

Dominion Nuclear Connecticut, Inc.  
Millstone Power Station  
Rope Ferry Road  
Waterford, CT 06385



October 25, 2004

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

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License Nos.	DPR-65
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**DOMINION NUCLEAR CONNECTICUT, INC.**  
**MILLSTONE POWER STATION UNITS 2 AND 3**  
**INSERVICE TESTING (IST) PROGRAM REVISIONS**

Dominion Nuclear Connecticut, Inc. hereby notifies the U.S. Nuclear Regulatory Commission (NRC) that the Millstone Power Station Units 2 and 3 (MPS2 and 3) Inservice Testing (IST) programs have undergone significant changes. In accordance with NUREG 1482, Revision 1, copies of the revised plans are included as Attachments 1 and 2.

The MPS2 and 3 IST programs have been revised to reflect the implementation of a check valve condition-monitoring program, consistent with the requirements of 10 CFR 50.55a(f)(4)(iv). No relief from Code requirements is being requested. Therefore this IST program submittal is for information only.

If you have any questions or require additional information, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

Leslie N. Hartz  
Vice President – Nuclear Engineering

A047

Attachments: 2

Commitments made in this letter: None.

cc: U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415

Mr. V. Nerses  
Senior Project Manager  
U.S. Nuclear Regulatory Commission  
One White Flint North  
11555 Rockville Pike  
Mail Stop 8C2  
Rockville, MD 20852-2738

Mr. S. M. Schneider  
NRC Senior Resident Inspector  
Millstone Power Station

**ATTACHMENT 1**

**MILLSTONE POWER STATION UNIT 2**  
**INSERVICE TEST PROGRAM**

**MILLSTONE POWER STATION UNIT 2**  
**DOMINION NUCLEAR CONNECTICUT, INC.**

# Millstone Unit 2

## Inservice Test Program For Pumps and Valves

### Revision 7, Change 16

Prepared Wam Bellum 10/15/04  
Date

Reviewed David M Perry 10/15/04  
Date

Effective Date 10/20/04



## **Millstone Unit 2 IST Basis Document - Revision 3, Change 16 and Program Plan - Revision 7, Change 16 Summary of Changes**

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### **2-FW-54 - Aux Feedwater Supply To Spent Fuel Pool System Valve**

**Change** Deferred FS exercise test to Cold Shutdown frequency.

**Reason** Change is justified in ATJ-074

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### **2-RW-222 - Emergency Makeup Water From Aux. Feedwater Pps. Inlet Check**

**Change** Deferred quarterly open exercise to Cold Shutdown frequency. Closure will be verified with acoustics at the same interval, in lieu of disassembly.

**Reason** Justified in ATJ 074.

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### **2-SW-13A - "A" Service Water Diesel Cooling Discharge Check Valve**

**Change** Reclassified 2-SW-13A as passive component and removed requirements for full stroke open testing and disassembly and inspection.

**Reason** Check valve internals were removed under DCN DM2-00-320-02.

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### **2-SW-13B - "B" Service Water Diesel Cooling Discharge Check Valve**

**Change** Reclassified 2-SW-13B as passive component and removed requirements for full stroke open testing and disassembly and inspection.

**Reason** Check valve internals were removed under DCN DM2-00-321-02.

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### **ATJ - 074 -**

**Change** Added ATJ 074 to defer quarterly exercise testing of 2-FW-54 and 2-RW-222 to Cold Shutdown frequency.

**Reason** Benefit of testing is outweighed by the negative impact to safety involved in aligning AFW flow to the SFP.

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## I. SCOPE

### A. Pump Selection

This program lists and describes the testing for all ASME Code Class 1, 2, or 3 pumps provided with an emergency power source at Millstone Unit 2 which:

- Are required to perform a specific function in shutting down the reactor to a safe shutdown condition.
- Are required to perform a specific function in maintaining the reactor in a safe shutdown condition.
- Are required to perform a specific function in mitigating the consequences of an accident.

This program, covering the Third Ten-Year IST Interval beginning April 1, 1999 complies with the requirements of ASME/ANSI, "Operations and Maintenance (OM) 1987 Standards, Part 6, Inservice Testing of Pumps in Light-Water Reactor Power Plants" (OM-6) and Addenda OMa-1988 which is referenced from 10CFR50.55a and ASME Section XI, 1989 edition. Where noted, the guidelines of NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," that provide acceptable alternative methods of inservice testing have been adopted.

Table 2 of OM-6 specifies the parameters measured for each pump included in the program. These parameters are acquired using analog, digital or a combination of both types of instruments. The OM-6 Code does not clearly indicate the range requirements for measured parameters which use both analog and digital instruments. MP2 considers instruments with an analog process instrument loop and a digital readout to be an analog instrument which will be maintained to meet the applicable code requirements. This position is documented in ERC 25203-ER-97-0279. In addition, an analog instrument with a digital readout can be considered a digital instrument provided it is calibrated in accordance with the requirements identified in OM-6.

The program includes some pumps tested as part of an augmented test program. In addition, motors of pumps in the IST program will be monitored for vibration each time the pump is tested.

### B. Valve Selection

This program lists and describes the testing for All ASME Code Class 1, 2, or 3 valves which:

- Are required to perform a specific function in shutting down the reactor to a safe shutdown condition.
- Are required to perform a specific function in maintaining the safe shutdown condition.
- Are required to perform a specific function in mitigating the consequences of an accident.

- Are pressure relief devices that protect systems or portions of systems which perform a required function in shutting down the reactor to a safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident.

This program, covering the Third Ten-Year IST Interval beginning April 1, 1999 complies with the requirements of ASME/ANSI "Operations and Maintenance (OM) 1987 Standards, Part 10, Inservice Testing of Valves in Light-Water Reactor Power Plants" (OM-10) and Addenda OMa-1988 which is referenced from 10CFR50.55a and ASME Section XI, 1989 edition. Where noted, the guidelines of NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants," that provide acceptable alternative methods of inservice testing have been adopted.

Table 1 of OM-10 specifies the type test and test frequency for each valve included in the program. When it is not practical to perform a specified inservice test, a testing alternative is referenced as an Alternate Test Justification or Relief Request.

As of February 2, 2001, Millstone Unit 2 received NRC permission to implement the ASME OMa 1996 Code, Appendix II and the required modifications of 10CFR 50.55a(b)(3)(iv) for a Condition Monitoring Program for check valves. The ASME OMa 1996 Code, Appendix II and the required modifications will be fully implemented by March 31, 2004. The following modifications apply when implementing Appendix II:

- Valve opening and closing functions must be demonstrated when flow testing or examination methods (non-intrusive, or disassembly and inspection) are used:
- the initial interval for tests and associated examinations may not exceed two fuel cycles or 3 years, whichever is longer; any extension of this interval may not exceed one fuel cycle per extension with the maximum interval not to exceed 10 years; trending and evaluation of existing data must be used to reduce or extend the time interval between tests.
- If the Appendix II condition monitoring program is discontinued, then the requirements of ISTC 4.5.1 through 4.5.4 must be implemented.

In addition to the testing required by Code, some valves are tested as part of an augmented test program.

### C. Pump Test Procedures

Inservice tests of electric motor driven pumps will be conducted with the pump operating at nominal operating speed. Inservice tests of variable speed pumps will be conducted at a reference speed chosen to represent normal pump operation. Reference values will be determined for the quantities listed below. Reference values will be determined when the equipment is known to be operating properly.

1. Differential Pressure (or Discharge Pressure for positive displacement pumps)

2. Flow Rate

3. Vibration

During inservice tests the quantities listed above will be measured and compared with the reference values to determine if corrective action is required. Acceptance criteria will be in accordance with Table 3 of OM-6 except where more restrictive limits are required to assure pumps are capable of fulfilling their safety functions.

When a reference value or set of values may have been affected by replacement, repair, or routine servicing of the pump, a new reference value or set of values will be determined or the previous value reconfirmed by an inservice test run prior to declaring the pump operable.

D. Valve Test Procedures

Inservice tests of valves will be conducted in accordance with specific procedures to assure each valve is tested under reproducible conditions. Reference stroke times, for valves required to be stroke time tested, will be established when the valve is known to be operating acceptably.

During inservice tests of valves required to be stroke time tested, stroke times will be evaluated in accordance with Article 4.2.1.8 of OM-10 except where more restrictive limits are required to assure valves are capable of fulfilling their safety functions.

When a reference value may have been affected by replacement, repair, or routine servicing of the valve, a new reference value will be determined or the previous value reconfirmed by an inservice test run prior to declaring the valve operable.

E. Pump Test Frequency

An in-service test will be performed on each pump nominally every three months during operation. Test frequency will be maintained during shutdown periods if practicable. Pumps required to be operable during shutdown will be tested nominally every three months during shutdown. If the testing schedule is not maintained during shutdowns the affected pump(s) will be tested before entering an operational mode which requires the pump to be operable.

F. Valve Test Frequency

An in-service test will be performed on each valve nominally every three months during operation. When required inservice tests cannot be conducted during operation, testing will be performed during cold shutdown when possible. When required inservice tests cannot be performed during operation or cold shutdown, testing will be performed during refueling outages. When required inservice tests cannot be performed under any plant conditions, alternative testing, as approved by the Nuclear Regulatory Commission, will be performed at the specified frequency.

For tests which are required to be conducted during cold shutdown the requirements of OM-10, Article 4.2.1.2.(f) and 4.2.1.2.(g) will be followed.

Test frequency will be maintained during shutdown periods if practicable. Valves required to be operable during shutdown will be tested nominally every three months

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Program Plan**

during shutdown. If the testing schedule is not maintained during shutdowns the affected valve(s) will be tested before entering an operational mode which requires the valve to be operable.

**G. Analysis and Corrective Action**

Pump test data will be reviewed immediately upon completion of the test to verify it does not fall in the required action range of Table 3 of OM-6. Actions to be taken if the data falls in the required action range, including declaring the pump inoperable will be specified in appropriate surveillance procedures. All test data will be analyzed for conformance with the acceptable range of Table 3 of OM-6 within 96 hours after completion of a test. If test data falls in the alert range, the frequency of testing will be at least doubled

Valve test data will be reviewed immediately upon completion of the test to verify it meets acceptance criteria. Actions to be taken if the data does not meet the acceptance criteria, including declaring the component inoperable will be specified in appropriate surveillance procedures.

**H. Test Records**

The following records will be maintained:

1. Records of each pump including the name of the manufacturer, the model, and the serial number or other identification number.
2. Records of each valve including the name of the manufacturer, the model, and the serial number or other identification number where available.
3. An inservice test procedure including the hydraulic circuit to be used, the location and type of measurement for each required test quantity, the normal and acceptance ranges for test data, and any other required information.
4. A test record giving pertinent information such as test date, instruments used, results, corrective actions required, and signatures of persons conducting and analyzing the test.
5. A record of corrective actions and subsequent inservice tests verifying operational adequacy.

All inservice test plans and record shall be maintained in accordance with station procedures for control and storage of QA records.

**I. GRANTED RELIEF REQUESTS**

The following relief requests have been incorporated:

1. Relief was granted from the requirement to select digital instruments where the reference value shall not exceed 70% of the calibrated range of the instrument (OM-6, para. 4.6.1.2(b)). Instruments shall be selected for digital instruments, for IST pumps, such that the reference value does not exceed 90% of the calibrated range of the instrument. Relief was granted by the NRC on May 9, 2001.
2. The instrumentation used to measure Service Water pump vibration will have a frequency response range from 5.3 Hz to at least 1000 Hz in conjunction with

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spectral vibration analysis techniques. Relief was granted from paragraph 4.6.1.6 on OM-6 which requires testing pump vibration instrumentation response ranges between 1/3 speed to 100 Hz minimum. Relief was granted by the NRC on May 9, 2001 from the frequency response range specified in OM-6.

3. The test frequency for cycling several manual valves has been changed to once every 18 months with a 25% grace period allowed by plant Technical Specifications, in lieu of testing each valve nominally every three (3) months (OM-10, paragraph 4.2.1.1) These valves are not operated during power operation except for surveillance testing. Testing these valves on a quarterly frequency solely to meet the requirements of ASME/ANSI 1987, OMa 1988 provides limited value. It is unnecessary for detecting valve degradation, does not decrease the potential for a component failure and the proposed alternative testing will provide a level of safety comparable to the current Code testing. The NRC granted this relief request on May 9, 2001. The following valves are included:

2-CN-29A	2-RB-39	2-RB-56C
2-CN29B	2-RB-41	2-RB-107A
2-CN-30	2-RB-43	2-RB-107B
2-FW-56A	2-RB-56A	2-RB-107C
2-FW-56B	2-RB-56B	

4. Three Firewater valves (2-FIRE-94A/B/C) will be manually cycled on a staggered frequency of one valve each refuel cycle. All three valves in the group will be manually full stroked within 3 refueling cycles. The NRC granted this relief request on May 9, 2001.
5. The NRC has granted relief from the 10 minute hold time between consecutive tests specified in OM-1. As an alternative, Millstone Unit 2 will use a 5 minute hold time between consecutive tests. The relief request applies to all relief valves in the program and is in effect for the remainder of the third 10 year interval. This alternative was approved by the NRC, on November 20, 2001.
6. Relief was granted from Code required 2 year leak testing of 6 valves which prevent back-leakage to the RWST. RWST outlet check valves will be tested one every refueling, with the remaining valves on a 60 month interval. Test frequency will be doubled upon failure of administrative leakage criteria.
7. Relief was granted to apply Code Case OMN-2, relaxing frequency and expansion requirements for a designated population of thermal relief valves.

## **II. Pump Table Descriptions**

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## **Millstone Unit 2 Pump Test Legend**

<b>Abbreviation</b>	<b>Description</b>
HF-FR	High Flow - Fixed Resistance
HF-VR-FS	High Flow - Variable Resistance - Flow Set to Reference
HF-VR-PS	High Flow - Variable Resistance - Pressure Set to Reference
LF-FR	Low Flow - Fixed Resistance
LF-VR-FS	Low Flow - Variable Resistance - Flow Set to Reference
LF-VR-PS	Low Flow - Variable Resistance - Pressure Set to Reference



### **III: Pump List**

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## Millstone Unit 2 Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	Cl	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
P-4	Terry Turbine Auxiliary Feedwater Pump	26005/003/F-8	3	Auxiliary Feedwater	HF-VR-FS	ER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	This augmented test is required once every refueling
					LF-FR	Q	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
P-5A	Service Water Pump 'A'	26002/002/B-11	3	Service Water	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Either test can be used to fulfill requirement. Relief granted for low freq vibration monitoring. Either test can be used to fulfill surveillance requirement Relief granted for low freq vibration monitoring.
					LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
P-5B	Service Water Pump 'B'	26002/002/B-8	3	Service Water	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Relief granted for low freq vibration monitoring. Facility 1 - Either Facility or either test may be used to meet the test requirement Relief granted for low freq vibration monitoring.
					LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
P-5C	Service Water Pump 'C'	26002/002/B-6	3	Service Water	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Either test may be used to satisfy requirement. Relief granted for low freq vibration monitoring. Either test may be used to meet requirement Relief granted for low freq vibration monitoring.
					LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
P-9A	Auxiliary Feedwater Pump 'A'	26005/003/B-7	3	Auxiliary Feedwater	HF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
P-9B	Auxiliary Feedwater Pump 'B'	26005/003/C-7	3	Auxiliary Feedwater	HF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Note 1 - Where speed is not checked, the pump is driven  
by a constant speed induction motor

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## Millstone Unit 2 Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	Cl	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
P-11A	Reactor Building Closed Cooling Water Pump 'A'	26022/001/H-8	3	Reactor Building Closed Cooling Water	LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Reference flowrate of 6400 GPM can be attained without placing a SDC HX in service.
P-11B	Reactor Building Closed Cooling Water Pump 'B'	26022/001/F-8	3	Reactor Building Closed Cooling Water	LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Facility 1 - Test on either facility may be used to fulfill the surveillance requirement. Reference flowrate of 6400 GPM can be attained without placing a SDC HX in service.
P-11C	Reactor Building Closed Cooling Water Pump 'C'	26022/001/D-8	3	Reactor Building Closed Cooling Water	LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Reference flowrate of 6400 GPM can be attained without placing a SDC HX in service.
P-13A	Spent Fuel Pool Cooling Pump 'A'	26023/002/K-5	3	Spent Fuel Pool Cooling & Purification	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Augmented component deemed important to safety
P-13B	Spent Fuel Pool Cooling Pump 'B'	26023/002/J-5	3	Spent Fuel Pool Cooling & Purification	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Augmented component deemed important to safety
P-18A	Coolant Charging Pump 'A'	26017/001/B-7	2	Charging (Volume Control)	HF-FR	Q	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test performed at NOP
P-18B	Coolant Charging Pump 'B'	26017/001/D-7	2	Charging (Volume Control)	HF-FR	Q	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test performed at NOP
P-18C	Coolant Charging Pump 'C'	26017/001/F-7	2	Charging (Volume Control)	HF-FR	Q	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test performed at NOP
P-19A	Boric Acid Pump 'A'	26017/003/D-6	2	Boric Acid	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test performed at 90 gpm
P-19B	Boric Acid Pump 'B'	26017/003/A-6	2	Boric Acid	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test performed at 90 gpm

Note 1 - Where speed is not checked, the pump is driven by a constant speed induction motor

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## Millstone Unit 2 Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	Cl	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
P-41A	High Pressure Safety Injection Pump 'A'	26015/002/J-5	2	High Pressure Safety Injection	HF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Reactor Vessel Head Must Be Removed
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Minimum Flow Recirculation
P-41B	High Pressure Safety Injection Pump 'B'	26015/002/G-5	2	High Pressure Safety Injection	HF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Facility 1 - Either facility may be used to fulfill the surveillance requirement - Reactor Vessel Head Must Be Removed
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Facility 1 - Either facility may be used to fulfill the surveillance requirement - Minimum Flow Recirculation
P-41C	High Pressure Safety Injection Pump 'C'	26015/002/F-5	2	High Pressure Safety Injection	HF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Reactor Vessel Head Must Be Removed
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Minimum Flow Recirculation
P-42A	Low Pressure Safety Injection	26015/001/C-3	2	Low Pressure Safety Injection	HF-VR-FS	CS2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test performed at 3100 gpm
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Minimum Flow Recirculation
P-42B	Low Pressure Safety Injection	26015/001/E-3	2	Low Pressure Safety Injection	HF-VR-FS	CS2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test performed at 3100 gpm
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Minimum Flow Recirculation
P-43A	Containment Spray Pump 'A'	26015/001/G-3	2	Containment Spray	HF-VR-FS	18M	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test is conducted at 1350 GPM (nominal) Due to temporary instrumentation installation required to perform this testing, LF-FR testing will be performed quarterly and HF-VR testing once per cycle.
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Plant installed instrumentation may be used for this test.

Note 1 - Where speed is not checked, the pump is driven by a constant speed induction motor

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## Millstone Unit 2 Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	CI	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
P-43B	Containment Spray Pump 'B'	26015/001/J-3	2	Containment Spray	HF-VR-FS	18M	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test is conducted at 1350 GPM (nominal) Due to temporary instrumentation installation required to perform this testing, LF-FR testing will be performed quarterly and HF-VR testing once per cycle.
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Plant installed instrumentation may be used for this test.
P-122A	Chilled Water Pump 'A'	26027/002/D-9	3	Chilled Water	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test method change with flow set to 35 gpm by closing recirc iso valve. The change is a result of corrective action for CR M2-99-1261.
P-122B	Chilled Water Pump 'B'	26027/002/D-5	3	Chilled Water	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Test method change with flow set to 35 gpm by closing recirc iso valve. The change is a result of corrective action for CR M2-99-1261.

Note 1 - Where speed is not checked, the pump is driven by a constant speed induction motor

## **IV. Valve Table Descriptions**

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## **Millstone Unit 2 Valve Type Legend**

<b>Abbreviation</b>	<b>Description</b>
BF	Butterfly
BL	Ball
CD	Duo-Check
CH	Check (Unknown Type)
CI	In-Line Check
CL	Lift Check
CN	Nozzle Check
CS	Swing Check
CT	Tilted Disc Check
GL	Globe
GT	Gate
PL	Plug
RD	Rupture Disc
RV	Relief
SV	Safety
TR	Thermal Relief

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<b>Abbreviation</b>	<b>Description</b>
AO	Air Operated
AO/FA	Air Operated - Check Valve
FA	Flow Actuated
HA	Manually Operated
HO	Hydraulic Operated
MO	Motor Operated
SA	Self Actuated
SO	Solenoid Operated



## Millstone Unit 2 Valve Test Legend

Abbreviation	Description
DIS	Disassemble, Inspect, Stroke Test one valve each refueling
DIS-1	Dissassemble, Inspect, Stroke Test valve each refueling
DIS-CM	D&I per frequency of Condition Monitoring Program
FL	fail locked test-54 months
FLOR	Fail Lock test every other refuel
FS	Full Stroke (Open and Closed)
FS-18	Full Stroke every 18 months
FSC	Full Stroke Closed
FSCCS	Full Stroke Closed - Cold Shutdown
FSCCS-DIS	Full Stroke Closed - Cold Shutdown - Disassemble, Inspect, Stroke Test one valve each refueling
FSCJ	Full Stroke Closed - Refueling (App. J Leak Test)
FSCL	Full Stroke Closed - Refueling (System Leak Test)
FSCR	Full Stroke Closed - Refueling
FSCR-DIS	Full Stroke Closed Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
FSCR-NIT	Full Stroke Closed Refueling - Non Intrusive Test.
FSCS	Full Stroke (Open and Closed) - Cold Shutdown
FSO	Full Stroke Open
FSO-18	Full Stroke Open Every 18 Months
FSOCS	Full Stroke Open - Cold Shutdown
FSOCS-DIS	Full Stroke Open - Cold Shutdown - Disassemble, Inspect, Stroke Test one valve each refueling
FSOCS-NIT	Full Stroke Open - Cold Shutdown - Verify Closure with Non-Intrusive Testing each refueling
FSOR	Full Stroke Open - Refueling
FSOR-NIT	Full stroke open refueling. Non-intrusive method
FSR	Full Stroke - Refueling
FSR-DIS	Full Stroke - Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
FT	Fail Test
FTCS	Failure Mode Test - Cold Shutdown
FTR	Fail Test - Refueling
LT	Leak Test
LT per V-6	Leak test per frequency of RR V-6
LT36	leak test every 36 months
LT60	Leak Test Every 60 Months
LT-Accum	Accumulator Leak Test

## Millstone Unit 2 Valve Test Legend

Abbreviation	Description
LTJ	Appendix J Leak Test
LTOR	Leak test every other refuel
MEFC	Mechanical Exerciser Force (Close)
MEFO	Mechanical Exerciser Force (Open)
NR	No Test Required
PI	Remote Position Indicator
PM	Post Maintenance
PMC	Post Maintenance - Closed Only
PMO	Post Maintenance - Open Only
PS	Part Stroke
PSC	Part Stroke Closed (Verify Valve Closure During Part-Stroke Testing)
PSCCS	Verify Valve Closure During Cold Shutdown
PSCCS-FSCR	Part Stroke Test (Closed) Cold Shutdown - Full Stroke Test (Closed) Refueling
PSC-FSCCS	Part Stroke Closed Quarterly - Full Stroke Closed Cold Shutdown
PSC-FSCR	Verify Valve Closure Quarterly - Full Stroke Closed - Refueling
PSCS	Part Stroke Cold Shutdown
PSCS-FSR-DIS	Part Stroke (Open and Closed) Cold Shutdown - Full Stroke Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
PS-DIS	Part Stroke (Open and Closed) Quarterly - Disassemble, Inspect, Stroke Test one valve each refueling
PS-FSCS	Part Stroke (Open and Closed) Operating - Full Stroke Cold Shutdown
PS-FSOCS-DIS	Part Stroke (Open and Closed) Operating - Full Stroke Open Cold Shutdown - Disassemble, Inspect, Stroke Test one valve each refueling
PS-FSR	Part Stroke (Open and Closed) Operating - Full Stroke Refueling
PS-FSR-DIS	Part Stroke (Open and Closed) Quarterly - Full Stroke Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
PSO	Part Stroke Open
PSOCS	Part Stroke Open - Cold Shutdown
PSOCS-FSOR	Part Stroke Test (Open) Cold Shutdown- Full Stroke Test (Open) Refueling
PSOCS-FSR-DIS	Part Stroke Test (Open) Cold Shutdown - Closure stroke test each Cold Shutdown- Full Stroke Test by disassembly and inspection per CM Program
PSO-DIS	Part Stroke Open Quarterly - Disassemble, Inspect, Stroke Test one valve each refueling
PSO-FSCS	Part Stroke Open Operating - Full Stroke (Open and Closed) Cold Shutdown
PSO-FSOCS	Part Stroke Open During Operation - Full Stroke Open - Cold Shutdown
PSO-FSOCS-DIS	Part Stroke Open Operating - Full Stroke Open Cold Shutdown - Disassemble, Inspect, Stroke Test one valve each refueling
PSO-FSOR	Part Stroke Open Operating- Full Stroke Open Refueling
PSO-FSR	Part Stroke Test (Open) Operating - Full Stroke Test (Open and Closed) Refueling

## Millstone Unit 2 Valve Test Legend

Abbreviation	Description
PSO-FSR-DIS	Part Stroke Test (Open) Quarterly - Full Stroke Test Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
PSO-FSRNIT-DIS	Full stroke open refueling using full flow method if defueled, otherwise disassemble and inspect one valve in group each refueling
PSO-PSOCS-FSOR	Part Stroke Test (Open) Quarterly and Cold Shutdown - Full Stroke Test (Open) Refueling
PSOR	Part Stroke Open - Refueling
PSR	Part Stroke - Refueling
SRV	Pressure Relief Device Test
ST	Stroke Time (Open and Closed)
STC	Stroke Time Closed
STCCS	Stroke Time Closed - Cold Shutdown
STCR	Stroke Time Closed - Refueling
STCS	Stroke Time Open and Closed - Cold Shutdown
STO	Stroke Time Open
STOCS	Stroke Time Open - Cold Shutdown
STOR	Stroke Time Open - Refueling
VNORMOP	Verify Function During Normal Operation

**Millstone Unit 2 Frequency Legend**

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Abbreviation	Description
Q	Quarterly
QA	Quarterly (Alert)
CS	Cold Shutdown
CS1	Cold Shutdown (CS1)
OC	Once Per Cycle (No Time Interval)
CS2	Cold Shutdown (CS2)
18M	Every 18 months
ER	Each Refueling (No Time Interval)
2A	Every Two Years
J30	App. J - 30 Months
J	Appendix J
36M	Once every 36 months
OR	Every Other Refueling (no time interval)
4A	Every Four Years
54M	Once Every Three Cycles
J60	App. J - 60 months
5A	Every Five Years
6A	Every Six Years
J120	App. J - 120 months
10A	Every Ten Years
A/R	As Required (Procedure Trigger)
NR	Not Required
M	Monthly

## **V. Valve List**

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15 October 2004

# Millstone Unit 2 Valve Test List

Reactor Coolant & Vessel

Drawing No - 25203 - 26020

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-LRR-57.1	Quench Tank To Pdt & Quench Tank Cooler Valve	5/A-7	3	B	GL	AO 3	C	Yes		PI	2A	--	--		
2-RC-001	#1 Hot Leg Loop Flow Control Sample Valve	1/B-9	2	A	GL	AO .75	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
2-RC-002	Pressurizer Surge Line Flow Control Sample Valve	1/G-9	2	A	GL	AO .75	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
2-RC-003	Pressurizer Relief Line Flow Control Sample Valve	2/J-10	2	A	GL	AO .75	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
2-RC-045	Primary Sample System Containment Isolation Valve	2/J-12	2	A	GL	AO .75	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
2-RC-200	Pressurizer Safety Valve	2/H-7	1	C	RV	SA 2.5	O	No		SRV	5A	--	--		
2-RC-201	Pressurizer Safety Valve	2/H-7	1	C	RV	SA 2.5	O	No		SRV	5A	--	--		

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# Millstone Unit 2 Valve Test List

Reactor Coolant & Vessel

Drawing No - 25203 - 26014

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RC-401	Quench Tank Flow Control Drain To Pdt Valve	2/A-8	3	B	GL	AO	3	C	Yes		PI	2A	--	--		
2-RC-402	Pressurizer Power Operated Relief Valve	2/F-12	1	B	GL	SO	2.5	O	No		STO	Q	053	--	STOR	
2-RC-403	Pressurizer Power-Operated Relief Valve Isolation Valve	2/G-12	1	B	GT	MO	2.5	C	No		PI STC	2A Q	-- --	-- --		
2-RC-404	Pressurizer Power Operated Relief Valve	2/F-10	1	B	GL	SO	2.5	O	No		STO	Q	053	--	STOR	
2-RC-405	Pressurizer Power-Operated Relief Valve Isolation Valve	2/G-10	1	B	GT	MO	2.5	C	No		PI STC	2A Q	-- --	-- --		
2-RC-406	Reactor Vessel Drain Header Control Valve	1/G-6	1	B	GL	AO	0.75	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed
2-RC-414	Reactor Head Vent Solenoid Valve	1/J-8	1	B	GL	SO	1	O/C	No		FT PI STC STO	Q 2A Q Q	021 -- 021 021	-- -- -- --	FTCS  STCCS STOCS	Fail Test Satisfied by Stroke Time Closed
2-RC-415	Reactor Head Vent Valve	1/J-9	1	B	GL	SO	1	O/C	No		FT PI STC STO	Q 2A Q Q	021 -- 021 021	-- -- -- --	FTCS  STCCS STOCS	Fail Test Satisfied by Stroke Time Closed

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Third Ten Year Interval  
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# Millstone Unit 2 Valve Test List

Reactor Coolant & Vessel

Drawing No - 25203 - 26014

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RC-416	Reactor Head Vent Valve	1/J-8	1	B	GL	SO	1	O/C	No		FT	Q	021	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	021	--	STCCS	
											STO	Q	021	--	STOCS	
2-RC-417	Reactor Head Vent Valve	1/J-9	1	B	GL	SO	1	O/C	No		FT	Q	021	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	021	--	STCCS	
											STO	Q	021	--	STOCS	
2-RC-422	Pressurizer Vent Solenoid Valve	2/J-12	1	B	GL	SO	1	O/C	No		FT	Q	021	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	021	--	STCCS	
											STO	Q	021	--	STOCS	
2-RC-423	Pressurizer Vent Solenoid Valve	2/J-12	1	B	GL	SO	1	O/C	No		FT	Q	021	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	021	--	STCCS	
											STO	Q	021	--	STOCS	
2-RC-424	Pressurizer Vent Solenoid Valve	2/H-12	1	B	GL	SO	1	O/C	No		FT	Q	021	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	021	--	STCCS	
											STO	Q	021	--	STOCS	



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## Millstone Unit 2 Valve Test List

Reactor Coolant & Vessel

Drawing No - 25203 - 26014

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-RC-425	Pressurizer Vent Solenoid Valve	2/H-12	1	B	GL	SO	1	O/C	No		FT	Q	021	--	FTCS	Fail Test Satisfied by Stroke Time Closed	<u>1</u>
											PI	2A	--	--			
											STC	Q	021	--	STCCS		
											STO	Q	021	--	STOCS		

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# Millstone Unit 2 Valve Test List

Charging (Volume Control)

Drawing No - 25203 - 26017

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-CH-118	Volume Control Tank Header Check Valve	1/G-4	2	C	CS	FA 4	C	No		FSC PSO	Q Q	030 030	-- --	FSCCS VNORMOP	CM Program PSO for bi-directional test requirement of CM Program	<u>15</u>
2-CH-315	Charging Pump "A" Suction Relief Valve	1/C-5	2	C	RV	SA .5	RV	No		SRV	10A	--	--			
2-CH-318	Charging Pump "B" Suction Relief Valve	1/E-5	2	C	RV	SA .5	RV	No		SRV	10A	--	--			
2-CH-321	"C" Charging Pump Suction Relief Valve	1/H-5	2	C	RV	SA .5	RV	No		SRV	10A	--	--			
2-CH-324	Charging Pump "C" Discharge Relief Valve	1/G-7	2	C	RV	SA .75	RV	No		SRV	10A	--	--			
2-CH-325	"B" Charging Pump Discharge Relief Valve	1/E-7	2	C	RV	SA .75	RV	No		SRV	10A	--	--			
2-CH-326	Charging Pump "A" Discharge Relief Valve	1/C-7	2	C	RV	SA .75	RV	No		SRV	10A	--	--			
2-CH-328	Charging Pump "A" Discharge Check Valve	1/B-8	2	C	CN	FA 2	O/C	No		FSC FSO	Q Q	-- --	-- --			<u>14</u>
2-CH-331	Charging Pump "B" Discharge Check Valve	1/D-7	2	C	CN	FA 2	O/C	No		FSC FSO	Q Q	-- --	-- --			<u>14</u>
2-CH-334	Charging Pump "C" Discharge Check Valve	1/G-7	2	C	CN	FA 2	O/C	No		FSC FSO	Q Q	-- --	-- --			<u>14</u>
2-CH-340	Charging Pump Discharge To HPSI Header Valve	1/B-9	2	B	GL	HA 2	O/C	No		FS	Q	--	--			

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# Millstone Unit 2 Valve Test List

Charging (Volume Control)

Drawing No - 25203 - 26017

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-CH-429	Charging Header Containment Isolation Valve	1/H-8	2	A	GT	MO	2	O/C	No		LTJ PI STC STO	J 2A Q Q	-- -- 001 001	-- -- -- --	STCCS STOCS	
2-CH-431	Auxiliary Spray Header Non- Return Check Valve	1/F-12	1	C	CL	FA	2	O	No		FSC FSO	Q Q	028 028	-- --	FSCR FSOR	<u>15</u>
2-CH-432	Loop "2A" Charging Header Non-Return Check Valve	1/H-12	1	C	CN	FA	2	O/C	No		FSC FSO	Q Q	029 029	-- --	FSCR FSOCS	<u>15</u>
2-CH-433	Loop "1A" Charging Header Non-Return Check Valve	1/J-12	1	C	CN	FA	2	O/C	No		FSC FSO	Q Q	029 029	-- --	FSCR FSOCS	<u>15</u>
2-CH-434	Loop Charging Header Relief Isolation Valve	1/J-11	1	A	GT	HA	2	C	Yes		LTJ	J	--	--		
2-CH-440	Charging Pump Discharge To HPSI Header Isolation Valve	1/B-9	2	B	GL	HA	2	O/C	No		FS	Q	--	--		
2-CH-501	Volume Control Tank To Charging System Outlet Valve	1/G-4	2	B	GT	MO	4	C	No		PI STC	2A Q	-- 018	-- --	STCCS	
2-CH-517	Auxiliary Spray Charging Header Supply Valve	1/F-11	1	A	GL	AO	2	O/C	No		FT LTJ PI STC STO	Q J 2A Q Q	020 -- -- 020 020	-- -- -- -- --	FTCS STCCS STOCS	Fail Test Satisfied by Stroke Time Closed

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# Millstone Unit 2 Valve Test List

Charging (Volume Control)

Drawing No - 25203 - 26017

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-CH-518	Loop "2A" Charging Header Supply Valve	1/H-11	1	A	GL	AO	2	O/C	No		FT	Q	007	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	007	--	STCCS	
											STO	Q	007	--	STOCS	
2-CH-519	Loop "1A" Charging Header Supply Valve	1/J-11	1	A	GL	AO	2	O/C	No		FT	Q	007	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	007	--	STCCS	
											STO	Q	007	--	STOCS	
2-CH-769	Hydrazine Supply Check Valve	1/F-2	2	C	CL	FA	.5	C	No		FSC	Q	049	--	FSCR-NIT	
											FSO	Q	049	--	FSOR	
2-CH-986	Charging Header Relief Valve	1/H-8	2	AC	SV	SA	.75	RV	No		LTJ	J	--	--		
											SRV	10A	--	--		
2-RC-71	Reactor Coolant Pump Seal Injection Header Inlet Valve	1/J-8	2	A	GL	HA	1	C	Yes		LTJ	J	--	--		

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Charging (Letdown)

# Millstone Unit 2 Valve Test List

Drawing No - 25203 - 26017

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-CH-089	Letdown Header Outside Cmt Isolation Valve	2/H-10	2	A	GL	AO	2	C	No		FT	Q	034	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	034	--	STCCS	
2-CH-198	Reactor Coolant Pumps Bleedoff Control Valve Assembly	2/B-10	2	A	GL	AO	.75	C	No		FT	Q	017	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	017	--	STCCS	
2-CH-505	RCP Bleedoff Outside Cmt Control Valve	2/A-10	2	A	GL	AO	.75	C	No		FT	Q	017	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	017	--	STCCS	
2-CH-506	RCP Control Bleedoff (Inside Cmt) Valve	2/D-11	2	A	GL	AO	.75	C	No		FT	Q	017	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	017	--	STCCS	
2-CH-515	Letdown Header SIAS Isolation Valve	2/G-13	2	A	GL	AO	3	C	No		FT	Q	019	--	FTCS	Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	019	--	STCCS	

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# Millstone Unit 2 Valve Test List

Charging (Letdown)

Drawing No - 25203 - 26017

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-CH-516	Letdown Header CIAS Containment Isolation Valve	2/G-12	2	A	GL	AO 3	C	No		FT	Q	022	--	FTCS	Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	022	--	STCCS	

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# Millstone Unit 2 Valve Test List

Boric Acid

Drawing No - 25203 - 26017

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-CH-154	Boric Acid Pump "B" Discharge Check Valve	3/A-8	2	C	CS	FA	3	O/C	No		FSC	Q	--	--		This test used to verify operability in Modes 1-4 only	
											FSCCS	CS2	--	--		This test used to verify operability in Modes 5 and 6 only	
											FSO	Q	--	--		This test used to verify operability in Modes 1-4 only	
											FSOCS	CS2	--	--		This test used to verify operability in Modes 5 and 6 only	
2-CH-155	Boric Acid Pump "A" Discharge Check Valve	3/D-8	2	C	CS	FA	3	O/C	No		FSC	Q	--	--		This test used to verify operability in Modes 1-4 only	
											FSCCS	CS2	--	--		This test used to verify operability in Modes 5 and 6 only	
											FSO	Q	--	--		This test used to verify operability in Modes 1-4 only	
											FSOCS	CS2	--	--		This test used to verify operability in Modes 5 and 6 only	
2-CH-177	Boric Acid Emergency Supply Header Check Valve	3/G-8	2	C	CS	FA	3	O/C	No		FSC	Q	005	--	FSCR	15	
											FSO	Q	005	--	FSOR		
2-CH-184	PMW FCV Discharge To Blend-Tee Check Valve	3/G-11	2	C	CS	FA	3	C	No		FSC	Q	--	--		CM Program	15
											PSO	Q	--	--	VNORMOP	Part stroke open verified at each dilution to charging pump suction. CM evaluation for group 4 credits this normal operation, no ATJ.	
2-CH-190	Boric Acid Gravity Feed Header Check Valve	3/C-2	2	C	CS	FA	3	O/C	No		FSC	Q	005	--	FSCR	15	
											FSO	Q	005	--	FSOR		
2-CH-191	Charging Pumps Refueling Water Storage Tank Suction Check Valve	3/H-11	2	C	CS	FA	3	O/C	No		FSC	Q	032	--	FSCR	15	
											FSO	Q	032	--	FSOR		

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## Millstone Unit 2 Valve Test List

Boric Acid

Drawing No - 25203 - 26017

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-CH-192	RWST To Charging Header Isolation Valve	3/H-12	2	B	GL	AO 3	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-CH-196	Boric Acid Blended Make Up RWST Inlet Control Valve	3/G-11	2	B	GL	AO 3	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										PI	2A	--	--		
										STC	Q	--	--		
2-CH-504	RWST To Charging Pump Suction Valve	3/H-11	2	B	GT	MO 3	O	No		PI	2A	--	--		
										STO	Q	--	--		
2-CH-508	"B" Boric Acid Storage Tank Outlet Gravity Feed Valve	3/D-2	2	B	GT	MO 3	O	No		PI	2A	--	--		Limiting stroke time is bound by safety evaluation S2-EV-98-0077 to 19 seconds.
										STO	Q	--	--		
2-CH-509	"A" Boric Acid Storage Tank Outlet Gravity Feed Valve	3/D-3	2	B	GT	MO 3	O	No		PI	2A	--	--		Limiting stroke time is bound by safety evaluation S2-EV-98-0077 to 19 seconds.
										STO	Q	--	--		
2-CH-510	Boric Acid Pump "A" Max. Recirculation Isolation Valve	3/D-7	2	B	GL	AO 1	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										PI	2A	--	--		
										STC	Q	--	--		
2-CH-511	Boric Acid Pump "B" Max. Recirculation Isolation	3/B-7	2	B	GL	AO 1	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										PI	2A	--	--		
										STC	Q	--	--		

V-Boric Acid-2



Third Ten Year Interval  
Revision 7 Change 16  
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# Millstone Unit 2 Valve Test List

Boric Acid

Drawing No - 25203 - 26017

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-CH-512	Volume Control Tank Makeup Control Valve	3/J-10	2	B	BL	AO	3	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	--	--		
2-CH-514	Boric Acid Pumps "A"/"B" To Charging Pump Suction Valve	3/E-9	2	B	GT	MO	3	O	No		PI	2A	--	--		
											STO	Q	--	--		

V-Boric Acid-3

Third Ten Year Interval  
Revision 7 Change 16  
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## Millstone Unit 2 Valve Test List

Spent Fuel Pool Cooling & Purification

Drawing No - 25203 - 26023

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RW-21	Refuel Pool To RW Purification System Stop Valve	1/K-2	2	A	GT	HA	4	LC	Yes		LTJ	J	--	--		
2-RW-63	Refueling Pool Water Supply Isolation Valve	1/K-2	3	A	GT	HA	4	LC	Yes		LTJ	J	--	--		
2-RW-67	Primary Makeup Water To Spent Fuel Pool Check Valve	2/J-9	3	C	CL	FA	2	O	No		FSC	Q	--	--		
2-RW-154	Purification To Refuel Pump Stop Valve	1/K-2	2	A	GT	HA	4	LC	Yes		LTJ	J	--	--		
2-RW-222	Emergency Makeup Water From Aux. Feedwater Pps. Inlet Check Valve	2/J-10	3	C	CL	FA	2	O	No		FS	Q	074	--	FSCS	16
2-RW-232	Fuel Pool Containment Isolation Valve	1/K-2	2	A	GT	HA	4	LC	Yes		LTJ	J	--	--		

V-SFPC-1

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Safety Injection Tanks

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SI-211	#2 Safety Injection Tank Relief Valve	3/G-9	2	C	RV	SA	1	RV	No		SRV	5A	--	--		
2-SI-215	#1 Safety Injection Tank Outlet Check Valve	3/H-9	1	C	CS	FA	12	O/C	No		FS	Q	009	--	DIS-CM	Eliminated Non-Intrusive test method since option is non-viable. <b>15</b>
2-SI-221	#1 Safety Injection Tank Relief Valve	3/K-9	2	C	RV	SA	1	RV	No		SRV	5A	--	--		
2-SI-225	#2 Safety Injection Tank Outlet Check Valve	3/F-9	1	C	CS	FA	12	O/C	No		FS	Q	009	--	DIS-CM	Eliminated Non-Intrusive test method since option is non-viable. <b>15</b>
2-SI-231	Safety Injection Tank #3 Relief Valve	3/E-9	2	C	RV	SA	1	RV	No		SRV	5A	--	--		
2-SI-235	#3 Safety Injection Tank Outlet Check Valve	3/D-9	1	C	CS	FA	12	O/C	No		FS	Q	009	--	DIS-CM	Eliminated Non-Intrusive test method since option is non-viable. <b>15</b>
2-SI-241	Safety Injection Tank #4 Relief Valve	3/C-9	2	C	RV	SA	1	RV	No		SRV	5A	--	--		
2-SI-245	#4 Safety Injection Tank Outlet Check Valve	3/B-9	1	C	CS	FA	12	O/C	No		FS	Q	009	--	DIS-CM	Eliminated Non-Intrusive test method since option is non-viable. <b>15</b>
2-SI-463	Safety Injection Tank Drain Header Isolation Valve	3/K-4	2	A	GL	HA	3	LC	Yes		LTJ	J	--	--		
2-SI-611	#1 Safety Injection Tank Fill & Drain Control Valve	3/J-11	2	B	GL	AO	1	C	Yes		PI	2A	--	--		
2-SI-612	#1 Safety Injection Tank Nitrogen Supply Control Valve	3/J-7	2	B	GL	AO	1	C	Yes		PI	2A	--	--		
2-SI-613	#1 Safety Injection Tank Vent To Containment Valve	3/J-10	2	B	GL	AO	1	O/C	No		PI STO	2A Q	-- 064	-- --	STOCS	<b>2</b>

V-SIT-1

Third Ten Year Interval  
Revision 7 Change 16  
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# Millstone Unit 2 Valve Test List

Safety Injection Tanks

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SI-614	#1 Safety Injection Tank Outlet Valve	3/H-9	1	B	GT	MO 12	OC	No		PI STC STO	2A Q Q	-- 044 044	-- -- --	STCCS STOCS	
2-SI-621	#2 Safety Injection Tank Fill & Drain Control Valve	3/F-11	2	B	GL	AO 1	C	Yes		PI	2A	--	--		
2-SI-622	#2 Safety Injection Tank N2 Supply Control Valve	3/G-7	2	B	GL	AO 1	C	Yes		PI	2A	--	--		
2-SI-623	#2 Safety Injection Tank Vent To Containment Valve	3/G-10	2	B	GL	AO 1	O/C	No		PI STO	2A Q	-- 064	-- --	STOCS	2
2-SI-624	#2 Safety Injection Tank Outlet Valve	3/F-9	1	B	GT	MO 12	O/C	No		PI STC STO	2A Q Q	-- 044 044	-- -- --	STCCS STOCS	
2-SI-631	#3 Safety Injection Tank Fill & Drain Control Valve	3/D-11	2	B	GL	AO 1	C	Yes		PI	2A	--	--		
2-SI-632	#3 Safety Injection Tank N2 Supply Control Valve	3/E-7	2	B	GL	AO 1	C	Yes		PI	2A	--	--		
2-SI-633	#3 Safety Injection Tank Vent To Containment Valve	3/D-10	2	B	GL	AO 1	O/C	No		PI STO	2A Q	-- 064	-- --	STOCS	2
2-SI-634	#3 Safety Injection Tank Outlet Valve	3/D-9	1	B	GT	MO 12	OC	No		PI STC STO	2A Q Q	-- 044 044	-- -- --	STCCS STOCS	
2-SI-641	#4 Safety Injection Tank Fill & Drain Control Valve	3/B-11	2	B	GL	AO 1	C	Yes		PI	2A	--	--		

V-SIT-2

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Safety Injection Tanks

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SI-642	#4 Safety Injection Tank N2 Supply Control Valve	3/B-7	2	B	GL	AO 1	C	Yes		PI	2A	--	--		
2-SI-643	#4 Safety Injection Tank Vent To Containment Valve	3/B-10	2	B	GL	AO 1	O/C	No		PI STO	2A Q	-- 064	--	STOCS	2
2-SI-644	#4 Safety Injection Tank Outlet Valve	3/B-9	2	B	GT	MO 12	OC	No		PI STC STO	2A Q Q	-- 044 044	--	STCCS STOCS	
2-SI-661	Safety Injection Tank Recirc. Header To Pdt Drain Valve	3/J-12	2	B	GL	AO .75	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	--		Fail Test Satisfied by Stroke Time Closed

V-SIT-3

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Low Pressure Safety Injection

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-SI-114	LPSI Header 'B' Loop '1A' Check Valve	2/J-12	2	C	CS	FA	6	O/C	No	FSC	Q	008	--	FSCR-NIT	Close test by Non-Intrusive testing	<u>3</u>
										FSO	Q	008	--	FSOCS		
2-SI-124	LPSI Header 'B' Loop '1B' Check Valve	2/G-12	2	C	CS	FA	6	O/C	No	FSC	Q	008	--	FSCR-NIT	Close test by Non-Intrusive testing	<u>3</u>
										FSO	Q	008	--	FSOCS		
2-SI-134	LPSI Header 'A' To Loop '2A' Check Valve	2/E-12	2	C	CS	FA	6	O/C	No	FSC	Q	008	--	FSCR-NIT	Close test by Non-Intrusive testing	<u>3</u>
										FSO	Q	008	--	FSOCS		
2-SI-144	LPSI Header 'B' To Loop '2B' Check Valve	2/C-12	2	C	CS	FA	6	O/C	No	FSC	Q	008	--	FSCR-NIT	Close test by Non-Intrusive testing	<u>3</u>
										FSO	Q	008	--	FSOCS		
2-SI-306	Shutdown Cooling Flow Control Valve	1/C-7	2	B	BL	AO	10	O	Yes	PI	2A	--	--			<u>9</u>
2-SI-400	Shutdown Cooling System Warmup Valve	1/C-9	2	B	GT	HA	2	O/C	No	FS	Q	--	--			.
2-SI-434	LPSI Pump 'B' Discharge Check Valve	1/C-5	2	C	CS	FA	10	O/C	No	FS	Q	043	--	FSCS		
2-SI-439	LPSI Header 'B' Relief Valve	1/B-9	2	C	RV	SA	.75	RV	No	SRV	10A	--	--			
2-SI-440	"B" LPSI Pump Suction From Shutdown Cooling Valve	1/D-2	2	B	GT	HA	14	O/C	No	PI	2A	--	--			
2-SI-441	"A" LPSI Pump Suction From SDC Valve	1/D-2	2	B	GT	HA	14	O/C	No	PI	2A	--	--			
2-SI-446	LPSI Pump 'A' Discharge Check Valve	1/E-5	2	C	CS	FA	10	O/C	No	FS	Q	043	--	FSCS		

V-LPSI-1

Third Ten Year Interval  
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# Millstone Unit 2 Valve Test List

Low Pressure Safety Injection

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-SI-448	LPSI Pump 'A' Recirculation Check Valve	1/F-5	2	C	CL	FA	2	O	No	FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Evaluation for Group 29	<u>15</u>
2-SI-451	LPSI Pump 'B' Recirculation Check Valve	1/C-5	2	C	CL	FA	2	O	No	FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Eval for Group 49	<u>15</u>
2-SI-615	LPSI Header To Loop "1A" Injection Valve	1/E-12	2	B	GL	MO	6	O/C	No	PI STC STO	2A Q Q	-- -- --	-- -- --			
2-SI-625	LPSI Header To Loop "1B" Injection Valve	1/D-12	2	B	GL	MO	6	O/C	No	PI STC STO	2A Q Q	-- -- --	-- -- --			
2-SI-635	LPSI Header To Loop "2A" Injection Valve	1/C-12	2	B	GL	MO	6	O/C	No	PI STC STO	2A Q Q	-- -- --	-- -- --			
2-SI-645	LPSI Header To Loop "2B" Injection Valve	1/A-12	2	B	GL	MO	6	O/C	No	PI STC STO	2A Q Q	-- -- --	-- -- --			

V-LPSI-2

Third Ten Year Interval  
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# Millstone Unit 2 Valve Test List

High Pressure Safety Injection

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-SI-008	"A" HPSI Pump Header Check Valve	2/H-8	2	C	CS	FA	6	O	No	FSC FSO	Q Q	039 039	-- --	DIS-CM FSOR	CM Group 39	<u>15</u>
2-SI-009	FAC-1 HPSI Header To Loop "2B" Check Valve	2/D-11	2	C	CL	FA	2	O/C	No	FSC FSO	Q Q	038 038	-- --	FSCR-NIT FSOR	Close test by Non-Intrusive testing	<u>15</u>
2-SI-010	HPSI Header To Loop "2A" Check Valve	2/F-11	2	C	CL	FA	2	O/C	No	FSC FSO	Q Q	038 038	-- --	FSCR-NIT FSOR	Close test by Non-Intrusive testing	<u>15</u>
2-SI-011	FAC-1 HPSI Header To Loop "1B" Check Valve	2/H-11	2	C	CL	FA	2	O/C	No	FSC FSO	Q Q	038 038	-- --	FSCR-NIT FSOR	Close test by Non-Intrusive testing	<u>15</u>
2-SI-012	HPSI Header To Loop "1A" Check Valve	2/K-11	2	C	CL	FA	2	O/C	No	FSC FSO	Q Q	038 038	-- --	FSCR-NIT FSOR	Close test by Non-Intrusive testing	<u>15</u>
2-SI-113	HPSI FAC-2 Header To Loop 1A Check Valve	2/J-11	2	C	CL	FA	2	O/C	No	FSC FSO	Q Q	038 038	-- --	FSCR-NIT FSOR	Close Test by Non-Intrusive Testing	<u>15</u>
2-SI-123	HPSI FAC-2 Header To Loop 1B Check Valve	2/G-11	2	C	CL	FA	2	O/C	No	FSC FSO	Q Q	038 038	-- --	FSCR-NIT FSOR	Close Test by Non-Intrusive Testing	<u>15</u>
2-SI-133	HPSI FAC-2 Header To Loop 2A Check Valve	2/E-12	2	C	CL	FA	2	O/C	No	FSC FSO	Q Q	038 038	-- --	FSCR-NIT FSOR	Close Test by Non-Intrusive Testing	<u>15</u>
2-SI-143	HPSI FAC-2 Header To Loop 2B Check Valve	2/C-11	2	C	CL	FA	2	O/C	No	FSC FSO	Q Q	038 038	-- --	FSCR-NIT FSOR	Close Test by Non-Intrusive Testing	<u>15</u>

V-HPSI-1



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# Millstone Unit 2 Valve Test List

High Pressure Safety Injection

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-SI-217	Loop '1A' Non-Return Check Valve	3/H-11	1	C	CS	FA 12	O/C	No		FS	Q	040	--	PSOCS-FSR-DIS		<u>15</u>
2-SI-227	Loop '1B' Non-Return Check Valve	3/E-11	1	C	CS	FA 12	O/C	No		FS	Q	040	--	PSOCS-FSR-DIS		<u>15</u>
2-SI-237	Loop '2A' Non-Return Ck Valve	3/C-11	1	C	CS	FA 12	O/C	No		FS	Q	040	--	PSOCS-FSR-DIS		<u>15</u>
2-SI-247	Loop "2B" Non-Return Check Valve	3/A-11	1	C	CS	FA 12	O/C	No		FS	Q	040	--	PSOCS-FSR-DIS		<u>15</u>
2-SI-401	HPSI Pump 'B' Suction Header Check Valve	2/E-3	2	C	CS	FA 8	O	No		FSC	Q	048	--	DIS-CM	Closure verification for bi-directional test requirement of CM Program	<u>15</u>
										FSO	Q	048	--	FSOR		
2-SI-405	"C" HPSI Pump Discharge Check Valve	2/F-6	2	C	CS	FA 3	O/C	No		FSC	Q	004	--	FSCR		<u>15</u>
										FSO	Q	004	--	FSOR		
2-SI-409	HPSI Header 'B' Relief Valve	2/D-10	2	C	RV	SA .75	RV	No		SRV	10A	--	--			
2-SI-410	HPSI Pump 'A' Suction Header Check Valve	2/J-3	2	C	CS	FA 8	O	No		FSC	Q	048	--	DIS-CM		<u>15</u>
										FSO	Q	048	--	FSOR		
2-SI-411	"A"/"B" HPSI Pumps Suction Xtie Valve	2/H-3	2	B	GT	MO 8	OC	Yes		PI	2A	--	--			
2-SI-412	"B"/"C" HPSI Pumps Suction Xtie Valve	2/G-3	2	B	GT	MO 8	OC	Yes		PI	2A	--	--			
2-SI-414	"B" HPSI Pump Discharge Check Valve	2/G-6	2	C	CS	FA 3	O/C	No		FSC	Q	004	--	FSCR		<u>15</u>
										FSO	Q	004	--	FSOR		

V-HPSI-2

Third Ten Year Interval  
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# Millstone Unit 2 Valve Test List

High Pressure Safety Injection

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SI-417	HPSI Header 'A' Relief Valve	2/H-10	2	C	RV	SA	1	RV	No	SRV	10A	--	--		
2-SI-422	"B" HPSI Pump Recirculation Check Valve	2/H-6	2	C	CL	FA	2	O	No	FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 47 <u>15</u>
2-SI-424	HPSI Pump 'A' Recirculation Check Valve	2/H-6	2	C	CL	FA	2	O	No	FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 47 <u>15</u>
2-SI-426	"C" HPSI Pump Recirculation Check Valve	2/F-6	2	C	CL	FA	2	O	No	FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 47 <u>15</u>
2-SI-427	"A" HPSI Pump Discharge Check Valve	2/J-6	2	C	CS	FA	3	O/C	No	FSC FSO	Q Q	004 004	-- --	FSCR FSOR	<u>15</u>
2-SI-616	"B" HPSI Header To Loop "1A" Injection Valve	2/J-11	2	B	GL	MO	2	O/C	No	PI STC STO	2A Q Q	-- -- --	-- -- --		
2-SI-617	"A" HPSI Header To Loop "1A" Injection Valve	2/K-11	2	B	GL	MO	2	O/C	No	PI STC STO	2A Q Q	-- -- --	-- -- --		
2-SI-618	Loop "1A" Non-Return Check Leakoff Drain Stop Valve	3/H-11	1	B	GL	AO	1	O/C	No	FT PI STC	Q 2A Q	025 -- --	-- -- --	FTCS	
2-SI-626	"B" HPSI Header To Loop "1B" Injection Valve	2/D-12	2	B	GL	MO	2	O/C	No	PI STC STO	2A Q Q	-- -- --	-- -- --		

V-HPSI-3

Third Ten Year Interval  
Revision 7 Change 16  
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# Millstone Unit 2 Valve Test List

High Pressure Safety Injection

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SI-627	"A" HPSI Header To Loop "1B" Injection Valve	2/H-11	2	B	GL	MO	2	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
2-SI-628	Loop "1B" Non-Return Check Leakoff Drain Stop Valve	3/F-11	1	B	GL	AO	1	O/C	No		FT PI STC	Q 2A Q	025 -- --	-- -- --	FTCS	
2-SI-636	"B" HPSI Header To Loop "2A" Injection Valve	1/E-11	2	B	GL	MO	2	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
2-SI-637	"A" HPSI Header To Loop "2A" Injection Valve	2/F-11	2	B	GL	MO	2	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
2-SI-638	Loop "2A" Non-Return Check Leakoff Drain Stop Valve	3/C-11	1	B	GL	AO	1	O/C	No		FT PI STC	Q 2A Q	025 -- --	-- -- --	FTCS	
2-SI-646	"B" HPSI Header To Loop "2B" Injection Valve	1/C-11	2	B	GL	MO	2	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
2-SI-647	"A" HPSI Header To Loop "2B" Injection Valve	2/D-11	2	B	GL	MO	2	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		

V-HPSI-4

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

High Pressure Safety Injection

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-SI-648	Loop "2B" Non-Return Check Leakoff Drain Stop Valve	3/A-11	2	B	GL	AO	1	O/C	No		FT PI STC	Q 2A Q	025 -- --	-- -- --	FTCS		
2-SI-653	"B" HPSI Pump Discharge Xtie To "B" HPSI Header	2/F-7	2	B	GT	MO	4	OC	Yes		PI	2A	--	--			
2-SI-654	"B" HPSI Header Stop Valve	2/F-8	2	B	GT	MO	6	OC	Yes		PI	2A	--	--			
2-SI-655	"B" HPSI Pump Discharge To "A" HPSI Header Xtie Valve	2/G-7	2	B	GT	MO	4	OC	Yes		PI	2A	--	--			
2-SI-656	"A" HPSI Header Stop Valve	2/H-8	2	B	GT	MO	6	OC	No		PI	2A	--	--			
2-SI-659	ESF Pumps Min Flow Recirculation Header Isolation Valve	1/J-7	2	A	GL	AO	4	O/C	No		FT LT PI STC STO	Q 2A 2A Q Q	011 -- -- 011 011	-- V-006 -- -- --	FTCS LT per V-6 STCCS STOCS	Fail Test Satisfied by Stroke Time Closed	14
2-SI-660	ESF Pumps Min Flow Recirculation Header Isolation Valve	1/J-6	2	A	GL	AO	4	O/C	No		FT LT PI STC STO	Q 2A 2A Q Q	011 -- -- 011 011	-- V-006 -- -- --	FTCS LT per V-6 STCCS STOCS	Fail Test Satisfied by Stroke Time Closed	14
2-SI-662	"B" SDC Heat Exchanger Discharge To "B" HPSI Suction	2/F-4	2	B	GT	MO	4	C	Yes		PI	2A	--	--			

V-HPSI-5

Third Ten Year Interval  
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# Millstone Unit 2 Valve Test List

High Pressure Safety Injection

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-SI-663	"A" SDC Heat Exchanger Discharge To "A" HPSI Suction	2/K-3	2	B	GT	MO	4	C	Yes		PI	2A	--	--			
2-SI-706A	Safety Injection System To Loop '1A' Non-Return Check Valve	3/H-5	1	C	CS	FA	6	O/C	No		FSC	Q	012	--	FSCR-NIT	Close test by Non-Intrusive testing	<u>15</u>
											FSO	Q	012	--	FSOCS		
2-SI-706B	Safety Injection System To Loop '1B' Non-Return Check Valve	3/E-7	1	C	CS	FA	6	O/C	No		FSC	Q	012	--	FSCR-NIT	Close test by Non-Intrusive testing	<u>15</u>
											FSO	Q	012	--	FSOCS		
2-SI-706C	Safety Injection System To Loop '2A' Non-Return Check Valve	3/C-7	1	C	CS	FA	6	O/C	No		FSC	Q	012	--	FSCR-NIT	Close test by Non-Intrusive testing	<u>15</u>
											FSO	Q	012	--	FSOCS		
2-SI-706D	Safety Injection System To Loop '2B' Non-Return Check Valve	3/A-7	1	C	CS	FA	6	O/C	No		FSC	Q	012	--	FSCR-NIT	Close test by Non-Intrusive testing	<u>15</u>
											FSO	Q	012	--	FSOCS		

V-HPSI-6

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# Millstone Unit 2 Valve Test List

Containment Spray

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-CS-2A	"A" Containment Spray Pump Discharge Check Valve	1/J-5	2	C	CS	FA	8	O	No		FSC FSO	Q Q	-- --	-- --	DIS-CM FSO-18	CM Group 10 FSO every 18M per CM Evaluation for Group 10. Performed on-line during CS pump high flow test.	<u>15</u>
2-CS-2B	"B" Containment Spray Pump Discharge Check Valve	1/G-5	2	C	CS	FA	8	O	No		FSC FSO	Q Q	-- --	-- --	DIS-CM FSO-18	CM Group 10 FSO every 18M per CM Evaluation for Group 10. Performed on-line during CS pump high flow test.	<u>15</u>
2-CS-4.1A	"A" Containment Spray Header Isolation Valve Pen #4	1/J-11	2	A	GT	MO	8	O/C	No		LTJ PI STC STO	J 2A Q Q	-- -- -- --	-- -- -- --			
2-CS-4.1B	"B" Containment Spray Header Isolation Valve Pen #5	1/H-11	2	A	GT	MO	8	O/C	No		LTJ PI STC STO	J 2A Q Q	-- -- -- --	-- -- -- --			
2-CS-5A	Ctmt Spray Containment Side "A" Header Check Valve	1/J-12	2	AC	CS	SA	8	O/C	No		FS LTJ	Q J	035 --	-- --	DIS		
2-CS-5B	Ctmt Spray Containment Side "B" Header Check Valve	1/G-12	2	AC	CS	SA	8	O/C	No		FS LTJ	Q J	035 --	-- --	DIS		
2-CS-6A	"A" Containment Spray Pump Minimum Flow Check Valve	1/H-5	2	C	CL	FA	2	O	No		FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 12	<u>15</u>

V-Ctmt Spray-1

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15 October 2004  
Containment Spray

# Millstone Unit 2 Valve Test List

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-CS-6B	"B" Containment Spray Pump Minimum Flow Check Valve	1/G-5	2	C	CL	FA	2	O	No		FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 12	<u>15</u>
2-CS-26	Containment Spray (+ 20' Elevation) Supply Header Check To RWST	2/D-5	2	C	CS	FA	6	O	No		FSC FSO	Q Q	-- --	-- --	DIS-CM FSO-18	CM Group 15 FSO every 18M per CM Evaluation for Group 15. Performed on-line during CS pump high flow test.	<u>15</u>
2-CS-050	"B" Containment Spray Header To Recirculation Header Valve	3/K-3	2	A	GT	HA	1	C	No		LT	A/R	--	--		Test of 2-SI-459 satisfies this leakage path. Testing retained as alternative.	<u>15</u>
2-CS-051	"A" Containment Spray Header To Recirculation Header Valve	3/K-3	2	A	GT	HA	1	C	No		LT	A/R	--	--		Test of 2-SI-459 satisfies this leakage path. Testing retained as alternative.	<u>15</u>
2-SI-459	SIS Test Header Downstream Isolation	3/K-2	2	A	GT	HA	2	LC	Yes		LT	2A	--	V-006	LT per V-6	2-CS-050 and 2-CS-051 (2605P- 1/2) can be tested as alternative to this valve.	
2-SI-460	LPSI /Ctmt Spray Test Header Stop Valve	1/K-10	2	A	GL	HA	6	C	No		LT	2A	--	V-006	LT per V-6		<u>14</u>

V-Ctmt Spray-2

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# Millstone Unit 2 Valve Test List

Shutdown Cooling

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SI-430	Shutdown Cooling Hx 'B' To H.P.S.I. Relief Valve	1/G-9	2	C	RV	SA	.75	RV	No		SRV	10A	--	V-007		<u>14</u>
2-SI-431	Shutdown Cooling Hx 'A' To H.P.S.I. Relief Valve	1/H-7	2	C	RV	SA	.75	RV	No		SRV	10A	--	--		
2-SI-468	Shutdown Cooling Suction Relief Valve	1/D-8	2	C	RV	SA	1.5	RV	No		SRV	10A	--	--		
2-SI-469	Shutdown Cooling Suction Relief Valve	3/G-4	2	C	RV	SA	1	C	No		SRV	10A	--	--		<u>11</u>
2-SI-651	Shutdown Cooling Suction Header Ctmt Isolation Valve	3/G-4	1	A	GT	MO	12	O/C	No		LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	023	--	STCCS	
											STO	Q	023	--	STOCS	
2-SI-652	Shutdown Cooling Suction Header Isolation Valve	3/G-5	1	B	GT	MO	12	O/C	No		PI	2A	--	--		
											STC	Q	010	--	STCCS	
											STO	Q	010	--	STOCS	
2-SI-709	Shutdown Cooling Suction Header Manual Isolation Valve	1/F-9	2	A	GT	HA	12	O/C	No		FS	Q	061	--	FSCS	
											LTJ	J	--	--		

V-SDC-1



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# Millstone Unit 2 Valve Test List

Ctmt & Enclosure Building Purge

Drawing No - 25203 - 26028

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-AC-4	Containment Purge Supply Outside Containment Isol Valve	1/E-3	2	A	GT	AO 48	C	No		FT	Q	041	--	FTR	Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	041	--	STCR	
2-AC-5	Containment Purge Supply Valve Inside Containment Isol Valve	1/E-6	2	A	BF	AO 48	C	No		FT	Q	041	--	FTR	Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	041	--	STCR	
2-AC-6	Containment Purge Return Inside Containment Isolation Valve	1/B-11	2	A	BF	AO 48	C	No		FT	Q	041	--	FTR	Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	041	--	STCR	
2-AC-7	Containment Purge Return Outside Containment Isol Valve	1/B-13	2	A	BF	AO 48	C	No		FT	Q	041	--	FTR	Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	041	--	STCR	
2-AC-12	"A" Containment Air Monitor Suction Control Valve	2/G-5	2	A	BF	AO 1.5	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		

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# Millstone Unit 2 Valve Test List

Ctmt & Enclosure Building Purge

Drawing No - 25203 - 26028

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-AC-15	"A" Containment Air Monitor Return Control Valve	2/F-5	2	A	BF	AO 1.5	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-AC-20	"B" Containment Air Monitor Return Control Valve	2/K-5	2	A	BF	AO 1.5	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-AC-47	"B" Containment Air Monitor Suction Control Valve	2/J-5	2	A	BF	AO 1.5	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-AC-96	Engineered Safeguards Actuation PT-8113 Inst Stop Valve	1/J-12	2	B	GL	HA .5	LO	Yes		PI	2A	--	--		
2-AC-97	Engineered Safeguards Actuation PT-8114 Inst Stop Valve	1/K-10	2	B	GL	HA 0.5	LO	Yes		PI	2A	--	--		

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# Millstone Unit 2 Valve Test List

Ctmt & Enclosure Building Purge

Drawing No - 25203 - 26028

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-AC-98	Engineered Safeguards Actuation PT-8115 Inst Stop Valve	1/K-5	2	B	GL	HA	0.5	LO	Yes		PI	2A	--	--		
2-AC-99	Esas Channel "D" PT-8116 & 8117 Ctmt Press Inst Stop Valve	1/J-4	2	B	GL	HA	0.5	LC	Yes		PI	2A	--	--		
2-AC-112	ILRT Instrument Stop	1/E-12	2	A	GL	HA	1	C	Yes		LTJ	J	--	--		12
2-AC-114	ILRT Instrument Stop	1/D-12	2	A	GL	HA	1	C	Yes		LTJ	J	--	--		
2-AC-116	ILRT Instrument Stop	1/E-12	2	A	GL	HA	1	C	Yes		LTJ	J	--	--		
2-AC-117	ILRT Instrument Stop	1/D-12	2	A	GL	HA	1	C	Yes		LTJ	J	--	--		
2-AC-527	RM-8262 Supply Isolation	2/J-6	NA	B	GL	SO	1	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
2-AC-528	RM-8262 Return Isolation	2/K-6	NA	B	GL	SO	1	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
2-AC-529	RM-8123 Supply Isolation	2/F-6	NA	B	GL	SO	1	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
2-AC-530	RM-8123 Return Isolation	2/F-6	NA	B	GL	SO	1	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

V-Ctmt Purge-3

Third Ten Year Interval  
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# Millstone Unit 2 Valve Test List

Main Steam

Drawing No - 25203 - 26002

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-MS-3A	#1 Steam Generator Atmospheric Steam Dump Isolation Valve	1/H-4	2	B	GT	HA 12	OC	No		FS	Q	--	--		TS Amendment 238 allows the manual valve to be credited for controlled release of steam in the event 2-MS-190A inop.	<u>3</u>
2-MS-3B	#2 Steam Generator Atmospheric Steam Dump Isolation Valve	1/C-7	2	B	GT	HA 12	OC	No		FS	Q	--	--		TS Amendment 238 allows the manual valve to be credited for controlled release of steam in the event 2-MS-190A inop.	<u>3</u>
2-MS-4A	Auxiliary Feedwater Turbine Supply Check Valve From #1 S/G	1/K-5	3	C	CS	FA 4	O/C	No		FSC FSO	Q Q	026 026	-- --	FSCCS FSOCS		<u>15</u>
2-MS-4B	Auxiliary Feedwater Turbine Supply Check Valve From #2 S/G	1/F-7	3	C	CS	FA 4	O/C	No		FSC FSO	Q Q	026 026	-- --	FSCCS FSOCS		<u>15</u>
2-MS-64A	#1 S/G Main Steam Isolation Valve	1/J-7	2	BC	CS	AO 34	C	No		FSO FT PI STC	Q Q 2A Q	006 006 -- 006	-- -- -- --	FSOCS FTCS  STCCS	CM Group 30	<u>15</u>
2-MS-64B	#2 Steam Generator Main Steam Isolation Valve	1/D-9	2	BC	CS	AO 34	C	No		FSO FT PI STC	Q Q 2A Q	006 006 -- 006	-- -- -- --	FSOCS FTCS  STCCS	CM Group 30 Fail Test satisfied by Close Stroke Test	<u>15</u>
2-MS-65A	#1 S/G Main Steam Isolation Bypass Valve	1/H-7	2	B	GL	MO 3	C	No		PI STC	2A Q	-- 067	-- --	 STCCS		

V-MS-1

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# Millstone Unit 2 Valve Test List

Main Steam

Drawing No - 25203 - 26002

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-MS-65B	#2 S/G Main Steam Isolation Bypass Valve	1/C-9	2	B	GL	MO	3	C	No		PI STC	2A Q	-- 067	-- --	STCCS	
2-MS-190A	#1 Steam Generator Atmospheric Dump Control Valve	1/H-4	2	B	GL	AO	8	O	No		FS FT	Q Q	069 --	-- --	FS-18	Fail Test Satisfied by Stroke Time Closed <u>11</u>
2-MS-190B	#2 Steam Generator Atmospheric Dump Control Valve	1/C-6	2	B	GL	AO	8	O	No		FS FT	Q Q	069 --	-- --	FS-18	Fail Test Satisfied by Stroke Time Closed <u>11</u>
2-MS-191A	#1 Steam Generator Blowdown Sample Control Valve	2/E-10	2	A	GL	AO	.5	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed
2-MS-191B	#2 Steam Generator Blowdown Sample Control Valve	2/E-12	2	A	GL	AO	.5	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed
2-MS-201	#1 S/G Supply To Aux Feed Water Turbine Steam Supply Valve	1/J-4	2	B	GT	MO	4	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
2-MS-202	#2 S/G Supply To Aux Feed Water Turbine Steam Supply Valve	1/E-7	2	B	GT	MO	4	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		

V-MS-2

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# Millstone Unit 2 Valve Test List

Main Steam

Drawing No - 25203 - 26002

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-MS-220A	#1 S/G Blowdown Control Valve	2/G-9	2	A	GL	AO	2	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	--	--		
2-MS-220B	#2 S/G Blowdown Control Valve	2/E-11	2	A	GL	AO	2	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	--	--		
2-MS-239	#2 Steam Generator Safety Relief Valve	1/E-8	2	C	SV	SA	6	O	No		SRV	5A	--	--		14
2-MS-240	#2 Steam Generator Safety Relief Valve	1/E-8	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-241	#2 Steam Generator Safety Relief Valve	1/E-8	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-242	#2 Steam Generator Safety Relief Valve	1/E-9	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-243	#2 Steam Generator Safety Relief Valve	1/D-9	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-244	#2 Steam Generator Safety Relief Valve	1/D-9	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-245	#2 Steam Generator Safety Relief Valve	1/D-8	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-246	#2 Steam Generator Safety Relief Valve	1/D-8	2	C	SV	SA	6	O	No		SRV	5A	--	--		

V-MS-3

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# Millstone Unit 2 Valve Test List

Main Steam

Drawing No - 25203 - 26002

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-MS-247	#1 Steam Generator Safety Relief Valve	1/J-5	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-248	#1 Steam Generator Safety Relief Valve	1/J-5	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-249	#1 Steam Generator Safety Relief Valve	1/J-5	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-250	#1 Steam Generator Safety Relief Valve	1/J-5	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-251	#1 Steam Generator Safety Relief Valve	1/J-6	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-252	#1 Steam Generator Safety Relief Valve	1/J-6	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-253	#1 Steam Generator Safety Relief Valve	1/J-6	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-254	#1 Steam Generator Safety Relief Valve	1/J-6	2	C	SV	SA	6	O	No		SRV	5A	--	--		
2-MS-265B	#1 S/G Header Drain Control Valve	1/H-5	2	B	GL	AO	1	O	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	--	--		
2-MS-266B	#2 S/G Header Drain Control Valve	1/C-8	2	B	GL	AO	1	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											PI	2A	--	--		
											STC	Q	--	--		

V-MS-4

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## Millstone Unit 2 Valve Test List

Main Steam

Drawing No - 25203 - 26002

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-MS-464	Terry Turbine Trip Throttle Valve	1/J-10	3	B	GL	MO	4	O	No		PI STO	2A Q	-- --	-- --		

V-MS-5



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### Millstone Unit 2 Valve Test List

Feedwater

Drawing No - 25203 - 26005

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-FW-5A	#1 S/G Main Feed Supply Air- Assist Check Valve	2/E-8	2	C	CS	AO 18 /FA	C	No		FS	Q	013	--	DIS	<u>15</u>
2-FW-5B	#2 S/G Main Feed Supply Air- Assist Check Valve	2/E-3	2	C	CS	AO 18 /FA	C	No		FS	Q	013	--	DIS	<u>15</u>

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# Millstone Unit 2 Valve Test List

Auxiliary Feedwater

Drawing No - 25203 - 26005

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-CN-29A	"A" Aux Feed Pump Suction Isolation	3/C-5	3	B	GT	HA 6	O/C	No		FS	Q	--	V-003	FS-18		<u>8</u>
2-CN-29B	"B" Aux Feed Pump Suction Isolation	3/B-5	3	B	GT	HA 6	O/C	No		FS	Q	--	V-003	FS-18		<u>8</u>
2-CN-30	Turbine Aux Feed Pump Suction Isolation Valve	3/E-6	3	B	GT	HA 8	O/C	No		FS	Q	--	V-003	FS-18		<u>8</u>
2-CN-587	Condensate Makeup Line Relief Valve	3/F-7	3	C	RV	SA 1.5	RV	No		SRV	10A	--	--			
2-FIRE-34	Fire Header Supply Stop Valve To Auxiliary Feedwater Pump Valve	1/E-10	NA	B	GT	HA 8	O/C	No		FSR	ER	--	--		Test is duplicated in each of the forms 1 through 3	<u>5</u>
2-FIRE-94A	"A" Aux Feed Pump Emergency Fire Water Supply Valve	1/D-11	NA	B	GT	HA 6	O/C	No		FS	Q	--	V-001		relief request allows testing one of the three valves (2-FIRE-94A/B/C) each refuel.	<u>8</u>
2-FIRE-94B	"B" Aux Feed Pump Emergency Fire Water Supply Valve	1/D-11	NA	B	GT	HA 6	O/C	No		FS	Q	--	V-001		relief request allows testing one of the three valves (2-FIRE-94A/B/C) each refuel.	<u>8</u>
2-FIRE-94C	Turbine Aux Feed Pump Emergency Fire Water Supply Valve	1/D-11	NA	B	GT	HA 8	O/C	No		FS	Q	--	V-001		relief request allows testing one of the three valves (2-FIRE-94A/B/C) to be tested each refuel.	<u>8</u>
2-FW-7	Turbine Auxiliary Feedwater Pump Discharge Check Valve	3/F-9	3	C	CT	FA 6	O/C	No		FSC FSO	Q Q	014 014	-- --	FSCCS FSOCS		
2-FW-8A	Auxiliary Feedwater Pump "A" Discharge Check Valve	3/C-9	3	C	CT	FA 4	O/C	No		FSC FSO	Q Q	014 014	-- --	FSCCS FSOCS		

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# Millstone Unit 2 Valve Test List

Auxiliary Feedwater

Drawing No - 25203 - 26005

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-FW-8B	Auxiliary Feedwater Pump "B" Discharge Check Valve	3/C-9	3	C	CT	FA	4	O/C	No	FSC FSO	Q Q	014 014	-- --	FSCCS FSOCS	
2-FW-12A	#1 S/G Aux Feed Supply Air- Assist Check Valve	2/D-9	2	C	CS	FA	6	O/C	No	FSC FSO	Q Q	015 015	-- --	FSCCS FSOCS	Tests obturator full open
2-FW-12B	#2 S/G Aux Feed Supply Air- Assist Check Valve	2/D-2	2	C	CS	FA	6	O/C	No	FSC FSO	Q CS	015 015	-- --	FSCCS FSOCS	
2-FW-32A	Auxiliary Feedwater Pump 'A' Recirc Check Valve	3/D-9	3	C	CL	FA	1.0	O	No	FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 24
2-FW-32B	Auxiliary Feedwater Pump 'B' Recirculation Check Valve	3/B-9	3	C	CL	FA	1.0	O	No	FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 24
2-FW-33	Turbine Auxiliary Fedwater Pump Recirc Check Valve	3/E-9	3	C	CL	FA	1.5	O	No	FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 25
2-FW-43A	#1 Steam Generator Aux Feedwater Regulating Valve	3/C-12	3	B	GL	AO	4	O	No	FT PI	Q 2A	-- --	-- --		Fail test is Quick Open Test - Max Stroke time 25 Seconds
2-FW-43B	#2 Steam Generator Aux Feedwater Regulating Valve	3/E-12	3	B	GL	AO	4	O	No	FT PI	Q 2A	-- --	-- --		Fail test is Quick Open Test - Max Stroke time 25 Seconds

V-Aux Feed-2

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004  
Auxiliary Feedwater

# Millstone Unit 2 Valve Test List

Drawing No - 25203 - 26005

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-FW-44	Aux Feedwater Pump Discharge Header Cross-Tie Valve	3/D-12	3	B	GT	MO 6	O/C	No		FSR PI STC	ER 2A Q	-- -- 065	-- -- --		Manual stroke  ref memo NE-01-F-036 "Stroking of AFW cross-tie Valve 2-FW-44 when AFW is Required to be Operable reference memo NE-01-F-036 from safety analysis	<u>15</u>
2-FW-54	Aux Feedwater Supply To Spent Fuel Pool System Valve	3/D-10	3	B	GT	HA 2	O/C	No		FS	Q	074	--	FSCS		<u>16</u>
2-FW-56A	#1 S/G Aux Feed Reg Valve By-Pass	3/C-12	3	B	GL	HA 6	O/C	No		FS	Q	--	V-004	FS-18		<u>8</u>
2-FW-56B	#2 S/G Aux Feed Reg Valve By-Pass	3/E-12	3	B	GT	HA 6	O/C	No		FS	Q	--	V-004	FS-18		<u>8</u>
PSE-7201A	Condensate Storage Tank Vacuum Breaker/Pressure Limiter	3/J-4	3	C	RD	SA	C	No		SRV	5A	--	--			
PSE-7201B	Condensate Storage Tank Vacuum Breaker/Pressure Limiter	3/J-5	3	C	RD	SA	C	No		SRV	5A	--	--			
PSE-7201C	Condensate Storage Tank Vacuum Breaker/Pressure Limiter	3/K-5	3	C	RD	SA 8	O	No		SRV	5A	--	--			
PSE-7201D	Condensate Storage Tank Vacuum Breaker/Limiter	3/K-5	3	C	RD	SA 8	O	No		SRV	5A	--	--			

V-Aux Feed-3

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004  
Service Water

# Millstone Unit 2 Valve Test List

Drawing No - 25203 - 26008

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SW-1A	"A" Service Water Cooling Pump Outlet Check Valve	2/B-11	3	C	CD	FA 24	O/C	No		FS	Q	--	--		
2-SW-1B	"B" Service Water Cooling Pump Outlet Check Valve	2/B-9	3	C	CD	FA 24	O/C	No		FS	Q	--	--		
2-SW-1C	"C" Service Water Cooling Pump Outlet Check Valve	2/B-6	3	C	CD	FA 24	O/C	No		FS	Q	--	--		
2-SW-3.1A	"A" Service Water Header To RBCCW Heat Exchangers	2/J-12	3	B	BF	AO 24	O	Yes		PI	2A	--	--		14
2-SW-3.1B	"B" Service Water Header To RBCCW Heat Exchangers	2/H-12	3	B	BF	AO 24	O	Yes		PI	2A	--	--		14
2-SW-3.2A	"B" Service Water Header Supply To TBCCW Stop Valve	2/E-12	3	B	BF	AO 16	C	No		PI STC	2A Q	-- --	-- --		
2-SW-3.2B	"A" Service Water Header Supply To TBCCW Stop Valve	2/D-12	3	B	BF	AO 16	C	No		PI STC	2A Q	-- --	-- --		
2-SW-8.1A	"A" RBCCW Heat Exchanger Outlet Temp. Control Valve	2/J-7	3	B	BF	AO 14	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Stroke time measured during fail test
2-SW-8.1B	"B" RBCCW Heat Exchanger Outlet Temp. Control Valve	2/H-7	3	B	BF	AO 14	O	No		PI	2A	--	--		
2-SW-8.1B (Fac 1)	"B" RBCCW Heat Exchanger Outlet Temp. Control Valve - Facility 1 Solenoid Operated	2/H-7	3	B	BF	AO 14	O	No		FT STO	Q Q	-- --	-- --		

V-Serv Wtr-1

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004  
Service Water

# Millstone Unit 2 Valve Test List

Drawing No - 25203 - 26008

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SW-8.1B (Fac 2)	"B" RBCCW Heat Exchanger Outlet Temp. Control Valve - Facility 2 Solenoid Operated	2/H-7	3	B	BF	AO 14	O	No		FT STO	Q Q	-- --	-- --		
2-SW-8.1C	"C" RBCCW Heat Exchanger Outlet Temp. Control Valve	2/G-7	3	B	BF	AO 14	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Stroke time measured during fail test
2-SW-11B	"B" Service Water Discharge Header Check Valve	1/J-8	3	C	CD	FA 24	O	No		FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 52
2-SW-89A	"A" D/G Service Water Flow Control Valve	2/C-2	3	B	BF	AO 6	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Open
2-SW-89B	"B" D/G Service Water Flow Control Valve	2/F-2	3	B	BF	AO 6	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Open
2-SW-90A	"A" Service Water Pump Discharge Strainer Flush Valve	2/B-11	3	B	PL	AO 3	O	No		FT STO	Q Q	-- --	-- --		Fail Test Satisfied by Stroke Time Open
2-SW-90B	"B" Service Water Pump Discharge Strainer Flush Valve	2/A-9	3	B	PL	AO 3	O	No		FT STO	Q Q	-- --	-- --		Fail Test Satisfied by Stroke Time Open
2-SW-90C	"C" Service Water Pump Discharge Strainer Flush Valve	2/A-6	3	B	PL	AO 3	O	No		FT STO	Q Q	-- --	-- --		Fail Test Satisfied by Stroke Time Open

V-Serv Wtr-2

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Service Water

Drawing No - 25203 - 26008

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SW-92A	"A" RBCCW Heat Exchanger Relief Valve	2/K-10	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-SW-92B	"B" RBCCW Heat Exchanger Relief Valve	2/H-10	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-SW-92C	"C" RBCCW Heat Exchanger Relief Valve	2/G-10	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-SW-97A	"B" Service Water Pump Discharge To "A" Service Water Header	2/C-10	3	B	BF	AO 24	OC	Yes		PI	2A	--	--		
2-SW-97B	"B" Service Water Pump Dicharge To "A" Service Water Header	2/C-7	3	B	BF	AO 24	OC	Yes		PI	2A	--	--		
2-SW-178A	Cooler X-181A,X-181B Service Water Control Valve	3/B-9	3	B	BF	AO 3	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-SW-178B	Cooler X-182 Service Water Control Valve	3/D-9	3	B	GL	AO 1.5	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		

V-Serv Wtr-3

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Service Water

Drawing No - 25203 - 26008

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SW-178C	Cooler X-183 Service Water Control Valve	3/E-9	3	B	GL	AO 1.5	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-SW-189	Cooler X-181A,X-181B Outlet Relief Valve	3/C-5	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-SW-190	Cooler X-182 Outlet Relief Valve	3/E-6	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-SW-191	Cooler X-183 Outlet Relief Valve	3/F-6	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-SW-231A	"A" D/G Heat Exchanger Service Water Bypass Valve	2/F-3	3	B	BF	AO 8	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										PI	2A	--	--		
										STC	Q	--	--		
2-SW-231B	"B" D/G Heat Exchanger Service Water Bypass Valve	2/J-3	3	B	BF	AO 8	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										PI	2A	--	--		
										STC	Q	--	--		

V-Serv Wtr-4



Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-2A	RBCCW P11A Discharge Check Valve	1/H-7	3	C	CT	FA 20	O/C	No		FSC FSO	Q Q	073 073	-- --	FSCCS FSOCS	<u>14</u>
2-RB-2B	RBCCW P11B Discharge Check Valve	1/F-7	3	C	CT	FA 20	O/C	No		FSC FSO	Q Q	073 073	-- --	FSCCS FSOCS	<u>14</u>
2-RB-2C	RBCCW P11C Discharge Check Valve	1/D-7	3	C	CT	FA 20	O/C	No		FSC FSO	Q Q	073 073	-- --	FSCCS FSOCS	<u>14</u>
2-RB-4.1A	RBCCW Heat Exchanger 18A Header "A" Outlet Valve	1/J-2	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-4.1B	RBCCW Heat Exchanger 18A Header "B" Outlet Valve	1/H-2	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-4.1C	RBCCW Heat Exchanger 18B Header "A" Outlet Valve	1/G-2	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-4.1D	RBCCW Heat Exchanger 18B Header "B" Outlet Valve	1/F-2	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-4.1E	RBCCW Heat Exchanger 18C Header "A" Outlet Valve	1/E-2	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-4.1F	RBCCW Heat Exchanger 18C Header "B" Outlet Valve	1/D-2	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-8.1A	SFPC Heat Exchanger RBCCW Header "A" Outlet Valve	2/C-9	3	B	BF	AO 12	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --	Fail Test Satisfied by Stroke Time Closed	

V-RBCCW-1

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-8.1B	SFPC HX Header 'B' Outlet Stop Valve	2/E-8	3	B	BF	AO 12	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-RB-13.1A	"A" Shutdown Cooling Heat Exchanger Outlet Stop Valve	2/F-4	3	B	BF	AO 18	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		
										STO	Q	--	--		
2-RB-13.1B	"B" Shutdown Cooling Heat Exchanger Outlet Stop Valve	2/F-8	3	B	BF	AO 18	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		Fail test credited based on open stroke test.
										STO	Q	--	--		
2-RB-28.1A	CTMT Air Recirc Cooling "A" RBCCW Inlet Valve	5/I-7	2	B	BF	AO 10	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		
2-RB-28.1B	CTMT Air Recirc Cooling "B" RBCCW Inlet Valve	5/E-8	2	B	BF	AO 10	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		
2-RB-28.1C	CTMT. Air Recirc Cooling "C" RBCCW Inlet Valve	5/G-7	2	B	BF	AO 10	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		
2-RB-28.1D	CTMT Air Recirc Cooling "D" RBCCW Inlet Valve	5/C-8	2	B	BF	AO 10	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		

V-RBCCW-2

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-28.2A	CTMT Air Recirc Cooling "A" RBCCW Normal Outlet Valve	5/J-3	2	B	BF	AO 6	O/C	No		FT PI	Q 2A	-- --	-- --		Fail Test Satisfied by Stroke Time Open
2-RB-28.2B	CTMT Air Recirc Cooling "B" RBCCW Normal Outlet Valve	5/E-4	2	B	BF	AO 6	O/C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Open
2-RB-28.2C	CTMT Air Recirc Cooling "C" RBCCW Normal Outlet Valve	5/G-3	2	B	BF	AO 10	O/C	No		FT PI	Q 2A	-- --	-- --		Fail Test Satisfied by Stroke Time Open
2-RB-28.2D	CTMT Air Recirc Cooling "D" RBCCW Normal Outlet Valve	5/C-4	2	B	BF	AO 6	O/C	No		FT PI	Q 2A	-- --	-- --		Fail Test Satisfied by Stroke Time Open
2-RB-28.3A	CTMT Air Recirc Cooling "A" RBCCW Emergency Outlet Valve	5/J-3	2	B	BF	AO 10	O/C	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Open
2-RB-28.3B	CTMT Air Recirc Cooling 'B' RBCCW Emergency Outlet Valve	5/E-4	2	B	BF	AO 10	O/C	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Open
2-RB-28.3C	CTMT Air Recirc Cooling "C" RBCCW Emergency Outlet Valve	5/G-3	2	B	BF	AO 10	O/C	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Open

V-RBCCW-3

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-28.3D	CTMT Air Recirc Cooling "D" RBCCW Emergency Outlet Valve	5/C-4	2	B	BF	AO 10	O/C	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Open Test is credited based on satisfactory open stroke test
2-RB-30.1A	"A" RBCCW Header Containment Supply Valve	6/E-4	3	A	GT	MO 8	C	No		LTJ PI STC	J 2A Q	-- -- 016	-- -- --	STCCS	
2-RB-30.1B	"B" RBCCW Header Containment Supply Valve	6/E-4	2	A	GT	MO 6	C	No		LTJ PI STC	J 2A Q	-- -- 016	-- -- --	STCCS	
2-RB-37.2A	"A" RBCCW Header Containment Return Valve	4/C-11	2	A	GT	MO 8	C	No		LTJ PI STC	J 2A Q	-- -- 016	-- -- --	STCCS	
2-RB-37.2B	"B" RBCCW Header Containment Return Valve	4/A-11	2	A	GT	MO 6	C	No		LTJ PI STC	J 2A Q	-- -- 016	-- -- --	STCCS	
2-RB-39	"C" RBCCW Pump Radiation Monitor Flow Stop Valve	1/D-6	3	B	GL	HA .5	C	No		FS	Q	--	V-002	FS-18	<u>8</u>
2-RB-41	"B" RBCCW Pump Radmonitor Flow Stop Valve	1/G-6	3	B	GL	HA .5	C	No		FS	Q	--	V-002	FS-18	<u>8</u>
2-RB-43	"A" RBCCW Pump Rad Monitor Flow Stop Valve	1/H-6	3	B	GL	HA .5	C	No		FS	Q	--	V-002	FS-18	<u>8</u>

V-RBCCW-4

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-RB-56A	RBCCW Pump "A" Sample Stop Valve	1/H-7	3	B	GL	HA .375	C	No		FS	Q	--	V-002	FS-18		8
2-RB-56B	RBCCW Pump "B" Sample Stop Valve	1/F-7	3	B	GL	HA .375	C	No		FS	Q	--	V-002	FS-18		8
2-RB-56C	RBCCW Pump "C" Sample Stop Valve	1/D-7	3	B	GL	HA .375	C	No		FS	Q	--	V-002	FS-18		8
2-RB-68.1A	ESGR Cooling 36A RBCCW Outlet Valve	2/D-2	3	B	GL	AO 2	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed	
2-RB-68.1B	ESGR Cooling 36B RBCCW Outlet Valve	2/D-6	3	B	GL	AO 2	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed	
2-RB-107A	RBCCW Pump "A" Min Flow Stop Valve	1/H-7	3	B	GT	HA 2.5	C	No		FS	Q	--	V-002	FS-18		8
2-RB-107B	RBCCW Pump "B" Min Flow Stop Valve	1/F-7	3	B	GT	HA 2.5	C	No		FS	Q	--	V-002	FS-18		8
2-RB-107C	RBCCW Pump "C" Min Flow Stop Valve	1/D-7	3	B	GT	HA 2.5	C	No		FS	Q	--	V-002	FS-18		8
2-RB-210	Degasifier Effluent Cooler Return Isolation Valve	5/G-10	3	B	BF	AO 8	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed	

V-RBCCW-5

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-211A	RBCCW Pump 11A Header "A" Suction Valve	1/H-10	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-211B	RBCCW Pump 11A Header "B" Suction Valve	1/G-9	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-211C	RBCCW Pump 11B Header "A" Suction Valve	1/F-10	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-211D	RBCCW Pump 11B Header "B" Suction Valve	1/E-9	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-211E	RBCCW Pump 11C Header 'A' Suction Valve	1/D-10	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-211F	RBCCW Pump 11C Header 'B' Suction Valve	1/C-9	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-251A	RBCCW Pump "B" Discharge Cross-Tie To Hx "A"	1/G-6	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-251B	RBCCW Pump 'B' Discharge Cross-Tie To 'A Hx Valve	1/E-6	3	B	BF	AO 20	O/C	Yes		PI	2A	--	--		<u>14</u>
2-RB-303A	RBCCW Heat Exchanger "A" Relief Valve	1/J-4	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-303B	RBCCW Heat Exchanger "B" Relief Valve	1/G-4	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-303C	RBCCW Heat Exchanger "C" Relief Valve	1/E-4	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-304	Containment Spray Pump "B" Inlet Relief Valve	3/K-8	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		

V-RBCCW-6

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## Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-305	LPSI Pump "B" To RBCCW Relief Valve	3/J-8	3	C	RV	SA	0.75	RV	No		SRV	10A	--	--		
2-RB-306	HPSI Pump "C" To RBCCW Relief Valve	3/G-8	3	C	RV	SA	0.75	RV	No		SRV	10A	--	--		
2-RB-307	HPSI Pump "B" To RBCCW Relief Valve	3/F-8	3	C	RV	SA	0.75	RV	No		SRV	10A	--	--		
2-RB-308	HPSI Pump "A" To RBCCW Relief Valve	3/D-8	3	C	RV	SA	0.75	RV	No		SRV	10A	--	--		
2-RB-309	LPSI Pump "A" To RBCCW Relief Valve	3/C-8	3	C	RV	SA	0.75	RV	No		SRV	10A	--	--		
2-RB-310	Containment Spray Pump "A" RBCCW Relief Valve	3/B-8	3	C	RV	SA	0.75	RV	No		SRV	10A	--	--		
2-RB-311	Engineered Safeguards Room Cooler "A" RBCCW Relief Valve	2/D-1	3	C	RV	SA	0.75	RV	No		SRV	10A	--	--		
2-RB-312	Shutdown Heat Cooling Hx "A" RBCCW Relief Valve	2/G-3	3	C	RV	SA	1.0	RV	No		SRV	10A	--	--		
2-RB-313	Engineered Safeguards Room Cooler "B" RBCCW Relief Valve	2/D-5	3	C	RV	SA	0.75	RV	No		SRV	10A	--	--		
2-RB-314	Shutdown Cooling Hx "B" RBCCW Relief Valve	2/G-7	3	C	RV	SA	1.0	RV	No		SRV	10A	--	--		
2-RB-315	Blowdown Quench Tank Heat Exchanger Relief Valve	2/J-7	3	C	RV	SA	0.75	RV	No		SRV	10A	--	--		

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# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-316	Spent Fuel Pool Cooling Hx "B" RBCCW Relief Valve	2/J-10	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-318	Spent Fuel Pool Cooling Hx "A" RBCCW Relief Valve	2/F-11	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-320	"B" Waste Gas Compressor Aftercooler Inlet PSV-6780 Relief Valve	2/D-11	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-321	"A" Waste Gas Compressor Aftercooler Inlet PSV-6781 Relief Valve	2/C-12	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-322	Sample Cooler X64/X65 RBCCW Outlet PSV-6759 Relief Valve	5/J-11	3	C	RV	SA 0.75	O/C	No		SRV	10A	--	--		
2-RB-324	Degasifier Vent Condenser RBCCW Outlet Relief Valve	5/A-8	3	C	RV	SA .75	O/C	No		SRV	10A	--	--		
2-RB-325	Containment Air Recirculation Cooler 'D' RBCCW Rel. Valve.	5/D-7	3	C	RV	SA 1.5	RV	No		SRV	10A	--	--		
2-RB-326	Letdown Heat Exchanger RBCCW Relief Valve	5/G-12	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-327	Degasifier Effluent Cooler RBCCW Relief Valve	5/H-12	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-328	Containment Air Recirculation Cooler 'B' RBCCW Rel. Valve.	5/F-7	3	C	RV	SA 1.5	RV	No		SRV	10A	--	--		

V-RBCCW-8



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# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-329	Containment Air Recirculation Cooler 'A' RBCCW Rel. Valve.	5/J-6	3	C	RV	SA 1.5	RV	No		SRV	10A	--	--		
2-RB-330	Containment Air Recirculation Cooler 'C' RBCCW Rel. Valve.	5/H-6	3	C	RV	SA 1.5	RV	No		SRV	10A	--	--		
2-RB-331	Reactor Support Cooling Coil 'A' RBCCW Header Relief Valve	6/H-8	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-332	Reactor Support Cooling Coil 'B' RBCCW Header Relief Valve	6/H-8	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-333	Reactor Support Cooling Coil 'B' RBCCW Header Relief Valve	6/F-8	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-334	Reactor Support Cooling Coil 'A' RBCCW Header Relief Valve	6/F-8	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-335	Reactor Support Cooling Coil 'B' RBCCW Header Relief Valve	6/E-8	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-336	Reactor Support Cooling Coil 'A' RBCCW Header Relief Valve	6/E-8	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-337	Primary Drain Tank & Quench Tank Cooler RBCCW Vent Relief Valve	4/K-6	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		

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# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-338	RCP '1A' Inlet RBCCW Relief Valve	4/H-4	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-339	RCP '1B' Inlet RBCCW Relief Valve	4/G-4	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-340	RCP '2A' Inlet RBCCW Relief Valve	4/E-4	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-341	RCP '2B' Inlet RBCCW Relief Valve	4/C-4	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-342	CEDM Cooler 'C' RBCCW Inlet Relief Valve	4/E-13	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-343	CEDM Cooler 'B' RBCCW Inlet Relief Valve	4/F-13	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-344	CEDM Cooler 'A' RBCCW Inlet Relief Valve	4/H-13	3	C	RV	SA 0.75	RV	No		SRV	10A	--	--		
2-RB-402	Letdown Heat Exchanger Outlet Temperature Control Valve	5/F-10	3	B	BF	AO 4	C	No		FT	Q	051	--	FTCS	Fail Test Satisfied by Stroke Time Closed
										STC	Q	051	--	STCCS	
2-RB-413	Reactor Coolant Pump RBCCW Supply Inter-system LOCA Relief - Penetration 53	6/F-5	3	C	SV	SA 6	RV	No		SRV	10A	--	--		
2-RB-414	Reactor Coolant Pump RBCCW Return Inter-system LOCA Relief - Penetration 54	4/B-9	3	C	SV	SA 6	RV	No		SRV	10A	--	--		

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# Millstone Unit 2 Valve Test List

Reactor Building Closed Cooling Water

Drawing No - 25203 - 26022

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-RB-415	Reactor Coolant Pump RBCCW Supply Inter-system LOCA Relief - Penetration 24	6/D-5	3	C	SV	SA 6	RV	No		SRV	10A	--	--		
2-RB-416	Reactor Coolant Pump RBCCW Supply Inter-system LOCA Relief - Penetration 29	4/C-9	3	C	SV	SA 6	RV	No		SRV	10A	--	--		
2-RB-417	PMW Supply to RBCCW Surge Tank Check Valve	1/G-11	3	C	CS	FA 3	C	No		FSC PSO	18M Q	-- --	-- --	CM Evaluation for Group 33 VNORMOP Reference CM Evaluation for Group 33	<u>15</u>
2-RB-418	PMW to RBCCW Surge Tank Check Valve	1/G-11	3	C	CS	FA 3	C	No		FSC PSO	18M Q	-- --	-- --	CM Evaluation for Group 33 VNORMOP Reference CM Evaluation for Group 33	<u>15</u>

V-RBCCW-11

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# Millstone Unit 2 Valve Test List

Chilled Water

Drawing No - 25203 - 26027

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-CHW-1	"A" Chill Water Pump Discharge Check Valve	2/C-9	3	C	CS	FA 2	O	No		FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 9	15
2-CHW-3	Chilled Water X84A Supply Control Valve	2/F-8	3	B	GL	AO 2	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Open	
2-CHW-11	Chilled Water Supply Header Cross Tie Control Valve	2/F-7	3	B	GL	AO 1.5	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed	
2-CHW-12	Chilled Water Supply Header Cross Tie Control Valve	2/F-5	3	B	GL	AO 1.5	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed	
2-CHW-13	Chill Water Return Header Cross Tie Control Valve	2/H-7	3	B	GL	AO 1.5	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed	
2-CHW-14	Chill Water Return Header Cross Tie Control Valve	2/H-5	3	B	GL	AO 1.5	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Fail Test Satisfied by Stroke Time Closed	
2-CHW-31	"B" Chill Water Pump Discharge Check Valve	2/C-5	3	C	CS	FA 2	O	No		FSC FSO	Q Q	-- --	-- --	DIS-CM	CM Group 9	15

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# Millstone Unit 2 Valve Test List

Chilled Water

Drawing No - 25203 - 26027

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-CHW-33	Chilled Water X84B Supply Control Valve	2/F-4	3	B	GL	AO 1.5	O	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Open
										PI	2A	--	--		
										STO	Q	--	--		
2-HV-509	X169A Refrigerant SIAS Control Valve	2/C-8	NA	B	GL	SO 0.75	O	No		VNOR	A/R	--	--		
										MOP					
2-HV-510	X169B Refrigerant SIAS Control Valve	2/C-3	NA	B	GL	SO 0.75	O	No		VNOR	A/R	--	--		
										MOP					

V-Chill Water-2

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# Millstone Unit 2 Valve Test List

Refueling Water Storage Tank

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-CS-13.1A	"A" RWST Outlet Header Isolation Valve	2/B-9	2	B	GT	MO	18	O/C	No		PI STC	2A Q	-- 070	-- --	STCCS	Stroke testing at power requires multiple LCO entries
2-CS-13.1B	"B" RWST Outlet Header Isolation Valve	2/B-9	2	B	GT	MO	18	O/C	No		PI STC	2A Q	-- 070	-- --	STCCS	<u>12</u>
2-CS-14A	"A" RWST Outlet Header Check Valve	2/B-10	2	A	CS	FA	18	O/C	No		FS LT	Q 2A	036 --	-- V-006	DIS LT per V-6	<u>15</u>
2-CS-14B	"B" RWST Outlet Header Check Valve	2/A-9	2	A	CS	FA	18	O/C	No		FS LT	Q 2A	036 --	-- V-006	DIS LT per V-6	<u>15</u>
2-CS-15A	"A" Containment Sump Outlet Header Check Valve	2/B-11	2	C	CS	FA	24	O	No		FS	Q	045	--	DIS	
2-CS-15B	"B" Containment Sump Outlet Header Check Valve	2/A-10	2	C	CS	FA	24	O	No		FS	Q	045	--	DIS	
2-CS-16.1A	"A" Containment Sump Outlet Header Isolation	2/B-11	2	A	GT	MO	24	O/C	No		LT PI STC STO	2A 2A Q Q	-- -- 072 072	-- -- -- --	STCCS STOCS	Opening this valve at power causes entry into PRA Orange condition. Opening this valve at power causes entry into PRA Orange condition.

V-RWST-1

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# Millstone Unit 2 Valve Test List

Refueling Water Storage Tank

Drawing No - 25203 - 26015

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-CS-16.1B	"B" Containment Sump Outlet Header Isolation	2/B-11	2	A	GT	MO	24	O/C	No		LT	2A	--	--		
											PI	2A	--	--		
											STC	Q	072	--	STCCS	Opening this valve at power causes entry into PRA Orange condition.
											STO	Q	072	--	STOCS	Opening this valve at power causes entry into PRA Orange condition.
2-CS-140	2-CS-16.1A Bonnet Expansion Volume Check Valve	2/	2	C	CL	FA	0.75	O/C	No		FSC	Q	062	--	FSCR	
											FSO	Q	062	--	FSOR	
2-CS-141	2-CS-16.1B Bonnet Expansion Volume Check Valve	2/	2	C	CL	FA	0.75	O/C	No		FSC	Q	062	--	FSCR	
											FSO	Q	062	--	FSOR	
PSE-3008	Rupture Disc - 2-CS-16.1A PLTB Protection	2/	2	C	RD	SA	1	O	No		SRV	5A	--	--		
PSE-3009	Rupture Disc - 2-CS-16.1B PLTB Protection	2/	2	C	RD	SA	1	O	No		SRV	5A	--	--		

V-RWST-2

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# Millstone Unit 2 Valve Test List

Containment Isolation Valves (Misc.)

Drawing No - 25203 - 26028

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
2-AC-54	Sample Return From Cabinet "B" Check Valve	2/F-4	2	AC	CL	FA .5	O/C	No		FSC FSO LTJ	Q Q J	003 -- --	-- -- --	FSCJ		<u>1</u>
2-AC-55	Sample Return From Cabinet "A" Check Valve	2/K-4	2	AC	CL	FA .5	O/C	No		FSC FSO LTJ	Q Q J	003 -- --	-- -- --	FSCJ		<u>1</u>
2-EB-86	RCS Vent To EBFS Pen #82	3/E-4	2	A	GT	HA 0.75	C	Yes		LT	J	--	--			
2-EB-88	"B" Containment Air Monitor Isolation Control Valve	2/G-3	2	A	BF	AO 1.5	O/C	No		FT LTJ PI STC STO	Q J 2A Q Q	-- -- -- -- --	-- -- -- -- --		Fail Test Satisfied by Stroke Time Closed	
2-EB-89	"A" Containment Air Monitor Isolation Control Valve	2/J-3	2	A	BF	AO 1.5	O/C	No		FT LTJ PI STC STO	Q J 2A Q Q	-- -- -- -- --	-- -- -- -- --		Fail Test Satisfied by Stroke Time Closed	
2-EB-91	Hydrogen Purge Isolation Control Valve (Inside Containment)	3/F-5	2	A	BF	AO 6	O/C	No		FT LTJ PI STC STO	Q J 2A Q Q	054 -- -- -- --	-- -- -- -- --	FTCS		

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# Millstone Unit 2 Valve Test List

Containment Isolation Valves (Misc.)

Drawing No - 25203 - 26028

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-EB-92	Hydrogen Purge Isolation Control Valve (Outside Containment)	3/F-2	2	A	BF	AO 6	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-EB-99	Hydrogen Purge Isolation Control Valve (Outside Containment)	3/G-2	2	A	BF	AO 6	O/C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-EB-100	Hydrogen Purge Isolation Valve (Inside Containment)	3/G-5	2	A	BF	AO 6	O/C	No		FT	Q	054	--	FTCS	
										LTJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
2-FIRE-108	Fire Protection Containment Supply Isolation Valve	1/G-8	2	A	BF	HA 6	C	Yes		LTJ	J	--	--		
2-FIRE-109	Containment Fire Protection System Water Supply Check Valve	1/G-8	2	A	CH	SA 6	C	Yes		LTJ	J	--	--		

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# Millstone Unit 2 Valve Test List

Containment Isolation Valves (Misc.)

Drawing No - 25203 - 26021

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-GR-11.1	Primary Drain Tank & Quench Tank Vent Header Isolation Valve	2/D-5	2	A	GL	AO	3	C	No		FT LTJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Fail Test Satisfied by Stroke Time Closed
2-GR-11.2	Primary Drain Tank & Quench Tank Vent Header Isolation Valve	2/D-5	2	A	GL	AO	3	C	No		FT LTJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Fail Test Satisfied by Stroke Time Closed
2-IA-27.1	Containment Structure Instrument Air Control Valve	6/G-7	2	A	GL	AO	2	C	No		FT LTJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Fail Test Satisfied by Stroke Time Closed
2-IA-43	Instrument Air Containment Penetration Check Valve	8/F-12	2	AC	CL	FA	2	C	No		FSC LTJ PSO	Q J Q	031 -- 031	-- -- --	FSCJ VNORMOP	CM Program Reference CM evaluation for Group 26.
2-IA-566	Backup Air To Header Isolation For 2-CH-517, 2-CH-518, 2-CH-519	6/F-6	2	A	GL	HA	2	O/C	No		FS LTJ	Q J	-- --	-- --		
2-IA-569	Backup Air Chk Valve To Chg Hdr Out Isolations 2-CH- 517,518,519	6/F-6	2	AC	CH	SA	1	O/C	No		FSC FSO LTJ	Q Q J	058 058 --	-- -- --	FSCJ FSOCS	

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# Millstone Unit 2 Valve Test List

Containment Isolation Valves (Misc.)

Drawing No - 25203 - 26020

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-LRR-43.1	Primary Drain Tank Isolation Valve (Inside Containment)	5/E-3	2	A	GL	AO	3	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
2-LRR-43.2	Primary Drain Tank Isolation Valve (Outside Containment)	5/G-3	2	A	GL	AO	3	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
2-LRR-61.1	Pdt & Quench Tank Cooler Sample Valve	5/E-10	2	A	GL	AO	.5	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
2-PMW-3	Primary Makeup Water To Quench Tank Check Valve	2/D-12	2	AC	CL	SA	1	C	No		FSC	Q	002	--	FSCJ	CM Program
											LTJ	J	--	--	VNORMOP	CM Group 31 Evaluation credits Quench Tank fill for open verification.
											PSO	Q	002	--		
2-PMW-43	PMW Quench Tank Supply Control Valve Assembly	2/D-11	2	A	GL	AO	2	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 2 Valve Test List

Containment Isolation Valves (Misc.)

Drawing No - 25203 - 26009

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
2-SA-19	Station Air Containment Isolation Valve	8/C-12	2	A	GT	HA	2	LC	Yes		LTJ	J	--	--		
2-SA-22	Station Air Containment Penetration Check Valve	10/D-5	2	A	CH	SA	1	C	Yes		LTJ	J	--	--		
2-SI-312	N2 Supply To Ctmt Stop Valve	3/D-2	2	A	GL	AO	.75	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
2-SSP-16.1	Containment Sump Discharge Isolation Valve	1/J-11	2	A	GL	AO	3	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
2-SSP-16.2	Containment Sump Discharge Header Control Valve	2/E-2	2	A	GL	AO	3	C	No		FT	Q	--	--		Fail Test Satisfied by Stroke Time Closed
											LTJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

## **VI: Alternate Test Justifications**

**ATJ Number: 001**

**Valve Id:** 2-CH-429

**Category:** A

**Class:** 2

**Open**  
**Safety Function:** Open to provide borated water to the Reactor Coolant System via the charging pumps and a flowpath for boron precipitation control when the alternate borated water flowpath is chosen through the High Pressure Safety Injection header.

**Close**  
**Safety Function:** Close to provide containment isolation for penetration 3. Close to provide isolation of RCS leakage as this valve is considered a RCS pressure boundary isolation valve per reference 5.

**Basis**  
**For Deferral:** Operation of this valve during plant operation would cause undesirable thermal transients on the Regenerative Heat Exchanger. This component has a limited number of design thermal transients.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor operation is impractical.

**Comments:** Per Reference 1, 3 and 4 no Limiting Stroke Time is specified in the safety analysis. Analysis assumes this normally open valve in the charging pump discharge flowpath remains open and no time need be specified. Although not credited the valve is also required to close to establish an alternate charging flow path via the HPSI header.

**11**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

ATJ Number: 002

Valve Id: 2-PMW-3

Category: AC

Class: 2

Open None  
Safety Function:

Close Close to provide containment isolation.  
Safety Function:

Basis This valve does not have a safety-related requirement to open. Thus no open stroke  
For Deferral: test is required.

8

There is no design provision for system testing of this valve. The only practical method of verifying valve closure is the Appendix J leakage test. Performance of the Appendix J leak test during power operation is not practical since containment access would be required and isolation of instrument air to the containment could cause undesirable system transients as air-operated valves reposition to their fail-safe positions.

Performance of the Appendix J leak test during cold shutdown is not practical since setting up test equipment and performing the test would unduly complicate the conduct of cold shutdown operations. (NUREG 1482, section 4.1.4 recognizes that set up and performance of the Appendix J leak test may be impractical during cold shutdown and power operations)

Part stroke open verification required by the Condition Monitoring Program is justified to the normal operation of filling the quench tank at refueling frequency as described in Condition Monitoring Evaluation for Group 31.

Comments:

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling (App. J Leak Test)	15
Part Stroke Open	Quarterly	Verify Function During Normal Operation	15

**ATJ Number: 003**

**Valve Id:** 2-AC-54 2-AC-55

**Category:** AC

**Class:** 2

**Open** Open to return containment air monitor flow during normal operation and return  
**Safety Function:** hydrogen sample of containment taken following a LOCA to determine need for hydrogen recombiner system to control combustible gas.

**Close** Close to provide containment isolation.  
**Safety Function:**

**Basis** The closure test during normal operation is considered impractical since the valve is  
**For Deferral:** located inside containment and no method to apply reverse flow is readily available. Performing system leakage testing during cold shutdown is not practice since setting up equipment and performing the test would unduly complicate the conduct of the cold shutdown operations.

ISTC permits deferral of testing to refueling if testing during operation or cold shutdown is not practical.

**Comments:** Per reference 5, the credited open function of the valve is to allow hydrogen monitoring POST-LOCA. The maximum flow through the containment hydrogen monitoring pumps is 0.9 scfm for 2 heads in series. The 0.9 scfm flow is the minimum flow through the valve which verifies the valve strokes to the credited open position. Observing the Containment Air Rad Monitor flow (2.25 scfm minimum) verifies adequate valve open stroke.

8

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling (App. J Leak Test)	1



ATJ Number: 004

Valve Id: 2-SI-405 2-SI-414 2-SI-427

8

Category: C

Class: 2

**Open** Open to provide 'A' High Pressure Safety Injection pump flow to the reactor vessel  
**Safety Function:** via the Reactor Coolant System.

**Close** Close to prevent backflow through an idle 'A' High Pressure Safety Injection System  
**Safety Function:** pump when 'B' High Pressure Safety Injection System pump is aligned to Facility-1 Header.

**Basis** Valves cannot be full stroke exercised (open) during reactor operation since the  
**For Deferral:** only flow path is into the Reactor Coolant System. HPSI pumps do not have sufficient discharge pressure to overcome Reactor Coolant System pressure. Valves cannot be full stroke exercised during Cold Shutdown since full HPSI flow into the Reactor Coolant system could result in overpressurization.

8

Memorandum DE2-95-1023 indicates that the system requirements needed to verify that the valve obturator travels to the closed position cannot be met without exceeding the design bases limits for the Emergency Diesel Generator. Thus, for the multi-hour period when this alignment exists in support of testing, should a Loss of Coolant Accident and coincident Loss of Normal Power occur the diesel would be overloaded and generator terminal voltage would drop below design basis levels. While unlikely, this potential loss of one complete facility is an unacceptable risk.

ISTC permits part stroke testing during reactor operation and deferral of full stroke testing to Refueling if full stroke testing during reactor operation or Cold Shutdown is impractical.

Comments:

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling	15
Full Stroke Open	Quarterly	Full Stroke Open - Refueling	15

**ATJ Number: 005**

**Valve Id:** 2-CH-177 2-CH-190

**| 14**

**Category:** C

**Class:** 2

**Open** Open to allow full boric acid flow from the boric acid pumps to the charging pump  
**Safety Function:** suction

**Close** Close to prevent Refueling Water Storage Tank backflow to Boric Acid Storage  
**Safety Function:** Tanks when Boric Acid Storage Tanks are empty and Refueling Water Storage  
Tank aligned to Charging Pump suction or when gravity feed is aligned.

**Basis** Operation of this valve during normal plant operation would allow concentrated  
**For Deferral:** boric acid to flow directly to the Charging Pump suction header resulting in a rapid,  
uncontrolled reduction in reactor power. Valve cannot be full stroke tested during  
cold shutdown because of Low Temperature Overpressure Protection Technical  
Specification restrictions (Technical Specification Amendment 218).

**| 15**

ISTC permits full stroke testing during refueling if full stroke testing during  
operation and cold shutdown is impractical.

**Comments:** Valve close test is based on monitoring pressure buildup upstream of valve with  
Boric Acid system pressure against valve. Test method verifies valve closure. Test  
method does not quantify leakage. Basis for acceptance criteria is: If valve is not  
shut either requirement to bleed off pressure will not be met or pressure will build  
up instantaneously when pressure bleed stops. Listed pressure recovery times  
provide for timing of pressure recovery. Test is qualitative, not quantitative. Test  
method complies with OM-10 requirement to observe obturator movement "... by  
other indicator(s) such as changes in system pressure ..."

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling	<b>  15</b>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling	<b>  15</b>

ATJ Number: 006

Valve Id: 2-MS-64A 2-MS-64B

14

Category: BC

Class: 2

Open None

Safety Function:

**Close** Close on a main steam isolation signal to prevent blowdown of steam during a  
**Safety Function:** Steam Line Break, outside of containment, downstream of the MSIVs. Valve is normally open and will fail safe in the closed direction.

**Basis** These valves can not be full stroked at power. Closure of these valves during unit  
**For Deferral:** operation would result in a reactor trip. Full stroke testing of these valves requires plant shutdown.

14

A part stroke test performed at power is impractical and is no longer required by Tech Specs Amendment 219. As quoted in NUREG 1482, Section 4.2.4: "MSIV's should not be tested at power, since even a part-stroke exercise increases the risk of a valve closure when the unit is generating power."

OM-10 permits deferral of stroke time testing to cold shutdown if testing during operation is impractical. Condition Monitoring Evaluation for Group 30 Check Valves justifies the required open verification at the same frequency.

**Comments:** Valve is listed in FSAR as a containment isolation valve with no Appendix J leak test requirements. Valve must close within 6.0 seconds. Demand signal is received by the MSIV within 0.9 Seconds.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown	11
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown	15
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown	

**ATJ Number: 007**

**Valve Id:** 2-CH-518 2-CH-519

**14**

**Category:** A

**Class:** 1

**Open** Open to supply borated water from the charging pump to Reactor Coolant System  
**Safety Function:** loop 2A. Valve is normally open and will fail safe in the open position.

**Close** Close to isolate containment for penetration 3 and to establish an alternate borated  
**Safety Function:** water flowpath through the pressurizer auxiliary spray line.

**Basis** Closing 2-CH-518 or 2-CH-519 prevents the Chemical and Volume Control System  
**For Deferral:** from being able to fulfill its Small Break Loss of Coolant Accident (SBLOCA) in  
the event of a SBLOCA in the piping not affected by the valve closure. Thus  
closing 2-CH-518 or 2-CH-519 during reactor operation would place the unit in an  
unanalyzed condition, require entry into Technical Specification 3.0.3, and require  
unit shutdown within one hour.

**14**

OM-10 permits deferral of testing to Cold Shutdown when testing during operation  
is impractical

**Comments:** Reference 5 provides basis (i.e. single failure criteria) for including the Aux Spray  
boron precipitation path.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 008**

**Valve Id:** 2-SI-114 2-SI-124 2-SI-134 2-SI-144

**Category:** C

**Class:** 2

**Open** Open to provide an injection path from the Refueling Water Storage Tank to the  
**Safety Function:** reactor vessel.

**Close** Close to prevent overpressurization of Low Pressure Safety Injection System during  
**Safety Function:** normal operation and post-accident High Pressure Safety Injection System  
injection. Close to prevent diversion of High Pressure Safety Injection System  
water away from the reactor vessel after SRAS when the Low Pressure Safety  
Injection System pumps are not operating.

**Basis** Valves cannot be full stroke or part stroke exercised open using normal injection  
**For Deferral:** path during reactor operations since the LPSI pumps cannot overcome Safety  
Injection Tank pressure downstream of the 2-SI-706(series) valves. Verifying  
close function during reactor operation or cold shutdown would expose the LPSI  
system to potential overpressurization.

ISTC permits deferral of testing to Cold Shutdown if it is impractical to conduct  
testing quarterly during operation and to Refueling if it is impractical to conduct  
testing quarterly while in operation or during cold shutdown.

NUREG-1482 section 4.1.2 recognizes non-intrusive testing of check valves in a  
group as a positive means to verify the check valve fully opens and/or closes at a  
refueling outage frequency.

**Comments:** Valve is listed as Containment Isolation valve in FSAR table 5.2-11. Type C leak  
testing is not required since system is required to operate during an event.  
Reference 3 made a commitment to test the valves in the closed direction each  
refueling.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed Refueling - Non Intrusive Test.	3
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown	

**ATJ Number: 009**

**Valve Id:** 2-SI-215 2-SI-225 2-SI-235 2-SI-245

**Category:** C

**Class:** 1

**Open Safety Function:** Open to provide borated water from the Safety Injection Tank to the reactor vessel following Reactor Coolant System depressurization as a result of a LOCA.

11

**Close Safety Function:** Close to provide reactor coolant pressure boundary between the RCS and the Safety Injection Tanks.

**Basis For Deferral:** Valves cannot be full stroke or part stroke exercised during operation or cold shutdown since there is no discharge path capable of accepting the flow. Valves cannot be full stroke exercised during refueling since the tanks cannot be safely discharged with full nitrogen overpressure. At lower nitrogen pressures full design flow may not be achieved. Disassembling all valves in the group each outage would be unduly burdensome, creating unwarranted personnel exposure and impacting outage work completion.

15

NRC Correspondence A15428, dated February 2, 2001 gave approval to implement a check valve condition monitoring program using the guidance of ASME OM Code - 1995 Edition with 1996 addenda. Future disassembly and inspection testing of this group of check valves will be at a frequency developed and justified in the Check Valve Condition Monitoring Program.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke (Open and Closed)	Quarterly	D&I per frequency of Condition Monitoring Program	<u>15</u>

**ATJ Number: 010**

**Valve Id:** 2-SI-652

**Category:** B

**Class:** 1

**Open** Open (manually) to initiate boron precipitation control following a reactor trip.  
**Safety Function:** Open (manually) to initiate shutdown cooling

**Close** Close to isolate the shutdown cooling system from the RCS and provide reactor  
**Safety Function:** coolant pressure boundary.

**Basis** Valve is locked closed when Reactor Coolant system pressure exceeds 300 psig to  
**For Deferral:** protect the low pressure Shutdown Cooling piping. Valve exercise would require violation of plant interlocks.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor operation is impractical.

**Comments:** Per Reference 6 no Limiting Stroke Time is credited in the safety analysis. The LOCA analysis assumes the normally closed valve is manually opened to initiate simultaneous hot and cold leg injection post LOCA and no stroke time is specified.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 011**

**Valve Id:** 2-SI-659 2-SI-660

**Category:** A

**Class:** 2

**Open** Open to provide a minimum flow bypass path to the Refueling Water Storage Tank  
**Safety Function:** from the containment spray, Low Pressure Safety Injection, and High Pressure Safety Injection pumps. Valves are normally open de-energized and will fail safe in the open direction.

**Close** Close on a SRAS to prevent transfer of contaminated containment sump water into  
**Safety Function:** the Refueling Water Storage Tank. Valve power is restored from control room when closure is required

**Basis** Valves are required to be locked open with valve operator power removed to assure  
**For Deferral:** recirculation flow path during reactor operation.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor operation is impractical.

**Comments:** Per Reference 5 the licensing basis (FSAR) scenario results in a minimum 29 minute delay from large break LOCA to SRAS. The "better estimate" scenario shows a minimum 39 minute delay.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown



**ATJ Number: 012**

**Valve Id:** 2-SI-706A 2-SI-706B 2-SI-706C 2-SI-706D

**Category:** C

**Class:** 1

**Open Safety Function:** Open to provide a LPSI and High Pressure Safety Injection flow path to the reactor vessel

**Close Safety Function:** Close to assure Safety Injection Tank inventory is directed to the reactor vessel and provide reactor coolant pressure boundary. Also, close if required to provide containment isolation for containment penetration.

**Basis For Deferral:** Valves cannot be full stroke exercised during reactor operation because the only full flow path is into the Reactor Coolant system. There are no pumps capable of providing design flow into the Reactor Coolant system during reactor operation. Further, injecting cold water directly into the Reactor Coolant System would cause undue thermal stresses.

ISTC permits deferral of testing to Cold Shutdown if testing during reactor operation is impractical. It further permits deferral of testing to Refueling if testing during reactor operation or cold shutdown is impractical.

NUREG-1482 section 4.1.2 recognizes non-intrusive testing of check valves in a group as a positive means to verify the check valve fully opens and/or closes at a refueling outage frequency.

**Comments:** Valve is listed as Containment Isolation valve in FSAR table 5.2-11. Type C leak testing is not required.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed Refueling - Non Intrusive Test.	<u>3</u>
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown	<u>15</u>

15

ATJ Number: 013

Valve Id: 2-FW-5A 2-FW-5B

Category: C

Class: 2

Open None

Safety Function:

Close Close to prevent diversion of auxiliary feedwater back through the feedwater  
Safety Function: system. Valves are normally open.

Basis Valve exercise during reactor operation would require stopping feed flow to the  
For Deferral: steam generators with consequent plant shutdown. Main Feed Pumps are not  
available in cold shutdown or refueling. One valve in the group will be  
disassembled each refueling.

ISTC permits deferral of testing to Refueling if it is impractical to conduct testing  
quarterly while in operation or during cold shutdown.

ISTC permits verification of check valve operability by sample disassembly each  
refueling outage if it is impractical to verify obturator movement during operation,  
cold shutdown or refueling.

Comments: Cold Shutdown full stroke closed test of operator assures obturator will close fully.  
Valve is also listed in the FSAR as a containment isolation valve with no Appendix  
J test requirements. Valve receives an MSI signal but is not credited for Feedwater  
Isolation since valve operator does not have sufficient force to close valve against  
differential pressure. The air assist for the check valve does not provide any  
credited safety function in either direction. The operator is not attached to the  
obturator. Loss of air assist provides small force to close valve.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Disassemble, Inspect, Stroke Test one valve each refueling

**ATJ Number: 014**

**Valve Id:** 2-FW-7 2-FW-8A 2-FW-8B

2

**Category:** C

**Class:** 3

**Open Safety Function:** Open to allow auxiliary feedwater flow to the steam generators from the turbine driven auxiliary feedwater pump

**Close Safety Function:** Close to prevent diversion of pump flow back through the turbine driven pump

**Basis For Deferral:** Valve exercise would require establishing flow through the auxiliary feed piping to the steam generator. Introduction of this cold water during plant operation could result in steam generator level instability and/or undesirable thermal transients to the feed nozzles.

15

ISTC permits deferral of testing to cold shutdown when testing during operation is impractical.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown

**ATJ Number: 015**

**Valve Id:** 2-FW-12A 2-FW-12B

**Category:** C

**1**

**Class:** 2

**Open** Open to allow auxiliary feedwater supply to the steam generators through the main  
**Safety Function:** feedwater supply lines.

**Close** Close/remain closed to provide containment isolation and to isolate Auxiliary  
**Safety Function:** Feedwater in the event of an upstream pipe break

**Basis** Valve operator exercise without auxiliary feedwater flow, will not result in  
**For Deferral:** obturator exercise. Valve actuator is not connected to obturator. Valve has no part  
stroke capability.

**15**

Valve obturator exercise would require establishing flow through the auxiliary feed piping to the steam generator. Introduction of this cold water during plant operation could result in steam generator level instability and/or undesirable thermal transients to the feed nozzles.

ISTC permits deferral of testing to cold shutdown when testing during operation is impractical.

**Comments:** Valve is listed in Technical Requirements Manual as a Containment Isolation Valve with no leakage test requirement. The air assist for the check valve does not provide any credited safety function in either direction. The operator is not attached to the obturator. Loss of air assist provides small force to close valve.

**1**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown
Full Stroke Open	Cold Shutdown	Full Stroke Open - Cold Shutdown

ATJ Number: 016

Valve Id: 2-RB-30.1A 2-RB-30.1B 2-RB-37.2A 2-RB-37.2B

Category: A

Class: 2

Open None

Safety Function:

Close Close (remotely) if necessary to provide containment isolation for containment  
Safety Function: penetration

11

Basis Exercising these valves would result in interrupting cooling water flow to the  
For Deferral: Reactor Coolant Pump thermal barriers and oil coolers as well as other loads  
required during reactor operation. Valve actuator design precludes part stroke  
testing.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor  
operation is impractical.

Comments: Per Reference 5 no Limiting Stroke Time is credited in the safety analysis. The  
valve is closed remotely to isolate the non--essential RBCCW components inside  
containment following SRAS.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

# indicates Augmented Test Requirement

**ATJ Number: 017**

**Valve Id:** 2-CH-198 2-CH-505 2-CH-506

**Category:** A

**Class:** 2

**Open** None

**Safety Function:**

**Close** Automatically close on a Containment Isolation Actuation Signal to isolate containment for penetration 43. Valve will fail safe in the closed direction.  
**Safety Function:**

**Basis** These valves are required to be open any time the Reactor Coolant pumps are operating. Closing these valves could cause seal damage or failure.  
**For Deferral:**

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor operation is impractical.

**Comments:** Valve has a 5 second limiting closure stroke time per Ref 2.

| 11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

# indicates Augmented Test Requirement

**ATJ Number: 018**

**Valve Id:** 2-CH-501

**Category:** B

**Class:** 2

**Open** None: The valve can be opened as part of SIAS recovery per EOP 2532 "Loss of  
**Safety Function:** Primary Coolant"

**Close** Automatically close on initiation of Safety Injection Actuation Signal to isolate the  
**Safety Function:** volume control tank supply to the charging pumps. Valve is normally open.

**Basis** Exercising this valve would require interruption of Charging Pump flow with the  
**For Deferral:** attendant, undesirable thermal transient on the Regenerative Heat Exchanger.  
Alternate Charging Pump suction sources contain concentrated boric acid. Use of  
these sources would cause a rapid, uncontrolled reactor power reduction.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor  
operation is impractical.

**Comments:** Per Reference 4 the Limiting Stroke Time assumed in the Safety Analysis is 19  
Seconds (35 Seconds max alignment time minus 16 second delay for signal  
generation, diesel start, and valve motor energization.  
On an SIAS, 2-CH-501 closes and 2-CH-508, 2-CH-509, and 2-CH-514 open. The  
stroke times of these valves must ensure that the charging pumps will continually  
have a suction path. 2-CH-501 must not close quicker than the time it takes 2-CH-  
508, 2-CH-509, and 2-CH-514 to open.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

# indicates Augmented Test Requirement

**ATJ Number: 019**

**Valve Id:** 2-CH-515

**Category:** A

**Class:** 2

**Open**        None  
**Safety Function:**

**Close**        Automatically close on an Safety Injection Actuation Signal to isolate containment  
**Safety Function:** for penetration 2.

**Basis**        Operation of this valve during plant operation would cause undesirable thermal  
**For Deferral:** transients of approximately 400 degrees on the Regenerative Heat Exchanger. This  
component has a limited number of design thermal transients. Valve actuator  
design precludes part-stroke testing.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor  
operation is impractical.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

# indicates Augmented Test Requirement



**ATJ Number: 020**

**Valve Id:** 2-CH-517

**Category:** A

**Class:** 1

**Open** Open to allow flow from the High Pressure Safety Injection pump(s) into the  
**Safety Function:** Reactor Coolant System (through the pressurizer) for alternate boron precipitation control flowpath.

**Close** Close to isolate containment for penetration. Valve is normally closed and will fail  
**Safety Function:** closed on loss of air or electrical power.

**Basis** Exercising this valve during reactor operation could cause loss of Reactor Coolant  
**For Deferral:** system pressure control with consequent unplanned shutdown and/or excessive thermal transient on the pressurizer spray piping.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor operation is impractical.

**Comments:** Reference 3 provides basis (i.e. single failure criteria) for including the Aux Spray boron precipitation path.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 021**

**Valve Id:** 2-RC-414 2-RC-415 2-RC-416 2-RC-417  
2-RC-422 2-RC-423 2-RC-424 2-RC-425

**Category:** B

**Class:** 1

**Open** Open to provide an emergency vent path for the Reactor Coolant System to limit  
**Safety Function:** hydrogen concentration.

**Close** Close to provide isolation of the reactor vessel head following venting of vessel  
**Safety Function:** under post LOCA conditions. Valves are normally deenergized and closed during operation.

**Basis** These valves are designed for emergency use only. Testing of these valves during  
**For Deferral:** operation could result in a loss-of-coolant accident.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor operation is impractical.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 022**

**Valve Id:** 2-CH-516

**Category:** A

**Class:** 2

**Open** None

**Safety Function:**

**Close** Automatically close on a Containment Isolation Actuation Signal to isolate  
**Safety Function:** containment for penetration 2.

**Basis** Operation of this valve during plant operation would cause undesirable thermal  
**For Deferral:** transients on the Regenerative Heat Exchanger. This component has a limited  
number of design thermal transients.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor  
operation is impractical.

**Comments:** valve has a 5 second limiting closure stroke time per ref 4.

| 11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown
# indicates Augmented Test Requirement		

**ATJ Number: 023**

**Valve Id:** 2-SI-651

**Category:** A

**Class:** 1

**Open** Open to initiate boron precipitation control following a reactor trip.  
**Safety Function:** Open to initiate Shutdown Cooling.

**Close** Close to isolate the shutdown cooling system from the RCS and provide reactor  
**Safety Function:** coolant pressure boundary. Close to provide containment isolation.

**Basis** Valve is locked closed when Reactor Coolant system pressure exceeds 300 psig to  
**For Deferral:** protect the low pressure shutdown cooling system piping. Valve exercise would  
require violation of plant interlocks.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor  
operation is impractical.

**Comments:** Valve is listed as Containment Isolation valve in FSAR table 5.2-11. Per Reference  
6 no Limiting Stroke Time is credited in the safety analysis. The LOCA analysis  
assumes the normally closed valve is manually opened to initiate simultaneous hot  
and cold leg injection post LOCA and no stroke time is specified.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

ATJ Number: 024

Valve Id: 2-MS-1A 2-MS-1B

Category: C

Class: NA

Open None  
Safety Function:

Close Close to prevent blowdown of steam from the intact steam generator following a  
Safety Function: Steam Line Break upstream of the MSIVs.

Basis Closing this valve would require a plant shutdown.  
For Deferral:

ISTC permits deferring exercise testing to refueling if testing during reactor operation or cold shutdown is impractical. Testing of this check valve requires steam flow to the turbine and a controlled reduction in power to verify the external obturator counterweight arms move in the closed direction. Cold shutdowns do not always involve a controlled shutdown allowing verification of motion of the counterweight arms. Testing will be scheduled to occur at each refuel.

Comments: As indicated on the P&ID this valve is actually outside the Code Class Boundary. However, since it has an important function following a main steam line break it will be maintained in the program.  
ACR M2-96-0542 determined the non-safety-related classification was appropriate. Per reference 1 the check valves are considered seismic class II. The insight used to justify non-safety-related status is NUREG-0138, issue #1. The NRC notes that for accidents involving spontaneous failures of the secondary side system piping that are not part of the primary boundary can have less stringent requirements on quality and design of systems needed to cope with the secondary side ruptures. Additional reference to the issue is documented in Significant items list # 45 and URI 50-336/97-202-02.

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2

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
# Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling	6
# Full Stroke Open	Quarterly	Full Stroke Open - Refueling	6

# indicates Augmented Test Requirement

ATJ Number: 025

Valve Id: 2-SI-618 2-SI-628 2-SI-638 2-SI-648

Category: B

Class: 2

<b>Open</b>	None: Augmented to open to drain Reactor Coolant System boundary leakage from SI Piping. Drainage capability credited in determination that HPSI valves have acceptable alternative measures which assure their integrity as Reactor Coolant Pressure Boundary valves. (Response to Generic Letter 87-06)	3
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<b>Close</b>	Automatically close on initiation of Safety Injection Actuation Signal to prevent diversion of Safety Injection Tank, Low Pressure Safety Injection System, or High Pressure Safety Injection System flow away from the reactor vessel. Valves are normally closed.	
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<b>Basis</b>	Valves are inaccessible for observation during reactor operation.	6
<b>For Deferral:</b>	OM-10 permits deferral of testing to Cold Shutdown if testing during operation is impractical.	

Comments:

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown

**ATJ Number: 026**

**Valve Id:** 2-MS-4A 2-MS-4B

**Category:** C

**Class:** 3

**Open Safety Function:** Open to provide steam to the turbine-driven feed pump.

**Close Safety Function:** Close to prevent reverse flow of steam from an intact steam generator.

**Basis For Deferral:** There is no flow path available during reactor operation which will assure the valve passes full design flow. Operation of the turbine driven auxiliary feedwater pump at design flow conditions would cause thermal shock to the feed water piping, result in steam generator level control instability, and possible reactor trip.

ISTC permits deferral of stroke testing to Cold Shutdown if testing during reactor operation is impractical

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**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown	<u>15</u>
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown	<u>15</u>

**ATJ Number: 027**

**Valve Id:** 2-DG-91A 2-DG-91B 2-DG-92A 2-DG-92B  
2-DG-95A 2-DG-95B 2-DG-96A 2-DG-96B

**Category:** C

**Class:** NA

**Open Safety Function:** Open to admit starting air to the engine

**Close Safety Function:** None

**Basis For Deferral:** These valves have no visible operating parts. There are no system instruments which monitor their operation. Thus there is no way to directly measure the stroke time of the valves.

OM-10 permits "observing other evidence, such as changes in system pressure, flow rate, level, or temperature which reflect change in obturator position."

Observation of diesel engine start performance provides assurance of proper valve operation.

**Comments:** Valve verified to function properly during functional test of diesel. "Stroke Time" based on Diesel Engine performance. Emergency Diesel Engine systems are all non-ASME Code systems. Valve testing is performed as augmented testing.

	<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
#	Stroke Time Open	Quarterly	Full Stroke Open

# indicates Augmented Test Requirement



ATJ Number: 028

Valve Id: 2-CH-431

Category: C

Class: 1

Open Safety Function: Open to provide alternative boron precipitation flow path to the reactor vessel.

Close Safety Function: None

Basis For Deferral: Exercising this valve during reactor operation could cause loss of Reactor Coolant system pressure control with consequent unplanned shutdown and/or excessive thermal transients on the pressurizer spray piping. Low Temperature Overpressure Protection Requirements (Technical Specification Amendment 218) restrict the pumping capacity available in cold shutdown and prevent achieving full stroke open flow in cold shutdown.

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ISTC permits full stroke testing during refueling if full stroke testing is not practicable during operation or cold shutdown.

Comments: The minimum boron precipitation flow requirements are established at 180 gpm per reference 2.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling	15
Full Stroke Open	Quarterly	Full Stroke Open - Refueling	15

**ATJ Number: 029**

**Valve Id:** 2-CH-432 2-CH-433

**Category:** C

**Class:** 1

**Open Safety Function:** Open to allow full charging pump discharge flow into the Reactor Coolant System.

**Close Safety Function:** Provide Reactor Coolant Pressure Boundary Isolation in the event of a CVCS piping failure.

**Basis For Deferral:** Alternate Test Justification (ATJ-007) identifies that 2-CH-518 and 2-CH-519 cannot be stroked closed during reactor operation. Since 2-CH-518 and 2-CH-519 cannot be closed during reactor operation, Charging Header Check Valves 2-CH-432 and 2-CH-433 cannot be verified open. The valves are in parallel flow paths. Without closure of 2-CH-518 and 2-CH-519 there is no method to verify that Chemical and Volume Control System flow, at design flowrates, is passing through the check valves.

ISTC permits deferral of testing to Cold Shutdown when testing during power operation is impractical.

Closure verification requires radiography, which justifies refueling frequency.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling	15
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown	

15

**ATJ Number: 030**

**Valve Id:** 2-CH-118

**Category:** C

**Class:** 2

**Open** None - valve opens to allow normal flow from Volume Control Tank to Charging  
**Safety Function:** Pumps

**Close** Close to establish boric acid flow path in the event of active failure of 2-CH-501 or  
**Safety Function:** upon Facility 2 Safety Injection Actuation Signal wherein 2-CH-501 does not receive electrical power.

**Basis** Introduction of highly borated water could result in reactor transient. No other  
**For Deferral:** pressure source of sufficient pressure is available during operation.

ISTC permits deferral of testing to Cold Shutdown if testing during reactor operation is impractical.

Updating to the OM-1995 Code for check valves to implement a Condition Monitoring program requires bi-directional testing. Part stroke open is demonstrated continuously during charging pump operation while aligned to the VCT. Reference CM Group 3 Evaluation.

**Comments:** The failure of 2-CH-501 to close has been evaluated in the above reference. Implies that it does not affect the transfer of charging suction in the case of SIAS when boric acid transfer pumps operate. The developed head will exceed the VCT pressure as the pumps spin-up and flow through the still opening 2-CH-514. This will close the suction check valve and isolate the VCT.

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<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown	<u>15</u>
Part Stroke Open	Quarterly	Verify Function During Normal Operation	<u>15</u>

**ATJ Number: 031**

**Valve Id:** 2-1A-43

**Category:** AC

**Class:** 2

**Open Safety Function:** None

**Close Safety Function:** Close to provide containment isolation.

**Basis For Deferral:** Testing of this valve during power operation or cold shutdown, would require isolation of instrument air to containment for the duration of the test. While the containment instrument air piping contains a small (22 cubic feet) receiver, this does not provide adequate air storage to preclude loss of instrument air to containment components during the test. This could cause undesirable system transients as air-operated valves reposition to their fail-safe positions. ISTC permits deferral of testing to Refueling when testing during operation or cold shutdown is impractical.

There is no design provision for system testing of this valve. Open function is continually verified by the ability to maintain instrument air pressure in the Cont. Instr. Air Receiver Tank, T-89. The only practical method of verifying valve closure is the Appendix J leakage test. Performance of the Appendix J leak test during power operation is not practical since containment access would be required and isolation of instrument air to the containment could cause undesirable system transients as air-operated valves reposition to their fail-safe positions.

Performance of the Appendix J leak test during cold shutdown is not practical since setting up test equipment and performing the test would unduly complicate the conduct of cold shutdown operations. (NUREG 1482, section 4.1.4 recognizes that set up and performance of the Appendix J leak test may be impractical during cold shutdown and power operations)

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling (App. J Leak Test)	15
Part Stroke Open	Quarterly	Verify Function During Normal Operation	15

15

ATJ Number: 032

Valve Id: 2-CH-191

Category: C

Class: 2

**Open**            Open to provide Refueling Water Storage Tank water to the charging pumps to  
**Safety Function:** support Reactor Coolant System depressurization after the Boric Acid Storage  
Tanks are emptied following a Small Break Loss of Coolant Accident.

**Close**            Close to prevent backflow from charging header to Refueling Water Storage Tank.  
**Safety Function:** Backflow could occur if suction was aligned to Refueling Water Storage Tank when  
Boric Acid Pumps pressurized charging pump suction header. (e.g. on Safety  
Injection Actuation Signal)

**Basis**            Full stroke testing is impractical during reactor operation. Full stroke operation of  
**For Deferral:** this valve during plant operation could allow high concentration boric acid from the  
Refueling Water Storage Tank to flow directly to the Charging Pump suction  
resulting in a rapid reduction of reactor power or, if blended makeup were used,  
cause significant instabilities in reactor power. Valve can be part-stroke exercised  
during scheduled downpower operations and cold shutdowns. Valve cannot be full  
stroke exercised during cold shutdown because of Technical Specification Low  
Temperature Overpressure protection limits on charging pump operation (Technical  
Specification Amendment 218).

The part stroke closed test is not performed during operation or at cold shutdown  
because verification of closure is done by pressurizing the Charging Pump suction  
header using the Boric Acid pump. Doing this at operation would shutdown the  
reactor and doing this at cold shutdown could over-borate the Reactor Coolant  
System.

ISTC permits full stroke testing during refueling if full stroke testing during reactor  
operation and cold shutdown is impractical.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

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**ATJ Number: 034**

**Valve Id:** 2-CH-089

**Category:** A

**Class:** 2

**Open** None

**Safety Function:**

**Close** Automatically close on a Containment Isolation Actuation Signal to isolate  
**Safety Function:** containment for Penetration 2

**Basis** Operation of this valve during plant operation would cause undesirable thermal  
**For Deferral:** transients on the regenerative heat exchanger. This component has a limited number  
of design thermal transients.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor  
operation is impractical.

**Comments:** valve has a 5 second limiting closure time per ref 3.

| 11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown
# indicates Augmented Test Requirement		

**ATJ Number: 035**

**Valve Id:** 2-CS-5A 2-CS-5B

**Category:** AC

**Class:** 2

**Open** Open to provide Refueling Water Storage Tank or containment sump water to the  
**Safety Function:** containment spray header.

**Close** Close to provide containment isolation for penetration 4.  
**Safety Function:**

**Basis** Valves cannot be full stroke or part stroke exercised during reactor operation, cold  
**For Deferral:** shutdown or refueling since flowing water through the valve would cause wetting of  
containment.

ISTC permits sample disassembly of one valve per group each refueling if it is  
impractical to conduct testing during plant operation or cold shutdown.

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**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Disassemble, Inspect, Stroke Test one valve each refueling

ATJ Number: 036

Valve Id: 2-CS-14A 2-CS-14B

Category: A

Class: 2

**Open** Open to provide borated water from the Refueling Water Storage Tank to the High  
**Safety Function:** Pressure Safety Injection, Low Pressure Safety Injection, and Containment Spray pumps.

**Close** Close to prevent diversion of containment sump water to the Refueling Water  
**Safety Function:** Storage Tank during containment recirculation.

**Basis** Valves cannot be full stroke exercised during reactor operation because the only full  
**For Deferral:** flow path is into the Reactor Coolant System. There are no pumps capable of providing design flow during reactor operation. Valve cannot be full stroke exercised during cold shutdown since Reactor Coolant System overpressurization could result.

ISTC permits verification of check valve operability by sample disassembly each refueling outage if the obturator movement cannot be verified during operation, cold shtudown or refueling.

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Comments:

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Disassemble, Inspect, Stroke Test one valve each refueling

15



**ATJ Number: 038**

**Valve Id:** 2-SI-009 2-SI-010 2-SI-011 2-SI-012  
2-SI-113 2-SI-123 2-SI-133 2-SI-143

**Category:** C

**Class:** 2

**Open** Open to provide Refueling Water Storage Tank or containment sump water path to  
**Safety Function:** the reactor vessel.

**Close** Close to prevent diversion of flow to an out-of-service High Pressure Safety  
**Safety Function:** Injection System injection line.

**Basis** Valve cannot be full stroke exercised during reactor operation since the only full  
**For Deferral:** flow path is into the Reactor Coolant System. HPSI pumps do not have sufficient  
discharge pressure (1200 PSIG) to overcome Reactor Coolant System pressure  
(2250 PSIA). Valves cannot be full stroke exercised during cold shutdown since  
full HPSI flow into the Reactor Coolant System could result in overpressurization.

ISTC permits deferral of testing to Cold Shutdown if it is impractical to conduct  
testing quarterly during operation and to Refueling if it is impractical to conduct  
testing quarterly while in operation or during cold shutdown.

NUREG-1482 section 4.1.2 recognizes sample non-intrusive testing of check valves  
in a group as a positive means to verify the check valve fully opens and/or closes at  
a refueling outage frequency.

**Comments:** Valve is listed as Containment Isolation valve in FSAR table 5.2-11. Type C leak  
testing is not required.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed Refueling - Non Intrusive Test.	<u>3</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling	<u>15</u>

15

**ATJ Number: 039**

**Valve Id:** 2-SI-008

**Category:** C

**Class:** 2

**Open Safety Function:** Open to provide Refueling Water Storage Tank or containment sump water from the High Pressure Safety Injection pumps to the reactor vessel.

**Close Safety Function:** None

**Basis For Deferral:** Valve cannot be full stroke exercised during reactor operation since the only full flow path is into the Reactor Coolant System. HPSI pumps do not have sufficient discharge pressure to overcome Reactor Coolant System pressure. Valve cannot be full stroke exercised during cold shutdown since full HPSI flow into the Reactor Coolant System could result in overpressurization. There is no installed instrumentation that would allow close stroke testing during reactor operation, cold shutdown or refueling.

ISTC permits part stroke testing during reactor operation and deferral of full stroke testing to Cold Shutdown if it is impractical during reactor operation and to Refueling if it is impractical to conduct testing during reactor operation or cold shutdown. The Check Valve Condition Monitoring Program requirement for closure verification is satisfied by disassembly & inspection at the frequency justified in CM Evaluation for Group 39.

15

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	D&I per frequency of Condition Monitoring Program	<u>15</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling	<u>15</u>

**ATJ Number: 040**

**Valve Id:** 2-SI-217 2-SI-227 2-SI-237 2-SI-247

**Category:** C

**Class:** 1

**Open Safety Function:** Open to provide Safety Injection Tank, High Pressure Safety Injection, and Low Pressure Safety Injection flow paths to the reactor vessel.

**Close Safety Function:** Close to provide reactor coolant pressure boundary.

**Basis For Deferral:** Valve cannot be full stroke or part stroke exercised during reactor operation since the large temperature difference between the Safety Injection system and the Reactor Coolant system (approximately 400 degrees) would cause undue thermal stress of the safety injection nozzles.  
During a unit shutdown, it is not practicable to establish adequate flow to exercise these valves to the full open position, thus requiring disassembly and inspection. Due to the scope of performing disassembly and inspection, the personnel hazards involved and the system operating restrictions, (mid-loop operation) it is not practicable to perform this testing on a cold shutdown frequency.

NRC Correspondence A15428, dated February 2, 2001 gave approval to implement a check valve condition monitoring program using the guidance of ASME OM Code - 1995 Edition with 1996 addenda. Future disassembly and inspection testing of this group of check valves will be at a frequency developed and justified in the Check Valve Condition Monitoring Program.

Augmented part stroke testing will be continued as added justification for deferment of disassembly.

**Comments:** Valve is listed as Containment Isolation valve in FSAR table 5.2-11. Type C leak testing is not required.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Part Stroke Test (Open) Cold Shutdown - Closure   15 stroke test each Cold Shutdown- Full Stroke Test by disassembly and inspection per CM Program

**ATJ Number: 041**

**Valve Id:** 2-AC-4 2-AC-5 2-AC-6 2-AC-7

**Category:** A

**Class:** 2

**Open** None  
**Safety Function:**

**Close** Remain closed to provide containment isolation. This valve is locked closed and de-energized during normal operation (Modes 1-4) and will fail closed on a loss of air pressure. Additionally, these valves will close on a high radiation signal. The valve is passive during MODE 1-4 and is considered active only during Outages.

2

**Basis** These valves are locked closed during Modes 1 through 4. They cannot be operated  
**For Deferral:** except in Modes 5 and 6. The credited valve function is to close on high radiation signal during refueling operations.

OM-10 permits deferral of testing to Cold Shutdown or Refueling if testing cannot be performed during operation. Valve has no safety function during Cold Shutdown. Valve safety function is tested prior to starting refueling operations.

**Comments:** The four containment air purge supply and exhaust valves (2-AC-4,5,6 & 7), which are shut, deenergized, and locked closed in modes 1, 2, 3, & 4, do not receive a CIAS to close in 5 seconds however, they must meet a 7.5 second closure time in modes 5 and 6. The containment purge supply and exhaust isolation valves are required to be closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. The containment purge supply and exhaust isolation valves are closed then locked closed by removing power from the valves. This is accomplished by pulling the control power fuses for each of the valves. The associated fuse blocks are then locked. This is consistent with the guidance contained in NUREG-0737 Item II.E.4.2 and Standard Review Plan 6.2.4, "Containment Isolation System," Item II.f.

2

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Fail Test - Refueling
Stroke Time Closed	Quarterly	Stroke Time Closed - Refueling
# Stroke Time Open	Quarterly	Stroke Time Open - Refueling

# indicates Augmented Test Requirement

**ATJ Number: 042**

**Valve Id:** 2-SI-452 2-SI-453

**Category:** B

**Class:** 2

**Open** Open (manually) to initiate Shutdown Cooling  
**Safety Function:**

**Close** Locked closed to isolate Shutdown Cooling discharge piping from Containment  
**Safety Function:** Spray System during plant operation

**Basis** Valve is locked closed during operation. This valve is on the common LPSI pump  
**For Deferral:** discharge line. Opening valve would align both LPSI pumps to the Containment  
Spray Header. This would effectively disable both Facility 1 and Facility 2 LPSI  
Injection Headers and the affected Containment Spray Header. This would place  
the unit in an unanalyzed condition and require a unit shutdown within one hour.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor  
operation is impractical.

**Comments:** Inclusion of this valve in IST Program is based on conservative assumption that  
Cold Shutdown is desired if not specifically required Safe Shutdown. Testing is  
considered Augmented Testing

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
# Full Stroke (Open and Closed)	Quarterly	Full Stroke (Open and Closed) - Cold Shutdown

# indicates Augmented Test Requirement

**ATJ Number: 043**

**Valve Id:** 2-SI-434 2-SI-446

**Category:** C

**Class:** 2

**Open Safety Function:** Open to provide Low Pressure Safety Injection pump flow to the reactor vessel.

**Close Safety Function:** Close to prevent diversion of Low Pressure Safety Injection System flow away from the reactor vessel through an out-of-service pump

**Basis For Deferral:** Valves cannot be tested during reactor operation since there is no practical method for establishing significant flow rates. Use of the 6" Containment Spray and Safety Injection test line would require declaring both Low Pressure Safety Injection Pumps and one train of Containment Spray inoperable during the testing. Declaring two Low Pressure Safety Injection Pumps inoperable places the unit in an unanalyzed condition requiring shutdown within one hour.

ISTC permits deferral of testing to Cold Shutdown if it is impractical to conduct testing quarterly during operation.

15

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Full Stroke (Open and Closed) - Cold Shutdown

**ATJ Number: 044**

**Valve Id:** 2-SI-614 2-SI-624 2-SI-634 2-SI-644

**Category:** B

**Class:** 1

**Open**            Remain open to provide a flowpath from the Safety Injection Tank to the Reactor  
**Safety Function:** Coolant System

**Close**            Close to prevent the discharge of non-condensable gases to the RCS  
**Safety Function:**

**Basis**            This valve is locked open during reactor operation. Valve is required to be closed  
**For Deferral:** when reducing reactor pressure below Safety Injection Tank pressure to prevent uncontrolled discharge of tank contents to the Reactor Coolant System. Valve opens automatically when Pressurizer Pressure is greater than 300 psig. Valve can only be stroke tested in mode 4 with reactor pressure greater than 300 and less than 1750 psia.

OM-10 allows deferral of testing to Cold Shutdown when testing during reactor operation is impractical.

**Comments:** Valve is listed as a CIV in FSAR table 5.2-11 and type C leak testing is not required. Per Reference 3 no Limiting Stroke Time is credited in the safety analysis. The valve is normally open and receives a confirmatory open signal following a SIAS. When the SITs are empty following a large break LOCA, the valve is manually closed to prevent non condensable gases from entering the RCS. This is not explicitly modeled in the safety analysis.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 045**

**Valve Id:** 2-CS-15A 2-CS-15B

**Category:** C

**Class:** 2

**Open** Open to provide cooling water from the containment sump to the High Pressure  
**Safety Function:** Safety Injection and Containment Spray pumps.

**Close** None  
**Safety Function:**

12

**Basis** Valve cannot be full stroke or part stroke during reactor operation, cold shutdown,  
**For Deferral:** or refueling since system is not configured to allow full or partial flow through the  
valves.

15

ISTC permits a sample disassembly testing program to verify obturator movement if  
it is impractical to verify during operation, cold shutdown or refueling.

One valve in the group will be disassembled each refueling.

**Comments:**

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Disassemble, Inspect, Stroke Test one valve each refueling



**ATJ Number: 046**

**Valve Id:** 2-SI-456 2-SI-457

**Category:** B

**Class:** 2

**Open** Open (manually) to initiate Shutdown Cooling  
**Safety Function:** Open (manually) to initiate supplemental cooling to the Spent Fuel Pool

**Close** Locked closed to isolate Shutdown Cooling discharge piping from Containment  
**Safety Function:** Spray System during plant operation

**Basis** Valve is maintained closed during operation. This valve connects to the common  
**For Deferral:** LPSI pump discharge line through flow control valve 2-SI-657 to the Containment Spray system. By design valve 2-SI-657 permits some flow while in the closed position. Opening valve would align both LPSI pumps to the Containment Spray Header. This would effectively disable both Facility 1 and Facility 2 LPSI Injection Headers and the affected Containment Spray Header. This would place the unit in an unanalyzed condition and require a unit shutdown within one hour.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor operation is impractical.

**Comments:** Inclusion of this valve in IST Program is based on conservative assumption that Cold Shutdown is desired if not specifically required Safe Shutdown. Testing is considered Augmented Testing

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
# Full Stroke (Open and Closed)	Quarterly	Full Stroke (Open and Closed) - Cold Shutdown

# indicates Augmented Test Requirement

ATJ Number: 048

Valve Id: 2-SI-401 2-SI-410

Category: C

Class: 2

**Open** Open to provide Refueling Water Storage Tank or containment sump water flow  
**Safety Function:** path to the High Pressure Safety Injection pumps.

**Close** None  
**Safety Function:**

**Basis** Valves cannot be full stroke exercised during reactor operation since the only full  
**For Deferral:** flow path is into the Reactor Coolant System. HPSI pumps do not have sufficient  
discharge pressure to overcome Reactor Coolant System pressure. Valves cannot be  
full stroke exercised during cold shutdown since full HPSI flow into the Reactor  
Coolant System could result in overpressurization.

ISTC permits deferral of testing to Refueling when testing is impractical during  
reactor operation or cold shutdown. It also permits alternative testing via a  
condition monitoring program. Closure function will be verified by disassembly  
and inspection at the frequency determined in CM evaluation for group 45.

**Comments:** Aligning Shutdown Cooling Heat Exchangers to the HPSI suction is outside design  
basis. Thus valve has no closed safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	D&I per frequency of Condition Monitoring Program	15
Full Stroke Open	Quarterly	Full Stroke Open - Refueling	15

15

**ATJ Number: 049**

**Valve Id:** 2-CH-769

**Category:** C

**Class:** 2

**Open** None  
**Safety Function:**

**Close** Close during boric acid injection to the charging pump suction to prevent diversion  
**Safety Function:** of boric acid.

**Basis** Hydrazine additions are the only times this valve is opened, and closure function is  
**For Deferral:** verified by non-intrusive test methods following cessation of flow. Hydrazine additions are sporadic, depending on RCS chemistry requirements, and do not occur at a regular frequency other than at refueling. This valve was previously disassembled each refueling to verify obturator movement.

ISTC permits deferral of testing to Refueling frequency if it is impractical to conduct testing quarterly during operation or at cold shutdown.

ISTC section 4.5.4(a)(3) recognizes nonintrusive testing as a positive means to verify obturator movement. Based on the history of satisfactory results from previous disassemblies and the limited use of the check valve, a refuel frequency for testing is adequate.

15

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed Refueling - Non Intrusive Test.	2
Full Stroke Open	Quarterly	Full Stroke Open - Refueling	<u>15</u>

ATJ Number: 051

Valve Id: 2-RB-402

Category: B

Class: 3

Open None  
Safety Function:

Close Close to limit non-essential Reactor Building Closed Cooling Water flow. Valve  
Safety Function: closes on CIAS. Valve actuation is tied to actuation of 2-CH-089

Basis Testing of this valve during plant operation would cause undersirable thermal  
For Deferral: transients on the Regenerative Heat Exchanger since charging flow would have to  
be stopped during the test. The regenerative heat exchanger has a limited number  
of design thermal transients. Further, reactivity control would be jeopardized by the  
loss of charging flow and the valve realignment required to perform the test.

OM-10 permits deferral of testing to Cold Shutdown if testing during reactor  
operation is impractical.

Comments: This valve is slaved to 2-CH-089. ERC 25203-ER-97-0381 specifies max allowable  
stroke time of 15 Seconds ERC 25203-ER-98-0030 indicates maximum instrument  
response time of 1 second. As stated in the IST Basis Document Section II  
"Technical Positions", only the remote position indicator at the location utilized in  
exercising the valve and/or stroke timing the valve is verified to indicate accurate  
valve position. The 2-RB-402 valve is locally stroked timed, therefore a PI test is  
not required.

15

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

# indicates Augmented Test Requirement

**ATJ Number: 053**

**Valve Id:** 2-RC-402 2-RC-404

**Category:** B

6

**Class:** 1

**Open Safety Function:** Open to provide overpressure protection to the Reactor Coolant System. Power-operated valves are automatically opened on a high Reactor Coolant System pressure signal at 2,385 psig. Valves will fail safe in the closed direction on a loss of actuation power. Also provides overpressure protection for LTOP

**Close Safety Function:** None

**Basis For Deferral:** Valve cannot be actuated during operation. Valve cannot be tested during cold shutdown unless the pressurizer is cooled down.

8

OM-10 permits deferral of testing to cold shutdown if testing during operation is impractical. OM-10 permits deferral of testing to Refueling if testing during cold shutdown is impractical.

These valves have a stroke time requirement of less than 1 second. Control room indication and standard time test methodology are not sufficient to obtain accurate times for these valves. Accurate times testing is obtained by installing acoustic monitors on the solenoid valve to monitor actuation signals. These valves are located inside containment within a pressurizer block house. It is not practical to install test equipment during each cold shutdown to obtain stroke time data.

Valves are removed and bench tested at conditions that represent mode 3 or 4 per Tech Spec. 4.4.3.1. Acoustic monitors are installed at this time and the stroke time measured during the LTOP pressure actuation. The valves are also actuated at conditions that represent normal operating pressures. Upon reinstallation, the pilot valves will be exercised during the fill and vent procedure OP2201 which verifies proper operation.

Operating experience has shown that opening the main disk with water at low pressures may cause premature failure of the bellows assembly. Testing the valves at low steam pressure may induce steam cutting of the seats since reduced backpressure does not assure full closure. Calvert Cliffs, which has a similar designed valve has experienced this phenomenon. Measuring the valve stroke during the lift test offsite each refuel outage, provides consistent, accurate, reliable data without increasing the potential for valve damage.

**Comments:** Actual valve stroke time is verified during off-site actuation tests. Technical Specification requires valve be bench tested every 18 months.

8

Third Ten Year Interval  
Revision 7 Change 16  
15 October 2004

Millstone Unit 2 Alternate Test Justifications

<u>Required Tests</u>		<u>Frequency</u>	<u>Alternate Test</u>	
#	Full Stroke Open	Quarterly	Full Stroke Open - Refueling	<u>8</u>
	Stroke Time Open	Quarterly	Stroke Time Open - Refueling	<u>6</u>

# indicates Augmented Test Requirement

**ATJ Number: 054**

**Valve Id:** 2-EB-100 2-EB-91

**Category:** A

**Class:** 2

**Open** Open to allow hydrogen purge of containment following a LOCA if both the  
**Safety Function:** hydrogen recombiners are inoperable and hydrogen concentration exceeds 3 percent.

**Close** Automatically close on a Containment Isolation Actuation Signal and High  
**Safety Function:** Radiation signal to provide containment isolation for penetration 83. Valves are normally closed and will fail As-Is.

**Basis** Valves are not accessible during reactor operation. Failure Mode test requires  
**For Deferral:** access to the valves to remove instrument air pressure.

OM-10 permits deferral of testing during to Cold Shutdown if testing is not practicable during reactor operation.

**Comments:** Valve has a 5 second limiting closure stroke time per the TRM.

| 11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown

**ATJ Number: 056**

**Valve Id:** 2-SI-440 2-SI-441

**Category:** B

**Class:** 2

**Open** Open (manually) to initiate Shutdown Cooling  
**Safety Function:**

**Close** Locked closed to isolate Shutdown Cooling Suction piping from Low Pressure  
**Safety Function:** Safety Injection System Suction during plant operation

**Basis** Valve is locked closed during operation. Cycling valve would violate LPSI system  
**For Deferral:** integrity. Test is augmented. Violation of LPSI system integrity is not warranted.

OM-10 allows deferral of testing to cold shutdown if testing during operation is impractical.

**Comments:** Valve is equipped with remote position indication.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
# Full Stroke (Open and Closed)	Quarterly	Full Stroke (Open and Closed) - Cold Shutdown

# indicates Augmented Test Requirement



ATJ Number: 058

Valve Id: 2-IA-569

Category: AC

Class: 2

**Open** Open to allow backup air flow to 2-CH-517, 2-CH-518, and 2-CH-519, 2-EB-88  
**Safety Function:** and 2-EB-89

**Close** Remain closed to provide containment isolation. Valve is normally closed. Valve  
**Safety Function:** is isolated by 2-IA-566.

**Basis** The only practical method of verifying valve closure is the Appendix J leakage test.  
**For Deferral:** Performance of the Appendix J leak test during power operation is not practical since containment access would be required and isolation of instrument air to the containment could cause undesirable system transients as air-operated valves reposition to their fail-safe positions. Valve cannot be verified to open without applying backup air to valves within containment. Access to valves in containment is required to isolate normal air supply to enable verification of valve opening. Containment access is limited during power operation.

ISTC permits deferral of testing to cold shutdown if testing during operation is impractical.

Performance of the Appendix J leak test during cold shutdown is not practical since setting up test equipment and performing the test would unduly complicate the conduct of cold shutdown operations, as recognized in NUREG 1482, section 4.1.4.

**Comments:** The backup air supply for inboard CIV's 2-EB-88/89 to support Post LOCA Hydrogen Monitoring requires opening 2-IA-569. The hydrogen system is manually actuated within 1 hour and 10 minutes following the LOCA. The CIV is required to be open in 40 minutes to allow 30 minutes for hydrogen monitor start-up.  
Backup air supply to 2-CH-517, 518, 519 may be required for boron precipitation control. Per Reference 4, required testing for the credited open function is accomplished by stroking any one of 3 valves, 2-CH-517, 518, or 519 using the backup air cylinder.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling (App. J Leak Test)
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown

**ATJ Number: 060**

**Valve Id:** 2-AC-525 2-AC-526

**Category:** C

**Class:** 2

**Open** None  
**Safety Function:**

**Close** Remain closed to provide isolation boundary between Containment Air Sampling  
**Safety Function:** (Hydrogen Monitoring) system and attached air system. Air system may not be  
pressurized post-accident.

**Basis** This passive valve does not function during normal operation. It has no credited  
**For Deferral:** safety function to open. Thus there is no activity which would cause the valve  
obturator to leave the closed position. There is no design provision for testing these  
valves. The only practical method of verifying valve closure is with a system  
leakage test. Performance of a system leakage test during power operation is not  
practical since containment access would be required.

Performance of a system leakage test during cold shutdown is not practical since  
setting up test equipment and performing the test would unduly complicate the  
conduct of cold shutdown operations. (NUREG 1482, section 4.1.4 recognizes that  
set up and performance of leakage testing may be impractical during cold shutdown  
and power operations.) Leakage testing at refueling frequency is required by TS  
6.13. A PSO verification is performed following this leak test, satisfying the bi-  
directional testing requirement of the Condition Monitoring Program for check  
valves.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
# Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling (System Leak Test)	
# Part Stroke Open	Quarterly	Part Stroke Open - Refueling	15
# indicates Augmented Test Requirement			

**ATJ Number: 061**

**Valve Id:** 2-SI-709

**Category:** A

**Class:** 2

**Open** Open to provide Boron Precipitation Control using the Low Pressure Safety  
**Safety Function:** Injection pumps.

**Close** Remain closed to provide containment isolation for penetration 10. Valve is  
**Safety Function:** normally locked closed during operation.

**Basis** As identified in Engineering Record Correspondence 25203-ER-99-0041 this valve  
**For Deferral:** must remain closed during reactor operation to assure a negative pressure is maintained between 2-SI-651 and 2-SI-709. This prevents stroking the valve during operation.

OM-10 permits deferral of testing to cold shutdown if testing during reactor operation is impractical.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Full Stroke (Open and Closed) - Cold Shutdown

**ATJ Number: 062**

**Valve Id:** 2-CS-140 2-CS-141

**Category:** C

**Class:** 2

**Open** Open to allow flow from bonnet of the containment sump outlet header isolation  
**Safety Function:** valve to PLTB Expansion Volume

**Close** Close to prevent gas leakage from PLTB Expansion Volume to ECCS suction  
**Safety Function:** piping after rupture disc break caused by bonnet pressure buildup followed by depressurization after the containment sump outlet header isolation valve opens.

**Basis** The only practical method of verifying valve full stroke is a system leakage test.  
**For Deferral:** Performance of the system leakage test during operation or during cold shutdown is not practical since setting up test equipment and performing the test would unduly complicate the conduct of cold shutdown operations. (NUREG 1482, section 4.1.4 recognizes that set up and performance of the leakage testing may be impractical during cold shutdown and power operations)

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

**ATJ Number: 063**

**Valve Id:** 2-DG-27A 2-DG-27B

**Category:** B

**Class:** NA

**Open** None  
**Safety Function:**

**Close** Close to direct air to the diesel air start distribution and air start pilot valves.  
**Safety Function:**

**Basis** These valves have no visible operating parts. There are no system instruments  
**For Deferral:** which monitor their operation. Thus there is no way to directly measure the stroke time of the valves.

OM-10 permits "observing other evidence, such as changes in system pressure, flow rate, level, or temperature which reflect change in obturator position."

Observation of diesel engine start performance provides assurance of proper valve operation.

**Comments:** Valve verified to function properly during functional test of diesel. "Stroke Time" based on Diesel Engine performance. Emergency Diesel Engine systems are all non-ASME Code systems. Valve testing is performed as augmented testing.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
# Stroke Time Closed	Quarterly	Full Stroke Closed
# Stroke Time Open	Quarterly	Full Stroke Open

# indicates Augmented Test Requirement

ATJ Number: 064

Valve Id:	2-SI-613 2-SI-623 2-SI-633 2-SI-643	2
Category:	B	2
Class:	2	2
Open Safety Function:	Open to vent SIT of nitrogen after a small break LOCA coincident with a Loss Of Normal Power, and single failure of the SIT outlet MOVs (i.e. Diesel failure).	2
Close Safety Function:	Remain closed to maintain SIT pressure during a LOCA. The valve remains closed during normal operations therefore, there is no closed active safety function.	
Basis For Deferral:	Valve is maintained closed during operating cycle. Testing the valve quarterly is impractical since opening the valve during operation would result in an uncontrolled blow down of SIT tank with no method to isolate the SIT tanks from the valve. In the power operation mode, testing would put the unit in a condition outside the bounds of the assumed Chapter 14 LOCA analysis. The SIT tanks are required to maintain a nitrogen covered-pressure between 200-250 psig in MODE 1 through 3 (Tech Spec 3.5.1.d).	2
	OM-10 allows deferral of testing to Cold Shutdown when testing during reactor operation is impractical.	
Comments:	The safety related function is to prevent nitrogen intrusion into the RCS as RCS pressure decreases and the inventory of the tanks is depleted to the point where the nitrogen gas discharges into the RCS affecting reactor vessel cooling. SIT nitrogen intrusion potential is a long term event therefore, a limiting stroke time is not identified. The valve is a category "B" since leak rate criteria is not defined per CRED M2-99-1083. The valves fails closed. Reference 2 determined that the nitrogen line supply to the valves is an instrument line therefore, not ASME and exempt from IST testing.	2
<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
# Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
# Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown
# indicates Augmented Test Requirement		

ATJ Number: 065

Valve Id: 2-FW-44

Category: B

Class: 3

**Open** Open to align both motor driven and the turbine driven auxiliary feedwater pumps  
**Safety Function:** to either steam generator. Valve is normally open.

**Close** Close to isolate auxiliary feedwater to the corresponding faulted steam generator in  
**Safety Function:** the event of a main steam line break. Valve is manually closed by operator action. 8

**Basis** Valve 2-FW-44 is the AFW cross tie isolation between the two steam generators.  
**For Deferral:** Stroke testing this valve at power places the plant in a configuration not assumed in the accident analysis. The valve is normally open and no analysis assumes that the valve is closed at the beginning of any accident. During a loss of normal feedwater event and 2-FW-44 initially closed there will be less total steam generator liquid mass available for RCS heat removal than the limiting case in the FSAR. Closing this valve at power causes undue risk by placing the plant in a configuration not assumed in the accident analysis. 7  
Reference Safety Analysis memo NE-01-F-036.

**Comments:** Per reference 3 no stroke time limit is required. This is a normally open valve that cross connects the motor driven and turbine driven AFW pump with either steam generator. The main steam line break analyses assume the operator takes action to isolate AFW to the faulted steam generator 30 minutes after the initiation of the event. No specific valve stroke time is assumed for this isolation. (at 600 seconds AFW is assumed to no longer enter the faulted SG). 8

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown	7
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown	7

ATJ Number: 067

Valve Id: 2-MS-65A 2-MS-65B

Category: B

Class: 2

Open None

Safety Function:

Close Automatically close on a MSI signal to limit RCS cooldown rate on a main steam

Safety Function: line break. Valve is normally closed.

**Basis For Deferral:** The MSIV bypass Valves are normally closed and are only opened during startup to warm up the Main Steam lines and equalize pressure across the MSIVs. The safety function of the valves is to isolate nonsafety related portions of the MS under accident conditions and prevent uncontrolled blowdown of more than one steam generator, in the event of a main steam line break. The valves remain closed during the cycle, with the opening coil removed from the valves. Although the valves are tested quarterly, it is considered a hardship because the risk of performing testing outweighs the benefits achieved. Testing quarterly vs cold shutdowns does not provide any increase in safety. Since the valves are not called upon to change position during the cycle for any safety function, opening them for testing purposes only, decreases safety by increasing the exposure to the condition whereby the valves are required to isolate under accident conditions. Therefore, it is concluded that the potential adverse impact on safety, equipment reliability, and resources constitutes a hardship allowing cold shutdown stroke time testing to assure operational readiness.

8

**Comments:** Valve is listed in FSAR as a containment isolation valve with no Appendix J leak test requirements. Per Reference 4 no Limiting Stroke Time is specified in the Safety Analysis. The valve is normally closed and receives a confirmatory close signal on MSIS. The MSLB accident analysis assumes the valve is closed. While in MODE 1 the power supply disconnect switch is open to satisfy Appendix "R" Hot Short requirements.

2

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown	8
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown	8

# indicates Augmented Test Requirement



**ATJ Number: 068**

**Valve Id:** 1-ACCUMULATOR 2-AC-12 2-AC-15 2-AC-20  
2-AC-47 2-CH-192 2-CH-196 2-CH-517  
2-CH-518 2-CH-519 2-EB-100 2-EB-88  
2-EB-89 2-EB-91 2-FW-188 2-FW-189  
2-RB-13.1A 2-RB-13.1B 2-SI-659 2-SI-660  
2-SW-3.2A 2-SW-3.2B

**11**

**Category:** B

**Class:** 3

**11**

**Open Safety Function:** None, but fails locked to protect secondary plant equipment

**Close Safety Function:** Automatically close on an Safety Injection Actuation Signal or Loss of Normal Power to isolate the nonessential TBCCW heat exchangers.

**Basis For Deferral:** Check valve leakage tests are augmented tests beyond the scope of the IST program. Testing has been completed for two cycles, with acceptable results. Based on previous results the test frequencies are being changed to either; once every other outage or every 36 month if testing can be performed online.

**11**

**Comments:** Valve fails locked, but is equipped with an accumulator to close it on a SIAS or LNP

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
# Accumulator Leak Test	Every Two Years	Leak test every other refuel

**11**

# indicates Augmented Test Requirement

**ATJ Number: 069**

**Valve Id:** 2-MS-190A 2-MS-190B

**Category:** B

**Class:** 2

**Open Safety Function:** Manually open to perform a controlled release of steam to atmosphere. The valve provides a method to maintain the unit in Hot Standby and to replace or supplement the condenser steam dump valves to cool the unit to Shutdown Cooling (SDC) entry conditions.

3

**Close Safety Function:** Containment Isolation Function. MEPL CD-1435 identifies that manual closure may be required for containment isolation in the event the valve is opened as a result of an expected operational transient.

3

**Basis For Deferral:** These air operated valves have a safety function in both directions. The valves will fail closed on a loss of instrument air. Although not credited in the accident analysis, an augmented function is to automatically open above 905 psig steam pressure on a reactor trip from power to avoid challenging the main steam safety valves. The valve is credited to manually open to perform a controlled release of steam to the atmosphere.

The valves are identified as power operated valves and the code requires that performance be measured by comparing reference stroke times. The code does not address the condition for a power operated valve that is manually credited to function in the safety analysis. The quarterly open and close stroke time is done with steam isolated. The intent is to ensure the valve will move freely including monitoring any change in performance. Monitoring the stroke time quarterly meets the intent. In addition, a manual cycle test is done once every 18 months to verify the credited safety function.

**Comments:** Valve is listed in FSAR as a CIV with no Appendix J leak test required. The quarterly open and closed stroke test is done with steam isolated. The valve is credited to operate locally for a controlled release of steam to atmosphere for accident mitigation.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Full Stroke every 18 months

11

**ATJ Number: 070**

**Valve Id:** 2-CS-13.1A 2-CS-13.1B

**Category:** B

**Class:** 2

**Open Safety Function:** Remain open to provide flow path from Refueling Water Storage Tank to Emergency Core Cooling System pumps.

**Close Safety Function:** Close to isolate the High Pressure Safety Injection System, Low Pressure Safety Injection System, and Containment Spray pump headers upon initiation of the containment sump recirculation. Valves are normally open.

**Basis For Deferral:** Stoke testing 2-CS-13.1A and B while in Modes 1-4 requires entry into multiple TS Action Statements, as HPSI, LPSI and CS Pumps on the affected facility must be declared inoperable while these valves are closed. NUREG 1482, Section 3.1.2 "Entry Into a Limiting Condition for Operation to Perform Testing" states that "entry into multiple LCO is to be avoided". Performance of this testing while at power results in a PRA 'Orange' condition. The benefit of quarterly testing is outweighed by the impact to safety by removal of the entire train from service.

12

**Comments:** The normally open MOV located between the RWST and the suction of the HPSI, LPSI, and CS pumps. Per ref 5 the LOCA analysis assume this normally open valve remains open until manually closed sometime after the SRAS realigns the pumps suction to the containment sump. Procedures call out verification that 2-CS-16.1B is full open before closing 2-CS-13.1A. Closure of this valve provides additional assurance sump water is not delivered to the RWST. The timing of closure is not considered important because the check valve 2-CS-14B downstream prevents diversion into the RWST.

15

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown	<u>12</u>
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown	<u>12</u>

# indicates Augmented Test Requirement

**ATJ Number: 071**

**Valve Id:** 2-SI-654 2-SI-656

**Category:** B

**Class:** 2

**Open**            Remain open to allow High Pressure Safety Injection flow to Reactor Coolant  
**Safety Function:** System

**Close**            None  
**Safety Function:**

**Basis**            These valves are normally open and required to remain open to allow HPSI Flow to  
**For Deferral:** the RCS. They do not receive an automatic open signal, and operator action is  
required to reopen them on a SIAS. It is not certain that the motor on 2-SI-654 is  
able to reopen the valve against the DP created by an operating HPSI pump,  
requiring a PRA Orange condition be entered for stroke testing. Stroke time testing  
of these valves is an augmented requirement, and it is determined that the benefit to  
stroke testing quarterly does not justify the challenge to safety created by removing  
these valves from their safety position.

**Comments:** Per Reference 3 no Limiting Stroke Time is credited in the Safety Analysis. The  
analysis assumes the normally open valves remain open.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
# Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown	<u>12</u>
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown	<u>12</u>

# indicates Augmented Test Requirement

ATJ Number: 072

Valve Id: 2-CS-16.1A 2-CS-16.1B

14

Category: A

Class: 2

**Open** Automatically open on an SRAS signal to provide containment sump water to the  
**Safety Function:** High Pressure Safety Injection and Containment Spray pumps. Valves are normally closed.

**Close** Close to isolate post LOCA recirc. mode single failure criteria.  
**Safety Function:**

**Basis** Stroke testing 2-CS-16.1A and B while in Modes 1-4 requires entry into multiple  
**For Deferral:** TS Action Statements, as HPSI, LPSI and CS Pumps on the affected facility must be declared inoperable while these valves are open. NUREG 1482, Section 3.1.2 "Entry Into a Limiting Condition for Operation to Perform Testing" states that "entry into multiple LCO is to be avoided". Performance of this testing while at power increases core melt frequency and results in a PRA 'Orange' condition. The benefit of quarterly testing is outweighed by the impact to safety by removal of the entire ECCS train from service.

14

**Comments:** Per ref 5 the limiting stroke time is 119 seconds. Valves open on SRAS to align the suction of the HPSI, LPSI, and CS pumps to the containment sump. The analysis assumes that while the switchover of the pumps suction from the RWST to the sump is taking place, the pumps have adequate NPSH so they can maintain the minimum flow assumed in the analyses. As such, the safety analysis has no specific stroke time requirements. However, TRM table 3.3-5 rev 0 dated 10/18/96 identifies a SRAS response time of 120 seconds. Assuming the 0.6 second signal delay and rounding, 119 is specified as the limiting value.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown	14
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown	14

ATJ Number: 073

Valve Id: 2-RB-2A 2-RB-2B 2-RB-2C

14

Category: C

Class: 3

**Open** Open to allow pump discharge flow to supply required loads.  
**Safety Function:**

**Close** Prevents backflow when starting the 'A' or 'C' pump to replace the 'B' pump in  
**Safety Function:** service.

**Basis** Achieving flowrate to demonstrate full open capability of RBCCW Pump discharge  
**For Deferral:** check valves, requires putting a SDC HX in service. This nullifies the RBCCW  
flow balance settings required for Modes 1-4, and requires entry into multiple TS  
Action Statements. The margin of safety gained by testing these valves quarterly is  
outweighed by the impact to safety of disturbing the flow balance.

15

ASME OM-1995 with 1996 Addenda Section ISTC does not require part stroke  
testing, and allows deferral of testing not practicable to perform at power to cold  
shutdown.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown	14
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown	14
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown	14
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown	14

**ATJ Number: 074**

**Valve Id:** 2-FW-54 2-RW-222

**Category:** B

**Class:** 3

**Open Safety Function:** Open manually to allow emergency makeup flow to Spent Fuel Pool

**Close Safety Function:** Close to isolate Spent Fuel Pool from Aux Feed.

**Basis For Deferral:** Exercise testing of these valves involves aligning AFW pump flow to the Spent Fuel Pool. While this path is aligned, approximately 100 gpm flow from any operating AFW pump would be diverted from the S/G's to the Spent Fuel Pool. If Operator action to isolate this flowpath was precluded for any reason, this would result in reduced CST inventory available for heat sink, as well as radiological contamination caused by overflowing the SFP. The benefits of quarterly exercise testing of this manual valve and check valve are outweighed by the safety consequence of misalignment of the AFW system.

As allowed in Section 3.1.1 of NUREG 1482, deferment to Cold Shutdown exercise frequency is warranted.

**Comments:** In a seismic event makeup is available from Auxiliary Feedwater to the Spent Fuel Pool. The path is designed to deliver approximately 100 GPM. The maximum required flow is 81 GPM.

16

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Full Stroke (Open and Closed) - Cold Shutdown

| 16

## **VIIa. Pump Relief Requests**



**Relief Request Number: P-001**

**Pump Id:** P-5A P-5B P-5C

**Name:** Service Water Pump 'C'

**Type:** Vertical Line Shaft

**Function:** Provide raw water (Long Island Sound) to supply continuous flow of cooling water to the diesel engine cooling water heat exchangers, the RBCCW Heat Exchangers, the Vital AC switchgear room cooling coils, and the Vital Chillers to transfer heat to the ultimate heat sink.

**Relief Requested:** The instrumentation used to measure pump vibration will have a frequency response range from 5.3 Hz to at least 1000 Hz in conjunction with vibration analysis techniques.

**Basis For Relief:** Millstone is transitioning from the TEC 1330 VLF SmartMeter to the ENTEK/IRD dataPAC 1500 vibration data collector due to Y2K issues with the TEC 1330 meter. The TEC 1330 meter is no longer being manufactured and technical support is being phased out. The vendor recommended the dataPAC 1500 as a suitable replacement for the TEC 1330 meter.

Vibration personnel detected large errors in overall vibration measurement results when field validation testing the dataPAC 1500 data collectors. Investigation revealed that the dataPAC 1500 use the entire meter's frequency response range (i.e., 0.36 Hz to 75.3 KHz) in calculating and displaying overall vibration results (called magnitude readings) whereas the TEC 1330 meter calculated overall vibration based on user specified upper and lower frequency limits. The TEC 1330 meter frequency response range was setup for ~4.0 Hz to 1000 Hz.

Integration noise is created by processing the input signal from the accelerometer, which affects the lower response range. The integration noise is reduced in the dataPAC 1500 by filtering the vibration input signal through a 5.3 Hz high pass filter to obtain repeatable overall vibration data. This results in the lower bound of the Code-required frequency response range not being met. The TEC 1330 meter used a special algorithm in the data collector to subtract integration noise from the vibration measurement.

The service water pumps are vertical line shaft turbine pumps with the same constant running speed of 885 rpm (equivalent to 14.7 Hz). Compliance with paragraph 4.6.1.6 would require using vibration instrumentation with a frequency response range of 4.9 Hz to at least 1000 Hz for these pumps.

Vibration instrumentation with a frequency response range from 5.3 Hz to 1000 Hz for monitoring vibration of the service water pumps is acceptable because:

- Overall vibration data would still contain vibration components from 0.36 Hz to 75.3 KHz but vibration amplitudes at frequencies below 5.3 Hz would be attenuated. The amount of attenuation for a particular frequency below 5.3 Hz is dependent on the high pass filter's characteristics. Inputting a known signal amplitude at 4.9 Hz into the dataPAC 1500 resulted in its amplitude being reduced to only 85% of its original value. Spectral vibration data collected using the 5.3 Hz high pass filter would still provide observable and trendable vibration data that would indicate developing mechanical faults down to 4.9 Hz.

- Millstone has not identified any potential mechanical faults for the service water pumps below 6 Hz. The credible mechanical faults below pump running speed on these vertical line shaft pumps are structural resonance at the system's reed natural frequencies and pump shaft whirl. Millstone has identified the reed natural frequencies of these service water pumps to lie between 6 Hz and pump running speed. Non-IST required pump shaft measurements using a shaft stick or proximity probe are required to confirm pump shaft whirl. Millstone routinely collects and trends vertical pump line shaft vibration data primarily to trend line shaft bearing wear and has never identified subsynchronous shaft vibration (shaft whirl) on their service water pumps.

- Overall vibration limits are only one indicator of component condition and may miss some mechanical faults entirely. Spectral vibration analysis is much more sensitive than overall vibration in detecting mechanical faults. Vibration analysts use spectral data to extract and trend vibration data from various frequency bands that were defined to detect particular machine faults for each specific machine type. Spectral analysis results in additional and earlier warning of degrading component conditions due to the capability to trend and alarm on multiple frequency bands and individual frequencies. Spectral vibration analysis techniques are used at Millstone on all IST components.

- The 1/3 running speed to 1000 Hz minimum frequency response range requirement does not apply well to slow speed machinery. Incorporating vibration frequency down to 1/3 running speed results in integration noise corrupting the overall vibration results on slow speed machinery. Overall vibration is excessively high unless the integration noise is reduced by high pass filtering the vibration input signal or by using special algorithms in data collectors to subtract integration noise from the vibration measurement.

Many vibration standards segregate rotating equipment into various rotational speed categories (i.e., running speed above or below 600 RPM, speed range from 10 to 200 REV/S), machinery type classifications (i.e., turbines, pumps, compressors, fans, centrifugal, reciprocating, overhung rotor, etc.) and machinery support methods (i.e., hard or soft mounted) prior to specifying allowable vibration limits. This allows for more appropriate limits to be applied to the different types of equipment that optimize detection of credible mechanical faults.

Millstone Unit 2 Pump Relief Requests

**Comments:** Pump is tested at one of two flow rates, system design flow or a lower flow if system design flow cannot be achieved because of system conditions (out-of-service heat exchangers). Normal quarterly test is done at system design flow. Low flow test used only when design flow cannot be achieved.  
\*\* Historical maintenance activities preclude identification of a pump serial number with a specific installed unit.  
Relief request P-003 applies to all 3 Service Water pumps.

Type Test	RR No.	Alternate Test	
Low Flow - Variable Resistance - Flow Set to Reference	P-001		<u>8</u>
High Flow - Variable Resistance - Flow Set to Reference	P-001		<u>8</u>

**Approval Document:** A15480

**Approval Date:** 05/09/2001

## **VIIb. Valve Relief Requests**

Relief Request Number: V-001

Valve Id: 2-FIRE-94A 2-FIRE-94B 2-FIRE-94C

Category: B

Class: NA

Open Safety Function: Open manually to provide emergency firewater to Auxiliary Feedwater System

Close Safety Function: Remain closed to isolate firewater from Auxiliary Feedwater system

Relief Requested: Valves shall be placed in a sample exercise program and exercise one valve each refuel outage in lieu of a full stroke exercise during plant operation to the position required to fulfill its function. (OM-10 paragraph 4.2.1.2).

Basis For Relief: The normally closed 6 inch manually operated gate valves serve as the Fire Water/AFW system boundary valves which ties in directly to each of the three AFW pump suction lines. The normally isolated firewater system provides an alternate source of water to the AFW pumps during long term cooling in the event the normal condensate storage tank (CST) supply is depleted. An 8 inch Fire Water header supplies the three parallel six inch lines, one for each of the three AFW pumps, which tie directly into the normal AFW suction path from the CST. There is no drain path available between the 8 inch header and the three 6 inch isolation valves.

Manual full stroke or part stroke testing each valve during reactor operation, cold shut down, and refueling is not practical since the firewater discharge flow path goes directly to the suction of the AFW and could cause plant equipment damage. Cycling the valves would result in chemical and particulate contamination of the AFW system and/or CST. The AFW suction line spool piping could be removed and the fire water routed away from the AFW system using temporary piping however, this would create a hardship with the significant maintenance preparation and restoration activities, the proper disposal of the chlorinated firewater, and system flushing required after each valve cycle to insure the AFW system does not become contaminated when restored.

Comments: relief request allows testing one of the three valves (2-FIRE-94A/B/C) each refuel

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke (Open and Closed)	Quarterly		8

Approval Document: A15480

Approval Date: 05/09/2001

**Relief Request Number: V-002**

**Valve Id:** 2-RB-107A 2-RB-107B 2-RB-107C 2-RB-39  
2-RB-41 2-RB-43 2-RB-56A 2-RB-56B  
2-RB-56C

**Category:** B

**Class:** 3

**Open** None  
**Safety Function:**

**Close** Close manually when entering post accident long term cooling or operation with a  
**Safety Function:** faulted RBCCW header.

**Relief** Manually full stroke exercise the valves at least once every 18 months with a 25%  
**Requested:** grace period allowed by plant Technical Specifications. In lieu of testing each  
valve nominally every three (3) months (OM-10, paragraph 4.2.1.1)

**Basis** The predominant degradation and failure mechanisms (motor failures, electrical  
**For Relief:** failures, switch settings, etc) associated with power operated valves (MOVs,  
AOVs) do not exist for manual valves. These valves are normally open and are  
closed to prevent loss of system inventory.

These valves are not operated during power operation except for surveillance  
testing. Testing these valves on a quarterly frequency solely to meet the  
requirements of ASME/ANSI 1987, OMa 1988 provides limited value. It is  
unnecessary for detecting valve degradation, does not decrease the potential for a  
component failure and the proposed alternative testing will provide a level of  
safety comparable to the current Code testing.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Full Stroke every 18 months

**Approval Document:** A15480

**Approval Date:** 05/09/2001

**Relief Request Number: V-003**

**Valve Id:** 2-CN-29A 2-CN-29B 2-CN-30

**Category:** B

**Class:** 3

**Open Safety Function:** Remain open to provide suction to Auxiliary Feedwater pumps

**Close Safety Function:** Close manually if required to supplement Auxiliary Feedwater with firemain.

**Relief Requested:** Manually full stroke exercise the valves at least once every 18 months with a 25% grace period allowed by plant Technical Specifications. In lieu of testing each valve nominally every three (3) months (OM-10, paragraph 4.2.1.1)

**Basis For Relief:** The Auxiliary Feedwater suction (AFW) system valves are manual valves. The predominant degradation and failure mechanisms (motor failures, electrical failures, switch settings, etc) associated with power operated valves (MOVs, AOVs) do not exist for manual valves. These valves are normally open (except two Auxiliary Feedwater valves that are closed) and are closed to prevent loss of system inventory.

These valves are not operated during power operation except for surveillance testing. Testing these valves on a quarterly frequency solely to meet the requirements of ASME/ANSI 1987, OMa 1988 provides limited value. It is unnecessary for detecting valve degradation, does not decrease the potential for a component failure and the proposed alternative testing will provide a level of safety comparable to the current Code testing.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Full Stroke every 18 months

**Approval Document:** A15480

**Approval Date:** 05/09/2001

Relief Request Number: V-004

Valve Id: 2-FW-56A 2-FW-56B

Category: B

Class: 3

**Open**            Open to allow manual auxiliary feedwater control to the steam generators to  
**Safety Function:** ensure decay heat removal capabilities in the event 2-FW-43A fails in the closed  
                         position.

**Close**            Auxiliary Feedwater boundary valve to ensure Auxiliary Feedwater is not  
**Safety Function:** supplying the faulted steam generator.

**Relief**            Manually full stroke exercise the valves at least once every 18 months with a 25%  
**Requested:** grace period allowed by plant Technical Specifications. In lieu of testing each  
                         valve nominally every three (3) months (OM-10, paragraph 4.2.1.1)

**Basis**            The Auxiliary Feedwater suction(AFW) system valves are manual valves. The  
**For Relief:** predominant degradation and failure mechanisms (motor failures, electrical  
                         failures, switch settings, etc) associated with power operated valves (MOVs,  
                         AOVs) do not exist for manual valves. These valves are normally closed to  
                         prevent loss of system inventory.

These valves are not operated during power operation except for surveillance  
testing. Testing these valves on a quarterly frequency solely to meet the  
requirements of ASME/ANSI 1987, OMa 1988 provides limited value. It is  
unnecessary for detecting valve degradation, does not decrease the potential for a  
component failure and the proposed alternative testing will provide a level of  
safety comparable to the current Code testing.

Comments:

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke (Open and Closed)	Quarterly	Full Stroke every 18 months	8

Approval Document: A15480

Approval Date: 05/09/2001



**Relief Request Number: V-005**

**Valve Id:** 1-SAFETY/RELIEF VLVS

**Category:**

**Class:**

**Open Safety Function:** Open to relieve overpressure

**Close Safety Function:** Remain closed to preserve inventory

**Relief Requested:** Safety and relief valves will be tested with a 5-minute hold time between tests.

**Basis For Relief:** The current test method for set pressure testing of safety and relief valves requires a minimum of two consecutive actuations with 10-minutes between actuations. This generic relief will allow a 5-minute hold time between successive actuations for safety and relief valves. This IST Program change is a slightly different test method than specified by the IST Program's current Code of Record, but provides a similar level of performance monitoring. When performing set pressure testing of safety and relief valves, a 5-minute hold time will also reduce test time and potentially radiation exposure.

The ASME OM Committee conducted an evaluation comparing the 5-minute versus 10-minute hold time between successive valve actuations with regard to set pressure when using saturated steam. The comparison is based on actual valve test data compiled over several years and includes both main steam and pressurizer safety relief valves. The main steam and pressurizer safety relief valves at Millstone Unit No. 2 are manufactured by Ingersoll Dresser and are similar to those identified by the ASME OM committee. The data from the OM committee evaluation is presented in Table 1 below. The data is an averaged value of the standard deviation for each valve in that particular group. These averaged values are compared to the same valve group with both a 5-minute and 10-minute hold period between openings. Normal range for main steam relief valves is approximately 1200 psig, and for pressurizer safety relief valves is 2500 psig. The average deviations found are within normal gauge increments and accuracy.

Based on the study conducted by the ASME OM Committee, comparing the average deviation resulting from 5-minute hold times with the average deviation resulting from 10-minute hold times, the 5-minute hold time between tests is as effective at ensuring repeatable results as the 10-minute hold time.

For valves that are tested at ambient conditions, temperature stabilization is not a concern, and for set pressure testing of air and water system safety and relief valves, it is also expected that temperature stabilization will have less impact on set pressure test accuracy and repeatability than for the steam conditions evaluated for the main steam and pressurizer safety valve applications. Following

Millstone Unit 2 Valve Relief Requests

completion of the study conducted by the OM Committee that compared the 5-minute versus 10-minute hold times, the requirement for a 5-minute hold time was introduced into the 1997 Edition of the OM Code, Appendix I, for steam, compressible fluids other than steam, and liquid service conditions. Therefore, this proposed relief is consistent with later ASME Code requirements. The 5-minute hold time results in comparable accuracy to a 10-minute hold time for the relief valve set pressure test. Therefore, this is an alternative that provides an acceptable level of quality and safety, as allowed under the provisions of 10 CFR 50.55a(a)(3)(i).

**Comments:** Relief Request for 10 minute wait between tests

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Pressure Relief Device Test	Every Ten Years		<u>14</u>

**Approval Document:** A15577

**Approval Date:** 10/20/2001

**Relief Request Number: V-006**

**Valve Id:** 1-RWST BACKLEAKAGE 2-CS-14A 2-CS-14B 2-SI-459  
2-SI-460 2-SI-659 2-SI-660

14

**Category:** A

**Class:** 2

**Open** None

**Safety Function:**

**Close** Remain closed to prevent backleakage to the RWST during the recirculation  
**Safety Function:** phase of a LOCA

**Relief Requested:** Exemption from 2 year leak test frequency requirement of OM-10 for Category A valves, for the population of valves whose closing function prevents backleakage to the RWST during post-LOCA sump recirculation. 2-CS-14A/B will be tested every other refueling, while the remainder of these valves will be tested every 60 months. Frequency will be doubled upon failure of administrative criteria til 2 successive passing tests are recorded.

**Basis For Relief:** Performance based frequency of testing implemented by Option B to Appendix J of 10CFR50 is applicable to these valves, whose function is also isolation of the extended containment boundary while on sump recirculation.

**Comments:** 2-CS-050 and 2-CS-051 (2605P-1/2) can be tested as alternative to this valve.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Leak Test	Every Two Years	Leak test per frequency of RR V-6	<u>14</u>

**Approval Document:** A15846

**Approval Date:** 02/24/2003

Relief Request Number: V-007

Valve Id:	THERMAL RELIEF VALVES	14
Category:	C	
Class:	2/3	14
Open Safety Function	Prevent overpressure due to thermal expansion of fluid in components that are isolated for maintenance.	14
Close Safety Function	Remain closed to preserve system inventory	
Relief Requested:	Implement Code Case OMN-2, "Thermal Relief Valve Code Case, OM Code-95, Appendix I" allowing either testing or replacement of certain relief valves every 10 years. Relief is for the following valves: 2-SI-430, 431, 2-SW-189, 190, 191, 92A/B/C, 2-RB-303A/B/C, 304 through 316, 318, 321, 322, 324 through 344.	
Basis For Deferral	Code Case OMN-2, "Thermal Relief Valve Code Case, OM Code-95, Appendix I" relaxes testing frequency and expansion requirements for thermal reliefs and is determined to be acceptably applied to OM-1.	
Comments:		14
<u>Required</u> Pressure Relief Device Test	<u>Frequency</u> Every Ten Years	<u>Alternate</u> Per Code Case OMN-2 14

Approval Document: A15846

Approval 02/24/200

## VIII. References

1. Northeast Utilities Letter, J. F. Opeka to Edward J. Butcher (U. S. Nuclear Regulatory Commission) dated June 27, 1985 (B11958) – *Original Submittal of Second Ten Year Inservice Inspection and Testing Program*
2. Northeast Utilities Letter, J. F. Opeka to Edward J. Butcher (U. S. Nuclear Regulatory Commission) dated August 30, 1985 (B11691) – *Supplemental Relief Request Information for Second Ten Year Inservice Inspection and Testing Program*
3. Northeast Utilities Letter, J. F. Opeka to Ashok C. Thadani (U. S. Nuclear Regulatory Commission) dated December 16, 1985. *Supplemental Relief Request Information on 2-FW-5A and 2-FW-5B.*
4. Northeast Utilities Letter, J. F. Opeka to Ashok C. Thadani (U. S. Nuclear Regulatory Commission) dated December 31, 1985 (A05353). *Northeast Utilities Agreement to Include Testing of Emergency Diesel Generator Auxiliary Systems in Inservice Test Program.*
5. U. S. Nuclear Regulatory Commission Letter, Ashok C. Thadani to J. F. Opeka (Northeast Utilities dated January 3, 1986. *Interim Approval of Second Ten Year Inservice Inspection and Testing Program. (Does not cover Emergency Diesel Auxiliary Testing)*
6. Northeast Utilities Letter, J. F. Opeka to Ashok C. Thadani (U. S. Nuclear Regulatory Commission) dated February 28, 1986 (A05353/B12010). *Submittal of Inservice Test Program for Emergency Diesel Auxiliary Systems.*
7. U. S. Nuclear Regulatory Commission Letter, Ashok C. Thadani to J. F. Opeka (Northeast Utilities dated May 6, 1986. *Interim Approval of Emergency Diesel Inservice Testing Plan.*
8. Northeast Utilities Letter, J. F. Opeka to Ashok C. Thadani (U. S. Nuclear Regulatory Commission) dated August 29, 1986 (A05353/B12232). *Submittal of Revised Inservice Test Program for Emergency Diesel Auxiliary Systems.*
9. Northeast Utilities Letter, J. F. Opeka to Ashok C. Thadani (U. S. Nuclear Regulatory Commission) dated September 17, 1986 (A05353/B12268). *Submittal of Inservice Test Program for Emergency Diesel Auxiliary Systems (Clean Oil Pumps).*
10. U. S. Nuclear Regulatory Commission Letter, Ashok C. Thadani to J. F. Opeka (Northeast Utilities dated November 3, 1986. *Approval of Emergency Diesel Inservice Testing Plan.*
11. U. S. Nuclear Regulatory Commission Letter, David H. Jaffee to E. J. Mroczka dated May 27, 1987. *Additional Questions on Inservice Test Program.*
12. Northeast Utilities Letter, E. J. Mroczka to NRC Document Control Desk dated July 31, 1987 (A06578). *Response to Reference 11.*

13. NRC Meeting Minutes dated September 28, 1987. NRC/Northeast Utilities Meeting held on August 26 and 27, 1987 to review Inservice Test Program for Millstone Unit 2.
14. Northeast Utilities Letter, E. J. Mroczka to NRC Document Control Desk dated October 30, 1987. *Response to Reference 13 and Complete Redraft of the Proposed Second Ten Year Inservice Test Program.*
15. U. S. Nuclear Regulatory Commission Letter, David H. Jaffee to E. J. Mroczka dated June 28, 1988. *Additional Questions on Inservice Test Program.*
16. Northeast Utilities Letter, E. J. Mroczka to NRC Document Control Desk dated August 26, 1988. *Response to Reference 15 including Revised Pump and Valve Tables and Relief Requests*
17. Nuclear Regulatory Commission Generic Letter 89-04 Dated April 3, 1989. *Millstone Unit 2 not required to comply until SER based on Reference 16 is issued.*
18. U. S. Nuclear Regulatory Commission Letter, John F. Stolz to E. J. Mroczka Dated July 19, 1990. *Technical Evaluation Report, Safety Evaluation Report, and Approval of the Second Ten Year Inservice Testing Program.*
19. NUREG 1482, "Guidelines for Inservice Testing at Nuclear Power Plants", April 1995
20. Memorandum TS2-95-141 dated March 2, 1995. "Fail Safe Testing of Valves"
21. U. S. Nuclear Regulatory Commission Letter, James W. Clifford to R.G. Lizotte Dated February 2, 2001. *Approval to Implement a Check Valve Inservice Testing Program Using ASME OM Code-1995 Edition, OMA-1996 Addenda.*
22. U. S. Nuclear Regulatory Commission Letter, James W. Clifford to R.. P. Necci Dated May 9, 2001. *"Safety Evaluation for Relief Requests Associated with Third Ten year Pump and Valve Inservice Testing Program, Millstone Unit 2"*
23. U. S. Nuclear Regulatory Commission Letter, James W. Clifford to J. A. Price Dated November 20, 2001. *"Safety Evaluation for Relief Request R-3 for the Successive Actuation Time Requirements for Safety and Relief valves in the Inservice Testing Program, Millstone Unit 2"*
24. U. S. Nuclear Regulatory Commission Letter, James W. Clifford to J. A. Price Dated February 24, 2003. *"Safety Evaluation for Relief Requests V-6 and V-7 Associated With Third Ten Year Interval of the Inservice Testing Program, Millstone Power Station, Unit No. 2".*

**ATTACHMENT 2**

**MILLSTONE POWER STATION UNIT 3**  
**INSERVICE TEST PROGRAM**

**MILLSTONE POWER STATION UNIT 3**  
**DOMINION NUCLEAR CONNECTICUT, INC.**

**MILLSTONE POINT  
UNIT 3**

**INSERVICE TESTING  
PROGRAM**

U3-24-IST-ISTPP



# Millstone Unit 3

## Inservice Testing Program Plan

Revision 7  
Change 11

Prepared By:  Date: 3/23/04  
IST Coordinator

Approved By: David M Perry Date: 3/24/04

Refer to IST Basis Document for System Engineer and Maint Rule reviews

Effective Date 3/31/04

## **ABSTRACT**

The Inservice Testing Program for Millstone Point Unit 3 was developed in accordance with parts 1, 6, and 10 of the ASME/ANSI OM-1987, including OMa 1988 addenda, Operations and Maintenance of Nuclear Power plants except where specific relief is requested in accordance with 10 CFR 50.55(a)(f)(5)(iii). The Inservice Test Program defined herein is applicable from February 7, 1998 to February 6, 2008.

## 1. INTRODUCTION

### 1.1 General

This test plan describes the inservice testing (IST) program to verify the operational readiness of certain Class 1, 2, and 3 pumps and valves and their actuating and position indicating systems.

### 1.2 Codes and Standards

Pursuant to Title 10 of the Code of Federal Regulations, Part 50, Paragraph 50.55(a), the inservice testing requirements for the second inspection interval at Millstone Unit 3 (MP-3), are based on the rules set forth in the 1989 Edition of the ASME Boiler and Pressure Code, Section XI. Any references to Section XI or the code refer to the above edition and addenda to Section XI, unless stated otherwise. Where conformance with certain code requirements is determined to be impractical, specific relief will be requested as required by 10 CFR 50.55a (f)(5)(iii). The relief request bases are located in Section 6.0 of this test plan.

As permitted by Paragraph 50.55a(f)(4)(iv), the owner may elect, for certain components, to meet the requirements as set forth in subsequent editions and addenda which are incorporated by reference in Paragraph (b) of 10 CFR 50.55a. Any such "upgrading" will be specifically identified by revisions to this document.

Testing of check valves is in accordance with ASME OM Code-1995 Edition, OMa-1996 Addenda.

### 1.3 Component Classification

The pumps and valves selected for inclusion in the inservice testing program are classified as Class 1, 2, and 3 based on the classification of the system or portion of system in which they are located. The system code classification scheme used for both inservice testing and inservice inspection is detailed in Section 1.0 of the MP-3 Preservice and Inservice Inspection Manuals (Reference 1).

The commercial operating date for Millstone Unit 3 was April 23, 1986. The start of the second ten year interval was extended to February 7, 1998, in accordance with ASME, Section XI, IWA-2440 (c). In addition, the start of successive ten year intervals will be extended accordingly, in accordance with IWA-2440 (e). The Inservice Test Program defined herein is applicable from February 7, 1998 to February 6, 2008.

## **2. REFERENCES**

- 2.1 PSI-2.01, Millstone Point Unit 3 Preservice Inspection Plan.
- 2.2 Title 10, Code of Federal Regulations, Part 50.
- 2.3 ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition.
- 2.4 NUSCo Calc NM-027-ALL, Rev. 2, Active Valves Maximum Allowable Stroke Times
- 2.5 Millstone Unit 3 FSAR Table 6.2-65
- 2.6 ASME/ANSI OM-1987 Operation and Maintenance of Nuclear Power Plants
- 2.7 NUREG-1482 Guidance for Testing at Nuclear Power Plants
- 2.8 Millstone Unit 3 Pump and Valve Testing Basis Document, Rev. 1, May 1997
- 2.9 Generic Letter 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," April 3, 1989
- 2.10 ASME OM Code-1995 Edition, OMa Code- 1996 Addenda

### 3. DEFINITIONS

The following is a list of definitions for various terms used in the inservice testing program or in the referenced code section.

<u>Active Valve:</u>	Valves which are required to change position to accomplish a specific function.
<u>Exercising:</u>	The demonstration based on direct or indirect visual or other positive indication that the moving parts of a valve function satisfactorily.
<u>Inservice Life:</u>	The period of time from installation and acceptance until retired from service.
<u>Inservice Test:</u>	A special test procedure for obtaining information through measurement or observation to determine the operational readiness of a valve or pump.
<u>Maintenance (Valves):</u>	Routine valve servicing or work on a valve undertaken to correct or prevent an abnormal or unsatisfactory condition.
<u>Normal Plant Operation:</u>	The conditions of start-up, hot standby, operation within the normal power range, or cooldown and shutdown of the power plant.
<u>Operational Readiness:</u>	The capability of a pump or valve to fulfill its function.
<u>Passive Valve:</u>	Valves which are not required to change positions to accomplish a specific function.
<u>Pressure Isolation Valve:</u>	<p>A valve required to protect a lower-pressure system from accidental pressurization from the Reactor Coolant System. To qualify as a pressure isolation valve, the following conditions must be met:</p> <ol style="list-style-type: none"><li>The high-pressure system must be connected to the Reactor Coolant System.</li><li>There must be high pressure to low pressure interface present in the line.</li><li>The pressure isolation valves are located at a Class 1 to Class 2 boundary.</li><li>The piping line must have a diameter greater than one inch nominal pipe size.</li></ol>

Pressure isolation valves are classified as ASME XI category A valves.

System Resistance:

The hydraulic resistance to flow in a system.

The Code:

Refers to ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition, including OMa 1988 addenda to OM-1987 Edition for OM Part 1, Part 6 and Part 10.

## 4. DEVELOPMENT OF THE INSERVICE TESTING PROGRAM

### 4.1 Valve Selection Bases

- 4.1.1 The valves selected for inclusion in the IST program include certain Class 1, 2, and 3 valves and their actuating and position indicating systems which are required to perform a specific function in shutting down the reactor to the cold shutdown condition, in maintaining the cold shutdown condition, or in mitigating the consequences of an accident.
- 4.1.2 Valves that are exempt from readiness testing under OM-10 are identified in the IST Basis Document.
- 4.1.3 Certain valves, which are exempt from readiness testing under OM-10, but are important to safety are included as Augmented testing. These valves are specifically identified as not required by the ASME Codes.

### 4.2 Required Valve Testing

- 4.2.1 Valves or their control systems which are replaced, repaired, or have undergone maintenance which could affect their operation shall be tested to the extent necessary to demonstrate that the performance parameters which could have been affected are within acceptable limits.
- 4.2.2 Power-operated valves shall be checked for stroke time each time they are full-stroke exercised to meet the requirements of this program.
- 4.2.3 When practical, valves with fail-safe actuators shall be tested for proper actuation upon loss of power each time the valve is exercised to meet the requirements of this program. If the valve can only be part stroked during operation, the fail-safe mechanism shall be tested when the valve is full stroke tested during a cold shutdown.
- 4.2.4 Valves in systems that have been declared inoperable, or are not required to be operable, do not need to be exercised in accordance with the normal schedule. These valves, however, must be exercised within 3 months prior to returning the system to service and the test schedule resumed as required by Paragraph 4.2.1.7 of the Code.

- 4.2.5 Valves which operate at a frequency which meets or exceeds the required test frequency need not be additionally exercised to meet the requirements of this program, provided that the required observations are made, analyzed, and the resultant data recorded at the specified intervals.
- 4.2.6 For valves which perform only a containment isolation function and not a pressure isolation\* function Appendix J LLRTs are credited for Section XI leak rate testing. These valves are leak rate tested under the requirements of 10 CFR 50, Appendix J.

\*For a definition of pressure isolation valves, see Section 3. Valves which perform only a containment isolation function and are not required to change position on a containment isolation signal are considered passive.

4.2.7 Alternate to Full Stroke Testing of Check Valves

- MP3 has implemented the ASME OMa 1996 Code, Appendix II and the required modifications of 10CFR 50.55a(b)(3)(iv) for the IST Program check valves. The following modifications apply when implementing Appendix II:
- Valve opening and closing functions must be demonstrated when flow testing or examination methods (nonintrusive, or disassembly and inspection) are used:
- The initial interval for tests and associated examinations may not exceed two fuel cycles or 3 years, whichever is longer; any extension of this interval may not exceed one fuel cycle per extension with the maximum interval not to exceed 10 years; trending and evaluation of existing data must be used to reduce or extend the time interval between tests.
- If the Appendix II Condition Monitoring program is discontinued, then the requirements of ISTC 4.5.1 through 4.5.4 must be implemented.

### 4.3 Valve Test Methods

#### 4.3.1 Non-Intrusive Testing

Valves will be full stroke exercised in accordance with guidance provided in NUREG 1482. Each valve will be non-intrusively tested and monitored to verify system pressure and flow (less than full accident flow) is adequate to produce full stroke of each check valve to its respective backstop position as determined by acoustic, ultrasonic or eddy current / magnetic technology. Testing of these valves will be performed at repeatable conditions each refuel outage. Subsequent testing will continue to fully stroke each valve by flow testing each refueling outage and performing non-intrusive testing on a rotating schedule on only one valve in the group. If



problems are found with the sample valve that is determined to affect it's operational readiness, all valves in the group will be non-intrusively tested during the same outage.

#### **Qualification Of Method And Results:**

These check valves will be full stroke tested utilizing ultrasonic, eddy current / magnetic and acoustic technologies or it's equivalent. A single Crane Movats<sup>TM</sup> Checkmate<sup>3</sup> Signature Analysis System is currently in the possession of and operated by qualified personnel in the Predictive Maintenance Group within the Engineering organization. Contracting vendor supplied quality related services employing equivalent technology in lieu of the Crane Movats<sup>TM</sup> Checkmate<sup>3</sup> Signature Analysis System may be used to provide support, as required.

The method of testing check valves utilizing ultrasonic, external AC or DC magnetics, eddy current and acoustic technologies has been qualified through an experimental research program developed by the Nuclear Industry Check Valve group (NIC), funded by twenty-two nuclear utilities, administered by the Electric Power Research Institute (EPRI) and was conducted in three phases. Phase I (water) and Phase II (air) testing was conducted at the Utah Water Research Laboratory (UWRL). Phase III (steam) was conducted at Baltimore Gas & Electric's Calvert Cliffs Nuclear Power Plant, Arizona Public Power's Palo Verde Plant - Unit 3, Southern California Edison's San Onofre Plant and at Virginia Electric Power Company's Surry Power Station. This research program was established to investigate the ability of existing non-intrusive techniques to detect valve disc position, disc motion, as well as identify various degraded conditions of check valve internals and has sufficiently qualified this technique.

#### **Description, Maintenance And Calibration Of Instrumentation:**

The Crane Movats<sup>TM</sup> Checkmate<sup>3</sup> Signature Analysis System, currently used by Millstone, is a check valve diagnostic test system that utilizes acoustic, ultrasonic, and eddy current technologies. Two piezoelectric accelerometers, strategically positioned on the valve body, are the primary instruments for acoustic monitoring. One accelerometer monitors hinge pin vibrations while the other monitors backstop or seat vibration. The piezoelectric accelerometer converts sound waves from mechanical motion into an electric signal. This signal is both stored and displayed by the signature analysis acquisition and storage computer for further analysis. The standard system utilizes two Bruel & Kjaer (B&K) 4382 Delta Shear Accelerometers. A charge amplifier may be used to assist in testing valves with a fluid media above 250°F.

The ultrasonic portion of the system is based on a pulse/echo instrument. This consists of a modified Stavely Sonic 136 reflectoscope to generate high voltage pulses which are sent to a transducer. The transducer converts the pulses into sound waves that are applied to the valve being inspected. A large percentage of the sound waves is reflected from the front surface of the valve wall back to the transducer. The sound waves reflected back to the transducer are converted back to electrical pulses, which are amplified and displayed as waveforms.

The eddy current portion of the system consists of an enclosed module and probes that produce a 0 - 10 volt time varying signal. Eddy current testing uses alternating current from a test coil to induce eddy currents in electrically conducting metallic objects. As the temporary electric field is produced and the check valve disc passes through and disturbs the decaying electric field, the sensing coils receive the current. The analog output of this signal is then passed on to the analysis computer and processed. The processed signal is then displayed as relative disc position by the signature acquisition and storage computer.

Instrumentation identified for the purpose of performing non-intrusive testing of check valves will be calibrated to within the tolerance of original manufacturer specifications on a routine schedule (generally annually) to reference standards that are traceable to the National Institute of Standards and Technology under the controls provided by Station Procedure WC-8 "Control and Calibration of Measuring and Test Equipment". Products and/or services supplied to support non-intrusive testing will be controlled in accordance with applicable program requirements of 10 CFR 50 Appendix B, ANSI N45.2 and 10 CFR Part 21, as applicable.

#### 4.4 Pump Selection Basis

- 4.4.1 The pumps selected for inclusion in the IST program include Class 1, 2, and 3 centrifugal pumps that are required to perform a specific function in the shutting down of the reactor or in mitigating the consequences of an accident, and are provided with an emergency power source. Millstone Unit No. 3 does not have any safety related positive displacement pumps.

#### 4.5 Pump Testing Program

#### 4.5.1 Test Frequency

Each inservice test shall include the measurement and observation of applicable test quantities. An inservice test shall be run on each applicable pump, at a frequency and scope as stated in OM-6 Table 2. If practicable, this test frequency shall be maintained during plant shutdown. Pumps that can only be tested during plant operation shall be tested as required by Technical Specifications, or within one week after plant start up, whichever is the shorter interval.

Pumps that are operating need not be run or stopped for a special test, provided the plant log shows each such pump was operated at reference conditions and the quantities specified were measured, observed, recorded, and analyzed.

#### 4.5.2 Records of Inservice Tests

All inservice test plans and records shall be maintained at the Millstone Unit No. 3 plant, and shall be accessible for audit.

#### 4.5.3 Vibration Signature Analysis Program

##### 4.5.3.1 General Procedure

Vibration will be monitored at least quarterly using equipment which collects vibration velocity signatures.

## **II. Pump Table Descriptions**

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## Millstone Unit 3 Pump Test Legend

Abbreviation	Description
HF-FR	High Flow - Fixed Resistance
HF-VR-FS	High Flow - Variable Resistance - Flow Set to Reference
HF-VR-PS	High Flow - Variable Resistance - Pressure Set to Reference
LF-FR	Low Flow - Fixed Resistance
LF-VR-FS	Low Flow - Variable Resistance - Flow Set to Reference
LF-VR-PS	Low Flow - Variable Resistance - Pressure Set to Reference

### **III: Pump List**

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### Millstone Unit 3 Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	Cl	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
3CCE*P1A	CHARGING PUMP SEAL COOLING	26905//E-8	3	CHARGING PUMP COOLING	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3CCE*P1B	CHARGING PUMP SEAL COOLING	26905//C-10	3	CHARGING PUMP COOLING	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3CCI*P1A	SAFETY INJECTION PUMP COOLING PUMP	26914//I-5	3	SAFETY INJECTION PUMP COOLING	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Refer to relief request P-002 for unmonitored flow issue
3CCI*P1B	SAFETY INJECTION PUMP COOLING PUMP	26914//I-9	3	SAFETY INJECTION PUMP COOLING	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Refer relief request P-002 for unmonitored flow issue
3CCP*P1A	REACTOR PLANT COMPONENT COOLING PUMP	26921//E-5	3	REACTOR PLANT COMPONENT COOLING	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3CCP*P1B	REACTOR PLANT COMPONENT COOLING PUMP	26921//E-8	3	REACTOR PLANT COMPONENT COOLING	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3CCP*P1C	REACTOR PLANT COMPONENT COOLING PUMP	26921//E-6	3	REACTOR PLANT COMPONENT COOLING	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3CHS*P2A	BORIC ACID TRANSFER PUMP	26904//K-5	3	BORIC ACID	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3CHS*P2B	BORIC ACID TRANSFER PUMP	26904//K-7	3	BORIC ACID	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Note 1 - Where speed is not checked, the pump is driven  
by a constant speed induction motor

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# Millstone Unit 3 Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	CI	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
3CHS*P3A	CHEMICAL VOLUME CONTROL CHARGING PUMP	26904/1/H-8	2	VOLUME CONTROL	LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Performed in Modes 1-4 with 2 pumps aligned for service.
					LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Performed in Mode 4, 5, or 6 when only One Charging Pump is aligned for service
3CHS*P3B	CHEMICAL VOLUME CONTROL CHARGING PUMP	26904/1/H-11	2	VOLUME CONTROL	LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Performed in Modes 1-4 with 2 Charging Pumps aligned for service
					LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Performed in Modes 4, 5 or 6 with 1 Charging Pump aligned for service
3CHS*P3C	CHEMICAL VOLUME CONTROL CHARGING PUMP	26904/1/H-10	2	VOLUME CONTROL	LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Performed in Modes 1-4 with 2 Charging Pumps aligned for service
					LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Performed in Modes 4-6 when only 1 Charging Pump is aligned for service.
3EGF*P1A	'A'EMERG.GEN.FUEL OIL XFER PUMP	26921/1/B-3	3	DIESEL FUEL OIL	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Re baselined and changed from a fixed resistance test to a variable resistance system test. Ref CR M3-00-3283 & CR M3-00-3703.
3EGF*P1B	'B'EMERG.GEN.FUEL OIL XFER PUMP	26921/1/B-7	3	DIESEL FUEL OIL	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Re baselined on 3/21/01 and changed from a fixed resistance test to a variable. Ref CR M3-00-3283 & CR M3-00-3703.
3EGF*P1C	'A'EMERG.GEN.FUEL OIL XFER PUMP	26921/1/C-3	3	DIESEL FUEL OIL	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Re baselined and changed from a fixed resistance test to a variable resistance system test. Based on CR M3-00-3283 & CR M3-00-3703.

Note 1 - Where speed is not checked, the pump is driven by a constant speed induction motor



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# Millstone Unit 3 Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	CI	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
3EGF*P1D	B'EMERG.GEN.FUEL OIL XFER PUMP	26921/1/C-7	3	DIESEL FUEL OIL	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Re baselined on 3/21/01 and changed from a fixed resistance test to a variable. Ref. CR M3-00-3283 & CR M3-00-3703.
3FWA*P1A	MOTOR DRIVEN STEAM GENERATOR AUXILIARY FEED PUMP	26930/2/G-5	3	AUXILIARY FEEDWATER	HF-VR-FS	R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Flow Instrument loop accuracy does not meet OM-6 requirements.
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Flow measured with Controlotron.
3FWA*P1B	MOTOR DRIVEN STEAM GENERATOR AUXILIARY FEED PUMP	26930/2/E-8	3	AUXILIARY FEEDWATER	HF-VR-FS	R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Flow Instrument loop accuracy does not meet OM-6 requirements.
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Flow measured with Controlotron.
3FWA*P2	TURBINE DRIVEN AUXILIARY FEEDWATER PUMP	26930/2/D-10	3	AUXILIARY FEEDWATER	HF-VR-FS	R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Flow Instrument loop accuracy does not meet OM-6 requirements.
					LF-FR	Q	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Flow measured with Controlotron. Rotative speed measurement required.
3HVK*P1A	CONTROL BUILDING CHILLED WATER PUMP	26951/4/F-4	3	CONTROL BLDG.HVAC;B LDG PURGE,BTY ROOM HVAC,COM & INST RACK A/C	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	MTR & PMP

Note 1 - Where speed is not checked, the pump is driven by a constant speed induction motor

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# Millstone Unit 3 Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	CI	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
3HVK*P1B	CONTROL BUILDING CHILLED WATER PUMP	26951/4/F-9	3	CONTROL BLDG.HVAC;B LDG PURGE,BTY ROOM HVAC,COM & INST RACK A/C	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	MTR & PMP
3QSS*P3A	QUENCH SPRAY PUMP	26915/1/I-6	2	QUENCH SPRAY	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3QSS*P3B	QUENCH SPRAY PUMP	26915/1/I-8	2	QUENCH SPRAY	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3RHS*P1A	RESIDUAL HEAT REMOVAL PUMP (MTR SN # 2S-75)	26912/1/C-6	2	RESIDUAL HEAT REMOVAL	HF-VR-FS	CS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3RHS*P1B	RESIDUAL HEAT REMOVAL PUMP (MTR SN # 2S-80)	26912/1/C-10	2	RESIDUAL HEAT REMOVAL	HF-VR-FS	CS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3RSS*P1A	CONTAINMENT RECIRCULATING PUMP	26912/3/E-10	2	CONTAINMENT RECIRCULATING PUMP	HF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3RSS*P1B	CONTAINMENT RECIRCULATING PUMP	26912/3/E-4	2	CONTAINMENT RECIRCULATING PUMP	HF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3RSS*P1C	CONTAINMENT RECIRCULATING PUMP	26912/3/E-8	2	CONTAINMENT RECIRCULATING PUMP	HF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	A/R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Post maintenance test for on-line testing

Note 1 - Where speed is not checked, the pump is driven by a constant speed induction motor

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# Millstone Unit 3 Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	CI	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
3RSS*P1D	CONTAINMENT RECIRCULATING PUMP	26912/3/E-2	2	CONTAINMEN T RECIRCULATI ON SPRAY	HF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	A/R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
					LF-VR-FS	ER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SFC*P1A	FUEL POOL COOLING PUMP	26911/1/F-9	3	SPENT FUEL POOL COOLING & PURIFICATIO N	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SFC*P1B	FUEL POOL COOLING PUMP	26911/1/F-11	3	SPENT FUEL POOL COOLING & PURIFICATIO N	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SIH*P1A	SAFETY INJECTION PUMP	26913/2/C-2	2	HIGH PRESSURE SAFETY INJECTION	HF-FR	R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SIH*P1B	SAFETY INJECTION PUMP	26913/2/C-10	2	HIGH PRESSURE SAFETY INJECTION	HF-FR	R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
					LF-FR	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SWP*P1A	SERVICE WATER PUMP	26933/1/B-9	3	SERVICE WATER	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SWP*P1B	SERVICE WATER PUMP	26933/1/F-4	3	SERVICE WATER	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SWP*P1C	SERVICE WATER PUMP	26933/1/B-7	3	SERVICE WATER	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SWP*P1D	SERVICE WATER PUMP	26933/1/F-2	3	SERVICE WATER	HF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SWP*P2A	CONTROL BLDG AIR CONDITIONING BOOSTER PUMP	26933/4/L-7	3	SERVICE WATER	LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Note 1 - Where speed is not checked, the pump is driven  
by a constant speed induction motor

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# Millstone Unit Pump Test List

Pump ID	Pump Name	PID No/Sht/Coord	Cl	System Name	Type Test	Freq	Spd	DP	Pr	Flow	Vib	Comments
3SWP*P2B	CONTROL BLDG AIR CONDITIONING BOOSTER PUMP	26933/4/L-3	3	SERVICE WATER	LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3SWP*P3A	MCC AND ROD CONTROL AREA AIR CONDITIONING BOOSTER	26933/4/H-11	3	SERVICE WATER	LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Flow measured with controlotron.
3SWP*P3B	MCC AND ROD CONTROL AREA AIR CONDITIONING BOOSTER	26933/4/M-1	3	SERVICE WATER	LF-VR-FS	Q	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Flow measured with Controlotron.

Note 1 - Where speed is not checked, the pump is driven  
by a constant speed induction motor

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## Millstone Unit 3 Valve Type Legend

Abbreviation	Description
BF	Butterfly
BL	Ball
CD	Duo-Check
CH	Check (Unknown Type)
CL	Lift Check
CN	Nozzle Check
CS	Swing Check
CT	Tilted Disc Check
DI	Diaphragm
GL	Globe
GT	Gate
PL	Plug
RV	Relief
SC	Stop Check
SV	Safety

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**Millstone Unit 3 Valve Actuator Legend**  
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Abbreviation	Description
AO	Air Operated
AO/FA	Air Operated - Check Valve
FA	Flow Actuated
HA	Manually Operated
HO	Hydraulic Operated
MO	Motor Operated
N/A	Not applicable
SA	Self Actuated
SO	Solenoid Operated

## Millstone Unit 3 Valve Test Legend

Abbreviation	Description
DIS	Disassemble, Inspect, Stroke Test one valve each refueling
DIS-CM	Disassemble and Inspect per the Condition Monitoring Program
FS	Full Stroke (Open and Closed)
FS-24	Manual full stroke once every 24 months
FSC	Full Stroke Closed
FSC-18	Manually full Stroke Closed every 18 months
FSCCS	Full Stroke Closed - Cold Shutdown
FSCCS-DIS	Full Stroke Closed - Cold Shutdown - Disassemble, Inspect, Stroke Test one valve each refueling
FSCCS-LT	Full Stroke Closed - Cold Shutdown (Leak Test)
FSCJ	Full Stroke Closed - Refueling (App. J Leak Test)
FSCR	Full Stroke Closed - Refueling
FSCR-DIS	Full Stroke Closed Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
FSCS	Full Stroke (Open and Closed) - Cold Shutdown
FSO	Full Stroke Open
FSO-18	Manually full stroke open every 18 Months
FSOCS	Full Stroke Open - Cold Shutdown
FSOCS-DIS	Full Stroke Open - Cold Shutdown - Disassemble, Inspect, Stroke Test one valve each refueling
FSOCS-NIT	Full Stroke Open - Cold Shutdown - Verify Closure with Non-Intrusive Testing each refueling
FSOR	Full Stroke Open - Refueling
FSR	Full Stroke - Refueling
FSR-DIS	Full Stroke - Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
FT	Fail Test
FTCS	Failure Mode Test - Cold Shutdown
FTR	Fail Test - Refueling
LJ	Leak Rate Test - 10CFR50 App. J
LT	Leak Test
NOP	Verify Function During Normal Operation
NR	No Test Required
PI	Remote Position Indicator
PM	Post Maintenance
PS	Part Stroke
PSC	Part Stroke Closed
PSC "A" Train	Part Stroke Close - "A" Train

# Millstone Unit 3 Valve Test Legend

Abbreviation	Description
PSC "B" Train	Part Stroke Close "B" Train
PSC-FSCCS	Part Stroke Closed Quarterly - Full Stroke Closed Cold Shutdown
PSC-FSCR	Verify Valve Closure Quarterly - Full Stroke Closed - Refueling
PSCS	Part Stroke Cold Shutdown
PSCS-FSR-DIS	Part Stroke (Open and Closed) Cold Shutdown - Full Stroke Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
PS-DIS	Part Stroke (Open and Closed) Quarterly - Disassemble, Inspect, Stroke Test one valve each refueling
PS-FSCS	Part Stroke (Open and Closed) Operating - Full Stroke Cold Shutdown
PS-FSOCs-DIS	Part Stroke (Open and Closed) Operating - Full Stroke Open Cold Shutdown - Disassemble, Inspect, Stroke Test one valve each refueling
PS-FSR	Part Stroke (Open and Closed) Operating - Full Stroke Refueling
PS-FSR-DIS	Part Stroke (Open and Closed) Quarterly - Full Stroke Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
PSO	Part Stroke Open
PSOCS	Part Stroke Open - Cold Shutdown
PSOCS-FSR-DIS	Part Stroke Open Cold Shutdown - Full Stroke Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
PSO-DIS	Part Stroke Open Quarterly - Disassemble, Inspect, Stroke Test one valve each refueling
PSO-FSCS	Part Stroke Open Operating - Full Stroke (Open and Closed) Cold Shutdown
PSO-FSOCs	Part Stroke Open During Operation - Full Stroke Open - Cold Shutdown
PSO-FSOCs-DIS	Part Stroke Open Operating - Full Stroke Open Cold Shutdown - Disassemble, Inspect, Stroke Test one valve each refueling
PSO-FSOR	Part Stroke Open Operating - Full Stroke Open Refueling
PSO-FSR	Part Stroke Open Operating - Full Stroke (Open and Closed) Refueling
PSO-FSR-DIS	Part Stroke Open Quarterly - Full Stroke Refueling if Non-Intrusive Testing Available, Otherwise Disassemble, Inspect, Stroke one valve each refueling
PSOR	Part Stroke Open - Refueling
PSR	Part Stroke - Refueling
RT	Radiograph for valve closure verification
SRV	Pressure Relief Device Test
ST	Stroke Time (Open and Closed)
STC	Stroke Time Closed
STC-6	Stroke Time Close- every 6 months +/- 25% Grace
STCCS	Stroke Time Closed - Cold Shutdown
STCCS - "A" Train	Stroke Time Close - Cold Shutdown - "A" Train
STCCS - "B" Train	Stroke Time Close - Cold Shutdown - "B" Train
STC-DRY	Stroke Time Close - Valve Dry



## Millstone Unit 3 Valve Test Legend

Abbreviation	Description
STC-MTR	Stroke Time Close - Motor Operator Only (NRV valve)
STCR	Stroke Time Closed - Refueling
STCS	Stroke Time Open and Closed - Cold Shutdown
STC-WET	Stroke Time Close - Valve Wet
STC-WET-COLD	Stroke Time Close - Valve Wet and <120 F
STC-WET-HOT	Stroke Time Close - Valve Wet and 150 F - 170 F
STO	Stroke Time Open
STO-6	Stroke Time Open- every 6 months +/- 25% Grace
STOCS	Stroke Time Open - Cold Shutdown
STOCS - "A" Train	Stroke Time Open - Cold Shutdown - "A" Train
STOCS - "B" Train	Stroke Time Open - Cold Shutdown - "B" Train
STO-DRY	Stroke Time Open - Valve Dry
STO-MTR	Stroke Time Open - Motor Operator Only (NRV valve)
STOR	Stroke Time Open - Refueling
STO-WET	Stroke Time Open - Valve Wet
STO-WET-COLD	Stroke Time Open - Valve Wet and < 120 F
STO-WET-HOT	Stroke Time Open - Valve Wet and 150 F - 170 F
UT	Ultrasonic Exam for valve closure verification
VNORMOP	verified during normal operation
<u>ZZZZZ</u>	

Abbreviation	Description
R	Refuel
Q	Quarterly
QA	Quarterly (Alert)
CS	Cold Shutdown
SA	Semi-Annual
2A	Every 2 Years
BI	Every Two Years
5A	Every Five Years
6A	Every Six Years
10A	Every Ten Years
OC	Once Per Cycle (No Time Interval)
RO	Refueling (No Time Interval)
ER	Each Refueling (No Time Interval)
OR	Every Other Refueling
J	Appendix J
J30	App. J, 30 months
J60	App. J 60 Months
A/R	As Required (Procedure Trigger)
NR	Not Required
CS/BI	Cold Shutdown / Biennial
M	Monthly

## **V. Valve List**

Second Ten Year Interval  
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# Millstone Unit 3 Valve Test List

REACTOR COOLANT

Drawing No - 25212 - 26902

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act Size	Safety Pos	Pass Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RCS*AV8037A	REACTOR COOLANT LOOP 1 DRAIN ISOLATION	6/J-3	1	B	GL	AO 2.0	C	Yes	PI	2A	--	--		
3RCS*AV8037B	REACTOR COOLANT LOOP 2 DRAIN ISOLATION	6/J-3	1	B	GL	AO 2.0	C	Yes	PI	2A	--	--		
3RCS*AV8037C	REACTOR COOLANT LOOP 3 DRAIN ISOLATION	6/J-3	1	B	GL	AO 2.0	C	Yes	PI	2A	--	--		
3RCS*AV8037D	REACTOR COOLANT 4 DRAIN ISOLATION	6/J-3	1	B	GL	AO 2.0	C	Yes	PI	2A	--	--		
3RCS*AV8145	PRESSURIZER AUXILIARY SPRAY(CVCS)	3/L-2	1	B	GL	AO 2.0	C	Yes	PI	2A	--	--		
3RCS*HCV442A	REACTOR VESSEL 3RCS*RV1 VENT VALVE	6/J-6	2	B	GL	SO 1.0	O/C	No	FT	Q	030	--	FTCS	
									PI	2A	--	--		
									STC	Q	030	--	STCCS	
									STO	Q	030	--	STOCS	
3RCS*HCV442B	B REACTOR HEAD VENT	6/K-6	2	B	GL	SO 1.0	O/C	No	FT	Q	030	--	FTCS	
									PI	2A	--	--		
									STC	Q	030	--	STCCS	
									STO	Q	030	--	STOCS	
3RCS*LCV459	RCP FILL & VENT LETDOWN ISOLATION	2/B-11	1	B	GL	AO 3.0	C	No	FT	Q	064	--	FTCS	
									PI	2A	--	--		
									STC	Q	064	--	STCCS	

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# Millstone Unit 3 Valve Test List

REACTOR COOLANT

Drawing No - 25212 - 26902

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RCS*LCV460	LETDOWN ISOLATION	2/C-11	1	B	GL	AO	3.0	C	No		FT PI STC	Q 2A Q	064 -- 064	-- -- --	FTCS  STCCS	
3RCS*MV8000A	PRESSURIZER POWER RELIEF ISOLATION	3/D-9	1	B	GT	MO	3.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		May be shut when required to open to perform its safety function.
3RCS*MV8000B	PRESSURIZER POWER RELIEF ISOLATION	3/D-6	1	B	GT	MO	3.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		May be shut when required to open to perform its safety function.
3RCS*MV8098	REACTOR VESSEL TO EXCESS LETDOWN	6/K-5	2	B	GT	MO	1.0	C	Yes		PI	2A	--	--		
3RCS*PCV455A	PRESSURIZER PRESSURE RELIEF	3/C-9	1	B	RV	SO	3.0	O	No		FT PI STO	Q 2A Q	029 -- 029	-- -- --	FTR  STOR	
3RCS*PCV456	PRESSURIZER PRESSURE RELIEF	3/C-6	1	B	RV	SO	3.0	O	No		FT PI STO	Q 2A Q	029 -- 029	-- -- --	FTR  STOR	
3RCS*SV8010A	PRESSURIZER SAFETY VALVE	3/E-2	1	C	RV	SA	6.0	O	No		SRV	5A	--	V-001		Testing frequency per OM1 test schedule
3RCS*SV8010B	PRESSURIZER SAFETY VALVE	3/H-2	1	C	RV	SA	6.0	O	No		SRV	5A	--	V-001		Testing frequency per OM1 test schedule

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# Millstone Unit 3 Valve Test List

REACTOR COOLANT

Drawing No - 25212 - 26902

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RCS*SV8010C	PRESSURIZER SAFETY VALVE	3/J-2	1	C	RV	SA	6.0	O	No	SRV	5A	--	V-001		Testing frequency per OMI test schedule
3RCS*SV8095A	A REACTOR VESSEL HEAD VENT ISOLATION UPSTREAM	6/J-3	1	B	GL	SO	1.0	O/C	No	FT	Q	030	--	FTCS	
										PI	2A	--	--		
										STC	Q	030	--	STCCS	
										STO	Q	030	--	STOCS	
3RCS*SV8095B	B REACTOR VESSEL HEAD VENT ISOLATION UPSTREAM	6/J-3	1	B	GL	SO	1.0	O/C	No	FT	Q	030	--	FTCS	
										PI	2A	--	--		
										STC	Q	030	--	STCCS	
										STO	Q	030	--	STOCS	
3RCS*SV8096A	A REACTOR VESSEL HEAD VENT ISOLATION DOWNSTREAM	6/J-4	2	B	GL	SO	1.0	O/C	No	FT	Q	030	--	FTCS	
										PI	2A	--	--		
										STC	Q	030	--	STCCS	
										STO	Q	030	--	STOCS	
3RCS*SV8096B	B REACTOR HEAD VENT ISOLATION DOWNSTREAM	6/J-4	2	B	GL	SO	1.0	O/C	No	FT	Q	030	--	FTCS	
										PI	2A	--	--		
										STC	Q	030	--	STOCS	
										STO	Q	030	--	STOCS	
3RCS*V026	SIH TO RCS LOOP 1 HOT LEG	1/K-5	1	AC	CH	SA	6.0	O/C	No	FSC	Q	001	--	LT	
										FSO	Q	026	--	FSOR	
										LT	CS/ BI	--	--		PIV

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# Millstone Unit 3 Valve Test List

REACTOR COOLANT

Drawing No - 25212 - 26902

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RCS*V029	SIH TO RCS LOOP 1,COLD LEG	1/J-8	1	AC	CL	SA	1.5	O/C	No		FSC	Q	001	--	LT	PIV
											FSO	Q	027	--	FSOR	
											LT	CS/ BI	--	--		
3RCS*V030	SIL TO RCS LOOP 1 COLD LEG	1/J-9	1	AC	CS	SA	10.0	O/C	No		FSC	Q	001	--	LT	PIV
											FSO	Q	028	--	FSOR	
											LT	CS/ BI	--	--		
3RCS*V031	CHARGING SYSTEM TO REACTOR COOLANT LOOP 1	1/J-8	1	C	CS	SA	6.0	O/C	No		FSC	Q	068	--	RT	3RCS*V31/32 verified open when loop 1 flow path in service. See ATJ 68.
											FSO	CS	--	--		
3RCS*V032	CHARGING SYSTEM TO REACTOR COOLANT LOOP 1	1/J-8	1	C	CS	SA	6.0	O/C	No		FSC	Q	068	--	RT	3RCS*V31/32 verified open when loop 1 flow path in service. See ATJ 68.
											FSO	CS	--	--		
3RCS*V069	RHS/SI TO RCS LOOP 2 HOT LEG	4/J-3	1	AC	CS	SA	6.0	O/C	No		FSC	Q	001	--	LT	PIV
											FSO	Q	026	--	FSOR	
											LT	CS/ BI	--	--		
3RCS*V070	SIH TO RCS LOOP 2,COLD LEG	4/J-10	1	AC	CL	SA	1.5	O/C	No		FSC	Q	001	--	LT	PIV
											FSO	Q	027	--	FSOR	
											LT	CS/ BI	--	--		

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# Millstone Unit 3 Valve Test List

REACTOR COOLANT

Drawing No - 25212 - 26902

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RCS*V071	SIL TO RCS LOOP 2 COLD LEG	4/I-10	1	AC	CS	SA	10.0	O/C	No	FSC	Q	001	--	LT	PIV
										FSO	Q	028	--	FSOR	
										LT	CS/ BI	--	--		
3RCS*V102	SIH TO RCS LOOP 2 HOT LEG	2/B-4	1	AC	CS	SA	6.0	O/C	No	FSC	Q	001	--	LT	PIV
										FSO	Q	026	--	FSOR	
										LT	CS/ BI	--	--		
3RCS*V106	SIH TO RCS LOOP 3 COLD LEG	2/B-9	1	AC	CL	SA	1.5	O/C	No	FSC	Q	001	--	LT	PIV
										FSO	Q	027	--	FSOR	
										LT	CS/ BI	--	--		
3RCS*V107	SIL TO RCS LOOP 3 COLD LEG	2/B-9	1	AC	CS	SA	10.0	O/C	No	FSC	Q	001	--	LT	PIV
										FSO	Q	028	--	FSOR	
										LT	CS/ BI	--	--		
3RCS*V142	RHS/SI TO RCS LOOP 4 HOT LEG	5/B-5	1	AC	CS	SA	6.0	O/C	No	FSC	Q	001	--	LT	PIV
										FSO	Q	026	--	FSOR	
										LT	CS/ BI	--	--		
3RCS*V145	SIH TO RCS LOOP 4,COLD LEG	5/B-5	1	AC	CL	SA	1.5	O/C	No	FSC	Q	001	--	LT	PIV
										FSO	Q	027	--	FSOR	
										LT	CS/ BI	--	--		

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# Millstone Unit 3 Valve Test List

REACTOR COOLANT

Drawing No - 25212 - 26902

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RCS*V146	SIL TO RCS LOOP 4 COLD LEG	5/A-7	1	AC	CS	SA	10.0	O/C	No		FSC	Q	001	--	LT	
											FSO	Q	028	--	FSOR	
											LT	CS/ BI	--	--		PIV
3RCS*V147	CHARGING SYSTEM TO REACTOR COOLANTLOOP 4	5/B-6	1	C	CS	SA	6.0	O/C	No		FSC	Q	068	--	RT	
											FSO	CS	--	--		3RCS*V147/148 verified open when loop 4 flow path in service. See ATJ 68.
3RCS*V148	CHARGING SYSTEM TO REACTOR COOLANTLOOP4	5/B-7	1	C	CS	SA	6.0	O/C	No		FSC	Q	068	--	RT	
											FSO	CS	--	--		3RCS*V147/148 verified open when loop 4 flow path in service. See ATJ 68.

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# Millstone Unit 3 Valve Test List

VOLUME CONTROL

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*AV8146	CHARGING LOOP 1 ISOLATION	1/B-2	2	B	GL	AO	3.0	O	No	FT	Q	055	--	FTCS	Required for safety grade cold shutdown.
										PI	2A	--	--		
										STO	Q	055	--	STOCS	
3CHS*AV8147	CHARGING LOOP 4 ISOLATION	1/D-2	2	B	GL	AO	3.0	O	No	FT	Q	055	--	FTCS	
										PI	2A	--	--		
										STO	Q	055	--	STOCS	
3CHS*AV8149A	(A) ORIFICE ISOLATION VALVE	1/G-2	2	B	GL	AO	2.0	C	No	FT	Q	056	--	FTCS	
										PI	2A	--	--		
										STC	Q	056	--	STCCS	
3CHS*AV8149B	"B" LETDOWN ORIFICE ISOLATION	1/H-2	2	B	GL	AO	2.0	C	No	FT	Q	056	--	FTCS	
										PI	2A	--	--		
										STC	Q	056	--	STCCS	
3CHS*AV8149C	(C) LETDOWN ORIFICE ISOLATION	1/H-2	2	B	GL	AO	2.0	C	No	FT	Q	056	--	FTCS	
										PI	2A	--	--		
										STC	Q	056	--	STCCS	
3CHS*CV8152	REACTOR COOLANT LETDOWN CTMT PENETRATION (24 - OUTSIDE)	1/J-2	2	A	GL	AO	3.0	C	No	FT	Q	011	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 24
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	011	--	STCCS	

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# Millstone Unit 3 Valve Test List

## VOLUME CONTROL

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*CV8160	REACTOR COOLANT LETDOWN CTMT PENETRATION (24-INSIDE)	1/I-2	2	A	GL	AO	2.5	C	No		FT LJ PI STC	Q J 2A Q	011 -- -- 011	-- -- -- --	FTCS	Leak test per 10CFR50 Appendix J - Pen. 24
3CHS*HCV182	CHG HDR TO SEAL WATER INJECTION FILTERS CONTROL VALVE	1/C-11	2	B	GL	AO	3.0	O	No		FT STO	Q Q	062 062	-- --	FTCS STOCS	
3CHS*HCV190A	CHARGING HEADER FLOW CONTROL	1/E-7	2	B	GL	SO	1.0	O	No		PI STO	2A Q	-- --	-- --		Required for safety grade cold shutdown.
3CHS*HCV190B	CHARGING HEADER FLOW CONTROL	1/E-11	2	B	GL	SO	1.0	O	No		PI STO	2A Q	-- --	-- --		Required for safety grade cold shutdown.
3CHS*LCV112B	VOLUME CONTROL TANK OUTLET ISOLATION	1/J-8	2	A	GT	MO	4.0	C	No		LT PI STC	2A 2A Q	-- -- 004	-- -- --		RWST Backleakage Test Program
3CHS*LCV112C	VOLUME CONTROL TANK OUTLET ISOLATION	1/J-8	2	A	GT	MO	4.0	C	No		LT PI STC	2A 2A Q	-- -- 004	-- -- --		RWST Backleakage Test Program
3CHS*LCV112D	RWST SUPPLY TO CHARGING PUMP SUCTION	1/J-9	2	B	GT	MO	8.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		

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# Millstone Unit 3 Valve Test List

VOLUME CONTROL

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*LCV112E	RWST SUPPLY TO CHARGING PUMP SUCTION	1/J-10	2	B	GT	MO	8.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3CHS*MV8100	SEAL WATER RETURN FROM RCP CTMT PENETRATION (23 - OUTSIDE)	1/A-6	2	A	GL	MO	2.0	C	No		LJ PI STC	J 2A Q	-- -- 009	-- -- --	STCCS	Leak test per 10CFR50 Appendix J - Pen 23
3CHS*MV8105	CHARGING FLOW CONTROL VALVE ISOLATION (26-OUTSIDE)	1/G-5	2	A	GT	MO	3.0	O/C	No		LJ PI STC STO	J 2A Q Q	-- -- 011 011	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen 26
3CHS*MV8106	CHARGING FLOW CONTROLLER ISOLATION	1/G-5	2	B	GT	MO	3.0	C	No		PI STC STO	2A Q Q	-- 011 011	-- -- --	STCCS STOCS	
3CHS*MV8109A	RCP 'A' SEAL SUPPLY ISOLATION CTMT PENETRATION (16- OUTSIDE)	1/H-7	2	A	GL	MO	2.0	O/C	No		LJ PI STC	J 2A Q	-- -- 009	-- -- --		Leak test per 10CFR50 Appendix J - Pen. 16 Passive in open direction.
3CHS*MV8109B	RCP 'B' SEAL SUPPLY ISOLATION CTMT PENETRATION (17- OUTSIDE)	1/E-7	2	A	GL	MO	2.0	O/C	No		LJ PI STC	J 2A Q	-- -- 009	-- -- --	STCCS	Leak test per 10CFR50 Appendix J - Pen. 17 Passive in the open direction.

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# Millstone Unit 3 Valve Test List

VOLUME CONTROL

Drawing No - 25212 - 26903

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*MV8109C	RCP 'C' SEAL SUPPLY ISOLATION CTMT PENETRATION (18- OUTSIDE)	1/K-7	2	A	GL	MO	2.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 18 Passive in the open direction.
											PI	2A	--	--		
											STC	Q	009	--	STCCS	
3CHS*MV8109D	RCP 'D' SEAL SUPPLY ISOLATION CTMT PENETRATION (19- OUTSIDE)	1/A-7	2	A	GL	MO	2.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 19 Passive in open direction.
											PI	2A	--	--		
											STC	Q	009	--	STCCS	
3CHS*MV8110	CHARGING RECIRCULATING ISOLATION TO SEALWATER	1/E-8	3	B	GL	MO	2.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3CHS*MV8111A	CHARGING PUMP 3A RECIRCULATION ISOLATION	1/G-8	2	B	GL	MO	2.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3CHS*MV8111B	CHARGING PUMP 3B RECIRCULATION ISOLATION	1/G-10	2	B	GL	MO	2.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3CHS*MV8111C	CHARGING PUMP 3C RECIRCULATION ISOLATION	1/G-9	2	B	GL	MO	2.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3CHS*MV8112	SEALWATER RETURN FROM RCP CTMT PENET.(23-INSIDE)	1/A-7	2	A	GL	MO	2.0	C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 23
											PI	2A	--	--		
											STC	Q	009	--	STCCS	

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# Millstone Unit 3 Valve Test List

VOLUME CONTROL

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*MV8116	BYPASS CONTROL VALVE	1/G-7	2	B	GT	MO	1.0	C	No		PI STO	2A Q	-- --	-- --		Required for safety grade cold shutdown.
3CHS*MV8438A	CHARGING PUMP A/C DISCHARGE ISOLATION	1/E-8	2	B	GT	MO	4.0	O/C	No		PI STC	2A Q	-- --	-- --		
3CHS*MV8438B	CHARGING PUMP B/C DISCHARGE ISOLATION	1/E-11	2	B	GT	MO	4.0	O/C	No		PI STC	2A Q	-- --	-- --		
3CHS*MV8438C	CHARGING HEADER TRANSFER CONNECTION	1/D-9	2	B	GT	MO	4.0	O/C	No		PI STC	2A Q	-- --	-- --		
3CHS*MV8468A	LOW PRESSURE SAFETY INJECTION CHARGING PUMP SUCTION ISOLATION	1/J-9	2	B	GT	MO	8.0	O/C	No		PI STC	2A Q	-- --	-- --		
3CHS*MV8468B	LOW PRESSURE SAFETY INJECTION CHARGING PUMP SUCTION ISOLATION	1/J-10	2	B	GT	MO	8.0	O/C	No		PI STC	2A Q	-- --	-- --		
3CHS*MV8507A	(A) TANK GRAVITY BORATION	3/L-7	2	B	GT	MO	3.0	O/C	No		PI STO	2A Q	-- 008	-- --	STOCS	
3CHS*MV8507B	(B) TANK GRAVITY BORATION	3/L-7	2	B	GT	MO	3.0	O/C	No		PI STO	2A Q	-- 008	-- --	STOCS	

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VOLUME CONTROL

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*MV8511A	CHARGING PUMP RELIEF TRAIN (A) ISOLATION	4/J-7	2	A	GT	MO	2.0	O/C	No		LT	2A	--	--		RWST Backleakage Test Program 2
											PI	2A	--	--		
											STC	Q	076	--	STCCS	
											STO	Q	076	--	STOCS	
3CHS*MV8511B	CHARGING PUMP RELIEF TRAIN (B) ISOLATION	4/K-9	2	A	GT	MO	2.0	O/C	No		LT	2A	--	--		RWST Backleakage Test Program 2
											PI	2A	--	--		
											STC	Q	076	--	STCCS	
											STO	Q	076	--	STOCS	
3CHS*MV8512A	CHARGING PUMP RELIEF ISOLATION TRAIN B	4/K-8	2	A	GT	MO	2.0	O/C	No		LT	2A	--	--		RWST Backleakage Test Program
											PI	2A	--	--		
											STC	Q	--	--		
3CHS*MV8512B	CHARGING PUMP RELIEF ISOLATION	4/K-9	2	A	GT	MO	2.0	O/C	No		LT	2A	--	--		RWST Backleakage Test Program
											PI	2A	--	--		
											STC	Q	--	--		
3CHS*RV8113	SEAL RETURN LINE IN CONTAINMENT RELIEF	1/B-7	2	AC	RV	SA	0.75	C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 23
											SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3CHS*RV8117	LETDOWN LINE INSIDE CONTAINMENT RELIEF (24-INSIDE)	1/I-2	2	AC	RV	SA	2.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 24
											SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3CHS*RV8121	SEAL RETURN LINE INLET CONTAINMENT RELIEF	1/B-8	2	C	RV	SA	3.0	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.

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# Millstone Unit 3 Valve Test List

VOLUME CONTROL

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*RV8123	SEAL WATER HEAT EXCHANGER RELIEF	1/B-4	2	C	RV	SA 3.0	O	No		SRV	10A	--	V-001		Test frequency per OMI test schedule.
3CHS*RV8124	LPSI TO CHARGING PUMP SUCTION HEADER RELIEF	1/J-9	2	C	RV	SA 1.5	O	No		SRV	10A	--	V-001		Test frequency per OMI test schedule.
3CHS*RV8351	LOOP FILL LINE OVER PRESSURE RELIEF	1/D-3	2	AC	RV	SA 0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 62
										SRV	10A	--	V-001		Test frequency per OMI test schedule.
3CHS*RV8510A	CHARGING PUMP MINIFLOW RELIEF (A)	4/L-7	2	C	RV	SA 1.5	O	No		SRV	10A	--	V-001		Test frequency per OMI test schedule. See Basis Document for NRC commitments.
3CHS*RV8510B	CHARGING PUMP MINIFLOW RELIEF (B)	4/L-9	2	C	RV	SA 1.5	O	No		SRV	10A	--	V-001		Test frequency per OMI test schedule. See Basis Document for NRC commitments.
3CHS*V042	VOLUME CONTROL TANK OUTLET TO CHARGING PUMP SUCTION	1/J-10	2	C	CS	SA 4.0	O/C	No		FSC	Q	054	--	DIS-CM	11
										FSO	Q	--	--		
3CHS*V046	CHARGING PUMP A DISCHARGE CHECK	1/F-8	2	C	CH	SA 4.0	O/C	No		FSC	Q	--	--		FSOR
										FSO	Q	003	--		
										PSO	Q	--	--		
3CHS*V047	CHARGING PUMP C DISCHARGE CHECK	1/F-9	2	C	CH	SA 4.0	O/C	No		FSC	Q	--	--		FSOR
										FSO	Q	003	--		
										PSO	Q	--	--		
3CHS*V048	CHARGING PUMP B DISCHARGE CHECK	1/F-11	2	C	CH	SA 4.0	O/C	No		FSC	Q	--	--		FSOR
										FSO	Q	003	--		
										PSO	Q	--	--		

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# Millstone Unit 3 Valve Test List

VOLUME CONTROL

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*V058	REACTOR COOLANT CHARGING CTMT PENETRATION (26-INSIDE)	1/F-3	2	AC	CS	SA 3.0	O/C	No		FSC	Q	005	--	LJ	Closure capability verified by App. J leak test or using radiography <span style="float: right;">11</span>
										FSO	CS	--	--		
										LJ	J	--	--		Leak test per 10CFR50 App J - Pen. 26. Radiography can be credited if desired
3CHS*V261	RWST SPLY TO CHG. PP SUCTION CHK.	1/K-9	2	AC	CS	SA 8.0	O/C	No		FSC	Q	006	--	FSCR	
										FSO	Q	006	--	FSOR	
										LT	2A	--	--		RWST Backleakage Test Program
3CHS*V262	CHARGING PP B RECIRC. CHK.	1/H-11	2	C	CL	SA 2.0	O/C	No		FSC	Q	--	--		
										FSO	Q	--	--		
3CHS*V263	CHARGING PP C RECIRC. CHK.	1/H-9	2	C	CL	SA 2.0	O/C	No		FSC	Q	--	--		
										FSO	Q	--	--		
3CHS*V264	CHARGING PP A RECIRC. CHK.	1/H-8	2	C	CL	SA 2.0	O/C	No		FSC	Q	--	--		
										FSO	Q	--	--		
3CHS*V270	CHARGER PUMP 3B MAIN CHARGER BYPASS	1/F-10	2	B	GL	HA 2.0	O	No		FSO	Q	--	V-007	FSO-18	
3CHS*V271	CHARGING PUMP 3C MAIN CHARGE BYPASS (1- 1/16)	1/F-10	2	B	GL	HA 2.0	O	No		FSO	Q	--	V-007	FSO-18	
3CHS*V272	CHARGING PUMP 3A MAIN CHARGER BYPASS	1/F-9	2	B	GL	HA 2.0	O	No		FSO	Q	--	V-007	FSO-18	

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# Millstone Unit 3 Valve Test List

VOLUME CONTROL

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*V273	CHARGING TO REACTOR COOLANT PUMP SEALS MAIN ISOLATION	1/D-11	2	B	GT	HA	2.0	C	No		FSC	Q	--	V-007	FSC-18	
3CHS*V371	R/X COOLANT LOOP FILL CTMT PENETRATION (62- OUTSIDE)	1/D-4	2	A	GL	HA	2.0	C	Yes		LJ	J	--	--		Passive containment isolation valve. Leak test per 10CFR50 Appendix J only - Pen. 62
3CHS*V372	REACTOR COOLANT LOOP FILL CTMT PENETRATION (62-INSIDE)	1/D-3	2	AC	CL	SA	2.0	C	Yes		LJ	J	--	--		Passive containment isolation valve. Leak test per 10CFR50 Appendix J - Pen 62. Closure verification is needed to support the CM program. Frequency is driven by IST program not Appendix J. <span style="float: right;">11</span>
											PSO	R	--	--	VNORMOP	verified during filling of the RCS loops during refueling per 3250.01
3CHS*V394	CTMT PENETRATION (16- INSIDE)	1/H-6	2	AC	CL	SA	2.0	O/C	No		FSC	Q	005	--	LJ	Closure capability verified by App. J leak test. <span style="float: right;">11</span>
											FSO	Q	--	--		
											LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 16
3CHS*V396	CHECK VALVE	1/I-5	1	C	CL	SA	2.0	O	No		FSC	A/R	--	--	CM	2 lines done each outage <span style="float: right;">11</span>
											FSO	Q	--	--		
3CHS*V397	CHECK VALVE	1/I-5	1	C	CL	SA	2.0	O	No		FSC	A/R	--	--	CM	2 lines done each outage <span style="float: right;">11</span>
											FSO	Q	--	--		

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VOLUME CONTROL

# Millstone Unit 3 Valve Test List

Drawing No - 25212 - 26903

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3CHS*V434	CTMT PENETRATION (17- INSIDE)	/E-6	2	AC	CL	SA	2.0	O/C	No		FSC	Q	005	--	LJ	Closure capability verified by App. J leak test.	<u>11</u>
											FSO	Q	--	--			
											LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 17	
3CHS*V436	CHECK VALVE	1/E-5	1	C	CL	SA	2.0	O	No		FSC	A/R	--	--	CM	2 lines done each outage	<u>11</u>
											FSO	Q	--	--			
3CHS*V437	CHECK VALVE	1/E-5	1	C	CL	SA	2.0	O	No		FSC	A/R	--	--	CM	2 lines done each outage	<u>11</u>
											FSO	Q	--	--			
3CHS*V467	CTMT PENETRATION (18- INSIDE)	/K-6	2	AC	CL	SA	2.0	O/C	No		FSC	Q	005	--	LJ	Closure capability verified by App. J leak test.	<u>11</u>
											FSO	Q	--	--			
											LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 18	
3CHS*V469	CHECK VALVE	1/L-5	1	C	CL	SA	2.0	O	No		FSC	A/R	--	--	CM	2 lines done each outage	<u>11</u>
											FSO	Q	--	--			
3CHS*V470	CHECK VALVE	1/L-5	1	C	CL	SA	2.0	O	No		FSC	A/R	--	--	CM	2 lines are done each outage	<u>11</u>
											FSO	Q	--	--			
3CHS*V501	CTMT PENETRATION (19- INSIDE)	/A-6	2	AC	CL	SA	2.0	O/C	No		FSC	Q	005	--	LJ	Closure capability verified by App. J leak test.	<u>11</u>
											FSO	Q	--	--			
											LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 19	
3CHS*V503	CHECK VALVE	1/A-5	1	C	CL	SA	2.0	O	No		FSC	A/R	--	--	CM	2 lines done each outage	<u>11</u>
											FSO	Q	--	--			

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# Millstone Unit 3 Valve Test List

VOLUME CONTROL

Drawing No - 25212 - 26903

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3CHS*V504	CHECK VALVE	1/B-5	1	C	CL	SA	2.0	O	No		FSC	A/R	--	--	CM	2 lines done each outage	<u>11</u>
											FSO	Q	--	--			

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# Millstone Unit 3 Valve Test List

BORIC ACID

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CHS*FCV110B	MAKEUP TO CHARGING PUMP SUCTION ISOLATION	1/J-6	3	B	GL	AO	2.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CHS*FCV111A	PRIMARY WATER SUPPLY TO BLENDER	3/B-2	3	B	GL	AO	2.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CHS*FCV111B	MAKEUP TO VOLUME CONTROL TANK ISOLATION	1/L-7	3	B	GL	AO	2.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CHS*MV8104	BORIC ACID FILTER TO CHARGING PUMP	3/F-4	2	B	GL	MO	2.0	O/C	No		PI STO	2A Q	-- --	-- --		
3CHS*V291	BATCH TANK TO TRANSFER PUMP 2A ISOLATION	3/L-5	3	B	DI	HA	2.0	O	No		FSO	Q	--	V-006	FSO-18	No SP existed for the quarterly test. See CR# M3-99-2960.
3CHS*V294	CHECK VALVE	3/J-5	3	C	CL	SA	2.0	O/C	No		FSC FSO	Q Q	-- --	-- --		
3CHS*V296	CHECK VALVE	3/J-6	3	C	CL	SA	2.0	O/C	No		FSC FSO	Q Q	-- --	-- --		
3CHS*V302	BORIC ACID TO BLENDER CHECK VALVE	3/C-5	3	C	CL	SA	2.0	C	No		FSC PSO	Q A/R	-- --	-- --	VNORMOP	Verified during normal operations

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# Millstone Unit 3 Valve Test List

BORIC ACID

Drawing No - 25212 - 26904

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3CHS*V310	PREVENT BACKFLOW FROM BORON INJECTION SYS. INTO PRIMARY GRADE WTR	3/C-4	3	C	CS	SA 3.0	C	No		FSC PSO	Q A/R	-- --	-- --	VNORMOP	Opening verified by normal operation during a dilution per OP33304C.	<u>11</u>
3CHS*V320	BORIC ACID FILTER TO CHS PUMP CHECK VALVE	3/F-4	2	C	CL	SA 2.0	O	No		FSC FSO	A/R Q	-- 007	-- --	RT FSOCS		<u>11</u>
3CHS*V333	CHECK VALVE B.A.T. B GRAVITY BORATION	3/L-7	3	C	CS	SA 3.0	O	No		FSC FSO	A/R Q	-- 008	-- --	DIS-CM FSOCS		<u>11</u>
3CHS*V711	B.A.T. A GRAVITY BORATION CHK.	3/L-7	3	C	CS	SA 3.0	O	No		FSC FSO	A/R Q	-- 008	-- --	DIS-CM FSOCS		<u>11</u>

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# Millstone Unit 3 Valve Test List

## SPENT FUEL POOL COOLING & PURIFICATION

Drawing No - 25212 - 26911

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SFC*RV52A	'A' Fuel Pool Cooler Outlet	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SFC*RV52B	'B' Fuel Pool Cooler Outlet	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SFC*V003	FUEL POOL COOLING PUMP P1A DISCHARGE CHECK VALVE	1/G-9	3	C	CS	SA	10.0	O/C	No		FSC FSO	Q	--	--		
3SFC*V006	FUEL POOL COOLING PUMP P1B DISCHARGE CHECK VALVE	1/G-11	3	C	CS	SA	10.0	O/C	No		FSC FSO	Q	--	--		
3SFC*V989	REFUEL CAVITY PURIFICATION OUTLET CTMT PENETRAT(60- OUTSIDE)	/E-3	3	A	GT	HA	4.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J only (passive valve) - Pen. 60
3SFC*V990	REFUELING CAVITY PURIFICATION OUTLET CTMT PENETRATION (60- INSIDE)	/D-3	3	A	GT	HA	4.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J only (passive valve) - Pen. 60
3SFC*V991	REFUELING CAVITY PURIFICATION INLET CTMT PENETRATION (59- INSIDE)	/D-1	3	A	GT	HA	4.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J only (passive valve) - Pen. 59
3SFC*V992	REFUEL CAVITY PURIFICATION INLET CTMT PEN (59-OUTSIDE)	/E-1	3	A	GT	HA	4.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J only (passive valve) - Pen. 59

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# Millstone Unit 3 Valve Test List

## CONTAINMENT RECIRCULATION SPRAY

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RSS*MOV20A	CTMT RECIRCULATION PUMP DISCHARGE CTMT PENETRATION (110- OUTSIDE)	3/L-9	2	A	BF	MO	10.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 110
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3RSS*MOV20B	CTMT RECIRCULATION PUMP DISCHARGE CTMT PENETRATION (108- OUTSIDE)	3/J-4	2	A	BF	MO	10.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 108
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3RSS*MOV20C	CTMT RECIRCULATION PUMP DISCHARGE CTMT PENETRATION (109- OUTSIDE)	3/J-7	2	A	BF	MO	10.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 109
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3RSS*MOV20D	CTMT RECIRCULATION PUMP DISCHARGE CTMT PENETRATION (107- OUTSIDE)	3/L-3	2	A	BF	MO	10.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 107
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3RSS*MOV23A	CTMT RECIRCULATION PUMP SUCTION CTMT PENETRATION (102- OUTSIDE)	3/C-10	2	A	BF	MO	12.0	O/C	No		LJ	J	--	--		CIV - Leak test per 10CFR50 Appendix J - Pen 102
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		



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CONTAINMENT RECIRCULATION SPRAY

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RSS*MOV23B	CTMT RECIRCULATION PUMP SUCTION CTMT PENETRATION (104- OUTSIDE)	3/C-8	2	A	BF	MO	12.0	O/C	No		LJ	J	--	--		CIV - Leak test per 10CFR50 Appendix J - Pen 103
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3RSS*MOV23C	CTMT RECIRCULATION PUMP SUCTION CTMT PENETRATION (103- OUTSIDE)	3/C-4	2	A	BF	MO	12.0	O/C	No		LJ	J	--	--		CIV - Leak test per 10CFR50 Appendix J - Pen 104
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3RSS*MOV23D	CTMT RECIRCULATION PUMP SUCTION CTMT PENETRATION (105- OUTSIDE)	3/C-2	2	A	BF	MO	12.0	O/C	No		LJ	J	--	--		CIV - Leak test per 10CFR50 Appendix J - Pen 105
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3RSS*MOV38A	3RSS*PIA MINIFLOW RECIRC	3/F-10	2	B	GT	MO	4.0	O/C	No		PI	2A	--	--		
3RSS*MOV38B	3RSS*PIB MINIFLOW RECIRC	3/F-5	2	B	GT	MO	4.0	O/C	No		PI	2A	--	--		
3RSS*MV8837A	RSS TO RHR TRANSFER CONNECTION	3/J-9	2	B	GT	MO	8.0	O/C	No		PI	2A	--	--		Done when RSS piping full
											STC	Q	074	--	STCR	
											STO	Q	074	--	STOR	
3RSS*MV8837B	RSS TO RHR TRANSFER CONNECTION	3/J-4	2	B	GT	MO	8.0	O/C	No		PI	2A	--	--		Done when RSS piping filled
											STC	Q	074	--	STCR	
											STO	Q	074	--	STOR	

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# Millstone Unit 3 Valve Test List

CONTAINMENT RECIRCULATION SPRAY

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3RSS*MV8838A	RSS TO RHR TRANSFER CONNECTION	3/J-8	2	B	GT	MO 8.0	O/C	No	PI STO	2A Q	-- 074	-- --	STOR	Done when RSS piping full	<u>2</u>
3RSS*MV8838B	RSS TO RHR TRANSFER CONNECTION	3/J-3	2	B	GT	MO 8.0	O/C	No	PI STO	2A Q	-- 074	-- --	STOR	Done when RSS piping full	<u>2</u>
3RSS*V003	CTMT RECIRCULATION PUMP DISCHARGE CTMT PENETRATION (107- INSIDE)	3/L-4	2	AC	CS	SA 10.0	O/C	No	FS LJ	Q J	033 --	-- --	DIS-CM	Closure capability can also be verified by App. J leak rate test. Leak test per 10CFR50 Appendix J - Pen 107	<u>11</u>
3RSS*V006	CTMT RECIRCULATION PUMP DISCHARGE CTMT PENETRATION (108- INSIDE)	3/K-5	2	AC	CS	SA 10.0	O/C	No	FS LJ	Q J	033 --	-- --	DIS-CM	Closure capability can also be verified by App. J leak rate test. Leak test per 10CFR50 Appendix J - Pen 108	<u>11</u>
3RSS*V009	CTMT RECIRCULATION PUMP DISCHARGE CTMT PENETRATION (109- INSIDE)	3/K-7	2	AC	CS	SA 10.0	O/C	No	FS LJ	Q J	033 --	-- --	DIS-CM	Closure capability can also be verified by App. J leak rate test. Leak test per 10CFR50 Appendix J - Pen 109	<u>11</u>
3RSS*V012	CTMT RECIRCULATION PUMP DISCHARGE CTMT PENETRATION (110- INSIDE)	3/L-7	2	AC	CS	SA 10.0	O/C	No	FS LJ	Q J	033 --	-- --	DIS-CM	Closure capability can also be verified by App. J leak rate test. Leak test per 10CFR50 Appendix J - Pen 110	<u>11</u>
3RSS*V035	CHECK VLV CTMT RECIRC. PP B/D TO LPSI	3/J-3	2	C	CS	SA 8.0	O	No	FSC FSO	A/R Q	-- 061	-- --	DIS-CM FSOR		<u>11</u>
3RSS*V036	CHECK VLV CTMT RECIRC. PP A/C TO LPSI	3/J-9	2	C	CS	SA 8.0	O	No	FSC FSO	A/R Q	-- 061	-- --	DIS-CM FSOR		<u>11</u>

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### Millstone Unit 3 Valve Test List

#### CONTAINMENT RECIRCULATION SPRAY

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RSS*V907	RSS PUMP CASING VENT	3/F-10	2	C	CH	SA	1	O/C	No		FS	Q	075	--	FSR	<u>1</u>
3RSS*V908	RSS PUMP CASING VENT	3/F-4	2	C	CH	SA	1	O/C	No		FS	Q	075	--	FSR	<u>1</u>
3RSS*V909	RSS PUMP CASING VENT	3/F-8	2	C	CH	SA	1	O/C	No		FS	Q	075	--	FSR	<u>1</u>
3RSS*V910	RSS PUMP CASING VENT	3/F-2	2	C	CH	SA	1	O/C	No		FS	Q	075	--	FSR	<u>1</u>

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# Millstone Unit 3 Valve Test List

## LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*AV8872A	LOW PRESSURE SI TO HIGH PRESSURE SI	2/D-11	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8872B	LOW PRESSURE SI TO HIGH PRESSURE SI	2/G-10	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8872C	LOW PRESSURE SI TO HIGH PRESSURE SI	2/I-9	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8872D	LOW PRESSURE SI TO HIGH PRESSURE SI	2/L-9	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8877A	REACTOR COOLANT CHECK VALVE LEAKAGE TEST	2/C-7	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8877B	REACTOR COOLANT CHECK VALVE LEAKAGE ISOLATION	2/F-7	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8877C	REACTOR COOLANT CHECK VALVE LEAKAGE TEST	2/I-7	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8877D	REACTOR COOLANT CHECK VALVE LEAKAGE TEST	2/L-7	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8878A	SAFETY INJECT ACCUMULATE TANK 1 FILL FROM HIGH PRESS SAFETY INJ	2/B-6	2	B	GL	AO	1.0	C	Yes		PI	2A	--	--		

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# Millstone Unit 3 Valve Test List

## LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*AV8878B	SAFETY INJECT ACCUMULATE TANK 2 FILL FROM HIGH PRESS SAFETY INJ	2/E-6	2	B	GL	AO	1.0	C	Yes		PI	2A	--	--		
3SIL*AV8878C	SAFETY INJECT ACCUMULATE TANK 3 FILL FROM HIGH PRESS SAFETY INJ	2/H-6	2	B	GL	AO	1.0	C	Yes		PI	2A	--	--		
3SIL*AV8878D	SAFETY INJECT ACCUMULATE TANK 4 FILL FROM HIGH PRESS SAFETY INJ	2/K-6	2	B	GL	AO	1.0	C	Yes		PI	2A	--	--		
3SIL*AV8879A	REACTOR COOLANT CHECK VALVE LEAKAGE TEST	2/C-8	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8879B	REACTOR COOLANT CHECK VALVE LEAKAGE TEST	2/F-8	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8879C	REACTOR COOLANT CHECK VALVE LEAKAGE TEST	2/I-8	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8879D	REACTOR COOLANT CHECK VALVE LEAKAGE TEST	2/L-8	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8889B	LPSI TEST VALVE	1/K-7	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		
3SIL*AV8889D	LPSI TEST VALVE	1/K-9	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		

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# Millstone Unit 3 Valve Test List

## LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*CV8825	RHR PUMP DISCHARGE TO HOT LEGS CTMT PENETRATION (95-INSIDE)	1/L-8	2	A	GL	AO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 95
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SIL*CV8880	NITROGEN TO SAFETY INJECTION ACCUMULATOR CTMT PENETRAT (14-OUTSIDE)	2/E-2	2	A	GL	AO	1.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 14
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SIL*CV8890A	RHR PUMP DISCHARGE TO COLD LEGS CTMT PENETRATION (93-INSIDE)	1/N-4	2	A	GL	AO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 93
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SIL*CV8890B	RHR PUMP DISCHARGE TO COLD LEGS CTMT PENETRATION (94-INSIDE)	1/N-3	2	A	GL	AO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 94
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SIL*CV8968	NITROGEN TO SAFETY INJECTION ACCUM CTMT PENETRATION (14-INSIDE)	2/G-2	2	A	GL	AO	1.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 14
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

## LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*HCV943A	SAFETY INJECTION ACCUMULATOR TANK N2 VENT VALVE	2/L-2	2	B	GL	SO	1.0	O	No		PI STO	2A Q	-- --	-- --		
3SIL*HCV943B	SAFETY INJECTION ACCUMULATOR TKS NITROGEN VENT VALVE	2/K-2	2	B	GL	SO	1.0	O	No		PI STO	2A Q	-- --	-- --		
3SIL*MV8804A	LOW PRESSURE SAFETY INJECT TO CHARGING PMP SUCTION	1/J-3	2	B	GT	MO	8.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3SIL*MV8804B	LOW PRESSURE SAFETY INJECT TO CHARGING PMP SUCTION	1/H-11	2	B	GT	MO	8.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3SIL*MV8808A	SAFETY INJECT ACCUMULATOR TANK #1 OUTLET ISOLATION	2/B-7	2	B	GT	MO	10.0	O/C	No		PI STC	2A Q	-- 049	-- --	STCCS	Passive in open direction
3SIL*MV8808B	SI ACCUM TANK #2 OUTLET ISOLATION	2/F-7	2	B	GT	MO	10.0	O/C	No		PI STC	2A Q	-- 049	-- --	STCCS	Passive in open direction
3SIL*MV8808C	SI ACCUM TANK #3 OUTLET ISOLATION	2/I-7	2	B	GT	MO	10.0	O/C	No		PI STC	2A Q	-- 049	-- --	STCCS	Passive in open direction
3SIL*MV8808D	SI ACCUM TANK #4 OUTLET ISOLATION	2/L-7	2	B	GT	MO	10.0	O/C	No		PI STC	2A Q	-- 049	-- --	STCCS	Passive in open direction

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# Millstone Unit 3 Valve Test List

## LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*MV8809A	RHR PMP DISCHARGE TO COLD LEGS CTMT PENETRATION (93- OUTSIDE)	1/K-6	2	A	GT	MO	10.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 93
											PI	2A	--	--		
											STC	Q	047	--	STCCS	
											STO	Q	047	--	STOCS	
3SIL*MV8809B	RHR PMP DISCHARGE TO COLD LEGS CTMT PENETRATION (94- OUTSIDE)	1/J-10	2	A	GT	MO	10.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 94
											PI	2A	--	--		
											STC	Q	047	--	STCCS	
											STO	Q	047	--	STOCS	
3SIL*MV8812A	(A) RHR PUMP SUCTION ISOLATION FROM RWST	1/C-5	2	B	GT	MO	12.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		Passive in open direction
3SIL*MV8812B	(B) RHR PUMP SUCTION ISOLATION FROM RWST	1/B-8	2	B	GT	MO	12.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3SIL*MV8840	RHR PMP DISCHARGE TO HOT LEGS CTMT PENETRATION (95- OUTSIDE)	1/I-8	2	A	GT	MO	8.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 95
											PI	2A	--	--		Passive
3SIL*RV8842	RHS PUMP COMMON DISCHARGE HEADER RELIEF	1/I-8	2	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3SIL*RV8855A	ACCUMULATOR TANK RELIEF	2/C-3	2	C	RV	SA	1.0	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3SIL*RV8855B	ACCUMULATOR TANK RELIEF	2/F-3	2	C	RV	SA	1.0	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.



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# Millstone Unit 3 Valve Test List

LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*RV8855C	ACCUMULATOR TANK RELIEF	2/I-3	2	C	RV	SA 1.0	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3SIL*RV8855D	ACCUMULATOR TANK RELIEF	2/L-3	2	C	RV	SA 1.0	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3SIL*RV8856A	A RHS PUMP DISCHARGE HEADER RELIEF	1/K-4	2	C	RV	SA 0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3SIL*RV8856B	B RHS PUMP DISCHARGE HEADER RELIEF	1/J-10	2	C	RV	SA 0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3SIL*RV8857	ACCUMULATOR N2 SUPPLY	2/H-1	2	C	RV	SA 1.5	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3SIL*SV8875A	SAFETY INJECTIONS ACCUM TANK 1 NITROGEN SUPPLY	2/B-3	2	B	GL	SO 1.0	O/C	No		FT	Q	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
3SIL*SV8875B	SAFETY INJECTIONS ACCUM TANK 2 NITROGEN SUPPLY	2/E-3	2	B	GL	SO 1.0	O/C	No		FT	Q	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		
3SIL*SV8875C	SAFETY INJECTIONS ACCUM TANK 3 NITROGEN SUPPLY	2/H-3	2	B	GL	SO 1.0	O/C	No		FT	Q	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
										STO	Q	--	--		

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# Millstone Unit 3 Valve Test List

## LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*SV8875D	SAFETY INJECT TANK 4 NITROGEN SUPPLY	2/K-3	2	B	GL	SO	1.0	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3SIL*SV8875E	SAFETY INJECT ACCUM TANK 1 N2 SUPPLY	2/B-3	2	B	GL	SO	1.0	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3SIL*SV8875F	SAFETY INJECT ACCUM TANK 2 N2 SUPPLY	2/E-3	2	B	GL	SO	1.0	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3SIL*SV8875G	SI ACCUM TANK 3 NITROGEN SUPPLY	2/H-3	2	B	GL	SO	1.0	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3SIL*SV8875H	SAFETY INJECTION ACCUM TANK 4 N2 SUPPLY	2/K-3	2	B	GL	SO	1.0	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3SIL*V001	SAFETY INJECTION SUPPLY FROM RWST	1/B-2	2	B	BF	HA	24.0	C	No		FSC	Q	045	--	FSCR	

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# Millstone Unit 3 Valve Test List

LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*V003	RHR PUMP 1A RWST SUCTION CHECK	1/C-5	2	AC	CS	SA	12.0	O/C	No		FSC	Q	--	--		
											FSCCS	CS	--	--		
											FSO	Q	060	--	FSOR	One train tested during each cold shutdown. Both trains of RHR tested during refuel.
											LT	2A	--	--		RWST Backleakage Test Program
											PSO	Q	--	--		
3SIL*V006	RHS TO RCS LOOP 1 COLD LEGS (93-INSIDE)	1/M-5	2	AC	CS	SA	6.0	O/C	No		FSC	Q	044	--	LJ	Closure capability verified by App. J leak test. <u>11</u>
											FSO	Q	043	--	FSOCS	
											LJ	ER	--	--		Leak test per 10CFR50 Appendix J - Pen. 93 Alpha train Frequency is based on Condition Monitoring Program for Group 59. Group is categorized for performance improvement.
3SIL*V007	RHS TO RCS LOOP 2 COLD LEG (93-INSIDE)	1/M-3	2	AC	CS	SA	6.0	O/C	No		FSC	Q	044	--	LJ	Closure capability verified by App. J leak test. <u>11</u>
											FSO	Q	043	--	FSOCS	
											LJ	ER	--	--		Leak test per 10CFR50 Appendix J - Pen. 93 Alpha train Frequency is based on Condition Monitoring Program for Group 59. Group is categorized for performance improvement.

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# Millstone Unit 3 Valve Test List

LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*V009	RHR PUMP 1B RWST SUCTION CHECK	1/B-9	2	AC	CS	SA 12.0	O/C	No	FSC FSCCS FSO. LT PSO	Q CS Q 060 2A Q	-- -- -- -- --	-- -- -- -- --	FSOR	RWST Backleakage Test Program
3SIL*V012	RHS TO RCS LOOP 4 COLD LEG (94-INSIDE)	1/M-2	2	AC	CS	SA 6.0	O/C	No	FSC FSO LJ	Q Q 043 ER	044 -- --	-- -- --	LJ FSOCS	Closure capability verified by App. J leak test.  Leak test per 10CFR50 Appendix J - Pen. 94 Bravo train Frequency is based on Condition Monitoring Program for Group 59. Group is categorized for performance improvement.
3SIL*V013	RHS TO RCS LOOP 3 COLD LEG (94-INSIDE)	1/M-1	2	AC	CS	SA 6.0	O/C	No	FSC FSO LJ	Q Q 043 ER	044 -- --	-- -- --	LJ FSOCS	Closure capability verified by App. J leak test.  Leak test per 10CFR50 Appendix J - Pen. 94 Bravo train Frequency is based on Condition Monitoring Program for Group 59. Group is categorized for performance improvement.
3SIL*V015	SI ACCUMULATOR A DISCHARGE TO RCS LOOP 1 COLD LEG	2/C-8	1	AC	CS	SA 10.0	O/C	No	FSC FSO LT	Q Q 042 CS/ BI	001 -- --	-- -- --	LT PSO	Full Flow test of check valve using Pressurized SIT, D&I optional PIV

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# Millstone Unit 3 Valve Test List

## LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments		
3SIL*V017	SI ACCUMULATOR B DISCHARGE TO RCS LOOP 2 COLD LEG	2/F-8	1	AC	CS	SA 10.0	O/C	No		FSC	Q	001	--	LT		Partial Flow test of check valve using Pressurized SIT. PIV	11
										FSO	Q	042	--	PSO			
										LT	CS/ BI	--	--				
3SIL*V019	SI ACCUMULATOR C DISCHARGE TO RCS LOOP 3 COLD LEG	2/H-8	1	AC	CS	SA 10.0	O/C	No		FSC	Q	001	--	LT		Partial Flow test of check valve using Pressurized SIT. PIV	11
										FSO	Q	042	--	PSO			
										LT	CS/ BI	--	--				
3SIL*V021	SI ACCUMULATOR D DISCHARGE TO RCS LOOP 4 COLD LEG	2/K-8	1	AC	CS	SA 10.0	O/C	No		FSC	Q	001	--	LT		Partial Flow test of check valve using Pressurized SIT. PIV	11
										FSO	Q	042	--	PSO			
										LT	CS/ BI	--	--	LT			
3SIL*V026	RHR PMP DISCHARGE TO HOT LEGS (95-INSIDE)	1/K-8	1	AC	CS	SA 8.0	C	No		FSC	Q	001	--	LT		Leak test per 10CFR50 Appendix J only - Pen 95 PIV VNORMOP Open verification for CM	11
										LJ	J	--	--				
										LT	CS/ BI	--	--				
										PSO	R	--	--				
3SIL*V027	SAFETY INJECT PP DISCHARGE TO HOT LEG CTMT PENETRATION(96- INSIDE)	1/J-7	1	AC	CL	SA 2.0	O/C	No		FSC	Q	001	--	LT		Leak test per 10CFR50 Appendix J only - Pen 96 PIV	
										FSO	Q	026	--	FSOR			
										LJ	J	--	--				
										LT	CS/ BI	--	--				

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## LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*V028	RHS/SI TO RCS LOOP 4 HOT LEG (95-INSIDE)	1/K-8	1	AC	CS	SA	8.0	C	No		FSC LJ LT PSO	Q J CS/ BI R	001 -- -- --	-- -- -- --	LT   VNORMOP	 Leak test per 10CFR50 Appendix J only - Pen 95 PIV Open verification for Condition Monitoring
3SIL*V029	SAFETY INJECT PP DISCHARGE TO HOT LEG CTMT PENETRATION(96- INSIDE)	1/J-9	1	AC	CL	SA	2.0	O/C	No		FSC FSO LJ LT	Q Q J CS/ BI	001 026 -- --	-- -- -- --	LT FSOR	 Leak test per 10CFR50 Appendix J only - Pen 96 PIV
3SIL*V982	RHR TO CVCS CHK.	1/J-3	2	C	CS	SA	8.0	O/C	No		FS	Q	046	--	DIS	
3SIL*V983	RHR TO CVCS CHECK	1/H-11	2	C	CS	SA	8.0	O	No		FS	Q	046	--	DIS	open and closed stroke is required to meet CM
3SIL*V984	RHS/SI TO RCS LOOP 4 COLD LEG	2/M-9	1	AC	CS	SA	6.0	O/C	No		FSC FSO LT	Q Q CS/ BI	001 043 --	-- -- --	LT FSOCS	 PIV
3SIL*V985	RHS/SI TO RCS LOOP 3 COLD LEG	2/J-9	1	AC	CS	SA	6.0	O/C	No		FSC FSO LT	Q Q CS/ BI	001 043 --	-- -- --	LT FSOCS	 PIV

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# Millstone Unit 3 Valve Test List

## LOW PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIL*V986	RHS/SI TO RCS LOOP 2 COLD LEG	2/H-10	1	AC	CS	SA	6.0	O/C	No		FSC	Q	001	--	LT	PIV
											FSO	Q	043	--	FSOCS	
											LT	CS/ BI	--	--		
3SIL*V987	RHS/SI TO RCS LOOP 1 COLD LEG	2/D-10	1	AC	CS	SA	6.0	O/C	No		FSC	Q	001	--	LT	PIV
											FSO	Q	043	--	FSOCS	
											LT	CS/ BI	--	--		

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# Millstone Unit 3 Valve Test List

## RESIDUAL HEAT REMOVAL

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RHS*FCV610	RESIDUAL HEAT REMOVAL PUMP P1A MINIFLOW RECIRCULATION	1/F-5	2	B	GL MO	3.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3RHS*FCV611	RHR PUMP P1B MINIFLOW RECIRCULATION	1/F-11	2	B	GL MO	3.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3RHS*FCV618	RHS HX E1A BYP	1/E-7	2	B	BF AO	8.0	O	No		FSC  FT STO	Q  Q Q	077  -- --	--  -- --	FSR	Close exercise test performed manually (air isn't credited) using jack screw assy. 1
3RHS*FCV619	RHS HX E1B BYP	1/E-8	2	B	BF AO	8.0	O	No		FSC  FT STO	Q  Q Q	077  -- --	--  -- --	FSR	Close exercise test performed manually (air isn't credited) using jack screw assy. 1
3RHS*HCV606	RES HX E1A FLOW CONT	1/G-6	2	B	BF AO	10.0	O	No		FT STO	Q Q	-- --	-- --		
3RHS*HCV607	RESIDUAL HEAT REMOVAL HEAT EXCHANGER E1B FLOW CONTROL	1/F-10	2	B	BF AO	10.0	O	No		FT STO	Q Q	-- --	-- --		



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# Millstone Unit 3 Valve Test List

## RESIDUAL HEAT REMOVAL

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RHS*MV8701A	RHR PMP SUCTION FROM HOT LEGS CTMT PENETRATION (91-INSIDE)	1/C-3	1	A	GT	MO	12.0	O/C	No	LJ	J	--	--		CIV - Leak test per 10CFR50 Appendix J - Pen. 91 PIV
										LT	CS/ BI	--	--		
										PI	2A	--	--		
										STC	Q	031	--	STCCS	
										STO	Q	031	--	STOCS	
3RHS*MV8701B	RHR PUMP SUCTION FROM HOT LEGS CTMT PENETRATION (91- OUTSIDE)	1/C-4	1	A	GT	MO	12.0	O/C	No	FSOCS	CS	--	--		Manual exercise CIV - Leak test per 10CFR50 Appendix J - Pen. 91
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	031	--	STCCS	
										STO	Q	031	--	STOCS	
3RHS*MV8701C	RESIDUAL HEAT REMOVAL INLET ISOLATION VALVE	1/G-2	1	A	GT	MO	12.0	O/C	No	LT	CS/ BI	--	--		PIV
										PI	2A	--	--		
										STC	Q	031	--	STCCS	
										STO	Q	031	--	STOCS	
3RHS*MV8702A	RHR PMP SUCTION FROM HOT LEGS CTMT PENETRATION (92- OUTSIDE)	1/A-10	2	A	GT	MO	12.0	O/C	No	FSOCS	CS	--	--		Manual exercise CIV - Leak test per 10CFR50 Appendix J - Pen. 91
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	031	--	STCCS	
										STO	Q	031	--	STOCS	

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# Millstone Unit 3 Valve Test List

## RESIDUAL HEAT REMOVAL

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RHS*MV8702B	RHR PMP SUCTION FROM HOT LEGS CTMT PENETRATION 92	1/A-4	1	A	GT	MO	12.0	O/C	No		LJ	J	--	--		CIV - Leak test per 10CFR50 Appendix J - Pen. 92 PIV
											LT	CS/ BI	--	--		
											PI	2A	--	--		
											STC	Q	031	--	STCCS	
											STO	Q	031	--	STOCS	
3RHS*MV8702C	RESIDUAL HEAT REMOVAL INLET ISOLATION VALVE	1/A-2	1	A	GT	MO	12.0	O/C	No		LT	CS/ BI	--	--		PIV
											PI	2A	--	--		
											STC	Q	031	--	STCCS	
											STO	Q	031	--	STOCS	
3RHS*MV8716A	XFER CONN ISO (CONTACT ISI BEFORE WORK ON VLV)	1/I-7	2	B	GT	MO	10.0	O/C	No		PI	2A	--	--		
											STC	Q	032	--	STCCS	
3RHS*MV8716B	XFER CONN.ISO (CONTACT ISI BEFORE ANY WORK ON VL)	1/I-9	2	B	GT	MO	10.0	O/C	No		PI	2A	--	--		
											STC	Q	032	--	STCCS	
3RHS*RV37A	A RHS SUCTION HEADER CONTAINMENT RELIEF (91-INSIDE)	1/F-1	2	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3RHS*RV37B	B RHS SUCTION HEADER CONTAINMENT RELIEF	1/A-4	2	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.

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# Millstone Unit 3 Valve Test List

RESIDUAL HEAT REMOVAL

Drawing No - 25212 - 26912

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3RHS*RV8708A	RHS PUMP A SUCTION HEADER RELIEF (91- OUTSIDE)	1/C-3	2	AC	RV	SA	4.0	O/C	No	LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 91 Test frequency per OM1 test schedule.
										SRV	10A	--	V-001		
3RHS*RV8708B	RHS PUMP B SUCTION HEADER RELIEF (92- OUTSIDE)	1/A-7	2	AC	RV	SA	4.0	O/C	No	LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 92. Test frequency per OM1 test schedule.
										SRV	10A	--	V-001		
3RHS*V001	RHR PUMP 1A DISCHARGE CHECK	1/D-6	2	C	CS	SA	10.0	O	No	FSC	A/R	--	--	DIS-CM	11
										FSO	Q	060	--	FSOR	
										PSO	Q	--	--		
3RHS*V043	RHR Test line to RWST isolation	1/H7	2	A	GT	HA	8	LC	Yes	LT	2A	--	--		RWST Backleakage Test Program
3RHS*V005	RHR PUMP 1B DISCHARGE CHECK	1/C-10	2	C	CS	SA	10.0	O	No	FSC	A/R	--	--	DIS-CM	11
										FSO	Q	060	--	FSOR	
										PSO	Q	--	--		

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# Millstone Unit 3 Valve Test List

## HIGH PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26913

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIH*AV8882	CHG PMP TEST LINE ISOL	1/J-4	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		Passive in closed position
3SIH*AV8889A	SIP HOT LEG TEST LINE	2/K-8	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		Passive
3SIH*AV8889C	SIP HOT LEG TEST LINE	2/L-8	2	B	GL	AO	0.75	C	Yes		PI	2A	--	--		Passive
3SIH*CV8823	SAFETY INJECTION PUMP DISCHARGE PENETRATION(98-INSIDE)	2/J-8	2	A	GL	AO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 98
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SIH*CV8824	SAFETY INJECTION PUMP DISCHARGE PENETRATION(97-INSIDE)	2/J-8	2	A	GL	AO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 97
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SIH*CV8843	CHARGING TO COLD LEGS CTMT PENETRATION(51-INSIDE)	1/I-6	2	A	GL	AO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 51
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SIH*CV8871	SAFETY INJECT TEST LINE CTMT PENETRATION(99-INSIDE)	1/E-8	2	A	GL	AO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 99
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

HIGH PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26913

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIH*CV8881	SAFETY INJECTION PUMP DISCHARGE TO HOT LEG CTMT PENET(96-INSIDE)	2/K-4	2	A	GL	AO 0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 96
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
3SIH*CV8888	ACCUMULATOR FILL LINE CTMT PENETRATION(99- OUTSIDE)	2/J-4	2	A	GL	AO 0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 99
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
3SIH*CV8964	SAFETY INJECT TEST LINE CTMT PENETRATION(99- OUTSIDE)	1/G-8	2	A	GL	AO 0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 99
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
3SIH*MV8801A	CHARGING TO COLD LEGS CTMT PENETRATION (51- OUTSIDE)	1/H-3	2	A	GT	MO 4.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 51
										PI	2A	--	--		
										STC	Q	038	--	STCCS	
										STO	Q	038	--	STOCS	
3SIH*MV8801B	CHARGING TO COLD LEGS CTMT PENETRATION (51- OUTSIDE)	1/H-4	2	A	GT	MO 4.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 51
										PI	2A	--	--		
										STC	Q	038	--	STCCS	
										STO	Q	038	--	STOCS	

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# Millstone Unit 3 Valve Test List

## HIGH PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26913

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIH*MV8802A	SAFETY INJECT PUMP DSCHRG HOT LEG CTMT PENETRATION (96- OUTSIDE)	2/H-3	2	A	GT	MO	4.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 96
											PI	2A	--	--		
											STC	Q	048	--	STCCS	
											STO	Q	048	--	STOCS	
3SIH*MV8802B	SAFETY INJECT PP DSCHRG TO HOT LEG CTMT PENETRATION(97- OUTSIDE)	2/H-9	2	A	GT	MO	4.0	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 97
											PI	2A	--	--		
											STC	Q	048	--	STCCS	
											STO	Q	048	--	STOCS	
3SIH*MV8806	REFUELING WATER STORAGE TANK TO SAFETY INJECTION PUMP	2/A-6	2	B	GT	MO	8.0	O/C	No		PI	2A	--	--		
											STC	Q	039	--	STCCS	
3SIH*MV8807A	LOW PRESS SAFETY INJECTION CHG PMP SUCTION X-CONNECT	2/C-4	2	B	GT	MO	6.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3SIH*MV8807B	LOW PRESSURE SAFETY INJECTION CHARGING PUMP SUCTION CROSS CONNECT	2/C-5	2	B	GT	MO	6.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3SIH*MV8813	SAFETY INJECTION PUMP MASTER MINIFLOW ISOLATION	2/D-6	2	A	GT	MO	3.0	O/C	No		LT	2A	--	--		RWST Backleakage Test Program
											PI	2A	--	--		
											STC	Q	040	--	STCCS	

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# Millstone Unit 3 Valve Test List

## HIGH PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26913

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act Size	Safety Pos	Pass Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIH*MV8814	SAFETY INJECT SYS PMP MINIFLOW ISOLATION 3SIH*P1A	2/E-4	2	A	GT	MO 1.5	O/C	No	LT PI STC	2A 2A Q	-- -- --	-- -- --		RWST Backleakage Test Program
3SIH*MV8821A	A SAFETY INJECTION PUMP TO COLD LEG INJECTION	2/G-4	2	B	GT	MO 4.0	O/C	No	PI STC	2A Q	-- --	-- --		
3SIH*MV8821B	B SAFETY INJECTION PUMP TO COLD LEG INJECTION	2/G-8	2	B	GT	MO 4.0	O/C	No	PI STC	2A Q	-- --	-- --		
3SIH*MV8835	SAFETY INJECT PP DISCHARGE TO COLD LEG CTMT PENETRATION(98- OUTSIDE)	2/H-7	2	A	GT	MO 4.0	O/C	No	LJ PI STC	J 2A Q	-- -- 041	-- -- --	STCCS	Leak test per 10CFR50 Appendix J - Pen 98
3SIH*MV8920	B SAFETY INJECTION PUMP MINIFLOW ISOLATION	2/E-8	2	A	GT	MO 1.5	O/C	No	LT PI STC	2A 2A Q	-- -- --	-- -- --		RWST Backleakage Test Program
3SIH*MV8923A	A SAFETY INJECTION PUMP SUCTION ISOLATION	2/B-5	2	B	GT	MO 6.0	O/C	No	PI STC	2A Q	-- --	-- --		
3SIH*MV8923B	B SAFETY INJECTION PUMP SUCTION ISOLATION	2/B-8	2	B	GT	MO 6.0	O/C	No	PI STC	2A Q	-- --	-- --		

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# Millstone Unit 3 Valve Test List

## HIGH PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26913

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIH*MV8924	LOW PRESSURE SAFETY INJECT CHARGING PUMP SUCTION	2/D-5	2	B	GT	MO	6.0	O	Yes		PI	2A	--	--		Passive
3SIH*RV8851 ?	HI PRESSURE SAFETY INJECTION COMMON HEADER RELIEF	2/G-7	2	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule
3SIH*RV8853A	"A" SAFETY INJECTION PUMP DISCHARGE HEADER RELIEF	2/G-3	2	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule
3SIH*RV8853B	"B" SAFETY INJECTION PUMP DISCHARGE HEADER RELIEF	2/G-9	2	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule
3SIH*RV8858	SAFETY INJECTION SUCTION HEADER RELIEF	2/C-6	2	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule
3SIH*RV8870	PENETRATION 99 OVER PRESSURE PROTECTION (99-OUTSIDE)	1/E-8	2	AC	RV	SA	0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 99
											SRV	10A	--	V-001		Test frequency per OM1 test schedule
3SIH*RV8925A	3SIH*P1A SUCTION LINE RELIEF	2/B-2	2	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule
3SIH*RV8925B	3SIH*P1B SUCTION LINE RELIEF	2/C-10	2	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule



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# Millstone Unit 3 Valve Test List

HIGH PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26913

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIH*V005	CHARGING TO COLD LEGS (51-INSIDE)	1/J-3	1	AC	CS	SA	3.0	O/C	No		FSC	Q	001	--	LT	Leak test per 10CFR50 Appendix J - Pen 51 PIV
											FSO	Q	034	--	FSOR	
											LJ	J	--	--		
											LT	CS/ BI	--	--		
3SIH*V011	VCW015-X-2 RWST SPLY TO HPSI PP'S CHK.	2/B-7	2	AC	CS	SA	8.0	O/C	No		FSC	Q	035	--	FSCR	RWST Backleakage Test Program
											FSO	Q	035	--	FSOR	
											LT	2A	--	--		
											PSO	Q	--	--		
3SIH*V013	"A" HPSI PUMP DISCHARGE CHECK.	2/E-2	2	C	CS	SA	4.0	O/C	No		FSC	Q	--	--		FSOR
											FSO	Q	036	--		
3SIH*V017	B HPSI PUMP DISCHARGE CHECK	2/E-10	2	C	CS	SA	4.0	O/C	No		FSC	Q	--	--		FSOR
											FSO	Q	036	--		
3SIH*V022	SAFETY INJECT PP DSCHARG TO COLD LEG CTMT PENETRATION(98- INSIDE)	2/K-5	2	AC	CL	SA	2.0	O/C	No		FSC	Q	037	--	FSCCS	Leak test per 10CFR50 Appendix J - Pen 98
											FSO	Q	037	--	FSOR	
											LJ	J	--	--		
3SIH*V024	SAFETY INJECT PP DSCHARG TO COLD LEG #3 (98-INSIDE)	2/K-7	2	AC	CL	SA	2.0	O/C	No		FSC	Q	037	--	FSCCS	Leak test per 10CFR50 Appendix J - Pen 98
											FSO	Q	037	--	FSOR	
											LJ	J	--	--		

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# Millstone Unit 3 Valve Test List

## HIGH PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26913

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIH*V026	SAFETY INJECT PP DSCHARG TO COLD LEG CTMT PENETRATION(98- INSIDE)	2/K-6	2	AC	CL	SA 2.0	O/C	No		FSC FSO LJ	Q Q J	037 037 --	-- -- --	FSCCS FSOR	Leak test per 10CFR50 Appendix J - Pen 98 Surveillance performed each refueling to credit 3SIL*V012 IST closure.
3SIH*V028	SAFETY INJECT PP DSCHARG TO COLD LEG CTMT PENETRATION(98- INSIDE)	2/K-6	2	AC	CL	SA 2.0	O/C	No		FSC FSO LJ	Q Q J	037 037 --	-- -- --	FSCCS FSOCS	Leak test per 10CFR50 Appendix J - Pen 98
3SIH*V081	VCS150-A-2 HPSI A MINIFLOW CHK.	2/E-4	2	C	CL	SA 1.5	O	No		FSC FSO	Q Q	-- --	-- --		Closure needed to support ISTD
3SIH*V083	VCS150-A-2 HPSI B MINIFLOW CHK.	2/E-8	2	C	CL	SA 1.5	O	No		FSC FSO	Q Q	-- --	-- --		Required for Condition Monitoring bi-directional testing.
3SIH*V110	SAFETY INJECT PP DSCHRG TO HOT LEGS CTMT PENETRATION(97- INSIDE)	2/K-10	1	AC	CL	SA 2.0	O/C	No		FSC FSO LJ LT	Q Q J CS/ BI	001 026 -- --	-- -- -- --	LT FSOR	Leak test per 10CFR50 Appendix J - Pen 97 PIV

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## HIGH PRESSURE SAFETY INJECTION

Drawing No - 25212 - 26913

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SIH*V112	SAFETY INJECT PP DSCHRG TO HOT LEGS CTMT PENETRATION(97- INSIDE)	2/K-9	1	AC	CL	SA	2.0	O/C	No		FSC	Q	001	--	LT	
											FSO	Q	026	--	FSOR	
											LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 97
											LT	CS/ BI	--	--		PIV

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# Millstone Unit 3 Valve Test List

QUENCH SPRAY

Drawing No - 25212 - 26915

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3QSS*AOV27	REFUEL WATER RECIRCULATING PUMP SUCTION ISOLATION	/G-4	2	B	BF	AO	12.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3QSS*AOV28	REFUEL WATER RECIRCULATING PUMP SUCTION ISOLATION	/G-4	2	B	BF	AO	12.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3QSS*MOV34A	QUENCH SPRAY PUMP DISCHARGE CTMT PENETRATION (100- OUTSIDE)	/K-6	2	A	BF	MO	12.0	O/C	No		LJ PI STC STO	J 2A Q Q	-- -- 053 053	-- -- -- --	STCCS STOCS	Leak test per 10CFR50 Appendix J - Pen 100
3QSS*MOV34B	QUENCH SPRAY PUMP DISCHARGE CTMT PENETRATION (101- OUTSIDE)	/K-8	2	A	BF	MO	12.0	O/C	No		LJ PI STC STO	J 2A Q Q	-- -- 053 053	-- -- -- --	STCCS STOCS	Leak test per 10CFR50 Appendix J - Pen 101
3QSS*V001	REFUEL WATER STORAGE TANK TO QUENCH SPRAY P3A ISOLATION	1/H-5	2	B	BF	HA	14.0	C	No		FSC	Q	--	V-003	FSC-18	
3QSS*V002	QUENCH SPRAY PUMP A SUCTION	1/H-6	2	B	BF	HA	14.0	C	No		FSC	Q	--	V-003	FSC-18	

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# Millstone Unit 3 Valve Test List

QUENCH SPRAY

Drawing No - 25212 - 26915

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3QSS*V004	QUENCH SPRAY PP DISCHARGE CTMT PENETRATION (100- INSIDE)	1/L-6	2	AC	CS	SA	12.0	O/C	No		FS LJ	Q J	024 --	-- --	DIS-CM	Closure capability is also verified by App. J leakrate test. Leak test per 10CFR50 Appendix J - Pen. 100	11
3QSS*V005	REFUEL WATER STORAGE TANK TO QUENCH SPRAY PUMP P3B ISOLATION	1/H-5	2	B	BF	HA	14.0	C	No		FSC	Q	--	V-003	FSC-18		
3QSS*V006	QUENCH SPRAY PUMP B SUCTION	1/H-8	2	B	BF	HA	14.0	C	No		FSC	Q	--	V-003	FSC-18		
3QSS*V008	QUENCH SPRAY PP DISCHARGE CTMT PENETRATION (101- INSIDE)	1/L-8	2	AC	CS	SA	12.0	O/C	No		FS LJ	Q J	024 --	-- --	DIS-CM	Closure capability is also verified by App. J leakrate test. Leak test per 10CFR50 Appendix J - Pen. 101	11
3QSS*V976	"B"QUENCH SPRAY HDR CHK.	1/L-8	2	C	CS	SA	8.0	O	No		FS	Q	025	--	DIS-CM		11
3QSS*V977	"A" QUENCH SPRAY HDR. CHK	1/L-7	2	C	CS	SA	8.0	O	No		FS	Q	025	--	DIS-CM		11
3QSS*V978	"B" QUENCH SPRAY HDR. CHK.	1/M-8	2	C	CS	SA	12.0	O	No		FS	Q	025	--	DIS-CM		11
3QSS*V979	"A" QUENCH SPRAY HDR. CHK.	1/M-7	2	C	CS	SA	12.0	O	No		FS	Q	025	--	DIS-CM		11

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# Millstone Unit 3 Valve Test List

REACTOR PLANT SAMPLING

Drawing No - 25212 - 26944

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SSR*CTV19A	STEAM GENERATOR NUMBER ONE BLOWDOWN SAMPLE CTMT ISOLATION	1/D-2	2	B	GL	SO	0.75	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SSR*CTV19B	STEAM GENERATOR NUMBER TWO BLOWDOWN SAMPLING CTMT ISOLATION	1/F-2	2	B	GL	SO	0.75	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SSR*CTV19C	STEAM GENERATOR NUMBER THREE BLOWDOWN SAMPLING ISOLATION	1/H-2	2	B	GL	SO	0.75	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SSR*CTV19D	STEAM GENERATOR NUMBER FOUR BLOWDOWN SAMPLING CTMT ISOLATION	1/J-2	2	B	GL	SO	0.75	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SSR*CTV20	PRESSURIZER VAPOR SPACE SAMPLE CTMT PENETRATION (12C- INSIDE)	2/J-4	2	A	GL	SO	0.75	C	No		FT	Q	--	--		
											LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 12C
											PI	2A	--	--		
											STC	Q	--	--		
3SSR*CTV21	PRESSURIZER VAPOR SPACE SAMPLE CTMT PENETRATION (12C- OUTSIDE)	2/J-5	2	A	GL	SO	0.75	C	No		FT	Q	--	--		
											LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 12C
											PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

REACTOR PLANT SAMPLING

Drawing No - 25212 - 26944

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SSR*CTV26	REACTOR COOL HOT LEGS SAMPLE CONTAINMENT PENETRATION (12A- INSIDE)	2/H-4	2	A	GL	SO 0.75	C	No		FT LJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen. 12A
3SSR*CTV27	REACTOR COOL HOT LEGS SAMPLE CTMT PENETRATION (12A- OUTSIDE)	2/H-5	2	A	GL	SO 0.75	C	No		FT LJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen. 12A
3SSR*CTV29	REACTOR COOLANT COLD LEG SAMPLE CTMT PENETRATION (13A- INSIDE)	2/F-4	2	A	GL	SO 0.75	C	No		FT LJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen. 13A
3SSR*CTV30	REACTOR COOLANT COLD LEG SAMPLE CTMT PENETRATION (13A- OUTSIDE)	2/F-5	2	A	GL	SO 0.75	C	No		FT LJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen. 13A
3SSR*CTV32	SAFETY INJECTION ACCUM SAMPLE CTMT PENETRATION (13B- INSIDE)	2/D-4	2	A	GL	SO 0.75	C	No		FT LJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen. 13B

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# Millstone Unit 3 Valve Test List

REACTOR PLANT SAMPLING

Drawing No - 25212 - 26944

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SSR*CTV33	SAFETY INJECTION ACCUM SAMPLE CTMT PENETRATION (13B- OUTSIDE)	2/D-5	2	A	GL	SO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 13b
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SSR*CV8025	PZR RLF TK (PRT) GAS SAMPLE CONTAINMENT PENETRATION (12D- OUTSIDE)	2/B-5	2	A	GL	SO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 12D
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3SSR*CV8026	PZR RLF TK (PRT) GAS SAMPLE CONTAINMENT PENETRATION (12D- INSIDE)	2/B-4	2	A	GL	SO	0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 12D
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		



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# Millstone Unit 3 Valve Test List

## POST ACCIDENT ANALYSIS SAMPLING

Drawing No - 25212 - 26955

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SSP*CTV7	POST ACCIDENT SAMPLE CTMT PENETRATION (115- INSIDE)	1/C-8	2	A	GL	SO	0.75	C	No		FT LJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen. 115
3SSP*CTV8	POST ACCIDENT SAMPLE RETURN CTMT PENETRATION (120 - INSIDE)	1/C-10	2	A	GL	SO	0.75	C	No		FT LJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen. 120
3SSP*RV62	PENETRATION Z115 OVER PRESSURE PROTECTION (115-OUTSIDE)	1/D-7	2	A	RV	SA	0.75	O/C	No		LJ SRV	J 10A	-- --	-- V-001		Leak test per 10CFR50 Appendix J - Pen. 115 Test frequency per OM1 test schedule
3SSP*RV63	PENETRATION Z120 OVER PRESSURE PROTECTION (120-OUTSIDE)	1/D-9	2	A	RV	SA	0.75	O/C	No		LJ SRV	J 10A	-- --	-- V-001		Leak test per 10CFR50 Appendix J - Pen. 120 Test frequency per OM1 test schedule
3SSP*V013	POST ACCIDENT SAMPLE CTMT PENETRATION (115- OUTSIDE)	1/E-8	2	A	GL	HA	0.75	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 115 Passive
3SSP*V014	PAS SAMPLE RTRN CTMT PENETRATION (120- OUTSIDE)	1/E-10	2	A	GL	HA	0.75	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 120 Passive
3SSP*V160	HYDROGEN ANALYZER CAB 1A INLET	1/I-1	2	B	GT	HA	0.75	O	No		FSO	Q	--	--		

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### Millstone Unit 3 Valve Test List

#### POST ACCIDENT ANALYSIS SAMPLING

Drawing No - 25212 - 26955

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SSP*V161	HYDROGEN ANALYZER CAB 1B INLET	1/I-4	2	B	GT	HA	0.75	O	No		FS	Q	--	--		<u>S</u>
3SSP*V162	HYDROGEN ANALYZER OUTLET	1/I-4	2	B	GT	HA	0.75	O	No		FSO	Q	--	--		
3SSP*V163	HYDROGEN ANALYZER CAB 1B OUTLET	1/I-4	2	B	GT	HA	0.75	O	No		FS	Q	--	--		<u>S</u>

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# Millstone Unit 3 Valve Test List

## CONTAINMENT LEAKAGE MONITORING

Drawing No - 25212 - 26954

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3LMS*MOV40A	PT937 CONTAINMENT ISOLATION	/F-6	2	B	GL	MO	1.5	O	Yes		PI	2A	--	--		Passive
3LMS*MOV40B	PT936 CONTAINMENT ISOLATION	/F-7	2	B	GL	MO	1.5	O	Yes		PI	2A	--	--		Passive
3LMS*MOV40C	PT935 CONTAINMENT ISOLATION	/F-8	2	B	GL	MO	1.5	O	Yes		PI	2A	--	--		Passive
3LMS*MOV40D	PT934 CONTAINMENT ISOLATION VALVE	/F-8	2	B	GL	MO	1.5	O	Yes		PI	2A	--	--		Passive

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# Millstone Unit 3 Valve Test List

## CONTAINMENT ATMOSPHERIC MONITORING

Drawing No - 25212 - 26954

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CMS*CTV20	CTMT ATMOSPHERE MONITOR SUCTION CTMT PENETRATION (32- OUTSIDE)	1/E-4	2	A	GL	AO	1.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 32
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CMS*CTV21	CTMT ATMOSPHERE MONITOR SUCTION CTMT PENETRATION (32- OUTSIDE)	1/F-4	2	A	GL	AO	1.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 32
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CMS*CTV23	CTMT ATMOSPHERE MONITOR DISCHARGE CTMT PENETRATION (63- OUTSIDE)	1/F-2	2	A	GL	AO	1.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 63
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CMS*MOV24	CTMT ATMOSPHERE MONITOR DISCHARGE CTMT PENETRATION (63- INSIDE)	1/B-2	2	A	GL	MO	1.0	C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 63
											PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

## HYDROGEN RECOMBINER BLDG VENTILATION

Drawing No - 25212 - 26915

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3HCS*V001	INLET TO 3HCS*C1A	1/A-8	2	C	CL	SA	2.0	O	No		FSC FSO	A/R Q	-- --	-- --	VNORMOP	Closure verified during LLRT
3HCS*V002	DBA HYDROGEN RECOMBINER SUCTION CTMT PENETRATION (111- OUTSIDE)	1/B-8	2	A	DI	HA	2.0	O/C	No		FSC FSO LJ	Q Q J	-- -- --	-- -- --		Leak test per 10CFR50 Appendix J - Pen 111
3HCS*V003	DBA HYDROGEN RECOMBINER SUCTION CTMT PENETRATION (111- OUTSIDE)	1/B-8	2	A	DI	HA	2.0	O/C	No		FSC FSO LJ	Q Q J	-- -- --	-- -- --		Leak test per 10CFR50 Appendix J - Pen 111
3HCS*V004	RECOMBINER 1A SUPPLY VALVE	1/B-8	2	B	DI	HA	2.0	O	No		FSO	Q	--	--		
3HCS*V005	RECOMBINER 1A RETURN VALVE	1/B-8	2	B	DI	HA	2.0	O	No		FSO	Q	--	--		
3HCS*V006	DBA HYDROGEN RECOMBINER DISCHARGE CTMT PENETRATION (113- OUTSIDE)	1/A-8	2	A	DI	HA	2.0	O/C	No		FSC FSO LJ	Q Q J	-- -- --	-- -- --		Leak test per 10CFR50 Appendix J - Pen 113
3HCS*V007	DBA HYDROGEN RECOMBINER DISCHARGE CTMT PENETRATION (113- INSIDE)	1/A-8	2	AC	CL	SA	2.0	O/C	No		FSC FSO LJ	Q Q J	063 -- --	-- -- --	LJ	Closure capability verified by App. J leak rate test.  Leak test per 10CFR50 Appendix J - Pen 113

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# Millstone Unit 3 Valve Test List

## HYDROGEN RECOMBINER BLDG VENTILATION

Drawing No - 25212 - 26915

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3HCS*V008	VCS060-X-2	1/A-10	2	C	CL	SA	2.0	O	No		FSC FSO	A/R Q	-- --	-- --	VNORMOP	closure test required to meet CM	<u>11</u>
3HCS*V009	DBA HYDROGEN RECOMBINER SUCTION CTMT PENETRATION (112- OUTSIDE)	1/B-10	2	A	DI	HA	2.0	O/C	No		FS LJ	Q J	-- --	-- --		Leak test per 10CFR50 Appendix J - Pen 112	<u>5</u>
3HCS*V010	DBA HYDROGEN RECOMBINER SUCTION CTMT PENETRATION (112- OUTSIDE)	1/B-10	2	A	DI	HA	2.0	O/C	No		FS LJ	Q J	-- --	-- --		Leak test per 10CFR50 Appendix J - Pen 112	<u>5</u>
3HCS*V011	RECOMBINER 1B SUPPLY VALVE	1/B-10	2	B	DI	HA	2	O	No		FS	Q	--	--			<u>5</u>
3HCS*V012	RECOMBINER 1B RETURN VALVE	1/B-11	2	B	DI	HA	2.0	O	No		FS	Q	--	--			<u>5</u>
3HCS*V013	DBA HYDROGEN RECOMBINER DISCHARGE CTMT PENETRATION (114- OUTSIDE)	1/B-11	2	A	DI	HA	2.0	O/C	No		FS LJ	Q J	-- --	-- --		Leak test per 10CFR50 Appendix J - Pen 114	<u>5</u>
3HCS*V014	DBA HYDROGEN RECOMBINER DISCHARGE CTMT PENETRATION (114- INSIDE)	1/A-11	2	AC	CL	SA	2.0	O/C	No		FSC FSO LJ	Q Q J	063 -- --	-- -- --	LJ	Closure capability verified by App. J leakrate test.  Leak test per 10CFR50 Appendix J - Pen 114	<u>11</u>

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# Millstone Unit 3 Valve Test List

## CONTAINMENT PURGE

Drawing No - 25212 - 26953

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3HVU*CTV32A	OUTSIDE CONTAINMENT PURGE SUPPLY (86- OUTSIDE)	1/F-9	2	A	BF	AO	42.0	C	No		FT	Q	019	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 86
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	019	--	STCCS	
3HVU*CTV32B	OUTSIDE CONTAINMENT PURGE EXHAUST (85- OUTSIDE)	1/F-7	2	A	BF	AO	42.0	C	No		FT	Q	019	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 85
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	019	--	STCCS	
3HVU*CTV33A	INSIDE CONTAINMENT PURGE SUPPLY (86- INSIDE)	1/H-9	2	A	BF	AO	42.0	C	No		FT	Q	019	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 86
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	019	--	STCCS	
3HVU*CTV33B	INSIDE CONTAINMENT PURGE EXHAUST (85- INSIDE)	1/H-7	2	A	BF	AO	42.0	C	No		FT	Q	019	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 85
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	019	--	STCCS	
3HVU*V005	OUTSIDE CONTAINMENT PURGE SUPPLY (86- OUTSIDE)	1/F-8	2	A	BF	HA	30.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 86 Passive

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# Millstone Unit 3 Valve Test List

CONTAINMENT VACUUM

Drawing No - 25212 - 26953

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CVS*AOV23	CTMT VACUUM CTMT PENETRATION (37-INSIDE)	1/G-2	2	A	BF	AO	8.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 37 Passive
											PI	2A	--	--		
3CVS*CTV20A	CTMT VACUUM PUMP SUCTION CTMT PENETRATION (35- OUTSIDE)	1/F-3	2	A	DI	AO	2.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 35
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CVS*CTV20B	CTMT VACUUM PUMP SUCTION CTMT PENETRATION (36- OUTSIDE)	1/F-5	2	A	DI	AO	2.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 36
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CVS*CTV21A	CTMT VACUUM PUMP SUCTION CTMT PENETRATION (35- OUTSIDE)	1/E-3	2	A	DI	AO	2.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 35
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CVS*CTV21B	CTMT VACUUM PUMP SUCTION CTMT PENETRATION (36- OUTSIDE)	1/E-5	2	A	DI	AO	2.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 36
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

CONTAINMENT VACUUM

Drawing No - 25212 - 26953

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CVS*MOV25	CTMT VACUUM PUMP DISCHARGE CTMT PENETRATION (121- INSIDE)	1/G-4	2	A	GT	MO 2.0	C	Yes		LJ PI	J 2A	-- --	-- --		Leak test per 10CFR50 Appendix J - Pen. 121 Passive
3CVS*V013	CTMT VACUUM PUMP DISCHARGE CTMT PENETRATION (121- OUTSIDE)	1/F-4	2	A	DI	HA 2.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J only - Pen. 121 Passive
3CVS*V020	CTMT VACUUM AIR EJECTOR ISOLATION (CTMT PENETRATION 37- OUTSIDE)	1/F-2	2	A	BF	HA 8.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J only - Pen. 37 Passive

V-CVS-2

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# Millstone Unit 3 Valve Test List

CONTROL BLDG.HVAC;BLDG PURGE,BTY ROOM HVAC,COM & INST RACK A/C

Drawing No - 25212 - 26951

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3HVC*AOV20	CONTROL ROOM VENTILATION OUT ISOLATION VALVE	2/M-2	3	B	BF	AO 10.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3HVC*AOV21	CONTROL ROOM VENTILATION OUT ISOLATION VALVE	2/M-3	3	B	BF	AO 10.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3HVC*AOV22	CONTROL ROOM VENTILATION OUT ISOLATION VALVE	2/M-2	3	B	BF	AO 16.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3HVC*AOV23	CONTROL ROOM VENTILATION OUT ISOLATION VALVE	2/M-3	3	B	BF	AO 16.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3HVC*AOV25	CONTROL ROOM VENTILATION INLET ISOLATION VALVE	1/A-4	3	B	BF	AO 16.0	O/C	No		FSO FT PI STC STO	Q Q 2A Q Q	051 -- -- -- --	-- -- -- -- --	FSOR	Open exercise performed manually (air isn't credited)
3HVC*AOV26	CONTROL ROOM VENTILATION INLET ISOLATION VALVE	1/B-5	3	B	BF	AO 16.0	O/C	No		FSO FT PI STC STO	Q Q 2A Q Q	051 -- -- -- --	-- -- -- -- --	FSOR	Open exercise performed manually (air isn't credited)

V-HVK - HVC-1

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# Millstone Unit 3 Valve Test List

CONTROL BLDG.HVAC;BLDG PURGE,BTY ROOM HVAC,COM & INST RACK A/C

Drawing No - 25212 - 26951

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3HVC*RV125A1	AIR STORAGE TANK RELIEF	1/	3	C	RV	SA 0.75	O/C	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3HVC*RV125B1	AIR STORAGE TANK RELIEF	1/	3	C	RV	SA 0.75	O/C	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3HVC*RV125A2	AIR STORAGE TANK RELIEF	1/	3	C	RV	SA 0.75	O/C	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3HVC*RV125B2	AIR STORAGE TANK RELIEF	1/	3	C	RV	SA 0.75	O/C	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3HVC*SOV74A	BANK A OUTLET VALVE	1/H-4	3	B	GL	SO 1.5	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		
3HVC*SOV74B	BANK B OUTLET VALVE -- TARGET ROCK VALVE	1/H-3	3	B	GL	SO 1.5	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		
3HVK*PDV32A	CHLL WTR SPLY & RTN DIFF PRS (TRAIN A) IND & CNTRL MOD VLV CNTRL	4/J-6	3	B	GL	SO 3.0	C	No		FT STC	Q Q	071 071	-- --	FTCS STCCS	
3HVK*PDV32B	CHLL WTR SPLY & RTN DIFF PRS (TRAIN B) IND & CNTRL MOD VLV CNTRL	4/J-8	3	B	GL	SO 3.0	C	No		FT STC	Q Q	071 071	-- --	FTCS STCCS	
3HVK*TV39A	3HVC*ACU2A CHILLED WATER RETURN TEMPERATURE CONTROL VALVE	5/	3	B	GL	SO 3.0	O	No		FT STO	Q Q	070 070	-- --	FTCS STOCS	

V-HVK - HVC-2

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# Millstone Unit 3 Valve Test List

CONTROL BLDG.HVAC;BLDG PURGE,BTY ROOM HVAC,COM & INST RACK A/C

Drawing No - 25212 - 26951

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3HVK*TV39B	3HVC*ACU2B CHILLED WATER RETURN TEMPERATURE CONTROL VALVE	5/	3	B	GL	SO	3.0	O	No		FT STO	Q Q	070 070	-- --	FTCS STOCS	
3HVK*TV41A	3HVC-ACU1 CHILLED WATER COIL	5/	3	B	GL	SO	3.0	O	No		FT STO	Q Q	070 070	-- --	FTCS STOCS	
3HVK*TV41B	CONTROL ROOM AIR CONDITIONING UNIT 3HVC*ACU1B TEMP CONTROL	5/	3	B	GL	SO	3.0	O	No		FT STO	Q Q	070 070	-- --	FTCS STOCS	
3HVK*TV68A	SUPPLY ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
3HVK*TV68B	SUPPLY ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
3HVK*TV69A	SUPPLY ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3

V-HVK - HVC-3

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# Millstone Unit 3 Valve Test List

CONTROL BLDG.HVAC;BLDG PURGE,BTY ROOM HVAC,COM & INST RACK A/C

Drawing No - 25212 - 26951

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3HVK*TV69B	SUPPLY ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
3HVK*TV70A	CHILLED WATER SUPPLY HEADER ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
3HVK*TV70B	SUPPLY ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
3HVK*TV71A	SUPPLY ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
3HVK*TV71B	SUPPLY ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3

V-HVK - HVC-4

Second Ten Year Interval  
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# Millstone Unit 3 Valve Test List

CONTROL BLDG.HVAC;BLDG PURGE,BTY ROOM HVAC,COM & INST RACK A/C

Drawing No - 25212 - 26951

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3HVK*TV72A	RETURN ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT	Q	--	--		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3HVK*TV72B	RETURN ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT	Q	--	--		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3HVK*TV73A	RETURN ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT	Q	--	--		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3HVK*TV73B	RETURN ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT	Q	--	--		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3HVK*TV74A	RETURN ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT	Q	--	--		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		

V-HVK - HVC-5

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# Millstone Unit 3 Valve Test List

CONTROL BLDG.HVAC;BLDG PURGE,BTY ROOM HVAC,COM & INST RACK A/C

Drawing No - 25212 - 26951

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3HVK*TV74B	RETURN ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
3HVK*TV75A	RETURN ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
3HVK*TV75B	RETURN ISOLATION	4/	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		Old PI surveillance was SP3614f.9-2 and SP3614F.9-1&3
3HVK*TV76A	ACU#4 CHILLED WATER TEMPERATURE CONTROL	5/	3	B	GL	SO	3.0	O	No		FT STO	Q Q	070 070	-- --	FTCS STOCS	
3HVK*TV76B	ACU#4 CHILLED WATER TEMPERATURE CONTROL	5/	3	B	GL	SO	3.0	O	No		FT STO	Q Q	070 070	-- --	FTCS STOCS	
3HVK*TV77A	ACU#3 CHILLED WATER TEMPERATURE CONTROL	5/	3	B	GL	SO	3.0	O	No		FT STO	Q Q	070 070	-- --	FTCS STOCS	
3HVK*TV77B	ACU#3 CHILLED WATER TEMPERATURE CONTROL	5/	3	B	GL	SO	3.0	O	No		FT STO	Q Q	070 070	-- --	FTCS STOCS	

V-HVK - HVC-6

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# Millstone Unit 3 Valve Test List

CONTROL BLDG.HVAC;BLDG PURGE,BTY ROOM HVAC,COM & INST RACK A/C

Drawing No - 25212 - 26951

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3HVK*V001	CHECK VALVE	4/E-4	3	C	CS	SA	6.0	O	No		FSC FSO	A/R Q	-- --	-- --	CM	NIT used for closure verification.	<u>11</u>
3HVK*V037	CONTROL BUILDING CHILLED WATER CHECK VALVE	4/I-4	3	C	CS	SA	6.0	O	No		FSC FSO	A/R Q	-- --	-- --	CM	closure verification to support CM	<u>11</u>
3HVK*V039	CONTROL BUILDING CHILLED WATER CHECK VALVE	4/E-9	3	C	CS	SA	6.0	O	No		FSC FSO	A/R Q	-- --	-- --	CM	Closure verification to support CM	<u>11</u>
3HVK*V075	CHECK VALVE	4/H-9	3	C	CS	SA	6.0	O	No		FSC FSO	A/R Q	-- --	-- --	CM	Closure verification to support CM	<u>11</u>

V-HVK - HVC-7



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# Millstone Unit 3 Valve Test List

MAIN STEAM & RELIEF VENTS & DRAINS.

Drawing No - 25212 - 26945

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3DTM*AOV29A	CTMT ISOL 'A' S/G STEAM HDR DRAIN #1 S/G	1/A-2	2	B	GL	AO	3.0	C	No		FT	Q	--	--		Nontestable CIV
											PI	2A	--	--		
											STC	Q	--	--		
3DTM*AOV29B	CTMT ISOL 'A' STEAM GENERATOR STEAM HEADER DRAIN '2' S/GENERATOR	1/D-2	2	B	GL	AO	3.0	C	No		FT	Q	--	--		Nontestable CIV
											PI	2A	--	--		
											STC	Q	--	--		
3DTM*AOV29C	CTMT ISOL 'A' STEAM GENERATOR STEAM HEADER DRAIN '3' S/GENERATOR	1/F-2	2	B	GL	AO	3.0	C	No		FT	Q	--	--		Nontestable CIV
											PI	2A	--	--		
											STC	Q	--	--		
3DTM*AOV29D	CTMT ISOL 'A' STEAM GENERATOR STEAM HEADER DRAIN '4' S/GENERATOR	1/H-2	2	B	GL	AO	3.0	C	No		FT	Q	--	--		Nontestable CIV
											PI	2A	--	--		
											STC	Q	--	--		
3DTM*AOV61A	CTMT ISOL 'B' S/G STEAM HDR DRN #1 S/G	1/A-3	2	B	GL	AO	3.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3DTM*AOV61B	CTMT ISOL 'B' STEAM GENERATOR STEAM HEADER DRAIN '2' S/GENERATOR	1/D-3	2	B	GL	AO	3.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3DTM*AOV61C	CTMT ISOL 'B' STEAM GENERATOR STEAM HEADER DRAIN '3' S/GENERATOR	1/F-3	2	B	GL	AO	3.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

V-MSS - DTM-1

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# Millstone Unit 3 Valve Test List

MAIN STEAM & RELIEF VENTS & DRAINS.

Drawing No - 25212 - 26945

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3DTM*AOV61D	CTMT ISOL 'B' STEAM GENERATOR STEAM HEADER DRAIN '4' S/GENERATOR	1/H-3	2	B	GL	AO	3.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3DTM*AOV63A	CTMT ISOLATION A S/G STEAM HEADER DRAIN 1 TT	1/M-4	2	B	GL	AO	1.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Nontestable CIV
3DTM*AOV63B	CONTAINMENT ISOLATION A STEAM GENERATOR STEAM HEADER DRAIN 2 TT	1/J-4	2	B	GL	AO	1.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Nontestable CIV
3DTM*AOV63D	CONTAINMENT ISOLATION A STEAM GENERATOR STEAM HEADER DRAIN 4 TT	1/K-4	2	B	GL	AO	1.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Nontestable CIV
3DTM*AOV64A	CONTAINMENT ISOLATION B STEAM GENERATOR STEAM HEADER DRAIN 1 TT	1/M-5	2	B	GL	AO	1.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3DTM*AOV64B	CTMT ISOLATION B S/G STEAM HEADER DRAIN 2 TT	1/J-5	2	B	GL	AO	1.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3DTM*AOV64D	CONTAINMENT ISOLATION B STEAM GENERATOR STEAM HEADER DRAIN 4 TT	1/K-5	2	B	GL	AO	1.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		

V-MSS - DTM-2

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# Millstone Unit 3 Valve Test List

MAIN STEAM & RELIEF VENTS & DRAINS.

Drawing No - 25212 - 26923

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3MSS*AOV31A	TERRY TURBINE STEAM ISOLATION TRAIN A	1/E-2	2	B	GL	AO	3.0	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		
3MSS*AOV31B	TERRY TURBINE STEAM ISOLATION TRAIN A	1/I-2	2	B	GL	AO	3.0	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		
3MSS*AOV31D	TERRY TURBINE STEAM ISOLATION TRAIN B	1/B-2	2	B	GL	AO	3.0	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		
3MSS*AOV65	TDAFP TURB EXH SILENCER DRAIN	1/L-4	3	B	GL	AO	0.75	C	No		FT STC STO	Q Q Q	-- -- --	-- -- --		
3MSS*CTV27A	MAIN STEAM ISOLATION TRIP VALVE	2/M-4	2	B	GL	FA	30.0	C	No		FT PI STC	Q 2A Q	022 -- 022	-- -- --	FTCS  STCCS	
3MSS*CTV27B	MAIN STEAM ISOLATION TRIP VALVE	2/L-8	2	B	GL	FA	30.0	C	No		FT PI STC	Q 2A Q	022 -- 022	-- -- --	FTCS  STCCS	
3MSS*CTV27C	MAIN STEAM ISOLATION TRIP VALVE	5/L-4	2	B	GL	FA	30.0	C	No		FT PI STC	Q 2A Q	022 -- 022	-- -- --	FTCS  STCCS	

V-MSS - DTM-3

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# Millstone Unit 3 Valve Test List

MAIN STEAM & RELIEF VENTS & DRAINS.

Drawing No - 25212 - 26923

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3MSS*CTV27D	MAIN STEAM ISOLATION TRIP VALVE	5/K-8	2	B	GL	FA	30.0	C	No		FT	Q	022	--	FTCS	
											PI	2A	--	--		
											STC	Q	022	--	STCCS	
3MSS*HV28A	MAIN STEAM STEAM GENERATOR 1 MSIV BYPASS	2/M-5	2	B	GL	AO	3.0	C	No		FT	Q	073	--	FTCS	
											PI	2A	--	--		
											STC	Q	073	--	STCCS	
3MSS*HV28B	STEAM GENERATOR 2 MSIV BYPASS	2/L-10	2	B	GL	AO	3.0	C	No		FT	Q	073	--	FTCS	
											PI	2A	--	--		
											STC	Q	073	--	STCCS	
3MSS*HV28C	STEAM GENERATOR 3 MSIV BYPASS	5/L-5	2	B	GL	AO	3.0	C	No		FT	Q	073	--	FTCS	
											PI	2A	--	--		
											STC	Q	073	--	STCCS	
3MSS*HV28D	STEAM GENERATOR 4 MSIV BYPASS	5/K-10	2	B	GL	AO	3.0	C	No		FT	Q	073	--	FTCS	
											PI	2A	--	--		
											STC	Q	073	--	STCCS	
3MSS*MOV17A	MAIN STEAM SG1 SUPPLY ISOLATION TERRY TURBINE	1/H-2	2	BC	SC	MO	3.0	O/C	No		FS	Q	021	--	FSR	
											PI	2A	--	--		
											STC-	Q	--	--		
											MTR					
											STO-	Q	--	--		
											MTR					

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# Millstone Unit 3 Valve Test List

MAIN STEAM & RELIEF VENTS & DRAINS.

Drawing No - 25212 - 26923

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3MSS*MOV17B	S/G #2 SUPPLY ISOLATION TERRY TURBINE	1/K-2	2	BC	SC	MO	3.0	O/C	No		FS	Q	021	--	FSR	
											PI	2A	--	--		
											STC- MTR	Q	--	--		
											STO- MTR	Q	--	--		
3MSS*MOV17D	STEAM GENERATOR 4 SUPPLY ISOLATION TERRY TURBINE	1/C-2	2	BC	SC	MO	3.0	O/C	No		FS	Q	021	--	FSR	
											PI	2A	--	--		
											STC- MTR	Q	--	--		
											STO- MTR	Q	--	--		
3MSS*MOV18A	STEAM GENERATOR 1 PRESSURE RELIEF ISOLATION	2/J-3	2	B	GT	MO	8.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3MSS*MOV18B	STEAM GENERATOR 2 PRESSURE RELIEF ISOLATION	2/J-8	2	B	GT	MO	8.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3MSS*MOV18C	STEAM GENERATOR 3 PRESSURE RELIEF ISOLATION	5/J-4	2	B	GT	MO	8.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3MSS*MOV18D	STEAM GENERATOR 4 PRESSURE RELIEF ISOLATION	5/I-8	2	B	GT	MO	8.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		

V-MSS - DTM-5

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# Millstone Unit 3 Valve Test List

## MAIN STEAM & RELIEF VENTS & DRAINS.

Drawing No - 25212 - 26923

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3MSS*MOV74A	STEAM GENERATOR 1 PRESSURE RELIEF BYPASS	2/K-2	2	B	GL	MO	8.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3MSS*MOV74B	STEAM GENERATOR 2 PRESSURE RELIEF BYPASS	2/J-7	2	B	GL	MO	8.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3MSS*MOV74C	STEAM GENERATOR 3 PRESSURE RELIEF BYPASS	5/K-3	2	B	GL	MO	8.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3MSS*MOV74D	STEAM GENERATOR 4 PRESSURE RELIEF BYPASS	5/J-7	2	B	GL	MO	8.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3MSS*PV20A	MAIN STEAM PRESSURE RELIEVING VALVE CONTROL	2/J-2	2	B	GL	AO	8.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3MSS*PV20B	MAIN STEAM PRESSURE RELIEVING CONTROL	2/J-7	2	B	GL	AO	8.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3MSS*PV20C	MAIN STEAM PRESSURE RELIEVING CONTROL	5/J-3	2	B	GL	AO	8.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		

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# Millstone Unit 3 Valve Test List

MAIN STEAM & RELIEF VENTS & DRAINS.

Drawing No - 25212 - 26923

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3MSS*PV20D	MAIN STEAM PRESS RELIEVING CONTROL	5/I-7	2	B	GL	AO	8.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3MSS*RV22A	"A" STEAM GENERATOR SAFETY VALVE	2/H-2	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV22B	"B" STEAM GENERATOR SAFETY VALVE	2/G-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV22C	"C" STEAM GENERATOR SAFETY VALVE	5/H-3	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV22D	"D" STEAM GENERATOR SAFETY VALVE	5/F-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV23A	"A" STEAM GENERATOR SAFETY VALVE	2/G-2	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV23B	"B" STEAM GENERATOR SAFETY VALVE	2/F-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV23C	"C" STEAM GENERATOR SAFETY VALVE	5/G-3	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV23D	"D" STEAM GENERATER SAFETY VALVE	5/F-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV24A	"A" STEAM GENERATOR SAFETY VALVE	2/I-2	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV24B	"B" STEAM GENERATOR SAFETY VALVE	2/H-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.

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# Millstone Unit 3 Valve Test List

MAIN STEAM & RELIEF VENTS & DRAINS.

Drawing No - 25212 - 26923

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3MSS*RV24C	"C" STEAM GENERATOR SAFETY VALVE	5/H-3	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV24D	"D" STEAM GENERATOR SAFETY VALVE	5/G-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV25A	"A" STEAM GENERATOR SAFETY VALVE	2/F-2	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV25B	"B" STEAM GENERATOR SAFETY VALVE	2/E-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV25C	"C" STEAM GENERATOR SAFETY VALVE	5/F-3	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV25D	"D" STEAM GENERATOR SAFETY VALVE	5/E-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV26A	"A" STEAM GENERATOR SAFETY VALVE	2/J-2	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV26B	"B" STEAM GENERATOR SAFETY VALVE	2/I-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV26C	"C" STEAM GENERATOR SAFETY VALVE	5/I-3	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.
3MSS*RV26D	"D" STEAM GENERATOR SAFETY VALVE	5/H-7	2	C	SV	SA	6.0	O	No		SRV	5A	--	V-001		Test frequency per OM1 test schedule.



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# Millstone Unit 3 Valve Test List

## STEAM GENERATOR BLOWDOWN

Drawing No - 25212 - 26923

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3BDG*CTV22A	STEAM GENERATOR OUT TO BLOWDOWN TANK	1/E-4	2	B	GL	AO	4.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3BDG*CTV22B	STEAM GENERATOR TO BLOWDOWN TANK	1/E-6	2	B	GL	AO	4.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3BDG*CTV22C	STEAM GENERATOR TO BLOWDOWN TANK	1/E-8	2	B	GL	AO	4.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3BDG*CTV22D	STEAM GENERATOR OUT TO BLOWDOWN TANK	1/E-11	2	B	GL	AO	4.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWS*CTV41A	STEAM GENERATOR FEEDWATER STOP VALVE	3/F-4	2	B	GT	HO	18.0	C	No		FT	Q	015	--	FTCS	
											PI	2A	--	--		
											STC	Q	015	--	STCCS	
3FWS*CTV41B	STEAM GENERATOR FEEDWATER STOP VALVE	3/F-9	2	B	GT	HO	18.0	C	No		FT	Q	015	--	FTCS	
											PI	2A	--	--		
											STC	Q	015	--	STCCS	
3FWS*CTV41C	STEAM GENERATOR FEEDWATER STOP VALVE	4/F-4	2	B	GT	HO	18.0	C	No		FT	Q	015	--	FTCS	
											PI	2A	--	--		
											STC	Q	015	--	STCCS	
3FWS*CTV41D	STEAM GENERATOR FEEDWATER STOP VALVE	4/F-9	2	B	GT	HO	18.0	C	No		FT	Q	015	--	FTCS	
											PI	2A	--	--		
											STC	Q	015	--	STCCS	
3FWS*FCV510	STEAM GENERATOR "A" FEEDWATER FLOW CONTROL VALVE	3/D-4	2	B	GL	AO	16.0	C	No		FT	Q	015	--	FTCS	
											PI	2A	--	--		
											STC	Q	015	--	STCCS	
3FWS*FCV520	STEAM GENERATOR 'B' FEEDWATER FLOW CONTROL VALVE	3/D-9	2	B	GL	AO	16.0	C	No		FT	Q	015	--	FTCS	
											PI	2A	--	--		
											STC	Q	015	--	STCCS	
3FWS*FCV530	STEAM GENERATOR 'C' FEEDWATER FLOW CONTROL VALVE	4/D-4	2	B	GL	AO	16.0	C	No		FT	Q	015	--	FTCS	
											PI	2A	--	--		
											STC	Q	015	--	STCCS	

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FEEDWATER

# Millstone Unit 3 Valve Test List

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWS*FCV540	STEAM GENERATOR 'D' FEEDWATER FLOW CONTROL VALVE	4/D-9	2	B	GL	AO	16.0	C	No		FT PI STC	Q 2A Q	015 -- 015	-- -- --	FTCS  STCCS	
3FWS*LV550	STEAM GENERATOR 'A' FEEDWATER BYPASS LEVEL CONTROL VALVE	3/D-3	2	B	GL	AO	6.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Normally closed - throttled open at low power
3FWS*LV560	STEAM GENERATOR 'B' FEEDWATER BYPASS LEVEL CONTROL VALVE	3/D-8	2	B	GL	AO	6.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Normally closed - throttled open at low power
3FWS*LV570	STEAM GENERATOR 'C' FEEDWATER BYPASS LEVEL CONTROL VALVE	4/D-3	2	B	GL	AO	6.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Normally closed - throttled open at low power
3FWS*LV580	STEAM GENERATOR 'D' FEEDWATER BYPASS LEVEL CONTROL VALVE	4/D-8	2	B	GL	AO	6.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		Normally closed - throttled open at low power
3FWS*V898	STEAM GENERATOR 1D FEEDWATER CHECK VALVE	4/H-9	2	C	CT	SA	20.0	C	No		FSC FSO	Q A/R	018 --	-- --	FSCCS VNORMOP	<u>11</u>
3FWS*V899	CHECK VALVE	4/H-4	2	C	CT	SA	20.0	C	No		FSC FSO	Q A/R	018 --	-- --	FSCCS VNORMOP	<u>11</u>

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FEEDWATER

# Millstone Unit 3 Valve Test List

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWS*V920	CHECK VALVE	3/H-9	2	C	CT	SA	20.0	C	No		FSC	Q	018	--	FSCCS	<u>11</u>
											FSO	A/R	--	--	VNORMOP	
3FWS*V921	CHECK VALVE	3/H-4	2	C	CT	SA	20.0	C	No		FSC	Q	018	--	FSCCS	<u>11</u>
											FSO	A/R	--	--	VNORMOP	

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# Millstone Unit 3 Valve Test List

## AUXILIARY FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWA*AOV23A	STEAM GENERATOR AUXILIARY FEEDWATER ALTERNATE VALVE SUCTION	2/E-6	3	B	BF	AO	8.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3FWA*AOV23B	AUXILIARY FEED SG AUXILIARY FEEDWATER ALTERNATE SUCTION VALVE	2/B-9	3	B	BF	AO	8.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3FWA*AOV25	DEMINERALIZER WATER STORAGE TANK HEATING CIRCULATING LINE ISOL	2/D-3	3	B	GL	AO	3.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3FWA*AOV26	DEMINERALIZER WATER STORAGE TANK HEATING CIRCULATING LINE ISOL	2/D-4	3	B	GL	AO	3.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3FWA*AOV61A	STEAM GENERATOR AUXILIARY FEEDWATER PUMP A SUCTION ISOLATION VLV	2/E-4	3	B	BF	AO	8.0	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		
3FWA*AOV61B	DEMIN WATER STORAGE TANK TO P1A/P1B ISOLATION VALVES	2/C-7	3	B	BF	AO	8.0	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		
3FWA*AOV62A	3FWA*P1A/3FWA*P1B CROSS CONNECT VALVE	2/H-6	3	B	GL	AO	6.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		

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# Millstone Unit 3 Valve Test List

## AUXILIARY FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWA*AOV62B	3FWA*P1A/3FWA*P1B CROSS CONNECT VALVE	2/G-7	3	B	GL	AO	6.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3FWA*HCV37	TURBINE DRIVEN AUXILIARY FEEDWATER ALTERNATE SUCTION (3FWA*V061)	2/A-10	3	B	BF	HA	10.0	C	No		FSC	Q	--	--		
3FWA*HV31A	AUXILIARY FEEDWATER CONTROL VALVE	2/J-5	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		
3FWA*HV31B	AUXILIARY FEEDWATER CONTROL VALVE	2/J-7	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		
3FWA*HV31C	AUXILIARY FEEDWATER CONTROL VALVE	2/I-9	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		
3FWA*HV31D	AUXILIARY FEEDWATER CONTROL VALVE	2/J-2	3	B	GL	SO	3.0	O/C	No		FT PI STC STO	Q 2A Q Q	-- -- -- --	-- -- -- --		

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# Millstone Unit 3 Valve Test List

## AUXILIARY FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWA*HV32A	TURBINE DRIVEN AUXILIARY FEEDWATER CONTROL VALVE	2/J-6	3	B	GL	SO	3.0	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3FWA*HV32B	TURBINE DRIVEN AUXILIARY FEEDWATER CONTROL VALVE	2/J-8	3	B	GL	SO	3.0	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3FWA*HV32C	TURBINE DRIVEN AUXILIARY FEEDWATER CONTROL VALVE	2/I-10	3	B	GL	SO	3.0	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3FWA*HV32D	TURBINE DRIVEN AUXILIARY FEEDWATER CONTROL VALVE	2/J-3	3	B	GL	SO	3.0	O/C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
											STO	Q	--	--		
3FWA*HV36A	TURBINE DRIVEN AUXILIARY FEEDWATER CONTROL VALVE	2/L-5	2	B	GL	SO	3.0	O/C	No		FT	Q	023	--	FTCS	
											PI	2A	--	--		
											STC	Q	023	--	STCCS	
											STO	Q	023	--	STOCS	

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# Millstone Unit 3 Valve Test List

## AUXILIARY FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWA*HV36B	TURBINE DRIVEN AUXILIARY FEEDWATER CONTROL VALVE	2/L-8	2	B	GL	SO	3.0	O/C	No		FT	Q	023	--	FTCS	
											PI	2A	--	--		
											STC	Q	023	--	STCCS	
											STO	Q	023	--	STOCS	
3FWA*HV36C	TURBINE DRIVEN AUXILIARY FEEDWATER CONTROL VALVE	2/J-11	2	B	GL	SO	3.0	O/C	No		FT	Q	023	--	FTCS	
											PI	2A	--	--		
											STC	Q	023	--	STCCS	
											STO	Q	023	--	STOCS	
3FWA*HV36D	TURBINE DRIVEN AUXILIARY FEEDWATER CONTROL VALVE	2/K-3	2	B	GL	SO	3.0	O/C	No		FT	Q	023	--	FTCS	
											PI	2A	--	--		
											STC	Q	023	--	STCCS	
											STO	Q	023	--	STOCS	
3FWA*MOV35A	STEAM GENERATOR AUXILIARY FEEDWATER SYSTEM	2/K-5	2	B	GT	MO	4.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3FWA*MOV35B	STEAM GENERATOR AUXILIARY FEEDWATER ISOLATION	2/K-7	2	B	GT	MO	4.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3FWA*MOV35C	STEAM GENERATOR FEEDWATER ISOLATION	2/J-10	2	B	GT	MO	4.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		
3FWA*MOV35D	STEAM GENERATOR AUXILIARY FEEDWATER ISOLATION	2/K-2	2	B	GT	MO	4.0	O/C	No		PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

## AUXILIARY FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWA*RV45	TURBINE AUXILIARY FEEDWATER PUMP DISCHARGE RELIEF	2/E-10	3	C	RV	SA	2.0	O	No		SRV	10A	--	V-001		Test schedule per OM1 test schedule.
3FWA*RV64A	AUXILIARY FEEDWATER 3FWA*P1A SUCTION LINE RELIEF	2/F-5	3	C	RV	SA	1.5	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3FWA*RV64B	AUXILIARY FEEDWATER 3FWA*P1B SUCTION LINE RELIEF	2/D-9	3	C	RV	SA	1.5	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3FWA*RV65	AUXILIARY FEEDWATER 3FWA*P2 SUCTION LINE RELIEF	2/B-10	3	C	RV	SA	1.5	O	No		SRV	10A	--	--		Test frequency per OM1 test schedule. <u>7</u>
3FWA*V002	"A" MOTOR DRIVEN AUX FEED PUMP DWST SUCTION HEADER ISOLATION	2/E-3	3	B	GT	HA	8.0	C	No		FSC	Q	--	V-005	FSC-18	
3FWA*V003	"A" MDAFP DISCH CHECK VALVE	2/H-5	3	C	CT	SA	6.0	O/C	No		FSC FSO	Q Q	013 012	-- --	FSCCS FSOCS	
3FWA*V007	MDAFP SPLY TO "A" S/C CHECK VALVE	2/K-5	3	C	CT	SA	3.0	O	No		FSC FSO	A/R Q	-- 012	-- --	DIS-CM FSOCS	<u>11</u>
3FWA*V009	STEAM GENERATOR "A" AUXILIARY FEEDWATER CHECK	2/M-5	2	C	CT	SA	4.0	O/C	No		FSC FSO	Q Q	065 012	-- --	FSCR FSOCS	

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# Millstone Unit 3 Valve Test List

## AUXILIARY FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWA*V012	MDAFP TO "D" S/G AUX FEED SPLY HDR CHECK VALVE	2/K-2	3	C	CT	SA	3.0	O	No		FSC FSO	A/R Q	-- 012	-- --	DIS-CM FSOCS	<u>11</u>
3FWA*V014	STEAM GENERATOR "D" AUXILIARY FEEDWATER CHECK	2/M-2	2	C	CT	SA	4.0	O/C	No		FSC FSO	Q Q	065 012	-- --	FSCR FSOCS	
3FWA*V016	STEAM GENERATOR AUXILIARY FEEDWATER PUMP B DWST SUCTION HDR ISOL	2/E-5	3	B	GT	HA	8.0	C	No		FSC	Q	--	V-005	FSC-18	
3FWA*V017	"B" MDAFP DISCH CHECK VALVE	2/G-8	3	C	CT	SA	8.0	O/C	No		FSC FSO	Q Q	013 012	-- --	FSCCS FSOCS	
3FWA*V021	MDAFP SPLY TO "B" S/G CHECK VALVE	2/J-7	3	C	CT	SA	3.0	O	No		FSC FSO	A/R Q	-- 012	-- --	DIS-CM FSOCS	<u>11</u>
3FWA*V023	STEAM GENERATOR "B" AUXILIARY FEEDWATER CHECK	2/M-7	2	C	CT	SA	4.0	O/C	No		FSC FSO	Q Q	065 012	-- --	FSCR FSOCS	
3FWA*V026	MDAFP SPLY TO "C" S/G CHECK VALVE	2/I-9	3	C	CT	SA	3.0	O	No		FSC FSO	A/R Q	-- 012	-- --	DIS-CM FSOCS	<u>11</u>
3FWA*V028	STEAM GENEATOR "C" FEEDWATER CHECK VALVE	2/K-9	2	C	CT	SA	4.0	O/C	No		FSC FSO	Q Q	065 012	-- --	FSCR FSOCS	
3FWA*V030	TDAFP SUCT ISOL ON DWST	2/B-8	3	B	GT	HA	10.0	C	No		FSC	Q	--	V-005	FSC-18	

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# Millstone Unit 3 Valve Test List

## AUXILIARY FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3FWA*V031	TURBINE DRIVEN FEED PUMP DISCHARGE CHECK VALVE	2/F-11	3	C	CT	SA	8.0	O/C	No		FSC	Q	016	--	DIS-CM		<u>11</u>
											FSO	Q	012	--	FSOCS		
											RT	A/R	--	--		RT used as an alternative to DIS for Closure verification.	
3FWA*V035	TDAFP SPLY TO "C" S/G CHECK VALVE	2/J-11	3	C	CT	SA	3.0	O/C	No		FSC	Q	--	--	UT	Ultrasonic exam performed quarterly to verify closure capability.	
											FSO	Q	012	--	FSOCS		
3FWA*V039	T.D.A.F.W.PMP CHECK VLV. TO SG2	2/K-8	3	C	CT	SA	3.0	O/C	No		FSC	Q	--	--	UT	Ultrasonic exam performed quarterly to verify closure capability.	
											FSO	Q	012	--	FSOCS		
3FWA*V043	TERRY TURBINE DISCHARGE TO 'A' STEAM GENERATOR CHECK	2/K-6	3	C	CT	SA	3.0	O/C	No		FSC	Q	--	--	UT	Ultrasonic exam performed quarterly to verify closure capability.	
											FSO	Q	012	--	FSOCS		
3FWA*V047	TDAFP SPLY TO "D" S/G CK VALVE	2/K-3	3	C	CT	SA	3.0	O/C	No		FSC	Q	--	--	UT	Ultrasonic exam performed quarterly to verify closure capability.	
											FSO	Q	012	--	FSOCS		
3FWA*V060	AUX FD PUMP CST SPLY CHECK VALVE	2/A-11	3	C	CS	SA	10.0	C	No		FSC	Q	014	--	FSCR		<u>11</u>
											FSO	A/R	014	--	VNORMOP	verified open during refuel operations	
3FWA*V061	TURBINE DRIVEN AUXILIARY FEEDWATER ALTERNATE SUCTION (3FWA*HCV37)	2/A-10	3	B	BF	HA	10.0	C	No		FSC	Q	--	--		valve ID changed to HCV37	<u>7</u>

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# Millstone Unit 3 Valve Test List

## AUXILIARY FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWA*V062	TDAFP ALT SUCT MAN ISOL ON CST	2/A-10	3	B	GT	HA	10.0	C	No		FSC	Q	--	--		
3FWA*V064	MOTOR DRIVEN AUXILIARY FEEDWATER PPB ALTERNATE SUCTION FROM CST	2/C-8	3	B	GT	HA	8.0	C	No		FSC	Q	--	--		
3FWA*V066	MOTOR DRIVEN AUXILIARY FEEDWATER PPA ALTERNATE SUCTION FROM CST	2/F-8	3	B	GT	HA	8.0	C	No		FSC	Q	--	--		
3FWA*V882	STEAM GENERATOR "A" AUXILIARY FEEDWATER CHECK	2/M-5	2	C	CT	SA	4.0	O/C	No		FSC FSO	Q Q	065 012	-- --	FSCR FSOCS	
3FWA*V883	STEAM GENERATOR "B" AUXILIARY FEEDWATER CHECK	2/M-7	2	C	CT	SA	4.0	O/C	No		FSC FSO	Q Q	065 012	-- --	FSCR FSOCS	
3FWA*V884	STEAM GENERATOR "C" AUXILIARY FEEDWATER CHECK VALVE	2/K-9	2	C	CT	SA	4.0	O/C	No		FSC FSO	Q Q	065 012	-- --	FSCR FSOCS	
3FWA*V885	STEAM GENERATOR "D" AUXILIARY FEEDWATER CHECK	2/M-2	2	C	CT	SA	4.0	O/C	No		FSC FSO	Q Q	065 012	-- --	FSCR FSOCS	
3FWA*V997	STEAM GENERATOR FEEDWATER PUMP "A" DWST SUPPLY HEADER ISOLATION	2/	3	B	GT	HA	8.0	C	No		FSC	Q	--	V-005	FSC-18	

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### Millstone Unit 3 Valve Test List

#### AUXILIARY FEEDWATER

Drawing No - 25212 - 26930

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FWA*V998	STEAM GENERATOR FEEDWATER PUMP "B" DWST SUPPLY HEADER ISOLATION	2/	3	B	GT	HA	8.0	C	No		FSC	Q	--	V-005	FSC-18	
3FWA*V999	TURBINE DRIVEN AUX FEED PUMP ISOLATION FROM DWST	2/	3	B	GT	HA	10.0	C	No		FSC	Q	--	V-005	FSC-18	

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# Millstone Unit 3 Valve Test List

SERVICE WATER

Drawing No - 25212 - 26933

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SWP*AOV39A	SERVICE WATER A DIESEL GENERATOR HEAT EXCHANGE OUTLET	4/E-6	3	B	BF	AO 10.0	O	No		FT	Q	--	--		
										PI	2A	--	--		
										STO	Q	--	--		
3SWP*AOV39B	SERVICE WATER B DIESEL GENERATOR HEAT EXCHANGE OUTLET	4/F-5	3	B	BF	AO 10.0	O	No		FT	Q	--	--		
										PI	2A	--	--		
										STO	Q	--	--		
3SWP*MOV24A	"A" SERVICE WATER PUMP STRAINER BACKWASH VALVE	1/D-10	3	B	GT	MO 3.0	O	No		PI	2A	--	--		
										STO	Q	--	--		
3SWP*MOV24B	"B" SERVICE WATER PUMP STRAINER BACKWASH VALVE	1/G-5	3	B	GT	MO 3.0	O	No		PI	2A	--	--		
										STO	Q	--	--		
3SWP*MOV24C	"C" SERVICE WATER PUMP STRAINER BACKWASH VALVE	1/D-7	3	B	GT	MO 3.0	O	No		PI	2A	--	--		
										STO	Q	--	--		
3SWP*MOV24D	"D" SERVICE WATER PUMP STRAINER BACKWASH VALVE	1/G-3	3	B	GT	MO 3.0	O	No		PI	2A	--	--		
										STO	Q	--	--		
3SWP*MOV50A	TR "A" SERVICEWATER SUPPLY REACTOR PLANT COMPONENT COOLING WATER	2/K-6	3	B	BF	MO 30.0	O/C	No		PI	2A	--	--		
										STC	Q	050	--	STCCS	
										STO	Q	050	--	STOCS	

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SERVICE WATER

# Millstone Unit 3 Valve Test List

Drawing No - 25212 - 26933

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SWP*MOV50B	TR "B" SERVICEWATER SUPPLY REACTOR PLANT COMPONENT COOLING WATER	2/K-2	3	B	BF	MO	30.0	O/C	No		PI STC STO	2A Q Q	-- 050 050	-- -- --	STCCS STOCS	
3SWP*MOV54A	"A" CNTMNT RECIRC COOLER INLET	2/C-6	3	B	BF	MO	18.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- V-004 V-004	STC-6 STO-6	
3SWP*MOV54B	"B" CNTMNT RECIRC COOLER INLET	2/G-5	3	B	BF	MO	18.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- V-004 V-004	STC-6 STO-6	
3SWP*MOV54C	"C" CNTMNT RECIRC COOLER INLET	2/C-4	3	B	BF	MO	18.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- V-004 V-004	STC-6 STO-6	
3SWP*MOV54D	"D" CNTMNT RECIRC COOLER INLET	2/F-6	3	B	BF	MO	18.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- V-004 V-004	STC-6 STO-6	
3SWP*MOV57A	"A" CONTAINMENT RECIRCULATING COOLER OUTLET	2/C-6	3	B	BF	MO	18.0	C	No		PI STC	2A Q	-- --	-- --		
3SWP*MOV57B	"B" CONTAINMENT RECIRCULATING COOLER OUTLET	2/C-6	3	B	BF	MO	18.0	C	No		PI STC	2A Q	-- --	-- --		

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# Millstone Unit 3 Valve Test List

SERVICE WATER

Drawing No - 25212 - 26933

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SWP*MOV57C	"C" CONTAINMENT RECIRCULATING COOLER OUTLET	2/C-6	3	B	BF	MO	18.0	C	No		PI STC	2A Q	-- --	-- --		
3SWP*MOV57D	"D" CONTAINMENT RECIRCULATING COOLER OUTLET	2/C-6	3	B	BF	MO	18.0	C	No		PI STC	2A Q	-- --	-- --		
3SWP*MOV71A	"A" SERVWTR HDR TURBINE PUMP COMPONENT COOL WTR HEAT EXCH SUPPLY	2/D-8	3	B	BF	MO	18.0	C	No		PI STC	2A Q	-- --	-- --		
3SWP*MOV71B	"B" SERVWTR HDR TURBINE PUMP COMPONENT COOL WTR HEAT EXCH SUPPLY	2/D-7	3	B	BF	MO	18.0	C	No		PI STC	2A Q	-- --	-- --		
3SWP*MOV102A	"A" SERVICEWATER PUMP DISCHARGE VALVE	1/E-9	3	B	BF	MO	30.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3SWP*MOV102B	"B" SERVICEWATER PUMP DISCHARGE VALVE	1/H-5	3	B	BF	MO	30.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		
3SWP*MOV102C	"C" SERVICEWATER PUMP DISCHARGE VALVE	1/D-7	3	B	BF	MO	30.0	O/C	No		PI STC STO	2A Q Q	-- -- --	-- -- --		

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# Millstone Unit 3 Valve Test List

SERVICE WATER

Drawing No - 25212 - 26933

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SWP*MOV102D	(D) SERVICE WATER DISCHARGE VALVE	1/I-2	3	B	BF	MO 30.0	O/C	No	PI STC STO	2A Q Q	-- -- --	-- -- --		
3SWP*MOV115A	TRAIN (A) CIRCULATING PUMP LUBE WATER SUPPLY	4/H-9	3	B	GT	MO 2.0	C	No	PI STC	2A Q	-- --	-- --		
3SWP*MOV115B	TRAIN (B) CIRCULATED PUMP LUBE WATER SUPPLY -- IN CHLORINE PIT	4/A-2	3	B	GT	MO 2.0	C	No	PI STC	2A Q	-- --	-- --		
3SWP*RV89A	Control Bldg A/C Unit Water Chiller "A" Relief	4/	3	C	RV	SA 0.75	RV	No	SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV89B	Control Bldg A/C Unit Water Chiller "B" Relief	4/	3	C	RV	SA 0.75	RV	No	SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV90A	Emergency D/G Air Cooler Heat Exchanger "A" Relief	4/	3	C	RV	SA 0.75	RV	No	SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV90B	Emergency D/G Air Cooler Heat Exchanger "B" Relief	4/	3	C	RV	SA 0.75	RV	No	SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV91A	CTMT Recirc Pump A/C Unit "A" Relief	2/	3	C	RV	SA 0.75	RV	No	SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV91B	CTMT Recirc Pump A/C Unit "B" Relief	2/	3	C	RV	SA 0.75	RV	No	SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup

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SERVICE WATER

# Millstone Unit 3 Valve Test List

Drawing No - 25212 - 26933

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SWP*RV92A	Residual Heat Removal Pump A/C Unit "A" Relief	2/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV92B	Residual Heat Removal Pump A/C Unit "B" Relief	2/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV93A	Safety Injection Pump Cooler "A" Relief	2/M-5	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV93B	Safety Injection Pump Cooler "B" Relief	2/M-4	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV94A	Containment Recirculation Cooler "A" Relief	2/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV94B	Containment Recirculation Cooler "B" Relief	2/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV94C	Containment Recirculation Cooler "C" Relief	2/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV94D	Containment Recirculation Cooler "D" Relief	2/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV96A	Charging Pump Cooler "A" Relief	2/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV96B	Charging Pump Cooler "B" Relief	2/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup

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# Millstone Unit 3 Valve Test List

SERVICE WATER

Drawing No - 25212 - 26933

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SWP*RV132A	MCC Rod Control A/C Unit "A" Relief	2/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*RV132B	MCC Rod Control A/C Unit "B" Relief	2/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3SWP*V001	SERVICE WATER PUMP D DISCHARGE CHECK	1/H-2	3	C	CD	SA	30.0	O/C	No		FSC FSO	Q Q	-- 057	-- --	DIS-CM	<u>11</u>
3SWP*V003	SERVICE WATER PUMP 1B DISCHARGE CHECK	1/H-5	3	C	CD	SA	30.0	O/C	No		FSC FSO	Q Q	-- 057	-- --	DIS-CM	<u>11</u>
3SWP*V005	SERVICE WATER PUMP 1C DISCHARGE CHECK	1/D-7	3	C	CD	SA	30.0	O/C	No		FSC FSO	Q Q	-- 057	-- --	DIS-CM	<u>11</u>
3SWP*V007	SERVICE WATER PUMP 1A DISCHARGE CHECK	1/D-9	3	C	CD	SA	30.0	O/C	No		FSC FSO	Q Q	-- 057	-- --	DIS-CM	<u>11</u>
3SWP*V010	SERVICE WATER PUMP 2A DISCHARGE CHECK	4/L-8	3	C	CD	SA	6.0	O	No		FSC FSO	A/R Q	-- --	-- --	DIS-CM	<u>11</u>
3SWP*V043	SERVICW WATER PUMP 2B DISCHARGE CHECK	4/L-2	3	C	CD	SA	6.0	O	No		FSC FSO	A/R Q	-- --	-- --	DIS-CM	<u>11</u>
3SWP*V104	3HVK*CHL1A TEMPERATURE RECIRCULATION VALVE	4/L-6	3	C	CD	SA	4.0	O/C	No		FS	Q	066	--	DIS-CM	<u>11</u>

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# Millstone Unit 3 Valve Test List

SERVICE WATER

Drawing No - 25212 - 26933

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3SWP*V109	3HVK*CHL1B TEMPERATURE RECIRCULATION CHECK VALVE	4/L-4	3	C	CD	SA	4.0	O/C	No		FS	Q	066	--	DIS-CM		<u>11</u>
3SWP*V705	"A" SW to HVQ, CCI, CHECK VALVE	2/J-10	3	C	CS	SA	3.0	O/C	No		FSC FSO	Q Q	052 --	-- --	DIS-CM		
3SWP*V706	"B" SW to HVQ, CCI, CHECK VALVE	2/J-1	3	C	CS	SA	3.0	O/C	No		FSC FSO	Q Q	052 --	-- --	DIS-CM		
3SWP*V707	MCC & ROD CNTRL AREA BOOSTER PMP P3A SUCT CHECK VLV	2/D-9	3	C	CS	SA	3.0	O/C	No		FSC FSO	Q Q	052 --	-- --	DIS-CM		
3SWP*V708	MCC & ROD CONTROL AREA BOOSTER PUMP P3B SUCTION CHECK	2/D-3	3	C	CS	SA	3.0	O/C	No		FSC FSO	Q Q	052 --	-- --	DIS-CM		
3SWP*V836	CHECK VALVE, PASS "A" TRAIN SUPPLY	2/E-10	3	C	CN	SA	0.75	C	No		FSC FSO	SA A/R	-- --	-- --		new reverse flow test added after modification for nozzle valve verified open by normal operations, or flush	<u>11</u>
3SWP*V837	PASS "B" TRAIN SUPPLY	2/K-1	3	C	CN	SA	0.75	C	No		FSC FSO	SA A/R	-- --	-- --		CM test frequency of SA established for new valve installed during 3R8	<u>11</u>
3SWP*V854	SERVICE WATER BOOSTER PUMP 3A DISCHARGE CHECK	2/I-11	3	C	CS	SA	3.0	O	No		FSC FSO	A/R Q	-- --	-- --	DIS-CM	need procedure change to incorporate Acoustics	<u>11</u>

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### Millstone Unit 3 Valve Test List

SERVICE WATER

Drawing No - 25212 - 26933

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3SWP*V867	SERVICE WATER BOOSTER PUMP 3B DISCHARGE CHECK.	2/N-2	3	C	CD	SA	3.0	O	No		FSC	A/R	--	--	DIS-CM	need a procedure change to incorporate acoustic testing.	<u>11</u>
											FSO	Q	--	--			

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# Millstone Unit 3 Valve Test List

CHLORINATION

Drawing No - 25212 - 26933

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3WTC*V837	SERVICE WATER A PUMP HEADER HYPOCHLORITE INJ. OUTBOARD CHECK VLV.	1/H-2	3	C	CN	SA	1.5	C	No		FSC PSO	Q A/R	-- --	-- --	VNORMOP	open verification during normal rounds, performance of 3804AG-1	<u>11</u>
3WTC*V840	SERVICE WATER C PUMP HEADER HYPOCHLORITE INJ. OUTBOARD CHECK VLV.	1/H-5	3	C	CN	SA	1.5	C	No		FSC PSO	Q A/R	-- --	-- --	VNORMOP	Open verification during operator rounds and during performance of 3804AG-1	<u>11</u>
3WTC*V843	SERVICE WATER B PUMP HEADER HYPOCHLORITE INJ. OUTBOARD CHECK VLV.	1/D-7	3	C	CN	SA	1.5	C	No		FSC PSO	Q A/R	-- --	-- --	VNORMOP	Open verified during normal operation and performance of 3804AG-1	<u>11</u>
3WTC*V846	SERVICE WATER D PUMP HEADER HYPOCHLORITE INJ. OUTBOARD CHECK VLV.	1/D-10	3	C	CN	SA	1.5	C	No		FSC PSO	Q A/R	-- --	-- --	VNORMOP	Open verified during normal operation and during performance of 3804AG-1	<u>11</u>

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# Millstone Unit 3 Valve Test List

## REACTOR PLANT COMPONENT COOLING

Drawing No - 25212 - 26921

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCP*AOV10A	TRAIN 'A' NON-SAFETY HEADER SUPPLY ISOLATION	1/M-5	3	B	BF	AO 16.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCP*AOV10B	TRAIN B REACTOR PLANT CLOSED COOLING WATER NON-SAFETY HEADER	1/M-6	3	B	BF	AO 12.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCP*AOV19A	TRAIN "A" REACTOR PLANT CLOSED COOLING WATER NON-SAFETY HEADER	1/C-6	3	B	BF	AO 16.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCP*AOV19B	REACTOR PLANT COMPONENT COOLING WATER SUPPLY/RETURN PRIMARY ISOL	1/C-7	3	B	BF	AO 12.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCP*AOV178A	RPCCW RETURN 1 RCP THERMAL BARRIER	2/J-5	3	B	GL	AO 1.5	C	No		FT PI STC	Q 2A Q	059 -- 059	-- -- --	FTCS  STCCS	
3CCP*AOV178B	RPCCW RETURN 2 REACTOR COOLANT PUMP THERMAL BARRIER	2/J-9	3	B	GL	AO 1.5	C	No		FT PI STC	Q 2A Q	059 -- 059	-- -- --	FTCS  STCCS	
3CCP*AOV178C	RPCCW RETURN 3 RCP THERMAL BARRIER	2/H-9	3	B	GL	AO 1.5	C	No		FT PI STC	Q 2A Q	059 -- 059	-- -- --	FTCS  STCCS	

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# Millstone Unit 3 Valve Test List

## REACTOR PLANT COMPONENT COOLING

Drawing No - 25212 - 26921

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCP*AOV178D	RPCCW RETURN 4 RCP THERMAL BARRIER	2/G-5	3	B	GL	AO	1.5	C	No		FT	Q	059	--	FTCS	
											PI	2A	--	--		
											STC	Q	059	--	STCCS	
3CCP*AOV179A	TRAIN (A) RPCCW SUPPLY HEADER	2/L-2	3	B	BF	AO	6.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CCP*AOV179B	TRAIN (B) RPCCW SUPPLY HEADER	2/L-3	3	B	BF	AO	6.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CCP*AOV180A	TRAIN (A) RPCCW RETURN HEADER	2/J-2	3	B	BF	AO	6.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CCP*AOV180B	TRAIN (B) TPCCW RETURN HEADER	2/K-2	3	B	BF	AO	6.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CCP*AOV194A	'A' RX PLANT COMPONENT COOL WATER NON-SAFETY HDR	1/B-6	3	B	BF	AO	16.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3CCP*AOV194B	TRAIN 'B' REACTOR PLANT COMPONENT COOLING WATER NON- SAFETY HEADER	1/B-7	3	B	BF	AO	12.0	C	No		FT	Q	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

## REACTOR PLANT COMPONENT COOLING

Drawing No - 25212 - 26921

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCP*AOV197A	SUPPLY/RETURN PRIMARY ISOLATION	1/L-5	3	B	BF	AO	16.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCP*AOV197B	RPCC WATER SUPPLY/RETURN SECONDARY ISOL	1/L-6	3	B	BF	AO	12.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCP*FV66A	(A) RHR HEAT EXCHANGE COOLING OUTLET ISOLATION	1/M-2	3	B	BF	AO	18.0	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		
3CCP*FV66B	(B) RHR HEAT EXCHANGE COOLING OUTLET ISOLATION	1/F-9	3	B	BF	AO	18.0	O	No		FT PI STO	Q 2A Q	-- -- --	-- -- --		
3CCP*MOV45A	RPCCW SUPPLY HEADERS CTMT PENETRATION (39 - OUTSIDE)	2/B-2	2	A	BF	MO	10.0	C	No		LJ PI STC	J 2A Q	-- -- --	-- -- --		Leak test per 10CFR50 Appendix J - Pen. 39
3CCP*MOV45B	TRAIN B RPCCW CONTAINMENT RETURN HEADER ISOLATION (40- OUTSIDE)	2/C-9	2	A	BF	MO	10.0	C	No		LJ PI STC	J 2A Q	-- -- --	-- -- --		Leak test per 10CFR50 Appendix J - Pen. 40
3CCP*MOV48A	TRAIN 'A' RPCCW CONTAINMENT RETURN INNER ISOLATION (41- INSIDE)	2/E-2	2	A	BF	MO	10.0	C	No		LJ PI STC	J 2A Q	-- -- --	-- -- --		Leak test per 10CFR50 Appendix J - Pen. 41

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# Millstone Unit 3 Valve Test List

REACTOR PLANT COMPONENT COOLING

Drawing No - 25212 - 26921

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCP*MOV48B	TRAIN (B) RPCCW CONTAINMENT RETURN INLET ISOLATION (42- INSIDE)	2/E-10	2	A	BF	MO	10.0	C	No		LJ PI STC	J 2A Q	-- -- --	-- -- --		Leak test per 10CFR50 Appendix J - Pen. 42
3CCP*MOV49A	TRAIN RPCCW CONTAINMENT RETURN OUTER ISOLATION (41- OUTSIDE)	2/D-2	2	A	BF	MO	10.0	C	No		LJ PI STC	J 2A Q	-- -- --	-- -- --		Leak test per 10CFR50 Appendix J - Pen 41
3CCP*MOV49B	TRAIN B RPCCW CONTAINMENT RETURN OUTER ISOLATION (42- OUTSIDE)	2/C-10	2	A	BF	MO	10.0	C	No		LJ PI STC	J 2A Q	-- -- --	-- -- --		Leak test per 10CFR50 Appendix J - Pen 42
3CCP*MOV222	TRAIN B CHILLER WATER SUPPLY/RETURN	2/H-2	3	B	BF	MO	4.0	C	No		PI STC	2A Q	-- --	-- --		
3CCP*MOV223	TRAIN A CHILLER WATER SUPPLY/RETURN	2/G-2	3	B	BF	MO	4.0	C	No		PI STC	2A Q	-- --	-- --		
3CCP*MOV224	TRAIN A CHILLED WATER SUPPLY/RETURN	2/F-4	3	B	BF	MO	4.0	C	No		PI STC	2A Q	-- --	-- --		
3CCP*MOV225	TRAIN A CHILLED WATER SUPPLY/RETURN	2/F-3	3	B	BF	MO	4.0	C	No		PI STC	2A Q	-- --	-- --		
3CCP*MOV226	TRAIN B CHILLER WATER RETURN	2/M-5	3	B	BF	MO	4.0	C	No		PI STC	2A Q	-- --	-- --		
3CCP*MOV227	TRAIN B CHILLED WATER SUPPLY/RETURN	2/M-4	3	B	BF	MO	4.0	C	No		PI STC	2A Q	-- --	-- --		

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# Millstone Unit 3 Valve Test List

## REACTOR PLANT COMPONENT COOLING

Drawing No - 25212 - 26921

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCP*MOV228	TRAIN B CHILLED WATER SUPPLY/RETURN	2/L-5	3	B	BF	MO	4.0	C	No		PI STC	2A Q	-- --	-- --		
3CCP*MOV229	TRAIN B CHILLED WATER SUPPLY/RETURN ISOLATION	2/L-4	3	B	BF	MO	4.0	C	No		PI STC	2A Q	-- --	-- --		
3CCP*RV59A	Fuel Pool Cooler Relief	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3CCP*RV59B	Fuel Pool Cooler Relief	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3CCP*RV64A	RHR Heat Exchanger A Relief	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3CCP*RV64B	RHR Heat Exchanger B Relief	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3CCP*RV239A	RHR Pump A Seal Cooler Relief	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3CCP*RV239B	RHR Pump B Seal Cooler Relief	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3CCP*RV54A	RCP (A) THERMAL BARRIER RELIEF	2/K-4	3	C	RV	SA	1	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule
3CCP*RV54B	RCP (B) BARRIER RELIEF	2/J-8	3	C	RV	SA	1.0	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule

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# Millstone Unit 3 Valve Test List

## REACTOR PLANT COMPONENT COOLING

Drawing No - 25212 - 26921

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCP*RV54C	RCP (C) THERMAL BARRIER RELIEF	2/F-8	3	C	RV	SA	1.0	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule
3CCP*RV54D	REACTOR COOLANT PUMP THERMAL BARRIER RELIEF	2/H-4	3	C	RV	SA	1.0	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule
3CCP*RV258A	REACTOR COOLANT PUMP UPPER BEARING	2/K-3	3	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3CCP*RV258B	REACTOR COOLANT PUMP UPPER BEARING	2/J-7	3	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3CCP*RV258C	REACTOR COOLANT PUMP UPPER BEARING	2/G-7	3	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3CCP*RV258D	REACTOR COOLANT PUMP UPPER BEARING	2/H-3	3	C	RV	SA	0.75	O	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3CCP*RV275A	CONTAINMENT PENETRATION (A) RELIEF (41-OUTSIDE)	2/D-3	2	C	RV	SA	0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 41
											SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3CCP*RV275B	CONTAINMENT PEN (B) RELIEF (42-OUTSIDE)	2/D-10	2	C	RV	SA	0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 42
											SRV	10A	--	V-001		Test frequency per OM1 test schedule.
3CCP*TV32A	COMP COOLING HEAT EXCHANGER OUTLET TEMPERATURE CONTROL VALVES (2)	1/I-5	3	B	BF	AO	18.0	O	No		FT	Q	--	--		
											STO	Q	--	--		

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# Millstone Unit 3 Valve Test List

REACTOR PLANT COMPONENT COOLING

Drawing No - 25212 - 26921

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCP*TV32B	COMP COOLING HEAT EXCHANGER OUTLET TEMPERATURE CONTROL VALVES (2)	1/I-7	3	B	BF	AO	18.0	O	No		FT STO	Q Q	-- --	-- --		
3CCP*TV32C	COMP COOLING HEAT EXCHANGER OUTLET TEMPERATURE CONTROL VALVES (2)	1/I-9	3	B	BF	AO	18.0	O	No		FT STO	Q Q	-- --	-- --		
3CCP*V001	RPCCW PUMP "A" DISCHARGE CHECK	1/F-5	3	C	CS	SA	18.0	O/C	No		FSC FSO	Q Q	-- --	-- --		
3CCP*V002	RPCCW PUMP "C" DISCHARGE CHECK	1/F-6	3	C	CS	SA	18.0	O/C	No		FSC FSO	Q Q	-- --	-- --		
3CCP*V003	CHECK VALVE RPCCW PP B DIS. CHK.	1/F-7	3	C	CS	SA	18.0	O/C	No		FSC FSO	Q Q	-- --	-- --		
3CCP*V018	CHECK VALVE (39-INSIDE)	2/E-2	2	AC	CS	SA	10.0	C	No		FSC LJ PSO	Q J Q	002 -- --	-- -- --	FSCCS  PSOCS	Leak test per 10CFR50 Appendix J - Pen 39
3CCP*V027	CHECK VALVE	2/H-5	3	C	CL	SA	2.0	C	No		FSC PSO	Q Q	017 --	-- --	FSCR VNORMOP	Verified during normal operation by MCB alarm
3CCP*V038	CHECK VALVE	2/K-5	3	C	CL	SA	2.0	C	No		FSC PSO	Q Q	017 --	-- --	FSCR VNORMOP	

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# Millstone Unit 3 Valve Test List

REACTOR PLANT COMPONENT COOLING

Drawing No - 25212 - 26921

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCP*V060	CCP 'B' LOOP INSIDE CONTAINMENT ISOLATION (40-INSIDE)	2/E-9	2	AC	CS	SA 10.0	C	No		FSC LJ	Q J	002 --	-- --	FSCCS	Leak test per 10CFR50 Appendix J - Pen 40
										PSO	Q	--	--	PSOCS	
3CCP*V063	CHECK VALVE	2/F-8	3	C	CL	SA 2.0	C	No		FSC PSO	Q Q	017 --	-- --	FSCR VNORMOP	
3CCP*V074	CHECK VALVE	2/I-8	3	C	CL	SA 2.0	C	No		FSC PSO	Q Q	017 --	-- --	FSCR VNORMOP	
3CCP*V886	DEMINERALIZED H2O SUPPLY INSIDE CTMT,CTMT PENETRATION(70-INSIDE)	1/D-2	2	A	GT	HA 2.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 70 (Passive)
3CCP*V887	DEMINERALIZED H2O SUPPLY INSIDE CTMT,CTMT PENETRATION(70- OUTSIDE)	1/C-2	2	A	GT	HA 2.0	C	Yes		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 70 (Passive)
3CCP*V965	GATE VALVE	1/J-6	3	B	GT	HA 0.75	C	No		FSC	Q	--	V-008	FSC-18	
3CCP*V966	GATE VALVE	1/J-9	3	B	GT	HA 0.75	C	No		FSC	Q	--	V-008	FSC-18	
3CCP*V981	SAFETY INJECT PUMP COOLING SURGE TANK FILL VALVE INLET	1/J-4	3	B	GL	HA 1.0	C	No		FSC	Q	--	V-008	FSC-18	
3CCP*V986	CHG PMP COOLING SURGE TK FILL VLV INLET ISOLATION	2/B-7	3	B	GL	HA 1.0	C	No		FSC	Q	--	V-008	FSC-18	

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# Millstone Unit 3 Valve Test List

REACTOR PLANT CHILLED WATER

Drawing No - 25212 - 26922

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CDS*CTV38A	CHILLED WATER SUPPLY CTMT PENETRATION (38- OUTSIDE) O/B	1/L-5	2	A	BF	AO	10.0	C	No		FT	Q	069	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 38
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	069	--	STCCS	
3CDS*CTV38B	CHILLED WATER SUPPLY CTMT PENETRATION (72- OUTSIDE) O/B	1/J-7	2	A	BF	AO	10.0	C	No		FT	Q	069	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 72
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	069	--	STCCS	
3CDS*CTV39A	CHILLED WATER RETURN CTMT PENETRATION (116- OUTSIDE)	1/L-1	2	A	BF	AO	10.0	C	No		FT	Q	069	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 116
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	069	--	STCCS	
3CDS*CTV39B	CHILLED WATER RETURN CTMT PENETRATION (45- OUTSIDE)HEADER ISOL	1/K-10	2	A	BF	AO	10.0	C	No		FT	Q	069	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 45
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	069	--	STCCS	
3CDS*CTV40A	CHILLED WATER RETURN CTMT PENETRATION (116- INSIDE) EDUCTIVE	1/M-1	2	A	BF	AO	10.0	C	No		FT	Q	069	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 116
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	069	--	STCCS	

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# Millstone Unit 3 Valve Test List

REACTOR PLANT CHILLED WATER

Drawing No - 25212 - 26922

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CDS*CTV40B	CHILLED WATER RETURN CTMT PENETRATION (45- INSIDE) EDUCION	1/L-10	2	A	BF	AO 10.0	C	No		FT	Q	069	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 45
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	069	--	STCCS	
3CDS*CTV91A	CHILLED WATER SUPPLY CTMT PENETRATION (38- INSIDE)	1/M-5	2	A	BF	AO 10.0	C	No		FT	Q	069	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 38
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	069	--	STCCS	
3CDS*CTV91B	CHILLED WATER SUPPLY CTMT PENETRATION (72- INSIDE) ENDUCTIVE	1/L-7	2	A	BF	AO 10.0	C	No		FT	Q	069	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 72
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	069	--	STCCS	
3CDS*RV105A	CHILLED WATER SUPPLY RELIEF TO CTMT FLOOR DRAINS (38-OUTSIDE)	1/L-6	2	AC	RV	SA 0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 38 Test frequency per OM1 test schedule
										SRV	10A	--	V-001		
3CDS*RV105B	CHILLED WATER SUPPLY RELIEF TO CTMT FLOOR DRAINS (72-OUTSIDE)	1/J-7	2	AC	RV	SA 0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 72 Test frequency per OM1 test schedule
										SRV	10A	--	V-001		
3CDS*RV106A	CHILLED WATER SUPPLY RELIEF TO CTMT FLOOR DRAINS (116-OUTSIDE)	1/L-3	2	AC	RV	SA 0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 116 Test frequency per OM1 test schedule.
										SRV	10A	--	V-001		



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### Millstone Unit 3 Valve Test List

REACTOR PLANT CHILLED WATER

Drawing No - 25212 - 26922

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CDS*RV106B	B TRAIN RETURN HEADER RELIEF (45- OUTSIDE)	1/K-10	2	AC	RV	SA	0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 45 Test frequency per OMI test schedule.
											SRV	10A	--	V-001		

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# Millstone Unit 3 Valve Test List

## CHARGING PUMP COOLING

Drawing No - 25212 - 26905

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCE*AOV26A	A' CHARGING PUMP COOLING PUMP SUCTION XCONN	1/E-5	3	B	GL	AO	2.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCE*AOV26B	'B' CHARGING PUMP COOLING PUMP SUCTION XCONN	1/D-5	3	B	GL	AO	2.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCE*AOV30A	'A' CHARGING PUMP COOLING PUMP DISCHARGE TRANSFER CONNECTION	1/G-9	3	B	GL	AO	2.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCE*AOV30B	'B' CHARGING PUMP COOLING PUMP DISCHARGE TRANSFER CONNECTION	1/G-9	3	B	GL	AO	2.0	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3CCE*RV40A	3CCE-E1 Discharge	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup for summary
3CCE*RV40B	3CCE-E1 Discharge	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3CCE*RV43A	Charging Pump A Oil Cooler Relief	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3CCE*RV43B	Charging Pump B Oil Cooler Relief	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup

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# Millstone Unit 3 Valve Test List

## CHARGING PUMP COOLING

Drawing No - 25212 - 26905

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCE*RV43C	Charging Pump C Oil Cooler Relief	1/	3	C	RV	SA	0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50- 423. Refer to Basis Writeup
3CCE*TV37A	A CHARGE PUMP COOLER TEMPERATURE CONTROL	1/E-2	3	B	GL	AO	2.0	O	No		FT STO	Q Q	-- --	-- --		
3CCE*TV37B	CHARGING PUMP (B) COOLER TEMPERATURE CONTROL	1/C-2	3	B	GL	AO	2.0	O	No		FT STO	Q Q	-- --	-- --		
3CCE*V001	CHECK VALVE CHG. PP. COOLING PP "A"	1/F-8	3	C	CL	SA	2.0	O/C	No		FSC FSO	Q Q	-- --	-- --		
3CCE*V013	CHECK VALVE CHG PP COOLING PP "B"	1/D-10	3	C	CL	SA	2.0	O/C	No		FSC FSO	Q Q	-- --	-- --		

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# Millstone Unit 3 Valve Test List

## SAFETY INJECTION PUMP COOLING

Drawing No - 25212 - 26914

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3CCI*RV31A	Safety Injection Pump Cooler Relief	1/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50-423. Refer to Basis Writeup
3CCI*RV31B	Safety Injection Cooling Pump B Cooler Relief	1/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50-423. Refer to Basis Writeup
3CCI*RV36A	Safety Injection Pump Bearing Oil Cooler Relief	1/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50-423. Refer to Basis Writeup
3CCI*RV36B	Safety Injection Pump Bearing Oil Cooler Relief	1/	3	C	RV	SA 0.75	RV	No		SRV	10A	--	V-001		Test or Replace per Relief Granted on 2/2/01, Docket 50-423. Refer to Basis Writeup
3CCI*V001	CHECK VALVE HPSI COOLING PP A DIS. CHK.	1/J-5	3	C	CL	SA 1.0	O	No		FSC FSO	A/R Q	-- --	-- --	DIS-CM	11
3CCI*V008	CHECK VALVE HPSI PP COOLING PP B DIS. CHK.	1/J-9	3	C	CL	SA 1.0	O	No		FSC FSO	A/R Q	-- --	-- --	DIS-CM	11

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# Millstone Unit 3 Valve Test List

CONTAINMENT INSTRUMENT AIR

Drawing No - 25212 - 26938

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3IAS*MOV72	INSTRUMENT AIR CTMT PENETRATION (54-INSIDE)	3/G-5	2	A	GT	MO	2.0	C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 54
											PI	2A	--	--		
											STC	Q	020	--	STCCS	
3IAS*PV15	INSTRUMENT AIR CTMT PENETRATION (54- OUTSIDE)	3/F-5	2	A	GL	AO	1.5	C	No		FT	Q	020	--	FTCS	Leak test per 10CFR50 Appendix J - Pen. 54
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	020	--	STCCS	

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### Millstone Unit 3 Valve Test List

SERVICE AIR

Drawing No - 25212 - 26938

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SAS*V050	SERVICE AIR LINE CTMT PENETRATION (52- OUTSIDE)	1/F-4	2	A	GL	HA	2.0	C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J (passive) - Pen. 52
3SAS*V875	CONTAINMENT HEADER ISOLATION (52-INSIDE)	1/F-4	2	A	GL	HA	2.0	C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J (passive) - Pen. 52

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# Millstone Unit 3 Valve Test List

## NITROGEN SYSTEM ON CAT 1 COMPONENTS

Drawing No - 25212 - 26939

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3GSN*CTV105	N2 CONTAINMENT ISOLATION CTMT PENETRATION (124)	2/E-10	2	A	GL	AO	1.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 124
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3GSN*CV8033	PRESSURIZER RELIEF TNK N2 SUPPLY ISOL CTMT PENETRATION (124)	2/C-10	2	A	GL	AO	1.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 124
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

REACTOR PLANT GASEOUS DRAINS

Drawing No - 25212 - 26907

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3DGS*CTV24	PRT & CTMT DRAINS TRANSFER PP DSCHRG CTMT PENETRATION (27- INSIDE)	/G-10	2	A	GL	AO	3.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 27
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3DGS*CTV25	PRT & CTMT DRAINS TRNSFR PP DSCHRG CTMT PENETRATION (27- OUTSIDE)	/E-10	2	A	GL	AO	3.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 27
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3DGS*RV51	CONTAINMENT PENETRATION #27	/F-10	2	AC	RV	SA	0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 27 Test frequency per OM1 test schedule.
											SRV	10A	--	V-001		



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# Millstone Unit 3 Valve Test List

## REACTOR PLANT AERATED DRAINS

Drawing No - 25212 - 26906

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3DAS*CTV24	CTMT DRAINS SUMP PUMP DISCHARGE CTMT PENETRATION (28-INSIDE)	3/I-10	2	A	GL	AO	2.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 28
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3DAS*CTV25	CTMT DRAINS SUMP PMP DISCHG CTMT PENT. (28- OUTSIDE)	3/J-10	2	A	GL	AO	2.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 28
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3DAS*RV87	REACTOR PLANT AERATED VENTS CONTAINMENT PENETRATION (28- OUTSIDE)	3/J-10	2	AC	RV	SA	2.0	C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 28 Test frequency per OM1 test schedule.
											SRV	10A	--	V-001		

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# Millstone Unit 3 Valve Test List

REACTOR PLANT GASEOUS VENTS

Drawing No - 25212 - 26907

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3VRS*CTV20	PRT & CTMT DRAINS TRANSFER TANK VENT CTMT PENETRATION (29- INSIDE)	/L-5	2	A	DI	AO 0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 29
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		
3VRS*CTV21	PRT & CTMT DRAINS TRANSFER TANK VENT CTMT PENETRATION(29- OUTSIDE)	/L-7	2	A	DI	AO 0.75	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen. 29
										LJ	J	--	--		
										PI	2A	--	--		
										STC	Q	--	--		

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# Millstone Unit 3 Valve Test List

## STEAM GENERATOR CHEMICAL FEED

Drawing No - 25212 - 26931

Valve ID	Valve Description	Drawing Sht/Coord	CI	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3SGF*AOV24A	STEAM GENERATOR 1 CHEMICAL ADDITION CONTAINMENT ISOLATION	/M-7	2	B	GL	AO 0.75	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3SGF*AOV24B	STEAM GENERATOR 2 CHEMICAL ADDITION CONTAINMENT ISOLATION	/L-7	2	B	GL	AO 0.75	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3SGF*AOV24C	STEAM GENERATOR 3 CHEMICAL ADDITION CONTAINMENT ISOLATION	/K-7	2	B	GL	AO 0.75	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		
3SGF*AOV24D	STEAM GENERATOR 4 CHEMICAL ADDITION CONTAINMENT ISOLATION	/J-7	2	B	GL	AO 0.75	C	No		FT PI STC	Q 2A Q	-- -- --	-- -- --		

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# Millstone Unit 3 Valve Test List

PRIMARY GRADE WATER

Drawing No - 25212 - 26919

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3PGS*CV8028	PRIMARY GRADE WATER TO PRT CTMT PENETRATION (15- OUTSIDE)	1/N-1	2	A	GL	AO	3.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 15
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3PGS*CV8046	PRIMARY GRADE WATER TO PRT CTMT PENETRATION (15-INSIDE)	1/L-1	2	A	GL	AO	3.0	C	No		FT	Q	--	--		Leak test per 10CFR50 Appendix J - Pen 15
											LJ	J	--	--		
											PI	2A	--	--		
											STC	Q	--	--		
3PGS*RV77	PRIMARY GRADE SYSTEM CONTAINMENT PENETRATION Z15 RELIEF	1/M-1	2	C	RV	SA	0.75	O/C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen 15  Test frequency per OM1 test schedule
											SRV	10A	--	V-001		

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# Millstone Unit 3 Valve Test List

FIRE PROTECTION WATER

Drawing No - 25212 - 26946

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3FPW*CTV48	FIRE PROTECTION CTMT PENETRATION (56- OUTSIDE)	2/B-4	2	A	BF	AO 6.0	C	No		FT LJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen. 56
3FPW*CTV49	FIRE PROTECTION CTMT PENETRATION (56-INSIDE)	2/C-4	2	A	BF	AO 6.0	C	No		FT LJ PI STC	Q J 2A Q	-- -- -- --	-- -- -- --		Leak test per 10CFR50 Appendix J - Pen. 56
3FPW*RV87	CONTAINMENT PENETRATION RELIEF VALVE (56-OUTSIDE) (WAS 3SIL*RV07)	2/B-2	2	AC	RV	SA 0.75	O/C	No		LJ SRV	J 10A	-- --	-- V-001		Leak test per 10CFR50 Appendix J - Pen. 56 Test frequency per OM1 test schedule.
3FPW*V661	CTMT INNER ISOLATION VALVE 3FPW*CTV49 BYPASS (56-INSIDE)	2/C-4	2	A	GL	HA 6.0	C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 56 (passive valve)
3FPW*V666	CONTAINMENT OUTER ISOLATION VALVE CTV48 BYPASS (56-OUTSIDE)	2/B-4	2	A	GL	HA 6.0	C	No		LJ	J	--	--		Leak test per 10CFR50 Appendix J - Pen. 56 (passive valve)

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# Millstone Unit 3 Valve Test List

DIESEL AIR START

Drawing No - 25212 - 26916

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments	
3EGA*EFV35A1	COMP INST EXCESS AIR	2/H-6	3	AC	CH	SA 0.25	C	No		FSC LT	Q 2A	067 --	-- --	LT	Tested per CM group 29	2
3EGA*EFV35B1	COMP INST EXCESS AIR	4/H-6	3	AC	CH	SA 0.25	C	No		FSC LT	Q 2A	067 --	-- --	LT	testing done per Condition Monitoring Group 29.	2
3EGA*EFV35A2	CIRCLE SEAL CONTROL VALVE FLOW LIMITER WITH BY-PASS	2/H-9	3	AC	CH	SA 0.25	C	No		FSC LT	Q 2A	067 --	-- --	LT	Testing done per Contion Monitoring Group 29	2
3EGA*EFV35B2	COMP INST EXCESS AIR	4/H-9	3	AC	CH	SA 0.25	C	No		FSC LT	Q 2A	067 --	-- --	LT	Testing done per Condition Monitoring Group 29	2
3EGA*RV24A1	"A" DIESEL START AIR RECEIVER TANK 1A RELIEF	2/J-6	3	C	RV	SA 0.5	O/C	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule.	
3EGA*RV24B1	"B" DIESEL START AIR RECEIVER TANK 1B RELIEF	4/J-6	3	C	RV	SA 0.5	O/C	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule	
3EGA*RV24A2	"A" DIESEL START AIR RECEIVER TANK 2A RELIEF	2/J-8	3	C	RV	SA 0.5	O/C	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule	
3EGA*RV24B2	"B" DIESEL START AIR RECEIVER TANK 2B RELIEF	4/J-8	3	C	RV	SA 0.5	O/C	No		SRV	10A	--	V-001		Test frequency per OM1 test schedule	
3EGA*SOV25A	"A" DIESEL START AIR SHUTDOWN SOLENOID	2/J-3	3	B	GL	SO 0.375	C	No		FT NOP	Q Q	-- --	-- --		Verified by proper diesel operation.	

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# Millstone Unit 3 Valve Test List

DIESEL AIR START

Drawing No - 25212 - 26916

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3EGA*SOV25B	"B" DIESEL START AIR SHUTDOWN SOLENOID	4/J-3	3	B	GL	SO 0.375	C	No		FT NOP	Q Q	-- --	-- --		Verified by proper diesel operation
3EGA*SOV26A	"A" DIESEL START AIR START SOLENOID HEADER 2A	2/M-2	4	B	GL	SO 0.75	O	No		FSO	Q	--	--		
3EGA*SOV26B	"B" DIESEL START AIR START SOLENOID HEADER 2B	4/M-2	4	B	GL	SO 0.75	O	No		FSO	Q	--	--		
3EGA*SOV27A	"A" DIESEL START AIR START SOLENOID HEADER 1A	2/M-3	4	B	GL	SO 0.75	O	No		FSO	Q	--	--		
3EGA*SOV27B	"B" DIESEL START AIR START SOLENOID HEADER 1B	4/M-3	4	B	GL	SO 0.75	O	No		FSO	Q	--	--		
3EGA*V004	AIR COMPRESSOR 1A DISCHARGE CHECK VALVE	2/H-3	3	AC	CS	SA 0.75	C	No		FSC FSO LT	Q Q 2A	-- -- --	-- -- --	VNORMOP	Air receiver pressure continuously monitored which verifies check valve open
3EGA*V011	COMPRESSOR 2A DISCHARGE CHECK VALVE	2/H-8	3	AC	CN	SA 0.75	C	No		FSC FSO LT	Q Q 2A	-- -- --	-- -- --	VNORMOP	Air receiver pressure continuously monitored which verifies check valve open

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# Millstone Unit 3 Valve Test List

DIESEL AIR START

Drawing No - 25212 - 26916

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3EGA*V030	AIR COMPRESSOR 1B DISCHARGE CHECK VALVE	4/H-3	3	AC	CN	SA	0.75	C	No		FSC FSO LT	Q Q 2A	-- -- --	-- -- --	VNORMOP	Air receiver pressure continuously monitored which verifies check valve open
3EGA*V037	AIR COMPRESSOR 2B DISCHARGE CHECK VALVE	4/H-8	3	AC	CN	SA	0.75	C	No		FSC FSO LT	Q Q 2A	-- -- --	-- -- --	VNORMOP	Air receiver pressure continuously monitored which verifies check valve open
3EGS*V993A	CHECK VALVE	1/E-7	3	C	CD	SA	5.0	O	No		NOP	Q	--	--		Verified by proper diesel operation
3EGS*V993B	CHECK VALVE	3/E-7	3	C	CD	SA	5.0	O	No		NOP	Q	--	--		Verified by proper diesel operation



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# Millstone Unit 3 Valve Test List

DIESEL FUEL OIL

Drawing No - 25212 - 26917

Valve ID	Valve Description	Drawing Sht/Coord	Cl	Cat	Typ	Act	Size	Safety Pos	Pass	Aug	Req Tests	Freq	ATJ	RR	Alternate Test	Comments
3EGF*V001	"A" DIESEL FUEL OIL TRANSFER PUMP DISCHARGE STR1A OUTLET CHECK	1/C-2	3	C	CL	SA	1.5	O/C	No		FSC FSO	Q Q	-- --	-- --		
3EGF*V003	"A" DIESEL FUEL OIL TRANSFER PUMP DISCHARGE STR1C OUTLET CHECK	1/D-2	3	C	CL	SA	1.5	O/C	No		FSC FSO	Q Q	-- --	-- --		
3EGF*V007	"B" DIESEL FUEL OIL TRANSFER PUMP DISCHARGE STR1B OUTLET CHECK	1/C-6	3	C	CL	SA	1.5	O/C	No		FSC FSO	Q Q	-- --	-- --		
3EGF*V009	"B" DIESEL FUEL OIL TRANSFER PUMP DISCHARGE STR1D OUTLET CHECK	1/D-6	3	C	CL	SA	1.5	O/C	No		FSC FSO	Q Q	-- --	-- --		
3EGF*V960	'A' DIESEL DC MOTOR DRIVEN FUEL OIL PUMP P2A DISCHARGE CHECK	1/I-5	3	C	CS	SA	1.5	O/C	No		NOP	Q	--	--		Verified by proper diesel operation
3EGF*V966	'B' DIESEL DC MOTOR DRIVEN FUEL OIL PUMP P2B DISCHARGE CHECK	1/I-9	3	C	CS	SA	1.5	O/C	No		NOP	Q	--	--		Verified by proper diesel operation

## **VI: Alternate Test Justifications**

**ATJ Number: 001**

Valve Id: 3RCS\*V026 3RCS\*V029 3RCS\*V030 3RCS\*V069  
3RCS\*V070 3RCS\*V071 3RCS\*V102 3RCS\*V106  
3RCS\*V107 3RCS\*V142 3RCS\*V145 3RCS\*V146  
3SIH\*V005 3SIH\*V110 3SIH\*V112 3SIL\*V015  
3SIL\*V017 3SIL\*V019 3SIL\*V021 3SIL\*V026  
3SIL\*V027 3SIL\*V028 3SIL\*V029 3SIL\*V984  
3SIL\*V985 3SIL\*V986 3SIL\*V987

**Category:** AC

**Class:** 1

**Open** Open to allow injection from the accumulator and RHR pumps.  
**Safety Function:**

**Close** Close to provide reactor coolant pressure boundary and isolate the RCS from the  
**Safety Function:** upstream low pressure piping.

**Basis** These check valves are normally closed during operation. Exercising these valves  
**For Deferral:** during operation is not possible since RCS pressure (2250 psig) is greater than the  
operating pressures of the SIH (1520 psig) and RHS (200 psig) pumps. These  
valves are required to be tested per plant Technical Specification Section 4.4.6.2.2  
whenever the valves are open, at least once every 24 months, prior to entering mode  
2 whenever the plant has been in COLD SHUTDOWN for 7 days or more, and if  
leakage testing has not been performed in the previous 9 months. The surveillance  
requirements for RCS pressure isolation valves provide assurance of valve integrity  
thereby reducing the probability of gross valve failure and consequent inter system  
LOCA.

ALTERNATE TESTING: The valves will be tested during COLD SHUTDOWN  
per the requirements of plant Technical Specification 3/4.4.6.

- Comments:** 1.) Tests required:
- a. Exercise to open to meet open safety function.
  - b. Exercise to close to meet close safety function.
  - c. Leak test in accordance with OM-10 to meet close safety function.
- 2.) Accident flow rate is 10825 gpm. However, flow of 2000 gpm is needed for  
full stroke open per reference 4.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Leak Test

**ATJ Number: 002**

**Valve Id:** 3CCP\*V018 3CCP\*V060

**Category:** AC

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Close to provide containment isolation for penetration Z39 and Z40.

**Safety Function:**

**Basis** In order to full stroke each of these valves, it would be necessary to secure  
**For Deferral:** component cooling to the associated train ( "A" train for V18 and "B" train for V60). This would cause a temporary loss of cooling water to the letdown heat exchanger for train "A" and the seal water heat exchanger for train "B". The result would be unnecessary thermal cycling of the supplied components causing premature failure of the charging lines to the RCS and, in the case of the letdown heat exchanger, an increase in the inlet temperature to the CVCS demineralizers.

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**ALTERNATE TESTING:** These valves will be exercised during cold shutdowns when the heat load to the supplied components is at a minimum.

- Comments:** 1. Tests required:
- a. Exercise to close to meet close safety function. Exercise to open to meet CM
  - b. Leak test in accordance with Appendix J to meet close safety function.

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<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown

**ATJ Number: 003**

**Valve Id:** 3CHS\*V046 3CHS\*V047 3CHS\*V048

**Category:** C

**Class:** 2

**Open Safety Function:** Open to allow charging pump discharge to be injected into the RCS.

**Close Safety Function:** Close to prevent reverse flow through an idle charging pump.

**Basis For Deferral:** The normal loads on the charging pumps do not generate sufficient flow (design flow) to full stroke the valves during normal charging operations. Establishing injection flow through the HP injection lines is not practical because it could cause thermal shock, reactivity changes due to cold water injection, and abnormal pressurizer level deviations. These valves should not be exercised during shutdowns since injection flow could result in low temperature overpressurization of the RCS.

**ALTERNATE TESTING:** These valves will be part stroked open quarterly, and full stroke exercised by subjecting them to full design flow during refueling outages.

- Comments:**
- 1.) Tests required:
    - a. Exercise to open to meet open safety function.
    - b. Exercise to close to meet close safety function.
  - 2.) Flow of 446 gpm req. for full open stroke per reference 4.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

**ATJ Number: 004**

**Valve Id:** 3CHS\*LCV112B 3CHS\*LCV112C

**Category:** A

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Automatically close on a SIS to isolate the VCT from the Charging pump suction.  
**Safety Function:** Remain closed Post LOCA to isolate contaminated recirculated sump fluid to the RWST. Valves are also closed for SGCS.  
Valves are normally open during operation.

**Basis** Stroke testing of these valves during power operation would result in a disruption of  
**For Deferral:** normal charging flow and cause loss of suction pressure to an operating charging pump. This could give rise to a loss of pressurizer level control resulting in a plant trip. Use of the alternate pump suction source may result in injecting high concentrations of boric acid into the RCS.

11

**ALTERNATE TESTING:** These valves will be full stroke tested closed during cold shutdowns.

**Comments:** Isolation integrity of valve Post LOCA is verified by seat Leakage test to satisfy RWST Backleakage Program. The outlet from the VCT to charging pump suction is isolated by 3CHS\*LCV112B&C. Although expected to leak at the same rate as the RWST suction line valves, the leakage consequences are negligible since any leakage will be directed to the 400cuft VCT. The leakage is measured to validate design calc assumptions and for charging pump reliability reasons assuring N2 intrusion into pumps will not occur.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 005**

**Valve Id:** 3CHS\*V058 3CHS\*V394 3CHS\*V434 3CHS\*V467  
3CHS\*V501

**Category:** AC

**Class:** 2

**Open** Open to allow seal injection flow to the "B" RCP for SGCS and provide a water  
**Safety Function:** seal for containment isolation.

**Close** Close to provide containment isolation for penetration Z17. Valve is normally  
**Safety Function:** open during operation.

**Basis** The function of these valves is to provide containment isolation upon cessation of  
**For Deferral:** normal charging or seal flow. 3CHS\*V394, V434, V467, and V501 cannot be  
tested at power or cold shutdown unless the RCS is at low pressure and drained (per  
Westinghouse Tech. Manual), otherwise damage to the RCP seals may occur.  
During cold shutdown there is no flow path available to pressurize the downstream  
side of the normal charging valve (3CHS\*V058) to demonstrate that the valve is  
closed when normal charging flow is secured, since it is isolated from the RCS by  
two check valves in series.

**ALTERNATE TESTING:** The valves closure capability will be verified by local  
leak rate testing during refuel outages as required by 10 CFR 50, Appendix J. This  
test verifies their adequacy for containment isolation and requires that the valves be  
shut to successfully complete the test.

- Comments:** 1.) Tests required:
- a. Exercise to close to meet close safety function.
  - b. Exercise to open to meet open safety function.
  - c. Leak test in accordance with Appendix J to meet close safety function.
- 2.) Flow of 8 gpm req. for full open stroke per reference 5.

**11**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Leak Rate Test - 10CFR50 App. J

**ATJ Number: 006**

**Valve Id:** 3CHS\*V261

**Category:** AC

**Class:** 2

**Open**      Open to allow RWST flow to the charging pump suction lines.  
**Safety Function:**

**Close**      Close to prevent reverse flow during recirculation in the event 112D/E do not close.  
**Safety Function:**

**Basis**      This valve is in the suction line between the charging pumps (3CHS\*P3A, P3B, and  
**For Deferral:** P3C) and the refueling water storage tank. Stroking this valve by taking suction from the RWST with the charging pumps during operation would result in uncontrolled boration of the reactor coolant system and a plant shutdown. Stroking this valve during cold shutdown would result in overpressurization of the RCS.

**ALTERNATE TESTING:** The valve will be full stroke tested during refueling outages. It will be verified open during charging pumps full flow test and verified to close using non-intrusive techniques to monitor disc movement or with a leak test.

**Comments:** Flow of 446 gpm required to verify full open stroke per reference 3. During recirculation phase of ECCS operation sump water is provided to the charging pump suction via recirc spray pumps. Backflow to the RWST is prevented by the 3CHS\*261 check valve. Back leakage is assessed through this path by assuming leakage through the shortest parallel path to CHS\*112E and the common suction line.

**11**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling
Full Stroke Open	Quarterly	Full Stroke Open - Refueling



ATJ Number: 007

Valve Id: 3CHS\*V320

Category: C

Class: 2

Open      Open to allow flow from the boric acid transfer pump discharge to the charging  
Safety Function: pump suction line for emergency boration during a safety grade cold shutdown.

Close      N/A  
Safety Function:

Basis      Testing of this valve from the closed to open position during power operation would  
For Deferral: result in boration of the Reactor Coolant System possibly causing a plant shutdown.

ALTERNATE TESTING: This valve will be full stroke tested open during cold shutdown.

Comments: 1.) Test required: Exercise to open to meet open safety function. Exercise to close to meet CM requirement. 2.) Flow of 33 gpm req. for full open stroke per reference 4. 11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown

**ATJ Number: 008**

**Valve Id:** 3CHS\*MV8507A 3CHS\*MV8507B 3CHS\*V333 3CHS\*V711

**Category:** B

**Class:** 2

**Open Safety Function:** Open to provide a gravity feed emergency boration flowpath.

**Close Safety Function:** Valves remain closed during operation to prevent diversion of ECCS flow and are considered passive in the closed position.

**Basis For Deferral:** In order to line up the charging system to permit exercising of these valves during power operation, it would be necessary to interrupt normal charging and letdown flow. Additionally, testing of these valves at power would result in uncontrolled boration of the Reactor Coolant system with the reactor critical. A rapid boration would introduce a large amount of negative reactivity to the RCS causing a plant shutdown. The motor operated valves are normally closed during operation.

**ALTERNATE TESTING:** These valves will be full stroke tested open during cold shutdowns when the reactor is shutdown.

- Comments:** 1. Tests required:
- a. Stroke time to open to meet open safety function.
  - b. Position indication test to meet OM-10.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

ATJ Number: 009

Valve Id: 3CHS\*MV8100 3CHS\*MV8109A 3CHS\*MV8109B 3CHS\*MV8109C  
3CHS\*MV8109D 3CHS\*MV8112

Category: A

Class: 2

Open N/A

Safety Function:

Close Automatically close on a CIA to isolate the seal water return line penetration Z23.  
Safety Function: Valves are normally open during operation.

Basis Plant operating procedures (per Westinghouse Tech. Manual) requires #1 seal return  
For Deferral: flow to be maintained whenever RCS pressure exceeds 100 psig. Isolating these  
valves during plant operation or cold shutdowns in which the RCS is pressurized  
could damage the RCP seals.

ALTERNATE TESTING: Seal supply valves will be full stroke tested during cold  
shutdowns when the associated loop is drained. Full stroke exercising of the seal  
return valves will be performed during cold shutdowns when RCS pressure is less  
than 100 psig and the seal return lines can be isolated.

- Comments: 1. Tests required:
- Stroke time to close to meet close safety function.
  - Leak test in accordance with Appendix J to meet close safety function.
  - Position indication to meet OM-10.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 011**

**Valve Id:** 3CHS\*CV8152 3CHS\*CV8160 3CHS\*MV8105 3CHS\*MV8106

**Category:** A

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Automatically close on a CIA to isolate the letdown flowpath to provide  
**Safety Function:** containment isolation for penetration Z24. Valve is normally open and will fail safe in the closed direction.

**Basis** The purpose of the charging and letdown subsystems of the CVCS is to establish a  
**For Deferral:** programmed water level in the pressurizer to maintain proper reactor coolant inventory and proper chemical control of the Reactor Coolant System. Full stroke exercising these valves on a quarterly basis during power operation could cause a loss of pressurizer level control and possibly a reactor trip. The plant is designed with a limited number of letdown isolation thermal cycles. As letdown is disrupted, the charging water to the RCS is no longer heated up and causes a thermal cycle on the hot path to the RCS.

**ALTERNATE TESTING:** This valve will be full stroke tested during cold shutdown.

- Comments:** 1. Tests required:
- a. Stroke time to close to meet close safety function.
  - b. Fail safe test to close to meet close safety function.
  - c. Leak test in accordance with Appendix J to meet close safety function.
  - d. Position indication test to meet OM-10.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

ATJ Number: 012

Valve Id: 3FWA\*V003 3FWA\*V007 3FWA\*V009 3FWA\*V012  
3FWA\*V014 3FWA\*V017 3FWA\*V021 3FWA\*V023  
3FWA\*V026 3FWA\*V028 3FWA\*V031 3FWA\*V035  
3FWA\*V039 3FWA\*V043 3FWA\*V047 3FWA\*V882  
3FWA\*V883 3FWA\*V884 3FWA\*V885

Category: C

Class: 3

**Open** Open to allow FWA pump P1A flow to SG D. Open to supply water to the Steam  
**Safety Function:** Generators for removal of sensible and decay heat from the reactor core during loss of power, loss of main feedwater, feedwater line break, main steam line break, or small break LOCA events.

**Close** N/A  
**Safety Function:**

**Basis** Operating the auxiliary feedwater system at power is undesirable at the required  
**For Deferral:** flows to fully open these check valves. This places an unnecessary perturbation on the main feedwater control system. It also causes an undesirable thermal transient on the feedwater piping.

ALTERNATE TESTING: These valves will be full stroke tested open during cold shutdowns.

**Comments:** Flow of 220 gpm req. for full stroke open per reference 4 due to Feed Line Break event Closure test to meet CM

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown

**ATJ Number: 013**

**Valve Id:** 3FWA\*V003 3FWA\*V017

**Category:** C

**Class:** 3

**Open** Open to allow motor driven FWA pump flow, on a steam generator low low level  
**Safety Function:** automatic pump start signal. Open to supply water to the Steam Generators for removal of sensible and decay heat from the reactor core during loss of power, loss of main feedwater, feedwater line break, main steam line break, or small break LOCA events.

**Close** Close to prevent reverse flow through an idle electric driven pump.  
**Safety Function:**

**Basis** It is undesirable to perform full flow testing of the FWA system during operation  
**For Deferral:** (see ATJ-12), therefore full flow testing is performed only during cold shutdowns. While it is possible to open the cross tie between the motor driven FWA discharge headers during normal operation and verify the closure of the check valve on the idle loop, experience has shown that such operation during reduced flow testing causes undesirable flow transients and instabilities. These transients have not, however, been observed during full flow testing.

11

**ALTERNATE TESTING:** These valves will be full stroke tested closed during cold shutdowns.

**Comments:** Flow of 477 gpm req. for full stroke open per reference 6. Flow to each SG is assumed to be 220 gpm, however faulted line restricting orifice limits spill to 257 gpm while intact line maintains 220 gpm during FLB event.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown

ATJ Number: 014

Valve Id: 3FWA\*V060

Category: C

Class: 3

Open N/A

Safety Function:

Close Close to prevent reverse flow from the DWST.

Safety Function:

**Basis For Deferral:** Closure testing of this valve requires isolation of the CST for an extended period while water from a higher pressure source (such as the DWST) seats the valve. Valve closure is verified by no measurable increase in CST level after sufficient time has elapsed for such a change in the large CST volume to occur. During short cold shutdowns and normal operations the level of the CST cannot be held constant long enough to meet the surveillance test period to provide an accurate measurement.

11

Valve opening is required by ISTC to monitor for degradation. During normal operation the CST is not aligned to the suction flow path of the pumps. Full valve opening is not possible during normal operation. Testing is performed during refueling, which allows the suction path from the CST to be aligned to the AFW pumps.

ALTERNATE TESTING: This valve will be full stroke tested during refueling.

**Comments:** 1. Test required: Exercise close to meet close safety function. Exercise to open to meet ISTC.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling	
Full Stroke Open	As Required (Procedure Trigger)	Verified during normal operation to meet Condition Monitoring Program	11

**ATJ Number: 015**

Valve Id: 3FWS\*CTV41A 3FWS\*CTV41B 3FWS\*CTV41C 3FWS\*CTV41D  
3FWS\*FCV510 3FWS\*FCV520 3FWS\*FCV530 3FWS\*FCV540

Category: B

Class: 2

Open N/A

Safety Function:

Close Automatically close within 5 seconds on a FWI signal to isolate the main feedwater  
Safety Function: system. . Valves are normally open and will fail safe in the closed direction.

Basis Stroke testing these valves shut during power operation would temporarily secure  
For Deferral: flow to an operating steam generator and potentially lead to a reactor trip on low  
steam generator water level.

ALTERNATE TESTING: These valves will be fully stroked to the closed position  
during cold shutdowns.

- Comments: 1. Tests required:
- Stroke time to close to meet close safety function.
  - Fail safe test to close to meet close safety function.
  - Position indication to meet OM-10

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown



ATJ Number: 016

Valve Id: 3FWA\*V031

Category: C

Class: 3

**Open** Open to allow steam driven FWA pump flow to SGs. Open to supply water to the  
**Safety Function:** Steam Generators for removal of sensible and decay heat from the reactor core  
small break LOCA event.

**Close** Close to prevent reverse flow through the idle turbine driven pump from S/Gs or  
**Safety Function:** MDAFW.

**Basis** This valve cannot be full or part stroke exercised in the closed direction. The  
**For Deferral:** discharge path injects through an additional check valve in each injection loop and  
there is no practicable means to provide back flow from an operating MDAFW to  
verify closure of this valve.

ALTERNATE TESTING: This valve will be radiographed or partially  
disassembled, inspected, and manually exercised in accordance with the Condition  
Monitoring program, to verify closure.

**Comments:** Flow of 725 gpm req. for full stroke open per reference 6 for SBLOCA.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Disassemble and Inspect per the Condition Monitoring Program	11

11

11

**ATJ Number: 017**

**Valve Id:** 3CCP\*V027 3CCP\*V038 3CCP\*V063 3CCP\*V074

**Category:** C

**Class:** 3

**Open** N/A

**Safety Function:**

**Close** Close to isolate the CCP supply line from the RCP thermal barrier in the event of a  
**Safety Function:** rupture in the thermal barrier.

**Basis** These valves should not be full stroke exercised during operation or cold shutdown  
**For Deferral:** when the RCP is operating. These valves are in the reactor coolant pump thermal  
barrier flow path. Closure verification requires pressurizing the downstream line  
with CDS water while monitoring upstream leakage through the check valve.

ALTERNATE TESTING: The valve closure capability will be verified during  
refueling outages when the RCPs are not required.

**Comments:** 1. Test required: Exercise to close to meet close safety function Exercise to open  
to meet CM

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling

**ATJ Number: 018**

**Valve Id:** 3FWS\*V898 3FWS\*V899 3FWS\*V920 3FWS\*V921

**Category:** C

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Close to preclude blowdown of more than one SG in the event of a feedwater line  
**Safety Function:** break.

**Basis** Stroke testing these valves at power would require securing feed flow to the  
**For Deferral:** associated operating steam generator causing a plant trip.

**ALTERNATE TESTING:** These valves will be verified closed when feed to the associated steam generator is secured during cold shutdown.

**Comments:** 1. Test required: Exercise to close to meet close safety function. Exercise to open to meet CM

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown

**ATJ Number: 019**

**Valve Id:** 3HVU\*CTV32A 3HVU\*CTV32B 3HVU\*CTV33A 3HVU\*CTV33B

**Category:** A

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Remain closed to provide containment isolation for penetrations Z85 and Z86.

**Safety Function:** Valves are normally closed and will fail safe in the closed direction. Valves are opened during fuel movement and will have to close. Valves close on high radiation.

**Basis** These valves are required by Tech. Spec. 3.6.1.7 to be locked closed during Modes

**For Deferral:** 1,2,3, and 4. These valves are required by Tech. Spec. 3.9.9 to be operable during mode 6.

**ALTERNATE TESTING:** These valves will be full stroke closed exercised during cold shutdowns.

**Comments:** 1. Tests required:

- a. Leak test in accordance with Appendix J to meet close safety function.
- b. Stroke time test to close to meet close safety function.
- c. Fail safe test to close to meet close safety function.
- d. Position indication to meet OM-10.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 020**

**Valve Id:** 3IAS\*MOV72 3IAS\*PV15

**Category:** A

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Automatically close on a CIA signal to isolate the instrument air header.

**Safety Function:** Containment isolation valve for penetration Z54. Valve is normally open and will fail safe in the closed direction.

**Basis For Deferral:** These valves isolate the entire inside-containment instrument air system from their normal source outside containment. Full stroke testing of these valves during power operation would cause a complete loss of instrument air inside containment. As a result, all valves inside containment supplied by instrument air would stroke to their fail safe position resulting in a plant shutdown.

**ALTERNATE TESTING:** These valves will be full stroke tested closed during cold shutdown.

- Comments:** 1. Tests required:
- Stroke time to close to meet close safety function.
  - Fail safe test to close to meet close safety function.
  - Position indication to meet OM-10.
  - Leak test in accordance with Appendix J to meet close safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 021**

**Valve Id:** 3MSS\*MOV17A 3MSS\*MOV17B 3MSS\*MOV17D

**Category:** BC

**Class:** 2

**Open Safety Function:** Open to allow SG steam flow to terry turbine. The motor operator is normally open.

**Close Safety Function:** Close on a SG tube rupture to prevent blowdown and stop steam flow preventing primary to secondary leakage. Also, auto close in the event of a steam line rupture upstream of valve.

**Basis For Deferral:** These valves are motor operated stop check valves. The motor operator can be cycled quarterly. The NRV part of the valve cannot be exercised closed during operation since no flow path can be established to accomplish such a test. Reverse flow testing would require both a pressurized and depressurized steam generator. Part stroke open exercise is not practical since it would require starting the Terry Turbine 4 times each quarter on recirculation flow. The first test would be with all three valves open to verify the terry turbine starts and operates as close to accident conditions as possible. Reference RCR 24100. The next three would be testing each MSS valve separately.

On-line open and closed testing using non-intrusive acoustic monitoring during the quarterly Turbine Driven AFW pump quarterly testing is not practical since normal operating temperatures of the valves when open have been recorded at about 530F. The NIT equipment is designed for temperature applications less than 450F.

**ALTERNATE TESTING:** The valves will be fully stroked open and closed during each refueling outage using non-intrusive acoustic monitoring when the MSS is temperatures are less than 450F. A method that has proved successful is flowing and stopping pressurized air through the valves while being monitored non-intrusively. With this method of testing it not practical to test the valves Cold Shutdown due to testing setup and duration along with NIT installation, monitoring and data analysis of each valve.

The baseline validating the NIT method was through previously successful Dissassemblies and Inspections of the valves.

**Comments:** The motor operated stop check valve is a remote manual operated valve which receives no safety signal. It does not have any design stroke time limit requirement.

11

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Full Stroke - Refueling

**ATJ Number: 022**

**Valve Id:** 3MSS\*CTV27A 3MSS\*CTV27B 3MSS\*CTV27C 3MSS\*CTV27D

**Category:** B

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Automatically close on a MS isolation signal to isolate MS line. Valves are  
**Safety Function:** normally open and will fail safe in the closed direction.

**Basis** Full stroking these valves to the closed position during plant MODES 1 or 2 would  
**For Deferral:** result in an unbalanced steam flow condition producing an abnormal power distribution in the reactor core, possibly causing a reactor trip. Therefore full close stroking of these valves for the purpose of testing is performed at plant MODES 3 or 4, per Tech. Spec. Surveillance Requirement 3.7.1.5.

**ALTERNATE TESTING:** These valves will be full stroke tested during plant MODES 3 or 4.

**Comments:** 1. Tests required:  
a.) Full stroke time to closed in plant Modes 3 or 4 to meet close safety function.  
b.) Fail safe test to close to meet close safety function.  
c.) Position indication to meet OM-10.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 023**

**Valve Id:** 3FWA\*HV36A 3FWA\*HV36B 3FWA\*HV36C 3FWA\*HV36D

**Category:** B

**Class:** 2

**Open** Open to throttle turbine driven pump feed flow to the steam generators. Valves are  
**Safety Function:** normally open during operation and will fail safe in the open direction.

**Close** Close to isolate a faulted SG on a main steam line break or SG tube rupture. Valves  
**Safety Function:** are also containment isolation valves. Valves are not included in the Appendix J program.

**Basis** Based on condition report (CR) M3-99-4132 / 4135 investigation and as  
**For Deferral:** documented in Technical Evaluation M3-EV-00-0013 Rev. 1, these valves, as currently configured, are susceptible to sluggish or incomplete closure when tested under static conditions. The Technical Evaluation states that "... these valves have a sensitive force balance and require a consistent test arrangement, with flow through the valve, to provide repeatable test results." To establish flow through these valves, two options were evaluated. One method is to feed forward with the auxiliary feedwater (AFW) pumps. The other method is to establish a gravity drain flow path from the DWST through a vent valve on the motor driven auxiliary feedwater pump discharge header. Feeding forward to the steam generators is not desirable since the cooler water in the DWST may result in a thermal shock to the steam generator feedwater nozzles, as well as introduce oxygenated water. Using the gravity drain flow path method results in two auxiliary feedwater pumps being declared inoperable for the duration of the test. This places the unit in a very unfavorable condition requiring entry into a 6 hour LCO action statement (T/S 3.7.1.2.b). Based on the negative safety implications of two inoperable auxiliary feedwater pumps, the potential for steam generator nozzle damage and the limited benefit gained from stroke time measurements, the test methods that would allow for quarterly full stroke exercising and stroke time measurement are not practical.

**ALTERNATE TESTING:** These valves will be exercised open and closed during cold shutdowns.

- Comments:** 1. Tests required:
- Stroke time to open to meet open safety function.
  - Stroke time to close to meet close safety function.
  - Fail safe test to open to meet open safety function.
  - Position indication to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown



**ATJ Number: 024**

**Valve Id:** 3QSS\*V004 3QSS\*V008

**Category:** AC

**Class:** 2

**Open Safety Function:** Open to allow QSS discharge to the spray header.

**Close Safety Function:** Close to provide containment isolation for penetration Z100 and Z101.

**Basis For Deferral:** There is no flow path available to full stroke exercise these valves without actual initiation of quench spray. This could result in damage to plant equipment and spread of radioactive contamination. There is no means to pressurize downstream of these valves to verify closure without installing a spectacle flange.

11

**ALTERNATE TESTING:** These valves will be partially disassembled, inspected and manually exercised on a staggered sampling basis per the Condition Monitoring Group 5 evaluation. During each disassembly, the valve internals will be inspected for structural soundness (no loose or corroded parts).

The valves closure capability will be also be verified by local leakrate testing by 10CFR50, Appendix J testing. However, Option B of Appendix J allows for the extension of test frequencies for good performing valves. Therefore, the leak test may not be performed each outage. The sample disassembly and exercise test is sufficient to verify valve closure.

- Comments:** 1.) Tests required:
- a. Exercise to open to meet open safety function. Valves are disassembled to verify open and close function to meet CM
  - b. Exercise to close to meet close safety function.
  - c. Leak test in accordance with Appendix J to meet close safety function.
- 2.) Flow of 4000 gpm req. for full stroke open per reference 6.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke (Open and Closed)	Quarterly	Disassemble and Inspect per the Condition Monitoring Program	<u>11</u>

Millstone Unit 3 Alternate Test Justifications

ATJ Number: 025

Valve Id: 3QSS\*V976 3QSS\*V977 3QSS\*V978 3QSS\*V979

Category: C

Class: 2

Open Open to allow QSS discharge to the spray header.  
Safety Function:

Close N/A  
Safety Function:

Basis There is no flow path available to full stroke exercise these valves without actual  
For Deferral: initiation of quench spray. This could result in damage to plant equipment and  
spread of radioactive contamination.

11

ALTERNATE TESTING: These valves will be partially disassembled, inspected  
and manually exercised on a staggered sampling basis per the Condition Monitoring  
Group 5 evaluation.

Comments: 1.) Test required: Exercise to open to meet open safety function. Valves are  
disassembled open and closed to meet CM.  
2.) Flow of 2000 gpm req. for full stroke open per reference 4.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke (Open and Closed)	Quarterly	Disassemble and Inspect per the Condition Monitoring Program	<u>11</u>

**ATJ Number: 026**

**Valve Id:** 3RCS\*V026 3RCS\*V069 3RCS\*V102 3RCS\*V142  
3SIH\*V110 3SIH\*V112 3SIL\*V027 3SIL\*V029

**Category:** AC

**Class:** 1

**Open Safety Function:** Open to allow hot leg injection from the SIH pumps.

**Close Safety Function:** Close to provide reactor coolant pressure boundary and isolate the RCS from the upstream low pressure piping.

11

**Basis For Deferral:** The only flow path available to perform a full flow exercise of these valves is by injection to the RCS. Full flow testing of these valves at power is not possible because the shutoff head of the SIH pumps (1520 psig) is insufficient to overcome RCS operating pressure. Full flow testing at cold shutdown could result in over-pressurization of the RCS. While 3/4 inch test lines are available which could be used to partially stroke the 2 inch diameter SIL and SIH valves, these lines do not have sufficient capacity to provide a meaningful part stroke exercise since disk movement resulting from such an exercise would be negligible. Such an exercise would also require containment entry and isolation of the cold leg injection lines (train A for SIL\*V27 and V29, train B for SIH\*V110 and V112), both of which are undesirable activities when safety injection is required. Furthermore, these are pressure isolation valves which are required by Technical Specification 4.4.6.2.2 to be leak tested within 24 hours following any valve opening during reactor operation. Opening them by partial stroke testing during operation or cold shutdown increases the potential for their failure to close as required, which would result in a loss of RCPB integrity and force the unit to shut down or remain shut down until repairs could be completed. The potential adverse impact on safety that would result from partially exercise these valves when the safety injection function is required is more significant than the marginal increase in safety that may be achieved by quarterly or cold shutdown partial stroke testing

11

**ALTERNATE TESTING:** The valves will be full stroke open exercised during refueling outages when the reactor vessel head is removed. Valves will be monitored using non-intrusive techniques in accordance with the recommendations of NUREG 1482, Section 4.1.2.

Nonintrusive testing will monitor the open capability for check valves in each injection flow path in conjunction with a full flow test monitored at the pump discharge. The Non-intrusive technique will provide a positive means to verify valve opening and disc travel change. Consistent computer traces between the four loops will verify flow to each loop. The full flow will be verified at the pump discharge flow element. Nonintrusive testing will be performed on check valves in each flow path on a staggered sample basis. In the event that inconclusive non-

intrusive data is obtained, the second check valve in the series injection flow path will be tested.

Comments: 1.) Tests required:

- a. Exercise to open to meet open safety function.
  - b. Exercise to close to meet close safety function.
  - c. Leak test in accordance with OM-10 to meet close safety function.
- 2.) Flow of 259.05 gpm req. for full open stroke per reference 5.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

ATJ Number: 027

Valve Id: 3RCS\*V029 3RCS\*V070 3RCS\*V106 3RCS\*V145

Category: AC

Class: 1

**Open** Open to allow injection from the Charging pumps.  
**Safety Function:**

**Close** Close to provide reactor coolant pressure boundary and isolate the RCS from the  
**Safety Function:** upstream low pressure piping.

**Basis** Full stroke exercising these valves during power operation would unnecessarily  
**For Deferral:** thermally shock the RCS cold legs by injecting nonpreheated water. Full stroking cannot be performed during cold shutdown because the required flow would risk overpressurization of the RCS.

ALTERNATE TESTING: The valves will be full stroke open exercised during refueling outages when the reactor vessel head is removed.

Nonintrusive testing will monitor the open capability for check valves in each injection flow path in conjunction with a full flow test monitored at the pump discharge. The Non-intrusive technique will provide a positive means to verify valve opening and disc travel change. Consistent computer traces between the four loops will verify flow to each loop. The full flow will be verified at the pump discharge flow element. The non-intrusive monitoring will be performed in accordance with the recommendations of NUREG 1482, Section 4.1.2.

- Comments:** 1.) Tests required:
- a. Exercise to open to meet open safety function.
  - b. Exercise to close to meet close safety function.
  - c. Leak test in accordance with OM-10 to meet close safety function.
- 2.) Flow of 103.5 gpm is req. for full open stroke per reference 4.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

**ATJ Number: 028**

**Valve Id:** 3RCS\*V030 3RCS\*V071 3RCS\*V107 3RCS\*V146

**Category:** AC

**Class:** 1

**Open Safety Function:** Open to allow injection from the accumulator and RHR pumps.

**Close Safety Function:** Close to provide reactor coolant pressure boundary and isolate the RCS from the upstream low pressure piping.

11

**Basis For Deferral:** BASIS FOR RELIEF  
Valves cannot be exercised open quarterly because the RHR pumps have insufficient pressure (200 psig discharge) to flow into the RCS (2250 psig). RHR flow rates can not achieve full accident flow. However, previous nonintrusive test results and Westinghouse calculation has verified that full disc lift can be achieved with 2000 gpm. During cold shutdowns, full stroke exercising can be performed during the RHS valve operability surveillances. These check valves are located inside containment.

11

Valves cannot be full stroke exercised open with flow during cold shutdowns using the SIL Accumulators because of the restrictions placed on the upstream power operated isolation valves MV8808 (A-D). Administrative controls require that the isolation valves be closed when the reactor coolant pressure is less than 1000 psia to prevent injecting accumulator water into the reactor Coolant System and possibly resulting in a low temperature overpressurization of the RCS.

All four valves have been disassembled with no major degradation identified. Previous flow test results have been successful in passing the required flow.

**ALTERNATE TESTING**

Valves will be partially opened by using SI accumulator flow, at repeatable conditions, during refueling. All four valves will be flow tested each outage. Testing will be in accordance with the Condition Monitoring evaluation.

**Comments:** 1.) Tests required:  
a. Exercise to open to meet open safety function.  
b. Exercise to close to meet close safety function.  
c. Leak test in accordance with OM-10 to meet close safety function.  
2.) Accident flow rate is 10825 gpm. However, flow of 2000 gpm is needed for full stroke open per reference 4.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

| 4

**ATJ Number: 029**

**Valve Id:** 3RCS\*PCV455A 3RCS\*PCV456

**Category:** B

**Class:** 1

**Open** Open to provide pressure control during safety grade cold shutdown. Valves are  
**Safety Function:** credited for cold overpressure protection system (COPS), feedline break, loss of turbine trip, loss of normal feed, inadvertent transients.

**Close** N/A  
**Safety Function:**

**Basis** Full stroke exercising of these valves during power operation is counterproductive.  
**For Deferral:** The valves are required for safety grade cold shutdown over pressure protection. These valves are available at power to lift and reduce pressure transients and challenges to the pressurizer safety valves. Experience at Millstone has shown that frequent operation of the PORVs can cause seat leakage. Damage (i.e., seat leakage) results in closure of the PORV block valve which is allowed by Plant Technical Specifications. Isolating the PORV increases the potential for challenges to the pressurizer safety valves. These valves are a unique design with no water seal upstream of the PORV, which exposes the relief valve seat to high temperature steam. PORV testing performed by EPRI in 1982 has verified this valve design will leak after frequent cycling.

Previous testing at power has identified no failure of the stroke time testing. Testing at cold shutdown does not provide accurate indication of stroke time because valve indication is adjusted at operating temperature and does not accurately indicate the open position at reduced temperatures.

**ALTERNATE TESTING:** The valves (PV455A and PV456) will be stroke tested and operated through one complete cycle of travel at least once per 24 months during mode 3, 4 or 5. This is consistent with the required testing of Technical Specifications Section 4.4.4.1.b.

If a valve is replaced, a full stroke test will be performed in mode 4 prior to returning the plant to service. In addition, a stroke test in the open direction may be performed in mode 5, if the valve is required to be operable to provide cold overpressure protection. (Reference, Millstone Unit No. 3 Technical Specification 3.4.9.3).

- Comments:** 1. Tests required:
- Stroke time to open to meet open safety function.
  - Position indication to meet OM-10.

Second Ten Year Interval  
Revision 7 Change 11  
31 March 2004

## Millstone Unit 3 Alternate Test Justifications

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Fail Test - Refueling
Stroke Time Open	Quarterly	Stroke Time Open - Refueling



**ATJ Number: 030**

**Valve Id:** 3RCS\*HCV442A 3RCS\*HCV442B 3RCS\*SV8095A  
3RCS\*SV8095B  
3RCS\*SV8096A 3RCS\*SV8096B

**Category:** B

**Class:** 2

**Open** Open to remove non-condensable gases from the Reactor head. Open to provide  
**Safety Function:** letdown to the PRT during SGCS.

**Close** Close to isolate the Reactor from the pressurizer relief tank. Valves are normally  
**Safety Function:** closed and will fail safe in the closed direction.

**Basis** These are target rock pilot assisted valves which require pressure assist to function  
**For Deferral:** properly. When they are stroked during power operation, the entrained reactor  
coolant flashes and causes steam cutting damage to the seating surfaces which  
results in valve leakage. While such conditions do not present a concern for nuclear  
safety, they do impact plant operation in that unit shutdown is then required to  
effect repairs.

**ALTERNATE TESTING:** The valves will be exercised open and closed during  
cold shutdowns when the reactor coolant will not flash and damage the valves'  
seating surfaces. This is consistent with TRM Section 4.4.11.1 requirements.

- Comments:** 1. Tests required:
- Stroke time open to meet open safety function.
  - Stroke time to close to meet close safety function.
  - Fail safe test to close to meet close safety function.
  - Position indication to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Closed - Cold Shutdown	Cold Shutdown	
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 031**

**Valve Id:** 3RHS\*MV8701A 3RHS\*MV8701B 3RHS\*MV8701C  
3RHS\*MV8702A  
3RHS\*MV8702B 3RHS\*MV8702C

**Category:** A

**Class:** 1

**Open** Open for long term cooling during a safety grade cold shutdown when RCS pressure  
**Safety Function:** is below 425 psig. Valves are not required to open during any chapter 15 accident scenarios. 8701A/B are interlocked to open when SIL\*MV8812A and 8804A are closed and RSS\*MV8837A and 8838A are closed. Assuming single failure, manually opening 3RHS\*MV8701B is credited for Safety Grade Cold Shutdown.

**Close** Close to prevent back flow of RSS pump during long term recirculation. Valves are  
**Safety Function:** normally locked closed during operation. Valves 8701A/B close to provide containment isolation for penetration Z91. Valves 8701A/C provide Reactor Coolant Pressure Boundary and isolate the RCS from low pressure piping.

**Basis** Stroke testing of these valves at power is not possible. MV8701A/B and  
**For Deferral:** MV8702A/B are interlocked to prevent operation (opening) when the Reactor Coolant System pressure is above 375 psig. Full stroke exercising MV8701C and MV8702C poses unnecessary exposure to a low pressure system LOCA. These valves are RCS pressure isolation valves which are required to be close per Tech. Spec. 4.4.6.2 and are leak tested within 24 hours after operation. In order to leak test these valves, a containment entry (personnel safety risk; radiation exposure) is required, and any leakage through these valves flashes to steam and must be vented to containment atmosphere (hydrogen and radioactive gaseous problem).

**ALTERNATE TESTING:** These valves will be full stroke tested during cold shutdowns.

**Comments:**

**11**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 032**

**Valve Id:** 3RHS\*MV8716A 3RHS\*MV8716B

**Category:** B

**Class:** 2

**Open Safety Function:** Remain open to provide cross tie between trains. Valves are normally open with power removed during operation and are considered passive in the open direction.

**Close Safety Function:** Close to align SI for cold leg recirculation.

**Basis For Deferral:** Full stroke exercising these valves closed during power operation would render the RHR system inoperable by isolating two of the four cold leg injection paths to the RCS from RHR.

ALTERNATE TESTING: These valves will be full stroke tested closed during cold shutdowns.

- Comments:** 1. Tests required:
- a. Stroke time to close to meet close safety function.
  - b. Position indication to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 033**

**Valve Id:** 3RSS\*V003 3RSS\*V006 3RSS\*V009 3RSS\*V012

**Category:** AC

**Class:** 2

**Open Safety Function:** Open to allow RSS pump flow to the recirculation spray header.

**Close Safety Function:** Close to provide containment isolation for penetrations Z107, Z108, Z109 and Z110.

**Basis For Deferral:** There is no flow path available to full stroke exercise these valves without actual initiation of recirculation spray. This could result in damage to plant equipment and spread of radioactive contamination. There is no means to pressurize downstream of these valves to verify closure without installing a spectacle flange.

11

**ALTERNATE TESTING:** These valves will be partially disassembled, inspected and manually exercised on a staggered sampling basis. Past inspections justify an extension of the test frequency. During each disassembly, the valve internals will be inspected for structural soundness (no loose or corroded parts). The valves closure capability will also be verified by local leakrate testing as required by 10CFR50, Appendix J, Option B. However, test frequency will be based past performance and may not be performed each refueling outage. The open and closed test frequency will be based on the Condition Monitoring Group 9 evaluation.

- Comments:**
- 1.) Tests required:
    - a. Exercise to open to meet open safety function. Valves are disassembled in accordance with Condition Monitoring frequency
    - b. Exercise to close to meet close safety function.
    - c. Leak test in accordance with Appendix J to meet close safety function.
  - 2.) Flow of 3091 gpm req. for full open stroke per reference 6.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke (Open and Closed)	Quarterly	Disassemble and Inspect per the Condition Monitoring Program	<u>11</u>

**ATJ Number: 034**

**Valve Id:** 3SIH\*V005

**Category:** AC

**Class:** 1

**Open** Open to allow flow from the Charging pumps to the cold leg injection flow path.

**Safety Function:** Also opens to provide alternate path for charging flow for SGCS.

**Close** Close to provide containment isolation for penetration Z51 and reactor coolant

**Safety Function:** pressure boundary.

**Basis** Full stroke or part stroking exercising of this valve during power operation would  
**For Deferral:** unnecessarily thermally shock the HPSI inlet nozzles to the reactor coolant system (RCS) cold legs by injecting nonpreheated water causing premature failure of the component. Full stroking cannot be performed during cold shutdown because the required flow would risk overpressurization of the RCS.

**ALTERNATE TESTING:** The valve will be full stroke exercised open during refueling outages when the reactor closure head is removed.

**Comments:** 1.) Tests required:

- a. Exercise to open to meet open safety function.
  - b. Exercise to close to meet close safety function.
  - c. Leak test in accordance with OM-10 to meet close safety function.
  - d. Leak test in accordance with Appendix J to meet close safety function.
- 2.) Flow of 414 gpm req. for full stroke open per reference 6.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

**ATJ Number: 035**

**Valve Id:** 3SIH\*V011

**Category:** AC

**Class:** 2

**Open Safety Function:** Open to allow flow from the RWST to the SIH pumps.

**Close Safety Function:** Close to prevent backflow to the RWST when the RSS pumps are aligned to deliver to the SIH pumps during long term recirculation.

**Basis For Deferral:** There is no flow path available to full stroke test this valve during power operations, since the safety injection pumps do not develop sufficient head to overcome RCS pressure. Full stroke testing should not be performed during cold shutdown because the required flow would risk overpressurization of the RCS. There is no practical flow path to verify closure of this valve by normal reverse flow testing. Closure is verified by non-intrusive techniques (acoustic signature, etc.). Since a full stroke is required to obtain meaningful data during non-intrusive testing, closure testing cannot be performed during the part stroke exercising performed during operation and cold shutdowns.

**11**

**ALTERNATE TESTING:** This valve will be part stroke tested quarterly during the surveillance tests for the Safety Injection Pumps 3SIH\*P1A and 3SIH\*P1B. Full stroke testing will be performed during refueling outages when the reactor closure head is removed. Closure capability will be verified using non-intrusive techniques to monitor disc movement during refueling outages.

**Comments:** Flow of 594.1 gpm required to credit full stroke open per reference 3. During recirc phase of ECCS operation sump water is provided to the suction of the SIH pumps by the recirc spray pumps. Backflow to the RWST is prevented by 3SIH\*MV8806 in series with the check valve 3SIH\*V011.

**11**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

**ATJ Number: 036**

**Valve Id:** 3SIH\*V013 3SIH\*V017

**Category:** C

**Class:** 2

**Open** Open to allow SIH pump discharge flow.  
**Safety Function:**

**Close** Close to prevent reverse flow through an idle pump.  
**Safety Function:**

**Basis** The source of flow to full stroke exercise these valves is the safety injection pumps  
**For Deferral:** (3SIH\*P1A and P1B). The shutoff head of these pumps (1520 psig) is insufficient to stroke these valves against the normal Reactor Coolant System (RCS) pressure (this is the only path to establish flow through these valves). Full stroking should not be performed during cold shutdown because the required flow would risk overpressurization of the RCS.

**ALTERNATE TESTING:** These valves will be full stroke exercised open during refueling outages when the reactor closure head is removed.

- Comments:** 1.) Tests required:  
a. Exercise to open to meet open safety function.  
b. Exercise to close to meet close safety function.  
2.) Flow of 564.5 gpm req. for full stroke open per reference 4.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

**ATJ Number: 037**

**Valve Id:** 3SIH\*V022 3SIH\*V024 3SIH\*V026 3SIH\*V028

**Category:** AC

**Class:** 2

**Open** Open to allow flow from the SIH pumps to the cold leg injection flow path.  
**Safety Function:**

**Close** Close to prevent reverse flow from the RCS and provide containment isolation for  
**Safety Function:** penetration Z98.

**Basis** The source of flow to full stroke exercise these valves is the safety injection pumps  
**For Deferral:** (3SIH\*P1A and P1B). The shutoff head of these pumps (1520 psig) is insufficient to stroke these valves against the normal Reactor Coolant System (RCS) pressure. Full stroking should not be performed during cold shutdown because the required flow would risk over pressurization of the RCS.

**ALTERNATE TESTING:** These valves are included in the Condition Monitoring program. The valves will be full stroke open exercised during refueling outages when the reactor vessel head is removed. A sample Nonintrusive test of one check valve in the group will monitor the opening capability of the valve in conjunction with a full flow test monitored at the pump discharge.

Closure capability will be verified by the Appendix J leak test.

- Comments:** 1.) Tests required:
- a. Exercise open to meet open safety function.
  - b. Exercise close to meet close safety function.
  - c. Leak test in accordance with Appendix J to meet close safety function.
- 2.) Flow of 141.1 gpm req. for full stroke open per reference 4.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Cold Shutdown
Full Stroke Open	Quarterly	Full Stroke Open - Refueling



**ATJ Number: 038**

**Valve Id:** 3SIH\*MV8801A 3SIH\*MV8801B

**Category:** A

**Class:** 2

**Open** Automatically open on a SIS signal to align flow from the charging pumps to the injection lines leading to the RCS cold legs system. Also open as an alternate path for charging flow for SGCS.

**Close** Close to isolate charging pump discharge from injection lines and provide containment isolation for penetration Z51. Valves are normally closed.

**Basis** Stroke testing these valves during power operation would require disruption of normal charging flow and the injection of non-preheated water into the Reactor Coolant System resulting in thermal shock to the inlet nozzles.

11

**ALTERNATE TESTING:** These valves will be full stroke tested during cold shutdowns.

- Comments:** 1. Tests required:
- a. Stroke time to open to meet open safety function.
  - b. Stroke time to close to meet close safety function.
  - c. Leak test in accordance with Appendix J to meet close safety function.
  - d. Position indication test to meet OM-10

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 039**

**Valve Id:** 3SIH\*MV8806

**Category:** B

**Class:** 2

**Open**      Remain open to align SIH pump suction from the RWST. Valve is normally open  
**Safety Function:** during operation. Valve is considered passive in the open direction.

**Close**      Close to isolate the RWST during long term recirculation.  
**Safety Function:**

**Basis**      This valve is in the position required during the initial phases of an accident  
**For Deferral:** requiring safety injection. The valve does not receive a safety signal, since  
realignment of the valve to the recirculation mode is accomplished by manual  
repositioning. Testing of this valve during power operation would place it in a  
nonconservative position, temporarily disabling both safety injection trains by  
isolating the common suction from the RWST, and possibly causing damage to both  
pumps if an SI were to occur. If required, the valve can be repositioned locally so  
that deferring the testing of this valve to cold shutdown would not compromise  
plant safety.

**ALTERNATE TESTING:** This valve will be stroke tested closed during cold  
shutdowns.

- Comments:** 1. Tests required:
- a. Stroke time to close to meet close safety function.
  - b. Position indication test to meet OM-10.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 040**

**Valve Id:** 3SIH\*MV8813

**Category:** A

**Class:** 2

**Open**            Remain open to provide recirculation flow back to the RWST. This valve can not  
**Safety Function:** be opened unless MV8804A/B are closed. Valve is normally open during  
operation. The open function is considered a passive function.

**Close**            Close to allow SIH suction from the containment sump during cold leg  
**Safety Function:** recirculation. Valve must close prior to opening MV8804A/B and is not reopened  
after an accident to prevent containment sump water from entering the RWST.

**Basis**            Full stroke exercising of 3SIH\*MV8813 closed during power operation would  
**For Deferral:** isolate both pumps minimum flow lines. In addition, failure of this valve closed  
during power operations, coincident with an SI signal and a pressurized RCS  
system, would dead head the pumps. While such an event is unlikely, it is  
considered credible.

**ALTERNATE TESTING:** This valve will be full stroke tested during cold  
shutdowns.

**Comments:** During recirc phase of ECCS operation the min recirc flow path from the SIH  
pumps to the RWST is isolated to prevent discharge of sump water to the RWST.  
This is accomplished by closure of the MOVs 3SIH\*MV8814 & 8920 in each  
pumps recirc line in conjunction with MOV in series (3SIH\*MV8813) in the  
common return piping. Backleakage is assessed though this path by assuming  
single MOV leakage through the shortest parallel path and then dual valve leakage  
in the common recirc line.

**11**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

# indicates Augmented Test Requirement

**ATJ Number: 041**

**Valve Id:** 3SIH\*MV8835

**Category:** A

**Class:** 2

**Open**            Remain open to allow flow from the SIH pumps to the SIH cold leg injection lines.  
**Safety Function:** Valve is normally open and considered passive in the open direction.

**Close**            Close to isolate SIH pump discharge and to provide containment isolation for  
**Safety Function:** penetration Z98 and allow for hot leg recirculation.

**Basis**            This valve is required to be open and power removed from the operator during  
**For Deferral:** modes 1, 2 and 3 per Tech. Spec. 3/4.5.2 to ensure operability of this ECCS  
                         subsystem.

**ALTERNATE TESTING:** This valve will be full stroke tested closed during cold shutdowns.

- Comments:** 1. Tests required:
- a. Stroke time to close to meet close safety function.
  - b. Leak test in accordance with Appendix J to meet close safety function.
  - c. Position indication test to meet OM-10.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 042**

**Valve Id:** 3SIL\*V015 3SIL\*V017 3SIL\*V019 3SIL\*V021

**Category:** AC

**Class:** 1

**Open** Open to provide SI accumulator tank discharge flow to the RCS loops when RCS  
**Safety Function:** pressure drops below 600 psig.

**Close** Close to provide reactor coolant pressure boundary and prevent RCS reverse  
**Safety Function:** leakage into accumulator.

**Basis** These valves cannot be full stroke or part stroke exercised during operation since no  
**For Deferral:** flow path exists to accomplish such a test. The valves should not be full stroke or  
part stroke exercised during each cold shutdown since discharge of the tanks  
directly into the RCS could result in an overflow condition through the pressurizer  
vent.

**11**

**ALTERNATE TEST:**

The valves will have a partial flow test each refueling. Full flow testing has been performed that verified the capability of check valves to full open. No degradation mechanism available to degrade the open capability. Partial flow test is sufficient to verify valves have freedom of movement. The valves have been evaluated under the Condition Monitoring program as CM Group 10.

**Comments:** Flow of 2000 gpm req. for full open stroke per reference 6.

**11**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Part Stroke Open

**11**

**ATJ Number: 043**

**Valve Id:** 3SIL\*V006 3SIL\*V007 3SIL\*V012 3SIL\*V013  
3SIL\*V984 3SIL\*V985 3SIL\*V986 3SIL\*V987

**Category:** AC

**Class:** 2

**Open** Open to provide RHS flow for RCS cold leg injection and provide RCS cooling  
**Safety Function:** during shutdown conditions.

**Close** Close to provide containment isolation for penetration Z94.  
**Safety Function:**

**Basis** There is no flow path available to test these valves during power operation with a  
**For Deferral:** pressure source capable of overcoming Reactor Coolant System pressure. The normal pressure sources which would be used during an accident to stroke the valves are the residual heat removal (RHS) pumps which develop a shut off head of only 200 pounds.

ALTERNATE TESTING: These valves will be full stroke open tested during cold shutdown when the Residual Heat Removal System is in operation and flow to the parallel loops can be isolated.

- Comments:** 1.) Tests required:
- a. Exercise to open to meet open safety function.
  - b. Exercise to close to meet close safety function.
  - c. Leak test in accordance with Appendix J to meet close safety function.
- 2.) Flow of 1988 gpm req. for full open stroke per reference 5.

**11**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Cold Shutdown

**ATJ Number: 044**

**Valve Id:** 3SIL\*V006 3SIL\*V007 3SIL\*V012 3SIL\*V013

**Category:** AC

**Class:** 2

**Open Safety Function:** Open to provide RHS flow for RCS cold leg injection and provide RCS cooling during shutdown conditions.

**Close Safety Function:** Close to provide containment isolation for penetration Z94.

**Basis For Deferral:** Reverse flow testing of these CIVs is not practical during power operation or cold shutdown. Test setup requires isolating 2 of 4 RHR cold leg injection paths and additionally at cold shutdown requires temporary test equipment inside containment and isolation of SIH cold leg injection lines.

**11**

ALTERNATE TESTING: These valves have been added to the Condition Monitoring program per Group 59. The valves closure capability will be verified by local leakrate testing during refueling outages as required by 10CFR50, Appendix J. Test frequency will be based on either Condition Monitoring or Appendix J, whichever is more restrictive.

- Comments:** 1.) Tests required:
- a. Exercise to open to meet open safety function.
  - b. Exercise to close to meet close safety function.
  - c. Leak test in accordance with Appendix J to meet close safety function.
- 2.) Flow of 1988 gpm req. for full open stroke per reference 5.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Leak Rate Test - 10CFR50 App. J

**ATJ Number: 045**

**Valve Id:** 3SIL\*V001

**Category:** B

**Class:** 2

**Open**      Remain open from RWST to ECCS.  
**Safety Function:**

**Close**      Close to prevent MELB isolation in ECCS RWST suction piping located in the ESF  
**Safety Function:** building.

**Basis**      Closing this valve isolates the RWST as the suction source for both trains of CHS,  
**For Deferral:** SIH and RHR. This renders both loops of these emergency core cooling systems inoperable which is not allowed by Technical Specifications in Modes 1-3 and places the plant in a 1 hour LCO in Mode 4.

**ALTERNATE TESTING:** This valve will be full stroked tested during refueling outages.

**Comments:** 1. Test required: Exercise to close to meet close safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling



**ATJ Number: 046**

**Valve Id:** 3SIL\*V982 3SIL\*V983

**Category:** C

**Class:** 2

**Open Safety Function:** Open to provide RSS flow to High pressure safety injection.

**Close Safety Function:** N/A

**Basis For Deferral:** There is no flow path available to test these valves during power operation, cold shutdown, or refueling shutdowns. The isolation valves, 3SIL\*MV8804A/B are interlocked requiring the RHS and RSS systems be lined up for containment recirculation before they can be opened.

ALTERNATE TESTING: These valves will be partially disassembled, inspected and manually exercised on a staggered sampling basis each refueling outage. During each disassembly, the valve internals will be inspected for structural soundness (no loose or corroded parts). In the event that a disassembled valve's full-stroke capability is questionable, additional valves will be disassembled until one hundred percent (100%) of the valves identified in this group have been disassembled and inspected.

**Comments:** 1.) Test required: Exercise to open to meet open safety function. Valve is exercised closed to meet CM. Valve is disassembled in accordance with ISTC for open and closed functions. 2.) Flow of 1107 gpm req. for full open stroke per reference 4. **11**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Disassemble, Inspect, Stroke Test one valve each refueling <b>11</b>

**ATJ Number: 047**

**Valve Id:** 3SIL\*MV8809A 3SIL\*MV8809B

**Category:** A

**Class:** 2

**Open**      Remain open to align RHR for plant cooldown. Valves are normally open during  
**Safety Function:** operation.

**Close**      Close to align RSS for hot and cold leg recirculation and provide containment  
**Safety Function:** isolation for penetration Z93 and Z94. Open to re-establish cold leg recirculation  
following limited passive failures in the ECCS piping.

**Basis**      These valves are required to be open with power removed from the operators during  
**For Deferral:** modes 1, 2 and 3 per Tech. Spec. 3/4.5.2 to ensure operability of this ECCS  
subsystem.

**ALTERNATE TESTING:** These valves will be full stroke tested closed during cold shutdown.

- Comments:** 1. Tests required:
- a. Stroke time to close to meet close safety function.
  - b. Stroke time to open to meet open safety function.
  - c. Position indication to meet OM-10.
  - d. Leak test in accordance with Appendix J to meet close safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 048**

**Valve Id:** 3SIH\*MV8802A 3SIH\*MV8802B

**Category:** A

**Class:** 2

**Open** Open for hot leg recirculation, to allow flow from the SIH pumps to the SIH  
**Safety Function:** injection lines leading to the RCS hot legs.

**Close** Close to isolate SIH pump discharge to provide containment isolations for  
**Safety Function:** penetrations Z96 and Z97. Valves are normally closed and deenergized.

**Basis** These valves are required to be closed with power removed from the operators  
**For Deferral:** during modes 1, 2 and 3 per Tech. Spec. 3/4.5.2 to ensure operability of this ECCS subsystem.

**ALTERNATE TESTING:** These valves will be full stroke tested open and closed during cold shutdown.

- Comments:** 1. Tests required:
- a. Stroke time to open to meet open safety function.
  - b. Stroke time to close to meet close safety function.
  - c. Leak test in accordance with Appendix J to meet close safety function.
  - d. Position indication test to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 049**

**Valve Id:** 3SIL\*MV8808A 3SIL\*MV8808B 3SIL\*MV8808C 3SIL\*MV8808D

**Category:** B

**Class:** 2

**Open** Remain open on a SIS to allow SI accumulator tank volume into the RCS loops.  
**Safety Function:** Valves are normally locked open during operation and considered passive in the open direction.

**Close** Close to isolate Accumulator tank after volume discharges to prevent nitrogen from  
**Safety Function:** settling in SG tubes during a Main Steam line rupture.

**Basis** Technical Specifications and plant operating procedures require these valves to be  
**For Deferral:** open with power removed during Modes 1, 2 and 3, and specify quick and decisive action to reopen any valve that is closed or begin shutting the reactor down. The consequences of one of these valves failing closed during reactor operation are significant in that such an event would disable a portion of the low pressure safety injection system and thereby reduce its capability to mitigate an accident. The negative consequences of such a potential failure are therefore determined to be more significant than the marginal increase in safety that may be accomplished by quarterly closure testing of these valves during power operation.

**ALTERNATE TESTING:** These valves will be full stroke tested closed at cold shutdown frequency during either plant heatup or plant cooldown.

- Comments:** 1. Tests required:
- a. Stroke time to closed to meet closed safety function.
  - b. Position indication to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 050**

**Valve Id:** 3SWP\*MOV50A 3SWP\*MOV50B

**Category:** B

**Class:** 3

**Open** Open post-accident to allow flow to the CCP heat exchangers for fuel pool cooling.  
**Safety Function:**

**Close** Automatically close on a CDA signal to isolate flow to the CCP heat exchangers  
**Safety Function:** (3CCP\*E1A/B/C). Valves have a close permissive with SWP running to ensure MOV54's open. Valves are normally open during operation.

11

**Basis** Full stroke exercising either of these valves closed quarterly would isolate a  
**For Deferral:** component cooling water heat exchanger resulting in possible adverse equipment response to both safety related and non-safety related trains.

**ALTERNATE TESTING:** These valves will be full stroke tested during cold shutdown.

- Comments:** 1. Tests required:
- a. Stroke time to close to meet close safety function.
  - b. Stroke time to open to meet open safety function.
  - c. Position indication test to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 051**

**Valve Id:** 3HVC\*AOV25 3HVC\*AOV26

**Category:** B

**Class:** 3

**Open** Open following an accident to provide outside air source to the control room.  
**Safety Function:** Valves are normally open during operation. (Valves are opened manually if control air is not available to open the valves.)

**Close** Automatically close on a control building isolation (CBI) signal to close the control  
**Safety Function:** room outside ventilation. Valves will fail safe in the closed direction.

**Basis** Manual exercise of these valves is a complex evolution that requires isolation of the  
**For Deferral:** air supply, venting of the actuator, and mechanical adjustment of valve components (jam nuts). These actions disable the isolation function of the valves and the control room pressurization function. Damage to or failure of one of the valves as a result of the testing could delay restoration of these functions indefinitely. It is therefore determined that the potential adverse impact on safety that would result from manually exercising these valves when the control room protection functions are required is more significant than the marginal increase in safety that may achieved by quarterly or cold shutdown testing.

11

**ALTERNATE TESTING:** The open capability these valves will be demonstrated by normal operation (via the air operator) quarterly, and the manual opening exercise will be performed during refueling.

- Comments:** 1. Tests required:
- Stroke time to open to meet open safety function.
  - Exercise to open to meet open safety function.
  - Stroke time to close to meet close safety function.
  - Fail safe test to close to meet close safety function.
  - Position indication to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

**ATJ Number: 052**

**Valve Id:** 3SWP\*V705 3SWP\*V706 3SWP\*V707 3SWP\*V708

**Category:** C

**Class:** 3

**Open** Open to allow 55 gpm SW flow from the MCC and Rod Control Area booster  
**Safety Function:** pumps 3SWP\*P3A and P3B to the MCC and Rod Control Area A/C unit  
(3HVR\*ACU1A/B).

**Close** Close to prevent draining of pumps 3SWP\*P3A/B suction piping, in case of LOP,  
**Safety Function:** to prevent water hammer on resumption of flow.

**Basis** Full stroke exercising these valves closed would require stopping the Service Water  
**For Deferral:** Pumps which provide both safety-related cooling capability at power operation as  
well as shutdown cooling capability during cold shutdown. Additionally, the  
system configuration does not provide a test flow path through which reverse flow  
closure of these valves can be verified.

ALTERNATE TESTING: These valves will be partially disassembled, inspected  
and manually exercised on a staggered sampling basis. Valves 3SWP\*V707 and  
V708 can be inspected on line during a heat exchanger outage. Valves  
3SWP\*V705 and V706 can be inspected during a refueling outage. During each  
disassembly, the valve internals will be inspected for structural soundness (no loose  
or corroded parts). These valves are included within the Condition Monitoring plan  
and have been evaluated as CM Group 15.

**Comments:** 2.) Flow of 55 gpm req. for full stroke open per reference 6.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Disassemble and Inspect per the Condition Monitoring Program	2

11

10

**ATJ Number: 053**

**Valve Id:** 3QSS\*MOV34A 3QSS\*MOV34B

**Category:** A

**Class:** 2

**Open** Automatically open upon receipt of a CDA signal to allow flow from the QSS pump  
**Safety Function:** discharge to the spray header.

**Close** Close to isolate the spray header and provide containment isolation for penetration  
**Safety Function:** Z100 and Z101. Valves will close on an RWST Lo-Level. Valves are normally closed during operation.

**Basis** Full stroke exercising of these valves during power operation requires that one train  
**For Deferral:** be taken out of service for 6-10 hours to drain the QSS system prior to performing a stroke test. Previous test results have not indicated any unacceptable test results. The assurance of valve stroke is out weighed by the loss of availability of the system.

**ALTERNATE TESTING:** The valves will be full stroke tested during cold shutdowns.

- Comments:** 1. Tests required:
- Stroke time to open to meet open safety function.
  - Stroke time to close to meet close safety function.
  - Position indication to meet OM-10.
  - Leak test in accordance with Appendix J to meet close safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown



**ATJ Number: 054**

**Valve Id:** 3CHS\*V042

**Category:** C

**Class:** 2

**Open**      Remain open to provide a minimum flow and suction path for the charging pumps.  
**Safety Function:** Valve is in the suction flowpath from the VCT, and is normally open during operation.

**Close**      Close to prevent flow from the RWST being diverted into the seal water Hx.  
**Safety Function:**

**Basis**      This valve can not be full stroke exercised during operation or cold shutdown since  
**For Deferral:** exercising this valve will divert water away from the charging pumps.

11

ALTERNATE TESTING: This valve will be partially disassembled, inspected and manually exercised on a staggered basis. Valve is in Condition Monitoring Group 1. Frequency of disassembly will be based on past performance history. During each disassembly, the valve internals will be inspected for structural soundness and degradation (no loose or corroded parts).

**Comments:** 1.) Tests required:

a. Exercise to close to meet close safety function. Valve will be disassembled in accordance with CM Group 1 and EN 31123 results.

b. Exercise to open to meet open safety function.

2.) Flow of 120 gpm req. for full open stroke per reference 3.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Closed	Quarterly	Disassemble and Inspect per the Condition Monitoring Program	<u>11</u>

**ATJ Number: 055**

**Valve Id:** 3CHS\*AV8146 3CHS\*AV8147

**Category:** B

**Class:** 2

**Open** Open to align charging flow during a safety grade cold shutdown. One valve is  
**Safety Function:** normally open with the other normally closed, and both will fail safe in the open direction.

**Close** N/A  
**Safety Function:**

**Basis** These valves should not be full stroke exercised during operation because only one  
**For Deferral:** flow path is normally in service. Swapping the flow paths during operation causes an undesirable thermal transient in the idle injection nozzle and is not normally performed. The flow paths are therefore only swapped before start up from cold shutdowns of sufficient duration while the RCS temperature is near ambient.

**ALTERNATE TESTING:** These valves will be full stroked open during cold shutdowns. The fail safe function of these valves to go open will also be verified during cold shutdown.

- Comments:** 1. Test required:
- Stroke time to open to meet open safety function.
  - Fail safe test to open to meet open safety function.
  - Position indication to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

**ATJ Number: 056**

**Valve Id:** 3CHS\*AV8149A 3CHS\*AV8149B 3CHS\*AV8149C

**Category:** B

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Close to isolate the letdown line outside containment in the event of an inadvertent  
**Safety Function:** ECCS, causing a rupture of the letdown line outside containment. One of these  
valves is normally open during operation and will fail safe in the closed direction  
during a loss of control air.

**Basis** These valves should not be full stroke exercised during operation because they are  
**For Deferral:** in the normal charging letdown flow path which provides inventory and chemistry  
control to the RCS. Diversion of flow could cause RCS inventory fluctuations.

**ALTERNATE TESTING:** These valves will be full stroked closed, and during cold  
shutdowns the fail safe function will be verified.

- Comments:** 1. Tests required:
- a. Stroke time to close to meet close safety function.
  - b. Fail safe test to close to meet close safety function.
  - c. Position indication to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 057**

**Valve Id:** 3SWP\*V001 3SWP\*V003 3SWP\*V005 3SWP\*V007

**Category:** C

**Class:** 3

**Open** Open to allow SW pump discharge flow into the header.  
**Safety Function:**

**Close** Close to prevent reverse flow through an idle pump.  
**Safety Function:**

**Basis** These valves can not be full stroke exercised during operation or cold shutdown due  
**For Deferral:** to valve lineups present. Verifying design accident flow rates during refueling is  
not practical due to the required flow paths through the RSS heat exchangers.

11

**ALTERNATE TESTING:** These valves will be partially disassembled, inspected  
and manually exercised on a staggered sampling basis. During each disassembly,  
the valve internals will be inspected for structural soundness (no loose or corroded  
parts). Valves are inspected as part of the Condition Monitoring program.

Valves will be part stroke exercised open quarterly during the SW pump flow test.

**Comments:** 1.) Tests required:  
a. Part stroke open to meet open safety function.  
b. Exercise to open to meet open safety function. Valve is disassembled in  
accordance with Condition Monitoring program frequency.  
c. Exercise to close to meet close safety function.  
2.) Flow of 13878.6 gpm req. for full stroke open per reference 5.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke Open	Quarterly	Disassemble and Inspect per the Condition Monitoring Program	<u>11</u>

**ATJ Number: 059**

**Valve Id:** 3CCP\*AOV178A 3CCP\*AOV178B 3CCP\*AOV178C  
3CCP\*AOV178D

**Category:** B

**Class:** 3

**Open** N/A

**Safety Function:**

**Close** Close on a hi discharge flow from the RCP thermal barrier. Valves are normally  
**Safety Function:** throttled open and will fail safe in the closed direction.

**Basis** These valves are in the flow path for the RCP seals thermal barrier cooling. Closing  
**For Deferral:** them during operation would cause a rapid heat-up of the associated thermal barrier  
and the valve, possibly causing it to stick, ultimately resulting in seal damage and  
forced shutdown of the unit.

**ALTERNATE TESTING:** These valves will be full stroke exercised and fail-safe  
tested closed during cold shutdowns when the RCPs are not operating.

- Comments:** 1. Tests required:
- a. Stroke time to close to meet close safety function.
  - b. Fail safe test to close to meet close safety function.
  - c. Position indication test to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 060**

**Valve Id:** 3RHS\*V001 3RHS\*V005 3SIL\*V003 3SIL\*V009

**Category:** C

**Class:** 2

**Open** Open to allow RHS pump flow for safety injection and for safety grade cold  
**Safety Function:** shutdown.

**Close** N/A  
**Safety Function:**

**Basis** The RHS pumps have insufficient head (200 psig) to overcome RCS pressure  
**For Deferral:** during operation (2250 psig) for full flow testing, and there is no test line with  
sufficient capacity for full flow testing. Testing involves passing flow through two  
independent trains of RHR. During some cold shutdowns it may not be necessary  
to rely on both trains of RHR to maintain cold shutdown. Testing of the idle train  
check valves involves cycling upstream pressure isolation valves to allow flow  
through either the loop 1 or 4 recirculation flow paths. Technical Specifications  
then requires leak testing these PIVs. This increased burden and challenge to PIVs  
does not warrant testing both trains each cold shutdown.

ALTERNATE TESTING: One train of two valves will be full stroke tested open  
during cold shutdowns. Both trains will be full stroke tested each refuel outage.

- Comments:** 1.) Tests required:  
a. Part stroke to open using minimum flow recirculation line to meet open safety  
function.  
b. Exercise to open to meet open safety function. Exercise to close to meet CM.  
D&I performed to verify closure.  
2.) Flow of 4000 gpm req. for full open stroke per reference 5 revision 1.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

| 4

ATJ Number: 061

Valve Id: 3RSS\*V035 3RSS\*V036

Category: C

Class: 2

Open Open to allow RSS pump flow to the RHS discharge for long term cooling.  
Safety Function:

Close N/A  
Safety Function:

Basis Full stroke exercising of these valves during power operation requires running the  
For Deferral: RSS pumps with flow through a flow path using RHR piping and passing flow back  
to the RWST. This testing requires use of a dedicated operator at manual isolation  
valve 3RHS\*V043 and makes the RHR system inoperable. In this configuration all  
RHR flow is lost to two of four cold leg injection paths and is potentially lost to all  
four flow paths. This testing is not practical during power operation or cold  
shutdown. Cold shutdowns is not practical because of lineup requirements to  
provide a suction water source to the RSS pumps.

11

ALTERNATE TESTING: These valves will be full stroke tested open during  
refueling outages.

Comments: 1.) Test required: Exercise to open to meet open safety function. Exercise to close  
to meet CM  
2.) Flow of 1107 gpm req. for full open stroke per reference 4.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Full Stroke Open - Refueling

**ATJ Number: 062**

**Valve Id:** 3CHS\*HCV182

**Category:** B

**Class:** 2

**Open**      Open on a loss of control air or electrical power to provide a borated water flowpath  
**Safety Function:** for safety grade cold shutdown.

**Close**      N/A  
**Safety Function:**

**Basis**      Seal water flow provides continuous cooling of the seals during power operation to  
**For Deferral:** prevent seal damage due to high temperature and continuous flushing during  
shutdown periods to prevent the intrusion of foreign material. Full stroke  
exercising of these valves requires establishment of an alternate seal water flow path  
and simultaneous isolation of the normal flow path, at a controlled rate which will  
not cause the seals or other components in the flow path to be damaged by either  
high flow or by flow starvation. Establishment of the alternate flow is an off-  
normal evolution (EOP related) which carries some risk or inadvertent isolation of  
seal flow. Such an event would have negligible consequences if it occurred for a  
short period of time when the reactor is not pressurized, but could have significant  
consequences if it occurred during power operation.

**ALTERNATE TESTING:** These valves will be full stroke tested open during  
refuelings and during cold shutdown when RCS pressure is less than 100 psig.

- Comments:** 1. Tests required:
- a. Fail safe test to open to meet open safety function.
  - b. Stroke time to open to meet open safety function.
- 2.) Testing may be performed at Cold Shutdown when RCS pressure is less than 100 psig.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown



**ATJ Number: 063**

**Valve Id:** 3HCS\*V007 3HCS\*V014

**Category:** AC

**Class:** 2

**Open** Open to allow a flow of 41.52 scfm at 12.47 psia from the A blower into  
**Safety Function:** containment.

**Close** Close to provide containment isolation for penetration Z113.  
**Safety Function:**

**Basis** Full stroke closed exercising of these valves is not practical during power operation  
**For Deferral:** or cold shutdown. These valves are located inside containment and there is no  
means to pressurize downstream of the valves without installing a blank flange with  
a test tap.

11

ALTERNATE TESTING: These valves have been included in the Condition Monitoring program as Group 46. These valves will be full stroke tested closed during the performance of the Appendix J Local Leak Rate Test. The test frequency will be based on past performance.

- Comments:** 1.) Tests required:
- a. Exercise to open to meet open safety function.
  - b. Exercise to close to meet close safety function.
  - c. Leak test in accordance with Appendix J to meet close safety function.
- 2.) Flow req. for full stroke open per reference 6:
- 47.5 scfm at power
  - 49.87 scfm at shutdown

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Leak Rate Test - 10CFR50 App. J

**ATJ Number: 064**

**Valve Id:** 3RCS\*LCV459 3RCS\*LCV460

**Category:** B

**Class:** 1

**Open** N/A

**Safety Function:**

**Close** Close for RCPB isolation upon low pressurizer level.

**Safety Function:**

**Basis** These valves should not be full stroke exercised during operation because they are  
**For Deferral:** in the normal charging let down flow which provides inventory and chemistry control to the RCS. Diversion of flow could cause RCS inventory fluctuations.

**ALTERNATE TESTING:** These valves will be full stroked closed during cold shutdowns. The fail safe function of these valves will also be verified during cold shutdown.

- Comments:** 1. Tests required:
- Stroke time to close to meet close safety function.
  - Fail safe test to close to meet close safety function.
  - Position indication to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

**ATJ Number: 065**

**Valve Id:** 3FWA\*V009 3FWA\*V014 3FWA\*V023 3FWA\*V028  
3FWA\*V882 3FWA\*V883 3FWA\*V884 3FWA\*V885

**Category:** C

**Class:** 2

**Open** Open to allow FWA pump P1B flow to SG B. Open to supply water to the Steam  
**Safety Function:** Generators for removal of sensible and decay heat from the reactor core during loss  
of power, loss of main feedwater, feedwater line break, main steam line break, or  
small break LOCA events

**Close** Close to prevent SG blowdown to the ESF building following HELB events in the  
**Safety Function:** FWA lines outside containment.

**Basis** The system configuration does not provide a test flow path through which reverse  
**For Deferral:** flow closure of these valves can be verified.

**ALTERNATE TESTING:** Individual valve closure verification will be done using  
non-intrusive acoustic test equipment at refuel.

**Comments:** Flow of 220 gpm req. for full stroke open per reference 8 for FLB event.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Full Stroke Closed - Refueling

ATJ Number: 066

Valve Id: 3SWP\*V104 3SWP\*V109

Category: C

Class: 3

**Open** Open to supply heated SW to the inlet of the booster pump so the water supplied to  
**Safety Function:** the control building water chiller is above 55 degrees F.

**Close** Close to prevent diversion of cold service water away from the control building A/C  
**Safety Function:** water chiller.

**Basis** The system configuration does not provide a test flow path through which either  
**For Deferral:** forward flow opening or reverse flow closure of these valves can be verified.

11

**ALTERNATE TESTING:** These valves have been added to the Condition Monitoring program as Group 14. These valves will be partially disassembled, inspected and manually exercised on a staggered sampling basis. During each disassembly, the valve internals will be inspected for structural soundness (no loose or corroded parts). Valves have been added to the Condition Monitoring program. Inspection frequency is based on past performance.

**Comments:** 1.) Tests required:  
a. Exercise to open to meet open safety function. b. Exercise to close to meet close safety function. Valves are disassembled per Condition Monitoring Group 14 inspection results.  
2.) Flow of 297 gpm req. for full stroke open per reference 3.

11

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Full Stroke (Open and Closed)	Quarterly	Disassemble and Inspect per the Condition Monitoring Program	11

**ATJ Number: 067**

**Valve Id:** 3EGA\*EFV35A1 3EGA\*EFV35A2 3EGA\*EFV35B1 3EGA\*EFV35B2

**Category:** AC

**Class:** 3

**Open** N/A

**Safety Function:**

**Close** Close to prevent loss of air receiver tank pressure in the event the non-safety  
**Safety Function:** sensing line breaks.

**Basis** Testing of these valves requires the affected compressor to be removed from service  
**For Deferral:** and disassembly of the affected tubing, thereby disabling the make-up capability to  
the affected air receiver tank for the duration of the test. Air receiver tank pressure  
must be greater than 350 psig for the diesel to remain operable. Damage to or  
failure of the affected joints or components as a result of the testing could delay  
restoration of the air make-up capability indefinitely. Normal leakage from the air  
receiver tank would ultimately render the diesel inoperable, and result in a  
significant loss of safety function and subsequent forced shutdown of the unit. It is  
therefore determined that the potential adverse impact on the safety that would  
result from leak testing these valves when diesel operability is required is more  
significant than the marginal increase in safety that may be achieved by quarterly  
testing.

**ALTERNATE TESTING:** These valves will be exercised closed by leak testing  
every 2 years in accordance with Condition Monitoring Group 29.

**Comments:** 1. Tests required:  
Leak test in accordance with Condition Monitoring Group 29.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Leak Test

**ATJ Number: 068**

**Valve Id:** 3RCS\*V031 3RCS\*V032 3RCS\*V147 3RCS\*V148

**Category:** C

**Class:** 1

**Open** Open to allow boration during safety grade cooldown.  
**Safety Function:**

**Close** Close to prevent communication between loops 1 and 4 during a LOCA.  
**Safety Function:**

**Basis** The system configuration does not provide a flowpath or method to adequately  
**For Deferral:** verify the full stroke close capability of these check valves.  
In addition, system operation during each cycle operates with only one charging  
path (Loop 1 or Loop 4) in service. They swap charging paths each cycle. Therefore,  
the check valves in the in-service loop is tested each quarter while the other loop  
valves are out of service.

ALTERNATE TESTING: Individual valve closure verification will be done by  
radiography at refuel.

- Comments:** 1.) Tests required:  
a. Exercise to open to meet open safety function.  
b. Exercise to close to meet close safety function.  
2.) Flow of 32.67 gpm req. for full open stroke per reference 4.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Radiograph for valve closure verification

Millstone Unit 3 Alternate Test Justifications

ATJ Number: 069

Valve Id: 3CDS\*CTV38A 3CDS\*CTV38B 3CDS\*CTV39A 3CDS\*CTV39B  
3CDS\*CTV40A 3CDS\*CTV40B 3CDS\*CTV91A 3CDS\*CTV91B

Category: A

Class: 2

Open N/A

Safety Function:

Close Automatically close on a CIA signal to provide containment isolation for  
Safety Function: penetrations Z38, Z45, Z72 and Z116. Valves are normally open and will fail safe  
in the closed direction.

Basis Closing these valves during power operation requires the chillers be removed from  
For Deferral: service to prevent a chiller trip on low flow and potential equipment damage. With  
the chillers out of service, containment temperature rises quickly within an hour and  
this has the potential of placing the plant in a LCO requiring a unit shutdown.

ALTERNATE TESTING: These valves will be full stroke exercised and fail-safe  
tested closed during cold shutdowns.

- Comments: 1. Tests Required:
- a. Stroke time to close to meet close safety function.
  - b. Fail safe test to close to meet close safety function.
  - c. Position indication test to meet OM-10.
  - d. Leak test in accordance with Appendix J to meet close safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

# indicates Augmented Test Requirement

**ATJ Number: 070**

**Valve Id:** 3HVK\*TV39A 3HVK\*TV39B 3HVK\*TV41A 3HVK\*TV41B  
3HVK\*TV76A 3HVK\*TV76B 3HVK\*TV77A 3HVK\*TV77B

**Category:** B

**Class:** 3

**Open** Modulate to control temperature for the east and west switchgear rooms, the control  
**Safety Function:** room area and the computer and instrument rack area. The valves fail safe in the  
open direction.

**Close** N/A  
**Safety Function:**

**Basis** These temperature control valves utilize Target Rock Solenoid valves that normally  
**For Deferral:** modulate temperature to the Control Building Water System air handling unit coils.  
There are no control room switches to operate the valves to perform exercising. In  
addition there are no indicating lights in the control room for the valves. In order to  
exercise and stroke time the valves requires setting up non intrusive equipment on  
the valves and then removing and reinstalling fuses at the breaker panel to fully  
open and close the valves. It is not practical to test the valves quarterly since setting  
up non-intrusive test equipment impacts plant resources and the removal and  
reinstallation of the fuses adversely impacts plant personnel safety and equipment  
reliability. The frequent removal and installation introduces a unnecessary wear on  
the fuse contacts. NUREG 1482 section 3.1.1 "Defering Valve Testing to Each  
Cold Shutdown or Refueling Outage" recognizes the use of non-intrusive to test  
valves each quarter may be impractical. In additon, manual operator action to  
restore the system would be required if an accident occurred. Therefore it is  
concluded that the potential adverse impact on safety, equipment reliability and  
resources outweighs the marginal increase in safety that may be achieved by the  
quarterly testing.

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**ALTERNATE TESTING:**

The valves will be full stroke timed open during cold shut downs using non-  
intrusive methods or other positive means.

- Comments:** 1. Tests required:  
a. Stroke time to open to meet open safety function.  
b. Fail safe test to open to meet open safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown



**ATJ Number: 071**

**Valve Id:** 3HVK\*PDV32A 3HVK\*PDV32B

**Category:** B

**Class:** 3

**Open** N/A

**Safety Function:**

**Close** Modulate to control HVK system pressure that supplies cooling to the east and  
**Safety Function:** west switchgear rooms, the control room area, the computer and instrument rack  
area. Valves fail safe in the closed direction to prevent diversion of flow.

**Basis** These pressure control valves utilize Target Rock Solenoid valves to maintain  
**For Deferral:** constant differential pressure across the HVK pumps. There are no control room  
switches to operate the valves to perform exercising. In addition there are no  
indicating lights in the control room for the valves. In order to exercise and stroke  
time the valves requires setting up non intrusive equipment on the valves and then  
removing and reinstalling fuses at the breaker panel to fully open and close the  
valves. It is not practical to test the valves quarterly since setting up non-intrusive  
test equipment impacts plant resources and the removal and reinstallation of the  
fuses adversely impacts plant personnel safety and equipment reliability. The  
frequent removal and installation introduces a unnecessary wear on the fuse contacts.  
NUREG 1482 section 3.1.1 "Deferring Valve Testing to Each Cold Shutdown or  
Refueling Outage" recognizes the use of non-intrusive to test valves each quarter  
may be impractical. In additon, manual operator action to restore the system would  
be required if an accident occurred. Therefore it is concluded that the potential  
adverse impact on safety, equipment reliability and resources outweighs the  
marginal increase in safety that may be achieved by the quarterly testing.

**ALTERNATE TESTING:**

The valves will be full stroke timed closed during cold shut downs using non-  
intrusive methods or other positive means.

- Comments:** 1. Tests requied:  
a. Stroke time to close to meet close safety function.  
b. Fail safe test to close to meet close safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown

11

11

**ATJ Number: 073**

**Valve Id:** 3MSS\*HV28A 3MSS\*HV28B 3MSS\*HV28C 3MSS\*HV28D

**Category:** B

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Automatically close on a MS isolation signal to isolate MS bypass. Valves are  
**Safety Function:** normally closed and will fail safe in the closed direction. Valves are open during startup to allow pressure equalizing across MSIVs.

**Basis** The MSIV Bypass Valves are normally closed and are opened during startups to  
**For Deferral:** warm up Main Steam lines and equalize pressure across the MSIVs. The safety function of the valves is to isolate nonsafety related portions of the MS under accident conditions and prevent uncontrolled blowdown of more than one SG in the event of a main steam line break. The valves remain closed during the entire operating cycle, except for an 18 month slave relay test, and although they can be tested each quarter it is considered a hardship since the risk of performing testing quarterly outweighs the benefit achieved. Testing quarterly vs Cold shutdown does not provide any increase in safety since the valves are not called upon to change position during the cycle for any safety function and opening them for testing purposes only decreases safety by increasing the exposure to a condition where the valve must change position during accident conditions. In addition, testing during the cycle unnecessarily cycles the valves reducing the life expectancy of the components. Therefore, it is concluded that the potential adverse impact on safety, equipment reliability and resources constitute a hardship allowing cold shutdown stroke time testing to assure operational readiness.

2

**ALTERNATE TESTING:** The valves will be stroke time tested during Cold shutdowns.

- Comments:** 1. Tests required:
- Stroke time to close to meet close safety function.
  - Fail safe test to close to meet close safety function.
  - Position indication to meet OM-10.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Fail Test	Quarterly	Failure Mode Test - Cold Shutdown
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown
# Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown

# indicates Augmented Test Requirement

**ATJ Number: 074**

**Valve Id:** 3RSS\*MV8837A 3RSS\*MV8837B 3RSS\*MV8838A  
3RSS\*MV8838B

**Category:** B

**Class:** 2

**Open** Open to provide cold and hot leg injection flow.  
**Safety Function:**

**Close** Remain closed to prevent diversion of spray water away from ring header. Valves  
**Safety Function:** are normally locked closed.

**Basis** The valve test frequency is being changed because of the RSS pump test frequency  
**For Deferral:** change. The frequency test requirements for the RSS pumps changed by applying  
OM-1987 part 6 subsection 5.5 "Pumps lacking required fluid inventory" (I.e. Dry  
Sump). The test frequency changed from quarterly to once every each refueling  
outage. The RSS valves are tested when the pump is tested when the normally dry  
layup RSS line is filled and vented. The valves establish a boundary between the dry  
layup piping and filled ECCS lines. CR-01-11805 identified that it is not practical  
to stroke the valves with the RSS line dry because it could lead to air intrusion into  
both trains of ECCS if a LOCA occurred during the stroke. The only time the RSS  
lines are filled and vented is during refueling outages therefore, it is concluded that  
the potential adverse impact on safety systems constitute a hardship allowing  
refueling frequency stroke time testing to assure operational readiness.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
# Stroke Time Closed	Quarterly	Stroke Time Closed - Refueling	1
Stroke Time Open	Quarterly	Stroke Time Open - Refueling	1

# indicates Augmented Test Requirement

**ATJ Number: 075**

**Valve Id:** 3RSS\*V907 3RSS\*V908 3RSS\*V909 3RSS\*V910

**Category:** C

**Class:** 2

**Open** Open to vent RSS pump casing.  
**Safety Function:**

**Close** Close to prevent diversion of RSS pump flow.  
**Safety Function:**

**Basis** The RSS pump casing check valve test frequency is being changed because of the  
**For Deferral:** RSS pump test frequency change. The frequency test requirements for the RSS  
pumps changed by applying OM-1987 part 6 subsection 5.5 "Pumps lacking  
required fluid inventory" (I.e. Dry Sump). The test frequency changed from  
quarterly to once every each refueling outage. The RSS check valves can only be  
tested when the pump is tested.

**Comments:** 1. Tests required:  
a. Exercise open to meet open safety function.  
b. Exercise close to meet close safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke (Open and Closed)	Quarterly	Full Stroke - Refueling

1

11

1

**ATJ Number: 076**

**Valve Id:** 3CHS\*MV8511A 3CHS\*MV8511B

**Category:** A

**Class:** 2

**Open** Open on an SI signal to provide an alternate charging miniflow path. Valves are  
**Safety Function:** normally closed during operation.

**Close** Close during ECCS cold leg recirculation to isolate the charging pump alternate min  
**Safety Function:** flow line to the RWST.

**Basis** CR M3-99-2273 attributed the cause of relief valves 3CHS\*RV8510A/B seat  
**For Deferral:** damage to inadvertant lifting when cycling the 3CHS\*MV8511A/B valves. When  
testing the 3CHS\*MV8511A/B valves the relief valves are exposed to pressures of  
up to 2500 psig while the lift setpoint is at 2200 psia. The corrective action  
identified was to isolate the header and bleed off the pressure prior to opening  
3CHS\*MV8511A/B insuring the relief valves are not exposed to high system  
pressures.  
It is not practical to test the 3CHS\*MV8511A/B valves during operation since the  
valves, when cycled, could subject the downstream relief valves to pressures beyond  
the setpoint and pressure relieving the header creates the potential for air intrusion  
requiring venting/refilling operations would be necessary after each test.

**Comments:** Isolation integrity of valve Post LOCA is verified by seat Leakage test to satisfy  
RWST Backleakage Program. During ECCS injection mode an alternate minimum  
flow path from the charging pumps to the RWST is aligned through MOVs  
3CHS\*MV8511A/B, 3CHS\*MV8512A/B and relief valves  
3CHS\*RV8510A/B. The path is subsequently isolated during recirc mode to prevent  
dsicharge of sump water to the RWST. Leakage is assessed through both recirc lines  
to the common 10" return line 3-RHS-10-10-4 and then to the RWST. Since the  
relief valves may have lifted during the injection phase they are assumed not to  
restrict leakage.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	
Stroke Time Closed	Quarterly	Stroke Time Closed - Cold Shutdown	2
Stroke Time Open	Quarterly	Stroke Time Open - Cold Shutdown	2

**ATJ Number: 077**

**Valve Id:** 3RHS\*FCV618 3RHS\*FCV619

**Category:** B

**Class:** 2

**Open** Required to remain open for injection. Open during RHR cooldown operations to  
**Safety Function:** divert flow around the RHR heat exchangers to prevent overheating of the CCP water. Valves are normally open and will fail safe in the open direction.

**Close** Close manually following a loss of motive power (air) and a limiting single failure  
**Safety Function:** of an RHR suction valve, to divert water through the RHR heat exchanger for Safety Grade Cold Shutdown (SGCS). 5

**Basis** These air operated valves have a safety function in both directions. The valves will  
**For Deferral:** fail open on a loss of instrument air. The valves are credited to manually close following a loss of air and a single failure to divert water through the RHR heat exchanger for safety grade cold shutdown. 5

The valves are identified as power operated valves and the code requires that performance be measured by comparing reference stroke times. The code does not address the condition for a power operated valve that is manually credited to function in the safety analysis. The quarterly open and close stroke time is performed during modes 1 through 4 with the system idle. The intent is to ensure the valve will move freely including monitoring for any change in performance. Monitoring the stroke time quarterly meets the intent. In addition, a manual cycle test is done once every 24 months to verify the credited safety function. The 24 month frequency is consistent with the latest information published by the NRC in the Federal Register, for cycling manual valves.

- Comments:** 1. Tests required:
- a. Stroke time to open to meet open safety function.
  - b. Fail safe test to open to meet open safety function.
  - c. Manually exercise closed to meet close safety function.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>	2
Full Stroke Closed	Quarterly	Full Stroke - Refueling	

## **VIIa. Pump Relief Requests**

**Relief Request Number: P-002**

**Pump Id:** 3CCI\*P1A 3CCI\*P1B

**Name:** SAFETY INJECTION PUMP COOLING PUMP

**Type:** Centrifugal

**Function:** The Safety related function is:

1. Circulate 9.5 gpm through the safety injection pump cooling system, whenever the safety injection pump is operating.

**Relief Requested:** Relief requested from OM-6, paragraph 5.2, Test Procedure (determine and record pump flow).

Alternate Testing: Since the pump head versus flow characteristics are relatively flat over the normal operating range for these pumps, the change in pump differential pressure from rated flow to the shutoff head condition is approximately 3.7%. As a result, a complete obstruction of this unmonitored recirculation flow could only increase pump differential (i.e. mask pump degradation) by an amount less than 3.7%. To account for a complete obstruction of pump recirculation flow, the lower band acceptance criteria for differential pressure will be raised from 10% to 6%. Any increase in recirculation flow, i.e. increase in orifice size, would result in a reduction in pump differential which would be conservatively identified as pump degradation.

**Basis For Relief:** The Safety Injection Pump Cooling (CCI) System is designed to provide 9.5 gpm to the Safety Injection Pump Lube Oil cooler. Since the original design flow was approximately 21 gpm and the pump rated flow is 25 gpm, the minimum flow recirculation line was designed with an orifice sized to pass 15 gpm. However, the minimum flow recirculation lines were not designed to allow flow measurement with either permanent or temporary instrumentation which would meet ASME Code requirements. These lines were also not designed to be isolated. As a result, the majority of pump flow during IST pump testing is unmonitored.

During IST pump tests, typically performed quarterly, the system is throttled to a reference flow of 10 gpm, +/- 0.2 gpm with an unmonitored recirculation flow of approximately 15 gpm. Then the pump differential pressure is recorded and compared to the ASME Code acceptance criteria of +/- 10%. Although the minimum flow recirculation lines did not have provisions for isolation, the potential to block flow by installing a blind flange in the restriction orifice was investigated. Full flow data from the 89-13 test program indicated that a maximum of 11 - 12 gpm is obtained with all valves wide open. Since the minimum flow requirement for the pump is 15 gpm, this flow would not be adequate to protect the pump from damage. Without the ability to isolate the minimum flow recirculation lines or to measure flow directly, the majority of CCI pump flow cannot be measured without implementing system design



Millstone Unit 3 Pump Relief Requests

modifications.

- Comments:** 1. The following parameters are required to be measured and analyzed to meet Function 1:
- a. Flow rate
  - b. Differential pressure
  - c. Vibration in three orthogonal directions on each accessible bearing housing
2. Design flow: 15.0 gpm
3. S&W DWG: 12179-EM-114A

Type Test	RR No.	Alternate Test
High Flow - Variable Resistance - Flow Set to Reference	P-002	

**Approval Document:** A14016

**Approval Date:** 02/16/1999

**Relief Request Number: p-003**

**Pump Id:** 3SWP\*P1A 3SWP\*P1B 3SWP\*P1C 3SWP\*P1D

**Name:** SERVICE WATER PUMP

**Type:** Vertical Line Shaft

**Function:** The safety related function is:

1. Provide 15,000 gpm at 107 ft TDH to the service water headers.

**Relief Requested:** Vibration instrumentation frequency response range shall be between 1/3 pump shaft rotational speed to at least 1000 Hz per OM-6 4.6.1.6

**Basis For Relief:** Millstone is transitioning from the TEC 1330 VLF SmartMeter to the ENTEK/IRD dataPAC 1500 vibration data collector due to Y2K issues with the TEC 1330 meter. The TEC 1330 meter is no longer being manufactured and technical support is being phased out. The vendor recommended the dataPAC 1500 as a suitable replacement for the TEC 1330 meter. The instrumentation used to measure pump vibration will have a frequency response range from 5.3 Hz to at least 1000 Hz.

Vibration personnel detected large errors in overall vibration measurement results when field validation testing the dataPAC 1500 data collectors. Investigation revealed that the dataPAC 1500 uses the entire meter's frequency response range (i.e., 0.36 Hz to 75.3 KHz) in calculating and displaying overall vibration results (called magnitude readings) whereas the TEC 1330 meter calculates overall vibration based on user specified upper and lower frequency limits. The TEC 1330 meter frequency response range was setup for ~4.0 Hz to 1000 Hz. Integration noise is created by processing the input signal from the accelerometer, which affects the lower response range. The integration noise is reduced in the dataPAC 1500 by filtering the vibration input signal through a 5.3 Hz high pass filter to obtain repeatable overall vibration data. This results in the lower bound of the Code-required frequency response range not being met. The TEC 1330 meter used a special algorithm in the data collector to subtract integration noise from the vibration measurement.

The service water pumps are vertical line shaft turbine pumps with the same constant running speed of 885 rpm (equivalent to 14.7 Hz). Compliance with paragraph 4.6.1.6 would require using vibration instrumentation with a frequency response range of 4.9 Hz to at least 1000 Hz for these pumps.

Vibration instrumentation with a frequency response range from 5.3 Hz to 1000 Hz for monitoring vibration of the service water pumps is acceptable because:

- Overall vibration data would still contain vibration components from 0.36 Hz to 75.3 KHz but vibration amplitudes at frequencies below 5.3 Hz would be attenuated. The amount of attenuation for a particular frequency below 5.3 Hz is

## Millstone Unit 3 Pump Relief Requests

dependent on the high pass filter's characteristics. Inputting a known signal amplitude at 4.9 Hz into the dataPAC 1500 resulted in its amplitude being reduced to only 85% of its original value. Spectral vibration data collected using the 5.3 Hz high pass filter would still provide observable and trendable vibration data that would indicate developing mechanical faults down to 4.9 Hz.

- Millstone has not identified any potential mechanical faults for the service water pumps below 6 Hz. The credible mechanical faults below pump running speed on these vertical line shaft pumps are structural resonance at the system's reed natural frequencies and pump shaft whirl. Millstone has identified the reed natural frequencies of these service water pumps to lie between 6 Hz and pump running speed. Non-IST required pump shaft measurements using a shaft stick or proximity probe are required to confirm pump shaft whirl. Millstone routinely collects and trends vertical pump line shaft vibration data primarily to trend line shaft bearing wear and has never identified subsynchronous shaft vibration (shaft whirl) on their service water pumps.

- Overall vibration limits are only one indicator of component condition and may miss some mechanical faults entirely. Spectral vibration analysis is much more sensitive than overall vibration in detecting mechanical faults. Vibration analysts use spectral data to extract and trend vibration data from various frequency bands that were defined to detect particular machine faults for each specific machine type. Spectral analysis results in additional and earlier warning of degrading component conditions due to the capability to trend and alarm on multiple frequency bands and individual frequencies. Spectral vibration analysis techniques are used at Millstone on all IST components.

- The 1/3 running speed to 1000 Hz minimum frequency response range requirement does not apply well to slow speed machinery. Incorporating vibration frequency down to 1/3 running speed results in integration noise corrupting the overall vibration results on slow speed machinery. Overall vibration is excessively high unless the integration noise is reduced by high pass filtering the vibration input signal or by using special algorithms in data collectors to subtract integration noise from the vibration measurement.

Many vibration standards segregate rotating equipment into various rotational speed categories (i.e., running speed above or below 600 RPM, speed range from 10 to 200 REV/S), machinery type classifications (i.e., turbines, pumps, compressors, fans, centrifugal, reciprocating, overhung rotor, etc.) and machinery support methods (i.e., hard or soft mounted) prior to specifying allowable vibration limits. This allows for more appropriate limits to be applied to the different types of equipment that optimize detection of credible mechanical faults.

**Comments:** 1. The following parameters are required to be measured and analyzed to meet function 1:

- a. Flow rate

Second Ten Year Interval  
Revision 7 Change 11  
31 March 2004

## Millstone Unit 3 Pump Relief Requests

- b. Differential pressure
- c. Vibration in three orthogonal directions on each accessible bearing housing
- 2. Design flow: 15,000 gpm
- 3. S&W DWG: 12179-EM-133A

Type Test	RR No.
High Flow - Variable Resistance - Flow Set to Reference	p-003

Alternate Test

| 3

Approval Document:

Approval Date: 02/02/2001

## **VIIb. Valve Relief Requests**

Millstone Unit 3 Valve Relief Requests

Relief Request Number: V-001

Valve Id: 3CCE\*RV40A 3CCE\*RV40B 3CCE\*RV43A 3CCE\*RV43B  
3CCE\*RV43C 3CCI\*RV31A 3CCI\*RV31B 3CCI\*RV36A  
3CCI\*RV36B 3CCP\*RV239A 3CCP\*RV239B 3CCP\*RV258A  
3CCP\*RV258B 3CCP\*RV258C 3CCP\*RV258D 3CCP\*RV275A  
3CCP\*RV275B 3CCP\*RV54A 3CCP\*RV54B 3CCP\*RV54C  
3CCP\*RV54D 3CCP\*RV59A 3CCP\*RV59B 3CCP\*RV64A  
3CCP\*RV64B 3CDS\*RV105A 3CDS\*RV105B 3CDS\*RV106A  
3CDS\*RV106B 3CHS\*RV8113 3CHS\*RV8117 3CHS\*RV8121  
3CHS\*RV8123 3CHS\*RV8124 3CHS\*RV8351 3CHS\*RV8510A  
3CHS\*RV8510B 3DAS\*RV87 3DGS\*RV51 3EGA\*RV24A1  
3EGA\*RV24A2 3EGA\*RV24B1 3EGA\*RV24B2 3FPW\*RV87  
3FWA\*RV45 3FWA\*RV64A 3FWA\*RV64B 3FWA\*RV65  
3HVC\*RV125A1 3HVC\*RV125A2 3HVC\*RV125B1 3HVC\*RV125B2  
3MSS\*RV22A 3MSS\*RV22B 3MSS\*RV22C 3MSS\*RV22D  
3MSS\*RV23A 3MSS\*RV23B 3MSS\*RV23C 3MSS\*RV23D  
3MSS\*RV24A 3MSS\*RV24B 3MSS\*RV24C 3MSS\*RV24D  
3MSS\*RV25A 3MSS\*RV25B 3MSS\*RV25C 3MSS\*RV25D  
3MSS\*RV26A 3MSS\*RV26B 3MSS\*RV26C 3MSS\*RV26D  
3PGS\*RV77 3RCS\*SV8010A 3RCS\*SV8010B 3RCS\*SV8010C  
3RHS\*RV37A 3RHS\*RV37B 3RHS\*RV8708A 3RHS\*RV8708B  
3SFC\*RV52A 3SFC\*RV52B 3SIH\*RV8851 3SIH\*RV8853A  
3SIH\*RV8853B 3SIH\*RV8858 3SIH\*RV8870 3SIH\*RV8925A  
3SIH\*RV8925B 3SIL\*RV8842 3SIL\*RV8855A 3SIL\*RV8855B  
3SIL\*RV8855C 3SIL\*RV8855D 3SIL\*RV8856A 3SIL\*RV8856B  
3SIL\*RV8857 3SSP\*RV62 3SSP\*RV63 3SWP\*RV132A  
3SWP\*RV132B 3SWP\*RV89A 3SWP\*RV89B 3SWP\*RV90A  
3SWP\*RV90B 3SWP\*RV91A 3SWP\*RV91B 3SWP\*RV92A  
3SWP\*RV92B 3SWP\*RV93A 3SWP\*RV93B 3SWP\*RV94A  
3SWP\*RV94B 3SWP\*RV94C 3SWP\*RV94D 3SWP\*RV96A  
3SWP\*RV96B

Category: C

Class: 3

**Open** Open at 450 psig to provide overpressure protection for the diesel air receiver  
**Safety Function:** tanks.

**Close** Close to prevent loss of air receiver tank pressure.  
**Safety Function:**

**Relief** Relief from OM1- 1987 (paragraphs 8.1.1.8, 8.1.2.8, 8.1.3.7) requirement that a  
**Requested:** minimum of 10 minutes shall elapse between successive openings.

**Basis** The required hold time between tests is not necessary to ensure repeatable results.  
**For Relief:** The increased hold time between tests does not increase the accuracy of the set

## Millstone Unit 3 Valve Relief Requests

pressure test. Temperature stabilization is important for high temperature valves. A hold time is appropriate however, ten minutes creates an excessively long test period. Temperature stabilization is not a concern for valves tested at ambient conditions.

Alternate Testing: Safety and relief valves tested at temperatures above 150 F, will have a hold time of 5 minutes between tests. For valves tested at temperatures less than or equal to 150 F, stable ambient temperatures will be verified. This approach is consistent with the changes proposed by the OM1 Working Group for Safety and Relief Valves.

**Comments:** Test frequency per OM1 test schedule.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Pressure Relief Device Test	Every Ten Years	

**Approval Document:** A13118

**Approval Date:** 12/02/1996

**Relief Request Number: V-003**

**Valve Id:** 3QSS\*V001 3QSS\*V002 3QSS\*V005 3QSS\*V006

**Category:** B

**Class:** 2

**Open** N/A

**Safety Function:**

**Close** Close to provide MELB isolation of a pipe break in the QSS pumps suction line  
**Safety Function:** from the RWST in the ESF building.

**Relief** Relief from manual valve exercising quarterly frequency requirements of OM-10  
**Requested:** paragraph 4.2.1.1

**Basis** Several manual valves have been determined not to require quarterly testing to  
**For Relief:** detect degradation and have been exempted from quarterly testing. The test frequency has been extended to once every 18 months with a 25 percent grace period to allow scheduling flexibility.

The Chemical and Volume Control (CHS), Reactor Building Component Cooling (CCP), Auxiliary Feedwater (FWA) and Quench Spray (QSS) system valves are manual valves. The predominant degradation and failure mechanisms (motor failures, electrical failures, switch settings, etc) associated with power operated valves (MOVs, AOVs) do not exist for manual valves. These valves are normally open (except two charging valves that are closed) and are closed if necessary to prevent loss of system inventory. The two charging valves are normally closed and are opened to allow flow in the event the power operated valve fails. These valves are not operated during power operation except for surveillance testing. Testing these valves on a quarterly frequency solely to meet the requirements of ASME/ANSI 1987, OMa 1988 does not provide any added value. It is unnecessary for detecting valve degradation, does not decrease the potential for a component failure and provides no benefit in protecting the health and safety of the public.

The Residual Heat Removal (RHS) and Control Room Ventilation (HVC) system valves are power operated valves whose power function in one direction is not credited in an accident. That function is performed by manual operation. These valves are exercised and stroke timed using this non credited power on either a quarterly or cold shutdown frequency. This testing ensures there are no mechanical problems that would prevent a successful manual exercise when needed. The proposed alternate testing is adequate for detecting any other degradation that may not be identified during the normal stroking and provides a comparable level of safety to the Code required testing.

Additionally, the proposed alternate testing complies with ASME OMa 1999 Addenda to ASME OM 1998 Code, paragraph ISTC-3540 for full stroke exercising of manual valves.

**Comments:**



Second Ten Year Interval  
Revision 7 Change 11  
31 March 2004

## Millstone Unit 3 Valve Relief Requests

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Manually full Stroke Closed every 18 months

Approval Document: Docket No 50-423

Approval Date: 02/02/2001

**Relief Request Number: V-004**

**Valve Id:** 3SWP\*MOV54A 3SWP\*MOV54B 3SWP\*MOV54C 3SWP\*MOV54D

1

**Category:** B

**Class:** 3

**Open Safety Function:** Automatically open on a CDA signal to allow flow to the Containment Recirc coolers. Valves have an open permissive with MOV50 closed. Valves are normally closed during operation.

**Close Safety Function:** Close to isolate a leak from Containment Recirc cooler and prevent release of radioactivity to the environment.

**Relief Requested:** Change test frequency for 3SWP\*MOV54A/B/C/D to once every 6 months with a 25% grace period to allow for scheduling flexibility

**Basis For Relief:** Testing the valves is a complex evolution. It requires an interlock associated with 3SWP\*MOV50A/B to be defeated (temporary modification) to allow opening the 3SWP\*MOV54s without a CDA signal present. Entry into LCO 3.7.4 during modes 1-4 is required for the duration the temporary modification is installed to defeat the interlock. This makes one train of RSS and SWP systems inoperable. When the valves are opened service water is introduced into the RSS heat exchangers which is then required to be drained, the heat exchanger flushed with demin water and then drained again. This process takes approximately 8-10 hours per heat exchanger. This results in accruing a significant amount of Maintenance Rule unavailability on the RSS system and additional time on the SWP system.

The valves were originally scheduled for IST testing each cold shutdown (modes 5,6,7). During cold shutdown the LCO is not applicable however, defeating the interlock in modes 1-4 every 6 months to allow RSS heat exchanger flushing was evaluated and determined acceptable from a plant risk. The flushing evolution provides the ideal opportunity to perform the stroke time, fail safe, and position indication tests without additional plant risk. Testing each valve every 6 months was considered comparable to each cold shutdown in the NRC relief request evaluation letter therefore, acceptable.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Stroke Time Closed	Quarterly	Stroke Time Close- every 6 months +/- 25% Grace
Stroke Time Open	Quarterly	Stroke Time Open- every 6 months +/- 25% Grace

**Approval Document:** Doc No# 50-423

**Approval Date:** 02/02/2001

**Relief Request Number: V-005**

**Valve Id:** 3FWA\*V002 3FWA\*V016 3FWA\*V030 3FWA\*V997  
3FWA\*V998 3FWA\*V999

1

**Category:** B

**Class:** 3

**Open** N/A

**Safety Function:**

**Close** Close to provide MELB isolation of a pipe break in the FWA pumps suction line  
**Safety Function:** from DWST in the ESF building.

**Relief** Change test frequency for 3FWA\*V002, 3FWA\*V016, 3FWA\*V030,  
**Requested:** 3FWA\*V997, 3FWA\*V998, 3FWA\*V999 from once per quarter to once per 18  
months with 25% grace period to allow for scheduling flexibility.

**Basis** Several manual valves have been determined not to require quarterly testing to  
**For Relief:** detect degradation and have been exempted from quarterly testing. The test  
frequency has been extended to once every 18 months with a 25 percent grace  
period to allow scheduling flexibility.  
The Auxiliary Feedwater (FWA) system valves are normally open manual  
valves. The predominant degradation and failure mechanisms (motor failures,  
electrical failures, switch settings, etc) associated with power operated valves  
(MOVs, AOVs) do not exist for manual valves. These valves are closed if  
necessary to prevent loss of system inventory.  
These valves are not operated during power operation except for surveillance  
testing. Testing these valves on a quarterly frequency solely to meet the  
requirements of ASME/ANSI 1987, OMa 1988 does not provide any added  
value. It is unnecessary for detecting valve degradation, does not decrease the  
potential for a component failure and provides no benefit in protecting the health  
and safety of the public.  
Additionally, the proposed alternate testing complies with ASME OMa 1999  
Addenda to ASME OM 1998 Code, paragraph ISTC-3540 for full stroke  
exercising of manual valves.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Manually full Stroke Closed every 18 months

**Approval Document:** Docket # 50-423

**Approval Date:** 02/02/2001

Relief Request Number: V-006

Valve Id: 3CHS\*V291

Category: B

Class: 3

**Open** Open to provide a cross-tie between the two boric acid storage tanks to assure  
**Safety Function:** adequate boric acid volume is available for emergency boration during SGCS.

**Close** N/A  
**Safety Function:**

**Relief** Change test frequency for 3CHS\*V291 from once per quarter to once per 18  
**Requested:** months with 25% grace period to allow for scheduling flexibility.

**Basis** Several manual valves have been determined not to require quarterly testing to  
**For Relief:** detect degradation and have been exempted from quarterly testing. The test  
frequency has been extended to once every 18 months with a 25 percent grace  
period to allow scheduling flexibility.  
The Chemical and Volume Control (CHS) valve is a normally closed manual  
valves. The predominant degradation and failure mechanisms (motor failures,  
electrical failures, switch settings, etc) associated with power operated valves  
(MOVs, AOVs) do not exist for manual valves. a  
These valves are not operated during power operation except for surveillance  
testing. Testing these valves on a quarterly frequency solely to meet the  
requirements of ASME/ANSI 1987, OMa 1988 does not provide any added  
value. It is unnecessary for detecting valve degradation, does not decrease the  
potential for a component failure and provides no benefit in protecting the health  
and safety of the public.  
Additionally, the proposed alternate testing complies with ASME OMa 1999  
Addenda to ASME OM 1998 Code, paragraph ISTC-3540 for full stroke  
exercising of manual valves.

**Comments:** No SP existed for the quarterly test. See CR# M3-99-2960.

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Manually full stroke open every 18 Months

**Approval Document:** Docket 50-423

**Approval Date:** 02/02/2001

**Relief Request Number: V-007**

**Valve Id:** 3CHS\*V270 3CHS\*V271 3CHS\*V272 3CHS\*V273

**Category:** B

**Class:** 2

**Open Safety Function:** Open to provide seal flow in the event valve 3CHS\*HCV182 fails closed.

**Close Safety Function:** N/A

**Relief Requested:** Change test frequency for 3CHS\*V270, 3CHS\*V271, 3CHS\*V272, 3CHS\*V273 to once per 18 months with 25% grace period to allow for scheduling flexibility.

**Basis For Relief:** Several manual valves have been determined not to require quarterly testing to detect degradation and have been exempted from quarterly testing. The test frequency has been extended to once every 18 months with a 25 percent grace period to allow scheduling flexibility.

The Chemical and Volume Control (CHS) are manual valves. The predominant degradation and failure mechanisms (motor failures, electrical failures, switch settings, etc) associated with power operated valves (MOVs, AOVs) do not exist for manual valves. 3CHS\*V270, 3CHS\*V271, 3CHS\*V272 charging valves are normally closed and are opened to allow flow in the event the power operated valve 3CHS\*HCV182 fails closed. 3CHS\*V273 is normally opened and is closed in the event 3CHS\*HCV182 fails opened.

These valves are not operated during power operation except for surveillance testing. Testing these valves on a quarterly frequency solely to meet the requirements of ASME/ANSI 1987, OMa 1988 does not provide any added value. It is unnecessary for detecting valve degradation, does not decrease the potential for a component failure and provides no benefit in protecting the health and safety of the public.

Additionally, the proposed alternate testing complies with ASME OMa 1999 Addenda to ASME OM 1998 Code, paragraph ISTC-3540 for full stroke exercising of manual valves.

**Comments:**

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Open	Quarterly	Manually full stroke open every 18 Months

**Approval Document:** Docket 50-423

**Approval Date:** 02/02/2001

Millstone Unit 3 Valve Relief Requests

Relief Request Number: V-008

Valve Id: 3CCP\*V965 3CCP\*V966 3CCP\*V981 3CCP\*V986

Category: B

Class: 3

Open N/A

Safety Function:

Close Close to prevent diversion of flow in the event valves CCP\*LV61, LV91 fail  
Safety Function: open due to spurious actuation under adverse environmental conditions, and  
during a seismic event.

Relief Change test frequency for 3CCP\*V965, 3CCP\*V966, 3CCP\*V981, 3CCP\*V986  
Requested: from once per quarter to once per 18 months with 25% grace period to allow for  
scheduling flexibility.

Basis Several manual valves have been determined not to require quarterly testing to  
For Relief: detect degradation and have been exempted from quarterly testing. The test  
frequency has been extended to once every 18 months with a 25 percent grace  
period to allow scheduling flexibility.  
The Reactor Building Component Cooling (CCP) system valves are normally  
open manual valves. They are required to be closed to prevent diversion of flow  
through failed radiation monitor piping or to charging pump cooling or safety  
injection pump cooling surge tanks. The predominant degradation and failure  
mechanisms (motor failures, electrical failures, switch settings, etc) associated  
with power operated valves (MOVs, AOVs) do not exist for manual valves.  
These valves are not operated during power operation except for surveillance  
testing. Testing these valves on a quarterly frequency solely to meet the  
requirements of ASME/ANSI 1987, OMa 1988 does not provide any added  
value. It is unnecessary for detecting valve degradation, does not decrease the  
potential for a component failure and provides no benefit in protecting the health  
and safety of the public.  
Additionally, the proposed alternate testing complies with ASME OMa 1999  
Addenda to ASME OM 1998 Code, paragraph ISTC-3540 for full stroke  
exercising of manual valves.

Comments:

<u>Required Tests</u>	<u>Frequency</u>	<u>Alternate Test</u>
Full Stroke Closed	Quarterly	Manually full Stroke Closed every 18 months

Approval Document: Docket 50-423

Approval Date: 02/02/2001