-381

Category A Class 2

Function: RCP seal water return line inside and outside containment isolation valves.

Test Requirements: Quarterly stroke and time.

Basis for Relief: These valves are open during power operation, but are required to close to fulfill their safety function. Exercising at power would secure RCP seal water return causing seal damage. In addition, seal injection flow is required any time the RCS is pressurized to greater than 100 psig.

Alternate Test: Full-stroke exercised and timed during cold shutdowns when RCS pressure has been reduced to below 100 psig and refueling outages per OST 1.1.10.

RELIEF REQUEST 13

Valve No.: SI-1
SI-2

Category C Class 2

Function: LHSI pump suction check valves from the containment sump.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These valves are normally closed during power operation but must open to fulfill their safety function for long-term core cooling. Any type of stroke testing at power would violate containment integrity. Due to the lack of installed or test instrumentation and the impracticality of simulating actual safety injection long-term cooling, relief from quarterly and cold shutdown exercising is requested.

Alternate Test: Maintenance to visually inspect one valve per refueling per CMP 1-75-ALOYCO-1M.

RELIEF REQUEST 14

Valve No.: SI-5

Category C

Class 2

Function: LHSI pump suction check valve from the RWST.

Test Requirements: Quarterly full-stroke.

Basis for Relief: The function of this normally closed valve is to open to permit flow from the RWST to the LHSI pump suctions. Full stroke capability can only be verified by rated safety injection flow, therefore, relief is requested from quarterly full-stroke exercising. Relief from cold shutdown full-stroke exercising is also requested because testing would require full flow injection to the RCS where there is insufficient volume to receive the additional inventory.

Alternate Test: Part-stroked quarterly in the open direction per OST 1.11.1 and 2. Full-stroked open at refueling outages per OST 1.11.14.

BVPS-1 IST

RELIEF REQUEST 15

Valve No.: SI-6
SI-7

Category C

Class 2

Function: LHSI pump discharge check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These valves close when the opposite LHSI pump is operating to prevent damaging the non-running pump seals and pump suction piping but must be fully open during an accident. These valves are part-stroked open and full-stroked closed during the quarterly pump surveillance tests; however, rated safety injection flow is needed to verify full stroke capability. Relief from stroking to the full open position at power is requested due to the inability of the LHSI pumps to overcome RCS pressure. Relief from cold shutdown stroking is also requested because testing would require full flow injection to the RCS where there is insufficient volume to receive the additional inventory.

Alternate Test: Part stroke quarterly in the open direction per OST 1.11.1 or 2. Full-stroke open during full-flow testing during refuelings per OST 1.11.14.

RELIEF REQUEST 16Valve No.: SI-10
SI-11
SI-12Category A/CClass 1

Function: LHSI cold leg branch line check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These check valves are normally shut to prevent reverse flow from the higher pressure RCS and HHSI system to the LHSI low pressure system during power operation but are required to open in the event of a safety injection. Due to the lack of installed instrumentation, and the relative system pressures, relief from quarterly full and part-stroke exercising is requested. In addition, relief is requested from full or part-stroke exercising at cold shutdown because testing would require full flow injection to the RCS where there is insufficient expansion volume to receive the additional inventory.

Alternate Test: Full-stroked open per OST 1.11.14 and reverse flow stroked closed per leak test OST 1.11.16 during refueling outages.

BVPS-1 IST

RELIEF REQUEST 17

Valve No.:	SI-20	SI-100
	SI-21	SI-101
	SI-22	SI-102

Category C Class 1

Function: SI hot and cold leg branch line check valves.

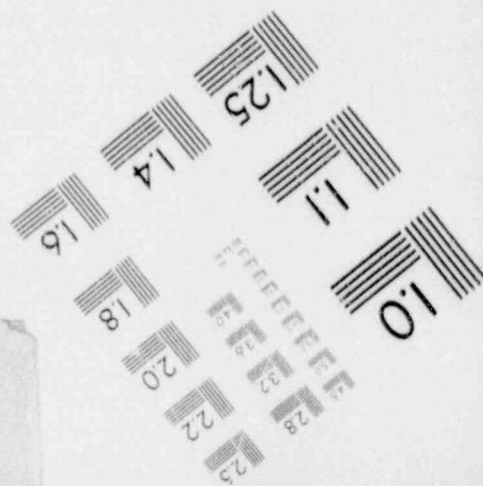
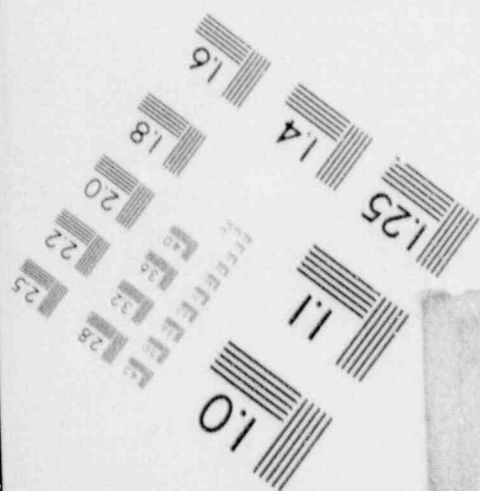
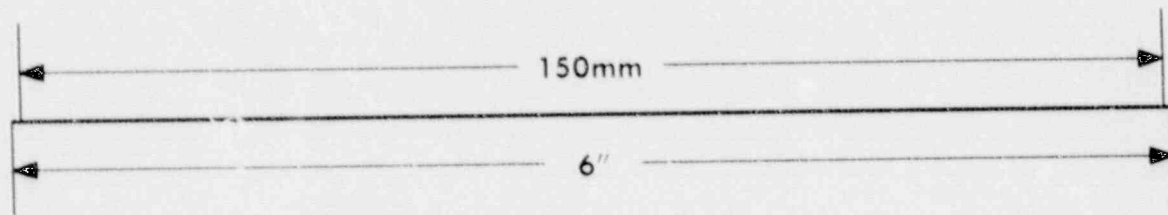
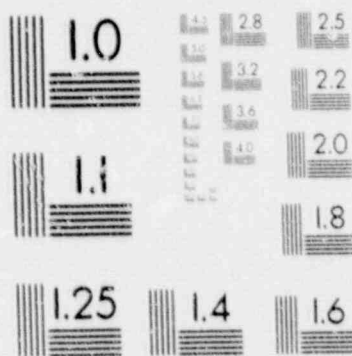
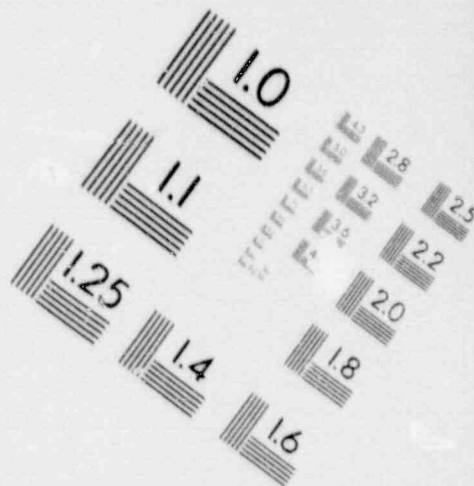
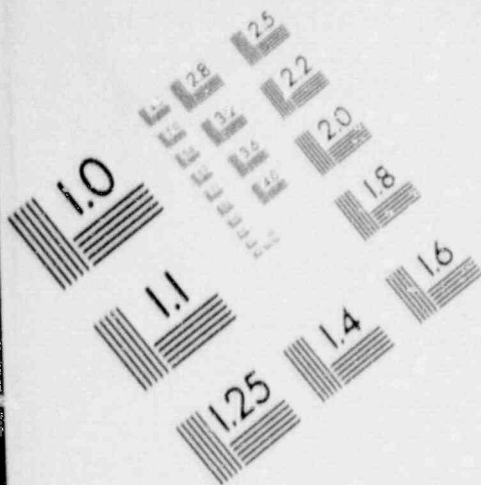
Test Requirements: Quarterly full-stroke.

Basis for Relief: The safety function for these valves is to open in the event of a safety injection. These check valves cannot be full or part-stroked open at power at any frequency due to the potential for a premature failure of the injection nozzles caused by the thermal shock from a cold water injection. Relief from stroke testing at cold shutdowns is also requested since this could result in a low temperature overpressurization of the RCS.

Alternate Test: Full-stroked open per OST 1.11.14 during refueling outages.

1

IMAGE EVALUATION
TEST TARGET (MT-3)



RELIEF REQUEST 18Valve No.: SI-23
SI-24
SI-25Category A/CClass 1

Function: SI cold leg branch line check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These check valves are normally shut during power operation to prevent reverse flow from the higher pressure RCS to the lower pressure LMSI system but are required to open in the event of a safety injection. Due to the lack of installed instrumentation, the relative system pressures and the potential for a premature failure of the injection nozzles caused by the thermal shock from a cold water injection, relief from quarterly full or part-stroke testing at power is requested. In addition, relief from cold shutdown stroke testing is requested since this would require a full flow injection to the RCS where there is insufficient expansion volume to receive the additional inventory.

Alternate Test: Full-stroked open per OST 1.11.14 during refueling outages and reverse-flow stroked closed per leak test OST 1.11.16 during refueling outages.

RELIEF REQUEST 19

Valve No.: SI-27

Category CClass 2

Function: High head safety injection pump suction from RWST check valve.

Test Requirements: Quarterly full stroke.

Basis for Relief: This valve is normally closed during power operation but is required to open at the onset of an accident to fulfill its safety function. A full design flow test is required to ensure full stroke. However, during normal operation the charging pump will not develop the required flow. Therefore, relief from quarterly full-stroke exercising is requested during normal operation. Relief is also requested from cold shutdown exercising because full-flow testing could result in low-temperature overpressurization of the RCS.

Alternate Test: Part-stroked open quarterly if the RWST is supplying the pumps per OST 1.7.4, 5 and 6. Full-stroked open during refueling outages per OST 1.11.14.

RELIEF REQUEST 20

Valve No.:	SI-48	SI-51
	SI-49	SI-52
	SI-50	SI-53

Category A/C Class 1

Function: Safety injection accumulator series discharge check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These valves are shut during normal power operation but are required to open to fulfill their safety function of allowing the accumulators to discharge for core flooding. Relief from full or part-stroke exercising at power is requested due to the high pressure differential between the reactor coolant system and the accumulators. Relief from exercising during cold shutdown is also requested due to a lack of installed instrumentation and an uncontrolled test volume change needed to achieve the flow required by the safety analysis.

Alternate Test: Full-stroked open during refueling outages per 1BVT 1.11.3. As a special test, after maintenance has been performed on any of these valves, OST 1.11.15 may be performed to partial stroke exercise the applicable valve.

BVPS-1 IST

RELIEF REQUEST 21

Valve No.: SI-83
SI-84

Category A/C Class 2

Function: HHSI hot leg branch line inside containment isolation check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These valves are normally shut but are required to open to fulfill their safety function to provide long-term recirculation in the event of a safety injection. They cannot be full or part-stroked open at power due to the potential for a premature failure of the injection nozzles caused by the thermal shock from a cold water injection. Cold shutdown full-stroke testing cannot be performed since this could result in a low temperature overpressurization of the RCS.

Alternate Test: Full-stroked open during refueling outages per OST 1.11.14.

RELIEF REQUEST 22

Valve No.: SI-94
SI-95

Category A/C

Class 2

Function: BIT injection and SI fill header line inside containment isolation check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These valves are normally shut during power operation but are required to open to fulfill their safety function in the event of a safety injection. These check valves cannot be full or part stroked at power at any frequency due to the potential for a premature failure of the injection nozzles caused by the thermal shock from a cold water injection. Relief from stroke testing at cold shutdowns is also required since this could result in a low temperature overpressurization of the RCS.

Alternate Test: Full-stroked open at refueling outages per OST 1.11.14.

RELIEF REQUEST 23Valve No.: MOV-SI-867A
MOV-SI-867BCategory B Class 2

Function: Boron Injection Tank (BIT) inlet isolation valves.

Test Requirements: Quarterly stroke and time.

Basis for Relief: These valves are shut at power but are required to open to fulfill their safety function in the event of a safety injection. Stroking these valves fully or partially at power has historically caused leakage past the BIT manway flange and the other valves in the system. In addition, stroking these valves would dilute the boron concentration of the BIT, potentially causing entry into a technical specification action statement.

Alternate Test: Full-stroke exercised and timed during refueling outages per OST 1.11.14.

RELIEF REQUEST 24Valve No.: MOV-SI-867C
MOV-SI-867DCategory A Class 2Function: Boron Injection Tank BIT outlet isolation and
outside containment isolation valves.

Test Requirements: Quarterly stroke and time.

Basis for Relief: These valves are shut at power but are required to open to fulfill their safety function in the event of a safety injection. Quarterly stroking of these valves to their open safety position could result in some borated, oxygenated water from the BIT entering the piping downstream of these valves. With no means to flush out these lines, valve closure would then cause a stagnant condition to develop. IE Bulletin 79-17 has identified the combination of these three factors as one which promotes intergranular stress corrosion cracking (IGSCC). The ability to flush out the downstream piping to minimize the probability of IGSCC formation is only possible during refueling outages in conjunction with the SI fullflow test, OST 1.11.14. Therefore, relief is requested from quarterly stroke testing.

Alternate Test: Full-stroke exercised and timed during
refueling outages per OST 1.11.14.

RELIEF REQUEST 25Valve No.: RS-158
RS-160Category C Class 2Function: LHSI pump and Outside RS pump cross connection
check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These valves are normally closed during power operation but must open to fulfill their safety function in the unlikely event that the LHSI pumps are unable to supply the HHSI pumps. No practical method of testing these valves exists. The volume of water used to test the outside RS pumps is insufficient to stroke the check valves even if it could be directed to the suction of the LHSI pumps. In addition, there is no installed instrumentation. Therefore, relief from quarterly and cold shutdown exercising is requested.

Alternate Test: Maintenance to visually inspect one valve per refueling per CMP 1/2-75-VELAN CHECK-1M.

RELIEF REQUEST 26

Valve No.:	TV-CC-103A	TV-CC-103C1	TV-CC-105E2	TV-CC-107D1
	TV-CC-103A1	TV-CC-105D1	TV-CC-107A	TV-CC-107D2
	TV-CC-103B	TV-CC-105D2	TV-CC-107B	TV-CC-107E1
	TV-CC-103B1	TV-CC-105E1	TV-CC-107C	TV-CC-107E2
	TV-CC-103C			

Category A,BClass 2,3

Function: Component cooling to reactor coolant pump, stator, bearing and thermal barrier isolation valves.

Test Requirements: Quarterly stroke and time.

Basis for Relief: Stroking these valves with the reactor coolant pumps running could cause damage to pump bearings, stator and thermal barrier if the valves would fail to reopen. Relief is requested from full- or part-stroke exercising during power operation and cold shutdown when the pump is running.

Alternate Test: Full-stroked and timed during cold shutdowns when the reactor coolant pumps are secured and during refueling outages per OST 1.1.10.

RELIEF REQUEST 27

Valve No.: TV-CC-110F1
TV-CC-110F2

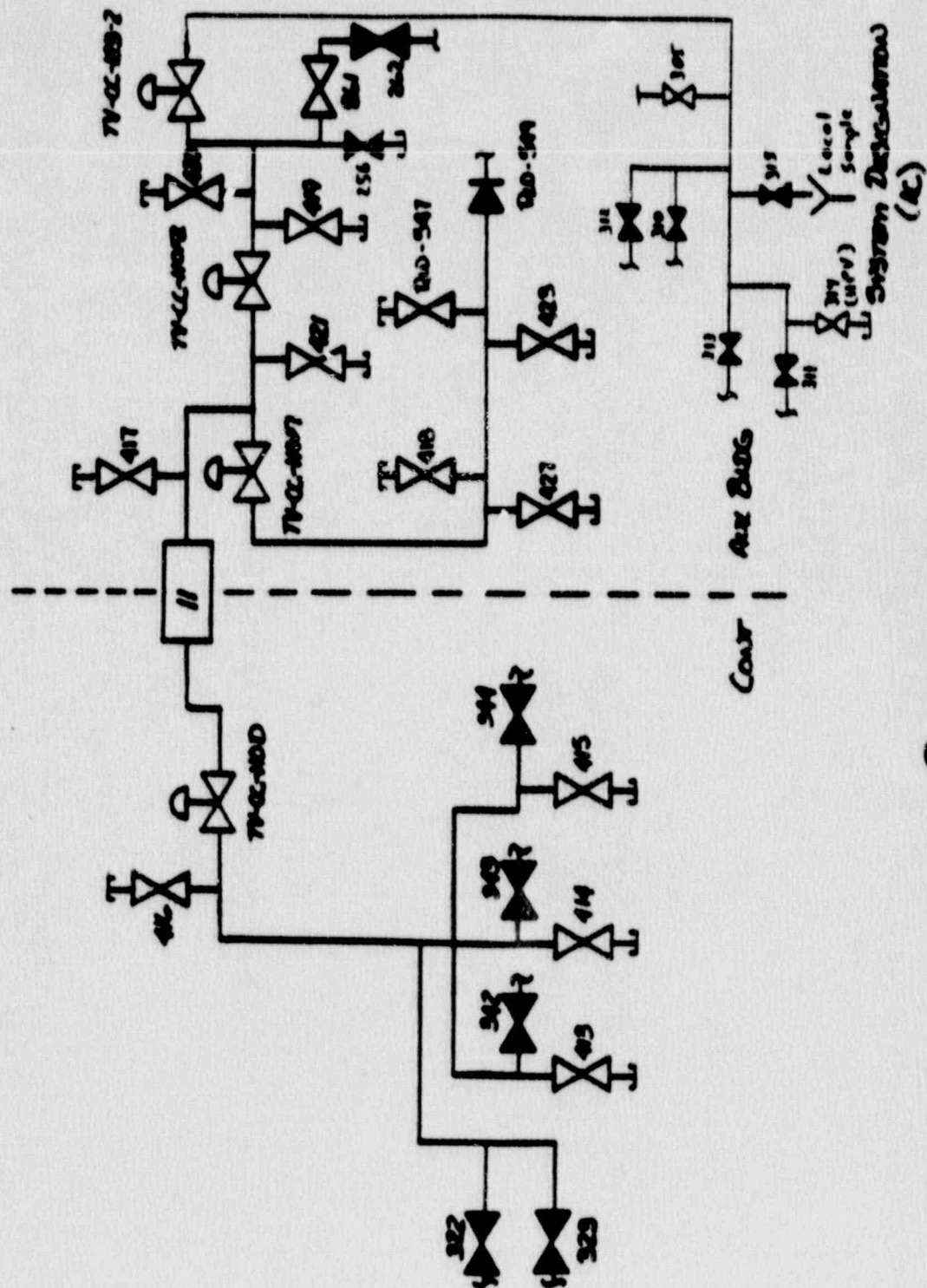
Category A passive; A Class 2

Function: Outside containment isolation cooling water return from the containment air recirculation cooling coils to the Chilled Water and River Water Systems.

Test Requirements: IWV-3426 and 3427(a) require Owner specified maximum permissible leakage rates for specific valves as a function of valve size and type and provide the corrective action to be followed when these limits are exceeded.

Basis for Relief: As shown on the attached figure for Penetration #11, the configuration of this containment penetration (i.e., two outside containment isolation valves in parallel) is such that individual leakage rates for each specific valve cannot be determined using the test method of 10CFR50, Appendix J. In this case, assigning maximum permissible leakage rates for each valve would not be practical.

Alternate Test: Assign a maximum permissible leakage rate for the entire barrier to then be used as the criteria for initiating corrective action in accordance with IWV-3427(a).



Discretion 811

RELIEF REQUEST 28

Valve No.: CC-289
CC-290
CC-291

Category C Class 3

Function: Reactor coolant pump thermal barrier supply check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: The safety function of these valves is to close to prevent reverse flow to the low pressure CCR system in the event a thermal barrier leaks. The only way to test for closure is to perform a leak test on the valves or by valve disassembly and inspection. Therefore, relief is requested from quarterly and cold shutdown stroke tests.

Alternate Test: Valve closure is verified by a leak test at refueling outages per 1BVT 1.60.7.

RELIEF REQUEST 29

Valve No.: MS-18
MS-19
MS-20

Category CClass 2

Function: Main steam to auxiliary feed pump check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: The function of these valves is to open to allow steam flow to run the turbine-driven auxiliary feedwater pump and to close to prevent steam generator cross connection in the event of a high energy line break. A full-stroke to the opened position can only be verified by a full-flow test of the turbine-driven auxiliary feedwater pump performed during startup from cold generators resulting in a plant trip and shutdown. The quarterly pump test runs the pump on recirculation only and does not require full steam flow. A full-stroke to the closed position can only be verified by a leak test to be performed during refueling outages.

NOTE: To prevent the loss of all three steam generators in the event of a line break, one of the manual isolation valves upstream of the check valves is locked shut during normal operation.

Alternate Test: Two of the valves will be part-stroked open during the quarterly pump test per OST 1.24.4. The third valve will not be part-stroke exercised because the manual isolation valve is locked closed.

All three valves will be full-stroked open each startup from cold shutdown when the turbine-driven auxiliary feed water pump is full flow tested per OST 1.24.9.

The valves will be verified to full-stroke close during refueling outages per leak test 1BVT 1.60.7.

RELIEF REQUEST 30

Valve No.: MS-80
MS-81
MS-82

Category C Class 2

Function: The A, B and C loop residual heat release reverse flow check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: The safety function of these valves is to close to prevent steam generator cross connection in the event of a high energy line break. Relief is requested from at power and cold shutdown full-stroke closure testing because there is no installed instrumentation to check for reverse flow and the headers are normally cross connected and pressurized. No way exists to isolate and systematically check operation of these valves.

Alternate Test: Maintenance to disassemble and inspect one valve per refueling outage per CMP 1-75-CRANE VCW-60A-1M.

RELIEF REQUEST 31Valve No.: RW-106
RW-107Category C Class 3

Function: River water supply header check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: The safety function of these valves is to open to permit river water flow to safety-related components during an accident and to close if the auxiliary river water pumps are supplying the river water headers. The closure of these valves can only be verified by valve disassembly and internal inspection or by reverse flow leak testing.

Alternate Test: Full-stroked open quarterly per OST 1.30.2, 3 and 6. Full-stroked closed during refueling outages in conjunction with OST 1.30.8.

RELIEF REQUEST 32

Valve No.: RW-110 RW-112
RW-111 RW-113

Category C Class 3

Function: Diesel generator heat exchanger river water inlet check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: The safety function of these valves is to permit river water flow to the diesel generator heat exchangers. In order to fulfill their function, as per IE Bulletin 83-03, the integrity of these valves must be verified. The valve integrity can only be verified through valve disassembly and internal inspection.

Alternate Test: Part-stroked open quarterly per OST 1.36.1 & 2. Full-stroked in both the open and closed direction through a sample valve disassembly and inspection program per CMP 1/2-75-WAFER CHECK-1M every 5 years.

RELIEF REQUEST 33Valve No.: RW-135
RW-136Category C Class 3Function: River water supply to the Control Room
redundant cooling coils check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: The safety function of these valves is to open to ensure a supply of cooling water to the Control Room Redundant Cooling Coils. Stroke testing to the open position can only be performed by placing these units into service and shutting down the normal Control Room Air Conditioning Units or valve disassembly. Due to the resultant temperature transient that this transfer would cause in the Unit 1 control area (i.e., Control Room, Computer Room, Process Control, Relay and Communications Room) and the Unit 2 control area as well due to the joint Control Rooms, relief from quarterly and cold shutdown testing is requested.

Alternate Test: Full-stroked open during refueling outages after placing the Control Room Redundant Cooling Coils into service by verifying their ability to maintain a habitable environment in the control area.

RELIEF REQUEST 34Valve No.: RW-197
RW-198Category C Class 3

Function: RW return from RS heat exchangers parallel check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: These valves are normally closed during power operation but must open to fulfill their safety function to ensure cooling water flow through the RS heat exchangers during an accident. Since these check valves are in parallel non-instrumented branch lines only total flow measurements are possible using instrumentation located upstream from the valves. Due to the lack of installed instrumentation on the branch lines, relief from quarterly and cold shutdown stroke testing of these valves to their full open position is requested.

Alternate Test: Maintenance to visually inspect one valve per refueling per CMP 1/2-75-WAFER CHECK-24.

RELIEF REQUEST 35

Valve No.: RW-675
RW-676
RW-677

Category C Class 3

Function: Unfiltered river water supply to the river water pump seals which is the backup to the normal filtered water supply check valves.

Test Requirements: Quarterly full-stroke.

Basis for Relief: The only method for testing the valves in the backup seal water supply system involves putting unfiltered river water into the pump seals. In order to minimize the degradation to the pump seals that this causes and reduces maintenance, relief is requested from quarterly and cold shutdown stroke testing.

Alternate Test: Full-stroked open during refueling outages per OST 1.30.2, 3 & 6.

RELIEF REQUEST 36

Valve No.: SOV-DA-101 SOV-DA-103
SOV-DA-102 SOV-DA-104

Category B Class 3

Function: Diesel Generator Air Start SOVs.

Test Requirements: Quarterly stroke and time.

Basis for Relief: These valves are quick acting and do not have position indication. The operation of these valves will be monitored by each individual diesel generator's start failure alarm circuit. Malfunctions which will cause the annunciator panel START FAILURE light to come on and the alarm bell to ring are:

1. Engine fails to crank above 40 RPM within 3 seconds after a start signal is received or
2. Engine cranks above 40 RPM within 3 seconds, but fails to exceed 100 RPM within 4 seconds after a start signal is received.

Individual valves will be tested monthly on an alternating frequency by using a different set of air starting motors each month to crank the engine. This will ensure each bank is capable of starting the diesel generator in the required time and that the air start SOVs are not degrading.

Alternate Test: Stroked and indirectly timed by the START FAILURE annunciator on an alternating frequency in conjunction with monthly diesel generator OSTs 1.36.1 & 2 to ensure compliance with the ASME XI requirement for stroke testing on a quarterly frequency.

RELIEF REQUEST 07

Valve No.:	TV-VS-101A	TV-VS-101D
	TV-VS-101B	TV-VS-101E
	TV-VS-101C	

Category B Class 3

Function: Control room emergency air bottle outlet trip isolation valves.

Test Requirements: Quarterly stroke and time.

Basis for Relief: These valves are shut at power but are required to open to fulfill their safety function. Quarterly full or part stroke exercising is not possible without risking violating technical specification bottle pressure and time requirements. In addition, the air bottles are now shared between Units 1 and 2, making testing during cold shutdowns impracticable. Also, these valves do not have control switches and lack valve position indicating lights in the control room.

Alternate Test: Full-stroked exercised but not timed every 18 months per 3BVT 1.44.1.

RELIEF REQUEST 38

Valve No.: VS-D-5-3A
VS-D-5-3B

Category A Class 2

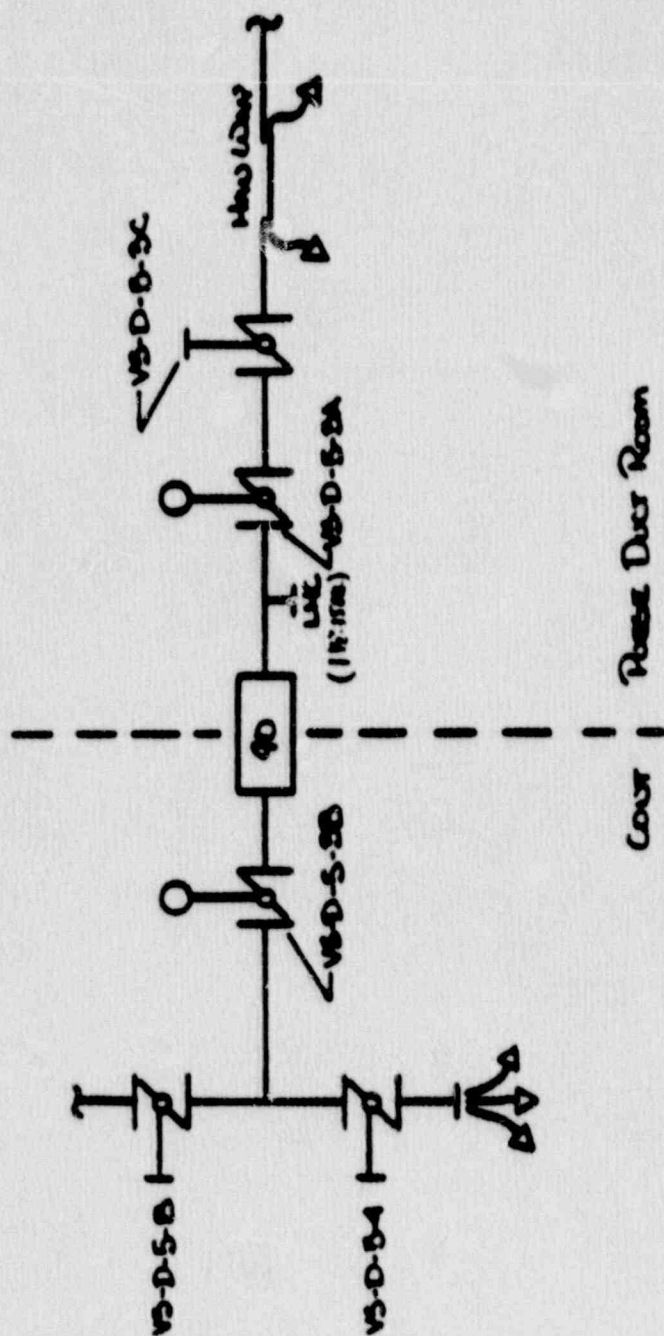
Function: Containment purge exhaust fan containment
isolation dampers.

Test Requirements: IWV-3426 and 3427(a) require Owner specified
maximum permissible leakage rates for specific
valves as a function of valve size and type
and provide the corrective action to be
followed when these limits are exceeded.

Basis for Relief: As shown on the attached figure for
Penetration #90, the configuration of this
containment penetration (i.e., a single test
connection located between two containment
isolation dampers in series) is such that
individual leakage rates for each specific
damper cannot be determined using the test
method of 10CFR50, Appendix J. In this case,
assigning maximum permissible leakage rates
for each damper would not be practical.

Alternate Test: Assign a maximum permissible leakage rate for
the entire penetration to then be used as the
criteria for initiating corrective action in
accordance with IWV-3427(a).

RELIEF REQUEST 38



Power Door Room

RELIEF REQUEST 39

Valve No.: VS-D-5-5A
VS-D-5-5B
VS-D-5-6

Category A Class 2

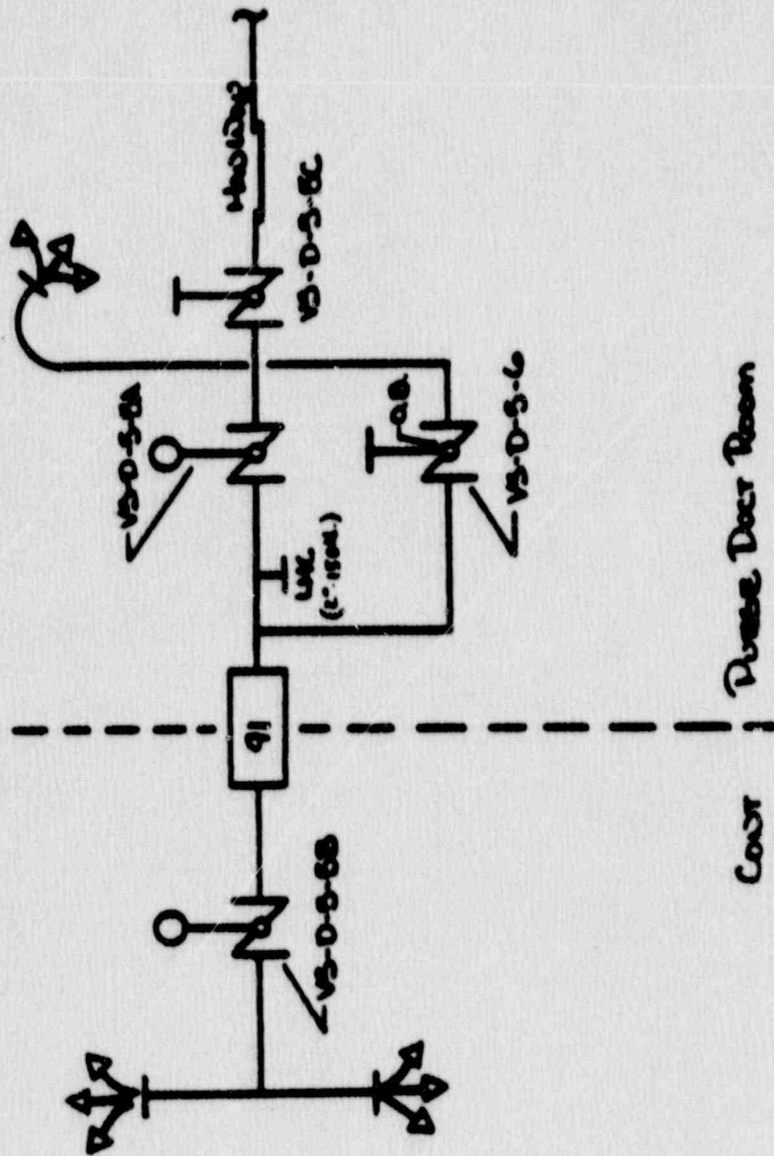
Function: Containment purge supply fan containment isolation dampers.

Test Requirements: IWV-3426 and 3427(a) require Owner specified maximum permissible leakage rates for specific valves as a function of valve size and type and provide the corrective action to be followed when these limits are exceeded.

Basis for Relief: As shown on the attached figure for Penetration #91, the configuration of this containment penetration (i.e., a single test connection located between the three penetration isolation dampers) is such that individual leakage rates for each specific damper cannot be determined using the test method of 10CFR50, Appendix J. In this case, assigning maximum permissible leakage rates for each damper would not be practical.

Alternate Test: Assign a maximum permissible leakage rate for the entire penetration to then be used as the criteria for initiating corrective action in accordance with IWV-3427(a).

RELIEF REQUEST 39



RELIEF REQUEST 91

RELIEF REQUEST 40

Valve No.: TV-CV-150B HY-101
TV-CV-150A HY-103

Category A Class 2

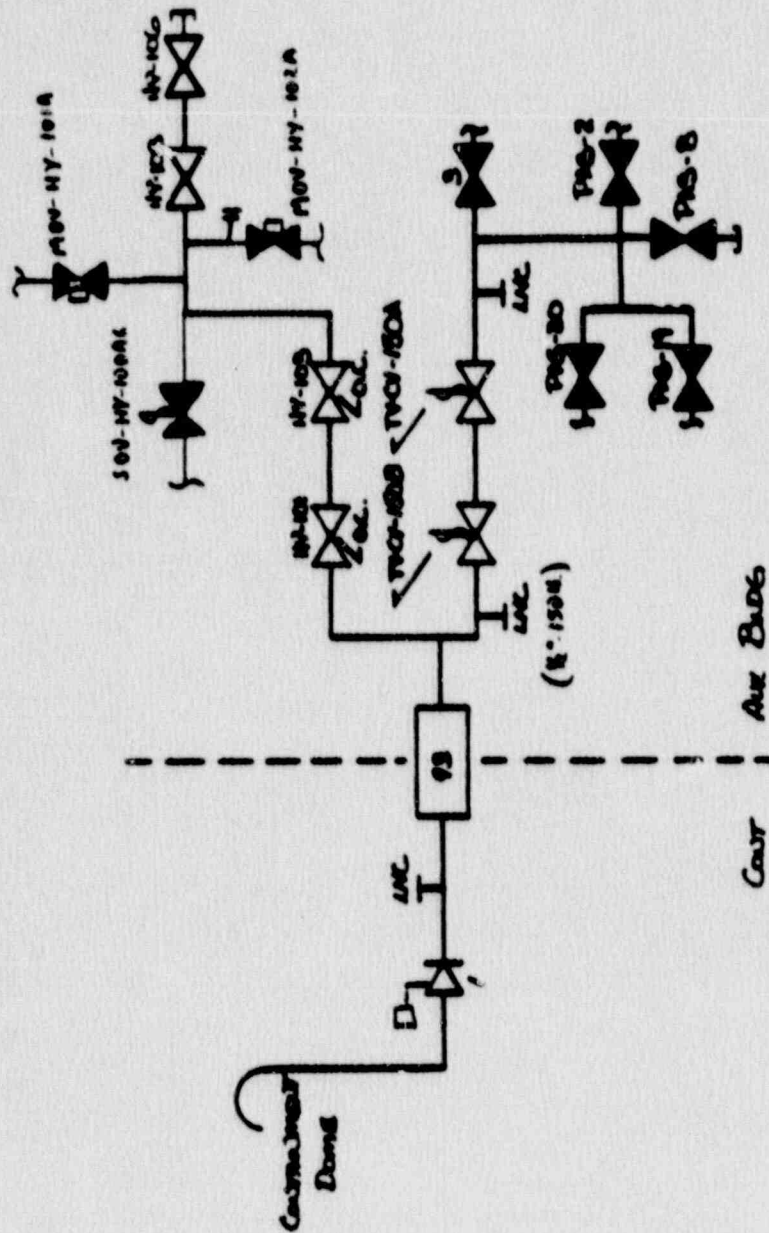
Function: Containment Vacuum Pump 1A and Hydrogen
Recombiner 1A suction containment isolation
valves.

Test Requirements: IWV-3426 and 427(a) require Owner specified
maximum permissible leakage rates for specific
valves as a function of valve size and type
and provide the corrective action to be
followed when these limits are exceeded.

Basis for Relief: As shown on the attached figure for
Penetration #93, the configuration of this
containment penetration (i.e., two in-series
isolation valves in each of two parallel
branch lines) is such that individual leakage
rates for each specific valve cannot be
determined using the test method of 10CFR50,
Appendix J. In this case, assigning maximum
permissible leakage rates for each valve would
not be practical.

Alternate Test: Assign a maximum permissible leakage rate for
the two valve combinations of TV-CV-150B &
HY-101 and TV-CV-150A & HY-103 to then be used
as the criteria for initiating corrective
action in accordance with IWV-3427(a).

RELIEF REQUEST 40



System Designation
(CV)

Revision # 93

RELIEF REQUEST 41

Valve No.: TV-CV-150C HY-102
TV-CV-150D HY-104

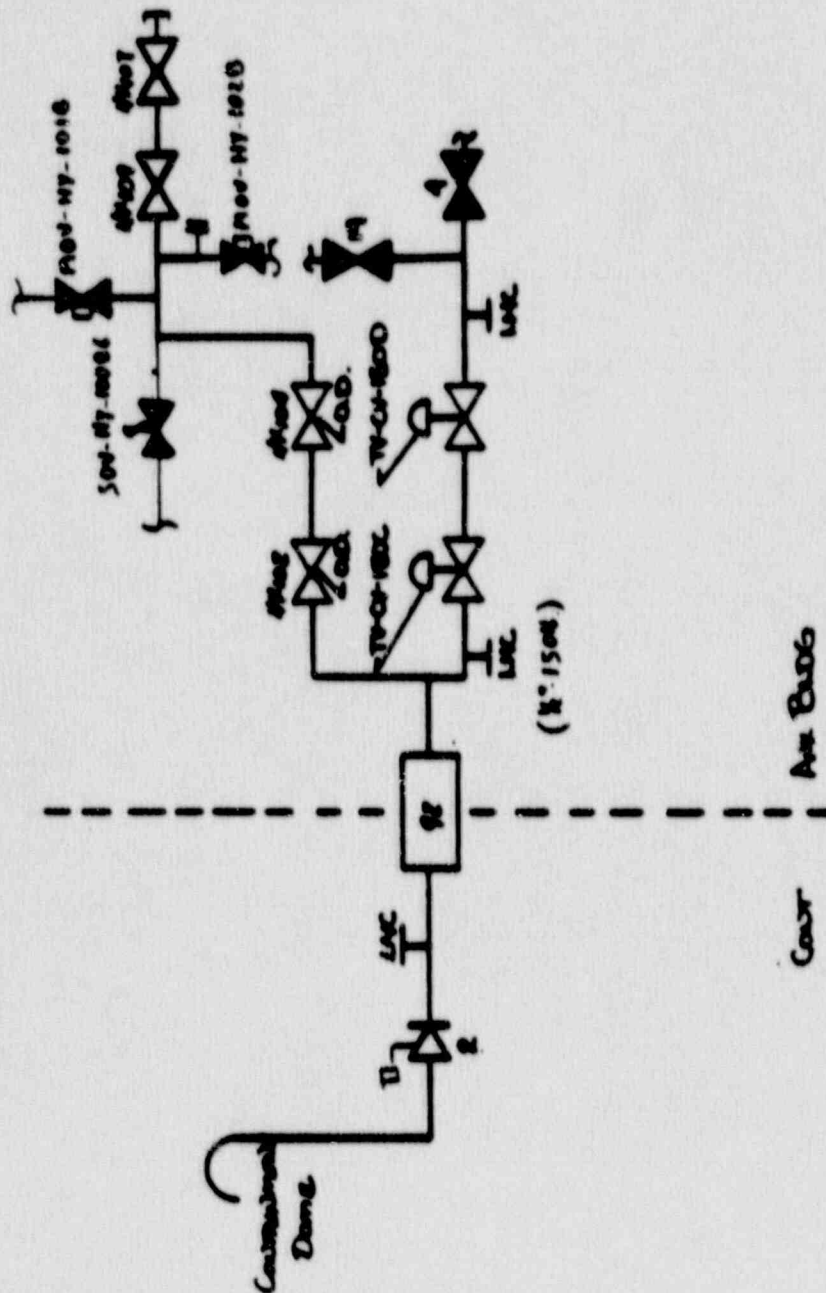
Category A Class 2

Function: Containment Vacuum Pump 1A and Hydrogen
Recombiner 1B suction containment isolation
valves.

Test Requirements: IWV-3426 and 3427(a) require Owner specified
maximum permissible leakage rates for specific
valves as a function of valve size and type
and provide the corrective action to be
followed when these limits are exceeded.

Basis for Relief: As shown on the attached figure for
Penetration #92, the configuration of this
containment penetration (i.e., two in-series
isolation valves in each of two parallel
branch lines) is such that individual leakage
rates for each specific valve cannot be
determined using the test method of 10CFR50,
Appendix J. In this case, assigning maximum
permissible leakage rates for each valve would
not be practical.

Alternate Test: Assign a maximum permissible leakage rate for
the two valve combinations of TV-CV-150C &
HY-102 and TV-CV-150D & HY-104 to then be used
as the criteria for initiating corrective
action in accordance with IWV-3427(a).



System Description
(cr)

Fluorization 592

ATTACHMENT 1

1) The following editorial changes were made to the Pump Testing Requirements, Section I:

- a) A paragraph was added to page 4 on the use of pump curves when plant conditions preclude returning a pump to the same reference point for its normally scheduled surveillance. ASME Section XI paragraph IWP-3112 has been referenced since it permits the establishment and use of additional reference values for pump testing. A pump curve is just a graphical representation of these reference values. This paragraph replaces old Relief Request (RR) 12 which lists those pumps by mark number that use a pump curve. It is being deleted since it is not a true relief. A list of those pumps using a pump curve will be maintained in the IST Pump Files. This revision will make the Unit 1 IST Program similar to Issue 1, Revision 1 of the Unit 2 IST Program approved by the NRC SER, dated March 18, 1988.
- b) Page 5 was revised to delete the reference to monthly test frequency for tests listed in the IST Program. From now on test frequencies referenced under the 'OST' column on the Pump Testing Outline sheets will only be those required by ASME or granted by relief. Currently there are no ASME required or RR alternate test frequencies on a monthly basis.

2) The following editorial changes were made to the Pump Testing Outlines, Section II:

- a) Pages 7 thru 9, 26 thru 28 and 32 thru 34 were revised to delete the reference to old RR 12 which is also being deleted. Refer to the discussion under Item 1.a) for the basis for this revision.
- b) Page 18 was revised to reference OST 1.13.10A instead of N/A under the 'OST' column for Parameter, P1. This change corrects a discrepancy between the Pump Testing Outline sheets for [QS-P-4A] and [QS-P-4B, 4C & 4D].

3) The following editorial changes were made to the Pump Testing Relief Requests, Section III:

- a) RR 5 on page 45 for [QS-P-4A thru 4D] was revised to delete the reference to not measuring pump discharge pressure until after the seventh refueling outage since the plant modification to add the pressure instrumentation has been completed.

ATTACHMENT 1

- b) RR 12 on page 50 was deleted since the use of pump curves falls within the scope of ASME Section XI paragraph IWP-3112, which permits the establishment of additional sets of reference values. A pump curve is merely a graphical representation of these reference values. Refer to the discussion under Item 1.a) for additional information on this revision.
- 4) The following editorial changes were made to the Valve Testing Requirements, Section IV:
- a) Page 55 was revised to indicate that the statement that there are no Category D valves at Unit 1 was meant only in the context of ASME Class 1, 2 or 3 valves.
 - b) Page 58 was revised to add an abbreviation for a semiannual test frequency.
- 5) The following editorial/technical changes were made to the Valve Testing Outlines, Section V:
- a) Page 62 was revised to reference OST 1.1.10 as the cold shutdown stroke, time and remote position verification test for [MOV-RC-536] instead of OST 1.6.8.
 - b) Page 74 was revised to delete valve [SI-91] from the IST Program. The valve was eliminated under Design Change Package (DCP) 1249 since the Boron Injection Tank (BIT) bypass line was determined to no longer serve any essential function when the BIT boron concentration limits were reduced in Technical Specification (T.S.) 3.5.4.1.1, Amendment No. 71. The valve has already been deleted from containment isolation valve T.S. 3.6.3.1, Amendment No. 146.
 - c) Page 79 was revised to delete valves [CV-35 & 36] and [TV-LM-101A & 101B] from the Unit 1 IST Program. The valves which were part of the Containment Vacuum and Leakage Monitoring System were eliminated under DCP 819 and caps were welded onto each end of the two pipes that penetrate containment. T.S. 3.6.3.1, Table 3.6-1, Amendment No. 140 lists these penetrations as spares.
 - d) Page 82 was revised to reflect the new test number for the procedure used to inspect check valves [RS-158 & 160].

ATTACHMENT 1

- e) Page 97 was revised to change the ASME Classification for the Main Steam (MS) supply to the turbine-driven auxiliary feedwater pump check valves [MS-18, 19 & 20] to ASME Class 2 instead of Class 3. This error in valve classification was discovered during a review of plant drawings. The change in valve classification has no effect on the valve testing requirements under the IST Program.
- f) On page 101 the reference to Cold Shutdown Justification (CSJ) 25 and OST 1.24.11 as the full stroke (FS), reverse direction (RD) cold shutdown test which meets the ASME code exercising requirements for the auxiliary feedwater check valves [FW-42, 43 & 44] was deleted. The IST Program will take credit for the upstream temperature monitoring presently performed and recorded on a shiftly basis in Operations Log L3-8 since this type of test falls under the scope of IWV-3522 (a) for stroke testing check valves. A reference to Ops. Log L3-8 was added to The 'Comments' column. OST 1.24.11 is also referenced but the test frequency has been changed to refuelings.
- g) On page 103 the valve mark numbers for [MOV-FW-158A, B & C] were changed to [HCV-FW-158A, B & C] since the valve motor operators are disconnected from the valves. HCV is the abbreviation for hand control valve. This change is consistent with other plant documents.
- h) Page 103 was revised to add the three main feed regulating valves, [FCV-FW-478, 488 & 498] and the three bypass regulating valves, [FCV-FW-479, 489 & 499] to the Unit 1 IST Program. These valves were originally installed in the plant as Category II, non safety-related and were thus not included in the IST Program. The valves are important to safety; however, since they receive a signal to close on a feedwater isolation signal. Because of the safety importance of these valves they will be tested per the requirements of ASME Section XI. CSJ 29 has been referenced in the 'CSJ or Relief Request' column for [FCV-FW-478, 488 & 498] since stroking these valves closed during normal plant operations would isolate feed flow to the steam generators and cause a transient that would lead to a plant trip and shutdown. CSJ 30 has been referenced for [FCV-FW-479, 489 & 499]. At power these valves are typically set at 5% open but could be at any position. Closing them at power would cause the main feed regulating valves to cycle. The resulting transient on the steam generators could lead to a plant trip and shutdown. The Nuclear Engineering Department has been asked to investigate the possibility of officially upgrading the classification of these valves to Category I. This would then make Unit 1 consistent with Unit 2.

ATTACHMENT 1

- i) On page 109 the 'Comments' column for valves [RW-106 & 107] was revised to reference OST 1.30.8 as the only valid FS, RD test for these valves. The reference to reverse flow testing in conjunction with a river water buried line hydrostatic test was deleted since this test was replaced by the OST.
 - j) Page 110 was revised to reflect the new test number for the procedure used to inspect check valves [RW-110 thru 113].
 - k) Pages 111 and 112 were revised to reflect the new test numbers for the procedures used to stroke check valves [RW-158 & 159] and inspect check valves [RW-197 & 198].
 - l) On page 115 the entry under the 'Test Requirement' column for valves [SOV-DA-101 thru 104] was revised to QST (quarterly stroke and time) instead of Q (quarterly stroke only).
 - m) Page 123 was revised to change the listed ASME classification for the Emergency Air Lock (EAL) equalization valves, [VS-183 & 184], to Category A passive instead of Category B passive. Other changes include a revision to the test number and testing frequency referenced under the 'Comments' column to 1BVT 1.47.10, which is performed on a semiannual basis, instead of 1BVT 1.47.8, which is performed at refuelings. 1BVT 1.47.8 had been incorrectly referenced. It is a test on Personnel Air Lock. These changes will bring the Program into agreement with the actual testing that is already performed on these valves which is more conservative than that required for Category B valves.
- 6) The following editorial/technical changes were made to the Valve Testing Cold Shutdown Justifications, Section VI:
- a) On page 139 the 'Alternate Test' section of CSJ 25 was revised to reflect the use of monitoring upstream pipe temperature as the method for RD stroke testing [FW-42, 43 & 44] and the change in test frequency for OST 1.24.11 to refuelings instead of cold shutdowns. This revision also clarifies which tests perform the forward direction (FD) stroke and RD stroke for the twelve auxiliary feedwater check valves listed in this CSJ.
 - b) A new Cold Shutdown Justification (CSJ 29) has been added to the bottom of page 141. It addresses the problem of stroking the main feed regulating valves, [FCV-FW-478, 488 & 498] at power when isolating feed flow to the steam generators would cause a transient that could cause a plant trip and shutdown. Item 5.h) provides further details concerning the addition of these valves into the IST Program.

ATTACHMENT 1

- c) A new Cold Shutdown Justification (CSJ 30) has been added as page 142. It addresses the problem of stroking the bypass feed regulating valves, [FCV-FW-479, 489 & 499] at power. The resultant feed flow/level transient imposed on the steam generators could cause a plant trip and shutdown. Item 5.h) provides further details concerning the addition of these valves into the IST Program.
- 7) The following editorial changes were made to the Valve Testing Relief Requests, Section VII:
- a) On page 144 the 'Alternate Test' section of RR 1 was revised to further clarify the Unit 1 request for relief from IWV-3427 (b) which was first incorporated into Revision 5. This revision adds the basis provided in Generic Letter 89-04. It also identifies the specific valves that this relief applies to by marking the list of containment isolation valves on page 145 in a way that identifies valves six inches or larger.
 - b) On page 163 the 'Alternate Test' section of RR 20 was revised to reference OST 1.11.15 which is a special post-maintenance partial stroke exercise test for the SI accumulator discharge check valves, [SI-48 thru 53].
 - c) On page 165 the 'Basis for Relief' section of RR 22 for valves [SI-94 & 95] was revised to make it conform with the bases used for the other HHSI injection branch line check valves on RR 17 and RR 21.
 - d) On page 168 the 'Alternate Test' section of RR 25 was revised to reflect the test numbering change to the procedure used to inspect check valves [RS-158 & 160].
 - e) On page 173 the valve class listed on RR 29 for the main steam supply to the turbine-driven auxiliary feedwater pump check valves [MS-18, 19 & 20] was changed to Class 2 instead of Class 3. This error in valve classification was discovered during a review of plant drawings. The change has no effect on the valve testing requirements under the IST Program.
 - f) On page 175 the 'Alternate Test' section of RR 31 was revised to reference OST 1.30.8 as the only FS, RD test for valves [RW-106 & 107]. The reference to reverse flow testing in conjunction with a river water buried line hydrostatic test was deleted since this test is no longer performed.

ATTACHMENT 1

- g) On page 176 the 'Alternate Test' section of RR 32 was revised to reflect the test numbering change to the procedure used to inspect check valves [RW-110 thru RW-113].
- h) On page 178 the 'Alternate Test' section of RR 34 was revised to reflect the test numbering change to the procedure used to inspect check valves [RW-197 & RW-198].

ATTACHMENT 2

- 1) The Valve Outline Sheets (Pages 102 and 103) for main feedwater containment isolation valves, [MOV-FW-156A, B & C] were revised to change their Valve Category to 'B/C' instead of 'B' since the valves also function as check valves. Cold Shutdown Justification (CSJ) 26 has also been revised to list the valves as Category B/C and reference OST 1.24.13 which will verify check valve closure in the reverse direction by a leak test on the valves on a refueling frequency in response to NSD letter ND1SEG:0366, dated 2/20/90. This revision has closed out a commitment made in T&PP letter NG3TPP:1089, dated 3/21/90 to incorporate this test into the IST Program by 8R. Although ASME XI, IWV-3522 states that verification of the valve disk on its seat can be by position indicating device, which is already verified in OST 1.1.10, the leak test was added to the IST Program for additional assurance that the disk is performing its intended function.
- 2) Relief valve [RV-FW-155] on the discharge of the turbine-driven AFW pump [FW-P-2] was added to the IST Program as a Category 'C' relief valve (Page 102) in light of concerns raised by INPO in SOER 89-01, "Testing of Steam Turbine/Pump Overspeed Trip Devices" and the safety importance of this valve as backup overpressure protection to the mechanical overspeed trip device. Per the testing requirements of ASME XI, IWV-3510 a setpoint test will be performed at least once every 60 months. Testing will be tracked by LBVT 1.60.5. Appropriate references were added to the Valve Outline Sheet Section. The comparable Unit 2 valve is presently included in the Unit 2 IST Program.
- 3) The 'Basis for Relief' section of Relief Request (RR) 23 (Page 166) for the BIT inlet isolation valves, [MOV-SI-867A & B] was revised to delete reference to the problem of boron precipitating out of solution and blocking the non heat traced portion of the downstream piping as a result of the SER to Tech. Spec. Amendment 146 which deleted BIT bypass valve [SI-91]. Since there was some question over whether or not prior NRC approval would be required to change the basis for relief the Nuclear Safety Department (NSD) has reviewed this change with the NRC. It was concluded from these discussions that prior approval would not be required since the change was correcting information contained in the relief request.
- 4) The 'Basis for Relief' section of RR 24 (Page 167) for the BIT outlet isolation valves, [MOV-SI-867C & D] was revised to delete reference to the problem of boron precipitating out of solution and blocking the non heat traced portion of the downstream piping as a result of the SER to Tech. Spec. Amendment 146 which deleted [SI-91]. Since there was some question over whether or not prior NRC approval would be required to change the basis for relief the Nuclear Safety Department (NSD) has reviewed this change with the NRC. It was concluded from these discussions that prior approval would not be required with the additional reference to the problem of intergranular stress corrosion cracking added to recognize IE Bulletin 79-17 concerns since the change was correcting information contained in the relief request.

ATTACHMENT 2

- 5) The Valve Outline Sheet (Page 110) and RR 32 (Page 176) for the River Water supply check valves to the Diesel Generators, [RW-110 thru 113] were revised to reference OST 1.6.1 & 2 as partial stroke tests instead of full stroke tests. Full stroke testing is not practical because of the lack of flow instrumentation and the operational difficulty in alternating the supply of river water from different headers each month. Sample disassembly and inspection of these valves, which is already being performed, has been recognized by the NRC in GL 89-04 as an acceptable method of testing.
- 6) The Valve Outline Sheet (Page 62) for [MOV-RC-535 & 537] was revised to reference OST 1.6.8 as a stroke only test. Valve timing is actually performed in OST 1.6.6 which is already referenced on the Outline Sheet.
- 7) RR 1 (Page 144) was revised to reference LBVT 2.47.2 as a special leak test for relief valves. The Unit 2 IST Program already references the comparable Unit 2 procedure.

ENCLOSURE 2

PROPOSED REVISION 1A

TO

BEAVER VALLEY POWER STATION, UNIT NO. 1

SECOND TEN YEAR IST PROGRAM (ISSUE 2)

B.V.P.S.-1 T.S.T.
PUMP TESTING OUTLINE

Pump Name: 2A Circulating Oil Pump		Pump Number: EE-P-2A	Code Class: 3	System: 36-Emergency 4kv
Function: Circulate lubricating oil during shutdown periods to maintain proper temperature.		Remarks: See RR1 and RR11.		
Parameter	OST (Frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
P _i	1.36.1 (Q)	RR11	No installed pressure gauge or tank level associated with the pump. Oil pump suction is from the oil pan or reservoir.	
M	1.36.1 (Q)	RR11	No installed pressure gages. Degradation indicated by monitoring tube oil temperature.	
Q	1.36.1 (Q)	RR11	No installed flow instrumentation. Degradation indicated by monitoring tube oil temperature.	
V	1.36.1 (Q)	RR1	Portable monitoring equipment using velocity units.	
T _b	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	NA	NA	No lubricant level or pressure to observe.	

B.V.P.S.-1 I.S.T.
PUMP TESTING OUTLINE

Pump Name: 2B Circulating Oil Pump		Pump Number: EE-P-2B	Code Class: 3	System: 36-Emergency 4KV
Function: Circulate lubricating oil during shutdown periods to maintain proper temperature.			Remarks: See RR1 and RR11.	
Parameter	OST (Frequency)	Req'd	Comments	
N	NA	NA	Constant speed induction motor.	
Pi	1.36.2 (Q)	RR11	No installed pressure gauge or tank level associated with the pump. Oil pump suction is from the oil pan or reservoir.	
ΔP	1.36.2 (Q)	RR11	No installed pressure gages. Degradation indicated by monitoring tube oil temperature.	
Q	1.36.2 (Q)	RR11	No installed flow instrumentation. Degradation indicated by monitoring tube oil temperature.	
V	1.36.2 (Q)	RR1	Portable monitoring equipment using velocity units.	
Tb	NA	RR1	Annual pump bearing temperature measurements will not be taken since vibration is measured in velocity units.	
L	NA	NA	No lubricant level or pressure to observe.	

BVPS-1 IST

RELIEF REQUEST 1

Pump Mark No(s).	CH-P-1A	QS-P-4A	RS-P-2B	WR-P-1A	EE-P-2A
	CH-P-1B	QS-P-4B	CC-P-1A	WR-P-1B	EE-P-2B
	CH-P-1C	QS-P-4C	CC-P-1B	WR-P-1C	
	CH-P-2A	QS-P-4D	CC-P-1C	EE-P-1A	
	CH-P-2B	RS-P-1A	FW-P-2	EE-P-1B	
	QS-P-1A	RS-P-1B	FW-P-3A	EE-P-1C	
	QS-P-1B	RS-F-2A	FW-P-3B	EE-P-1D	

1A

Code Test Requirements: Quarterly Vibration Readings in mils and annual Bearing Temperature Measurements.

Basis for Relief: The mechanical characteristics of a pump can be better determined by taking vibration readings in velocity units than by taking the vibration readings in displacement units and by bearing temperature readings taken annually.

Vibration severity is a function of both displacement and frequency. Therefore, vibration in velocity units is the more accurate description of the vibration. In addition, velocity measurements are more sensitive to small changes that are indicative of developing mechanical problems and hence more meaningful than displacement measurements. Velocity measurements detect not only high amplitude vibrations that indicate a major mechanical problem, but also the equally harmful low amplitude high frequency vibrations due to misalignment, imbalance or bearing wear that usually go undetected by simple displacement measurements.

Also, a bearing will be seriously degraded prior to the detection of increased heat at the bearing housing. Therefore, quarterly vibration velocity readings should achieve a much higher probability of detecting developing problems than the once a year reading of bearing temperatures.

Alternate Test: Pump vibration measurements will be taken in vibration velocity units (in/sec), using the ranges listed in OM-6 revision 8 as acceptance criteria. (See the attached table). Annual pump bearing temperature measurements will not be taken.

BVPS-1 IST

RELIEF REQUEST 10



Pump Mark No(s): EE-P-1A
EE-P-1B
EE-P-1C
EE-P-1D

Code Test Requirement: Flowrate shall be measured using a rate or quantity meter installed in the pump test circuit.

Basis for Relief: There is no installed instrumentation.

Alternate Test: The level change over time in the floor mounted day tank will be measured and converted to the flowrate.

RELIEF REQUEST 11



Pump Mark No(s): EE-P-2A
EE-P-2B

Code Test Requirements: Measure inlet and differential pressure and flowrate during quarterly test.

Basis for Relief: The circulating oil pumps are integral parts of generators and have no separate installed instrumentation. Also, any pump degradation will be observed by a temperature increase in the lubricating oil. Therefore, relief is requested from measuring P_i , ΔP or flowrate.



Alternate Test: The Diesel Generators' lube oil temperature is continuously monitored, any degradation of the hydraulic characteristics of the pump will be indicated by the temperature change.

1A

BVPS-1 1ST

VALVE TESTING OUTLINE

SYSTEM NAME: ContainmentSYSTEM NUMBER: 47

Valve Mark Number	Class	Valve Category					NSA	Drawing OM No.	Drawing Coord.	Test Requirement	CSJ or Relief Request	Comments
		A	B	C	D	P						
1VS-167	2	X				X	S	OM Fig 47-5		LT	RR1	1BVT 1.47.5-Leak Test (R)
1VS-168	2	X				X	S	OM Fig 47-5		LT	RR1	1BVT 1.47.5-Leak Test (R)
1VS-169	2	X				X	S	OM Fig 47-5		LT	RR1	1BVT 1.47.5-Leak Test (R)
1VS-170	2	X				X	S	OM Fig 47-5		LT	RR1	1BVT 1.47.5-Leak Test (R)
1VS-176	3		X			X	S	OM Fig 47-5		NA		NA
1VS-177	3		X			X	S	OM Fig 47-5		NA		NA
1VS-178	3		X			X	S	OM Fig 47-5		NA		NA
1VS-179	3		X			X	S	OM Fig 47-5		NA		NA
1VS-183	2	X				X	S	OM Fig 47-5		LT	RR42	1BVT 1.47.5-Type B Leak Test (R) ^{SA}
1VS-184	2	X				X	S	OM Fig 47-5		LT	RR42	1BVT 1.47.5-Type B Leak Test (R) ^{SA}

RELIEF REQUEST 42Valve No.: VS-183
VS-184Category AClass 2

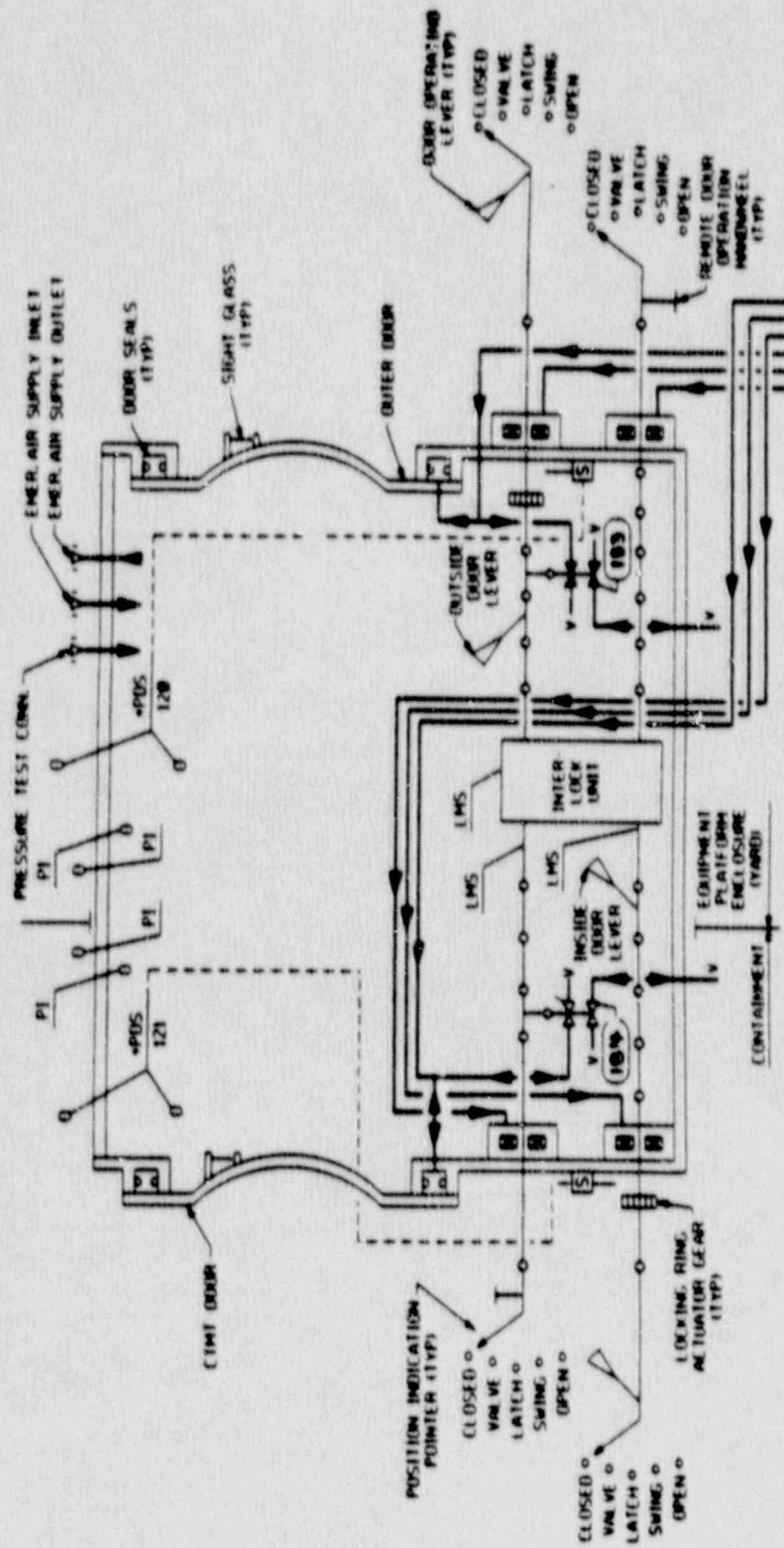
Function: Containment Isolation (Emergency Air Lock)

Test Requirement: Leak tested per IWV-3420. In addition, IWV-3426 and 3427(a) require Owner specified maximum permissible leakage rates for specific valves as a function of valve size and type and provide the corrective action to be followed when these limits are exceeded.

Basis for Relief: These containment isolation valves are leak tested in accordance with 10CFR50, Appendix J, Type B. Since the acceptance criteria for Appendix J, Type B testing is more limiting than ASME Section XI, additional leak testing in accordance with ASME Section XI would be redundant. In addition, as shown on the attached figure for the Emergency Air Lock, the configuration of this containment penetration (ie., a single test connection located in the emergency airlock between two airlock equalization valves) is such that individual leakage rates for each specific valve cannot be determined using the test method of 10CFR50, Appendix J. In this case, assigning maximum permissible leakage rates for each valve would not be practical.

Alternate Test: Leak test semi-annually in accordance with Technical Specification 4.6.1.3.b.1, 10CFR50, Appendix J and IWV-3426 per IBVT 1.47.10. In addition, assign a maximum permissible leakage rate for the entire airlock to then be used as the criteria for initiating corrective action in accordance with IWV-3427(a).

RELIEF REQUEST 42



EMERGENCY AIR LOCK

ATTACHMENT 1

LIST OF SPECIFIC CHANGES
REQUIRING NRC APPROVAL

- 1) The following technical changes are being proposed to the Pump Testing Outlines, Section II:
 - a) Under this proposed revision, the Diesel Generator Circulating Oil Pumps, EE-P-2A & 2B, listed on pages 39 and 40 would be deleted from the IST Program. The function of these skid-mounted pumps is to provide heated oil to their engine sumps when the diesels are not in operation. When the diesels are in operation the pumps have no function. At that time oil to the engine is circulated by shaft-driven pumps which operate off of an accessory gear train at the front of the engine. The pumps are mounted on accessory racks integral to the diesels. They have no separately installed instrumentation for measuring pump pressure or flow rate. As indicated in RR 11, hydraulic degradation of the pumps is monitored on a continuous basis by temperature switches which will sound alarms and light annunciators locally and in the Control Room if the engine oil temperature falls below its limit. For similar reasons the comparable pumps have not been included in the Unit 2 IST Program. The deletion of these pumps would not compromise the readiness of the diesels since oil temperature will still be continuously monitored.
- 2) The following technical changes are being proposed to the Pump Testing Relief Requests, Section III:
 - a) Under this proposed revision, RR 1 on page 42 would be revised to delete any reference to EE-P-2A & 2B. Refer to the discussion under Item 1.a) for the basis for this revision.
 - b) Under this proposed revision, RR 11 on page 49 would be deleted since EE-P-2A & 2B would no longer be in the Unit 1 IST Program. Refer to the discussion under Item 1.a) for the basis for this revision.
- 3) The following technical changes are being proposed to the Valve Testing Outlines, section V:
 - a) Under this proposed revision, page 106 would be revised to reference RR 42 under the 'CSJ or RR' column for the Emergency Air Lock (EAL) equalization valves, VS-183 & 184. Refer to the discussion under Item 4.a) for the basis for this revision.

ATTACHMENT 1

LIST OF SPECIFIC CHANGES
REQUIRING NRC APPROVAL

4) The following technical changes are being proposed to the Valve Testing Relief Requests, Section VII:

- a) Under this proposed revision, RR 42 on pages 171 and 172 would be added for the EAL valves, VS-183 & 184, since the piping and valve arrangement inside the EAL is such that individual leakage rates for each valve cannot be measured. In this case assigning leakage limits to each valve as required by paragraphs IWV-3426 and 3427 (a) would not be practical. Valve leakage will continue to be measured as part of the overall EAL leakage test. The leakage limit for the EAL has been set by T.S. 3.6.1.3.b at 327 scf/d ($0.05 \cdot L_a$). This value is comparable to the administratively set ASME leakage limit of 320 scf/d assigned to a single 4 inch valve. The normal administratively set ASME limit for a 2 inch valve, which would include VS-183 & 184 if they could be tested individually, is 160 scf/d. The measured EAL leak rate in the last test performed on 11/24/89 was 3.25 scf/d or 1% of the allowed limit for the EAL. This RR is similar to previously submitted relief requests, RR 7, 9, 27, 38, 39, 40 & 41.