



NUCLEAR ENERGY SERVICES, INC.

DOCUMENT NO. 80A2903 REV. 2

PAGE 1 OF 111

## PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN

FOR

LONG ISLAND LIGHTING COMPANY

SHOREHAM NUCLEAR POWER PLANT

UNIT 1

Project Application 5536	Prepared By Albert A. Koehl	Date 12/21/81
APPROVALS		
TITLE/DEPT.	SIGNATURE	DATE
Program Engineering Department Manager	<i>Albert A. Koehl</i>	12/21/81
Project Manager	<i>D. J. Munson</i>	12/21/81
Quality Assurance Manager	<i>V. J. Poter</i>	12/22/81
8304190544 830415 PDR ADOCK 05000322 A PDR		



DOCUMENT NO. 80A2903

80A2903

PAGE ii OF iii

11

OF iii

FORM # NES 206 2/80



TABLE OF CONTENTS

	<u>Page</u>
Section I - Overview	I-1
Section II - Pump IST Program Plan	II-1
Section III - Valve IST Program Plan	III-1



PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN

FOR

SHOREHAM NUCLEAR POWER STATION

UNIT 1

SECTION 1

OVERVIEW



## 1. Introduction

This document presents the Program Plan for Inservice Testing (IST) programs at Unit 1 of the Shoreham Nuclear Power Station in compliance with the requirements of 10CFR50.55a. These Program Plans have been prepared to the requirements of the ASME Boiler and Pressure Vessel Code, Section XI, Subsections IWP and IWV, 1980 Edition through the Winter 1981 Addenda. According to 10CFR50.55a, the Code edition and addenda applicable to Pump and Valve IST Programs will be these in effect twelve months prior to issuance of an operating license. Accordingly, these Program Plans will be revised, as necessary, to meet the requirements of new Code editions and addenda as applicable.



## 2. Basis

In addition to the reference Code edition and addenda, these Program Plans have been prepared in compliance with NRC guidance contained in "Guidance for Preparing Pump and Valve Testing Program Descriptions and Associated Relief Requests Pursuant to 10CFR50.55a(g)" and the November 1981 Draft Regulatory Guide "Identification of Valves for Inclusion in Inservice Testing Programs." These three documents provide the basis for selection of components, test requirements, relief requests and format.



### 3. IST Program Plan Period

10CFR50.55a(g) specifies that the Section XI Pump and Valve Inservice Testing Program shall be initiated at the start of commercial operation of the facility. Further, the Program Plan must conform to the requirements of the Code edition and addenda in effect no more than twelve months prior to commercial operation. This plan will be reviewed, as necessary, to assure conformance.

The plan will then be in effect for the first 120 month period. It will be updated for each subsequent 120 month period to conform to the edition of the Code and addenda in effect no more than twelve months prior to the start of that period.



#### 4. General Program Plan Concept

The Program Plan specifies Section XI testing requirements for components providing, either by action or position, a safety related function. By definition, a safety related function is one that is used in,

- a) Mitigating the consequences of an accident
- b) Shutdown of the reactor to the cold shutdown condition
- c) Maintaining the reactor in a safe shutdown condition

Plant technical specifications, special manufacturer's tests, system operating conditions, etc., may dictate additional components which should be included in the overall plant testing program, but whose functions fall outside the three criteria above, and are therefore not addressed by this Program Plan.

Section XI requires quarterly testing of all components unless it is impractical to do so. This program specifies quarterly testing of pumps and valves unless it has been determined that such testing would:

- a) Be impractical due to system or component design
- b) Render a safety related system inoperable
- c) Cause a reactor scram or turbine trip
- d) Require significant deviations from normal plant operations
- e) Require entry into inaccessible plant areas
- f) Increase the possibility of an intersystem LOCA

Each component excluded from quarterly testing has been analyzed to determine when appropriate testing may be performed. If operation of a valve is not practical during plant operation, the Code allows part-stroke exercising during normal plant operation and full-stroke exercising at cold shutdown.

Since the Code accepts cold shutdown testing, this program does not request relief for those valves for which testing is delayed until cold shutdown. The Program does provide a justification for delay of testing until cold shutdown. These justifications are prepared in a format similar to relief requests, and are included following the Valve Test Tables.

Where it has been determined that testing is not practical during plant operation, or at cold shutdown, a specific relief request has been prepared. Each specific relief request provides justification for not performing the Code specified tests, and provides appropriate alternative testing.

In addition to specific relief requests, general relief requests which address specific Code requirements found to be impractical for this site have been prepared. Because of the general nature of those relief requests, and the number of components involved, they are presented in a separate section, and are not repeated in the individual systems sections.

## 5. Organization

The Pump and Valve Inservice Testing Program Plan is organized into three independent sections, each of which can be removed from the Program Plan for review. Section I presents the general program commitment basis, the conceptual framework used in developing the Program Plan, and general relief requests for Code requirements found to be impractical for this site. Section II deals specifically with the pump test program, and Section III deals specifically with the valve test program.

Section II and III are formatted in a manner to aid review. Each section summarizes the basis and concepts used to formulate the Pump and Valve Test Tables. Pump testing requirements are summarized in a single Pump Test Table attached to Section II. Valve test requirements are summarized in Valve Test Tables attached to Section III. The Valve Test Tables are arranged into separate attachments for each system. Where quarterly testing has been found to be impractical, a justification for delay of test to cold shutdown, or a relief request is provided, following the appropriate Pump or Valve Test Tables.





## 6. Definitions

The terms below, when used in the Inservice Testing Program Plan are defined as follows:

Quarterly:	An interval of 92 days for testing components which can be tested during normal plant operation.
Cold Shutdown:	Testing delayed until cold shutdown will commence as soon as the plant cold shutdown condition is achieved, but no later than 48 hours after shutdown. Testing will continue until all tests are complete, or the plant is ready to return to power. Completion of all testing is not a prerequisite to return to power, and any testing not completed at one cold shutdown will be performed during subsequent cold shutdowns before the refueling outage. No cold shutdown testing will be performed on components tested less than 90 days prior to achieving cold shutdown. The 48 hours interval will not hold for planned cold shutdown.
Refueling:	Testing delayed until refueling will be performed during the normal scheduled refueling shutdown before returning to power operation.
Period:	Category C safety and relief valves (IWV-3511) and Category D explosive actuated valves (IWV-3610) are tested to the time periods defined in the appropriate Code sections.
Pressure Isolation:	Any valve which acts as an isolation boundary between the high pressure reactor coolant system and a system having a lower operating or design pressure.
Containment Isolation:	Any valve which performs a containment isolation function and is included in the Appendix J, type C Local Leak Rate test program.
Active:	Any valves which is required to change position to accomplish its safety related function.
Passive:	Any valve which is not required to change position to accomplish its safety related function but whose position is important to safety related system operation.



## 7. General Relief Requests

This section requests relief from specific sections of Section XI found to be impractical for this site. Since they are general in nature and pertain to a number of components this section requests general relief as presented below.

General Relief Request: G-1

Component: Rapid actuating power operated valves with stroke times of 5 seconds or less.

Category: A,B

Code Requirements: IWV-3417 requires corrective action if the measured stroke time for a valve which normally strokes in ten seconds or less varies by fifty percent from the last measured stroke time. IWV-3413 allows measurement to the nearest second for stroke times of ten seconds or less.

Basis for Relief: For rapid actuating power operated valves the application of the above criteria could result in requiring corrective action when the valves are functioning normally. These valves are generally small air and solenoid operated valves which because of their size and actuator types stroke very quickly. Operating history on this type of valve indicates that they generally either operate immediately or fail to operate in a reasonable length of time. The intent of the referenced Code sections is to track valve stroke time as a means of detecting valve degradation. This type of valve does not lend itself to this tracking technique.

Alternate Testing: A maximum stroke time of five seconds will be specified for each rapid actuating valve. If the valve strokes in five seconds or less it will be considered as acceptable and no corrective action will be required. If the valve exceed five seconds it will be considered inoperable and appropriate corrective action will be taken.

General Relief Request: G-2

Component: Containment Isolation Valves

Code Requirements: For Section XI category A valves IWV-3426 requires the establishment of individual valve permissible leakage rates. Each time leak-rate tests are performed the test results are to be compared with the previous test results and the permissible leakage rates. IWV-3427 establishes test result rejection criteria and specifies corrective actions to be taken.

Category: A, AC

Basis for Relief: IWV-2200(a) defines category A valves as "valves for which seat leakage is limited to a specified maximum amount in the closed position of fulfillment of their function." The intent of the Code requirement is to verify that valve leakage is limited to an acceptable value. For containment isolation valves an acceptable total allowed leakage rate has been established in compliance with the requirements of 10CFR50 Appendix J. Performance of Appendix J, Type C Local Leak Rate testing fulfills the intent of Section XI Category A valve seat leak testing for containment isolation valves.

Alternate Testing: Containment isolation valves will be local leak rate tested to the requirements of Appendix J, Type C testing in lieu of Section XI Category A individual valve seat leak testing.



General Relief Request:	G-3
Component:	Excess flow check valves
Category:	AC
Code Requirement:	IWV-3521 requires operability test of check valves and IWV-3522 describes the required testing procedure.
Basis for Relief:	The excess flow checks are devices which are designed to activate and limit flow to a specified value. The test requirements for check valves in the Code are intended for simple check valve testing. Quarterly testing is not practical since these are instrument line valves which are in use during plant operation and cold shutdown.
Alternate Testing:	Plant Technical Specifications Table 3.6.3-1 lists all excess flow checks which require testing. Technical Specification Section 4.6.3.4 specifies testing to verify operability and acceptance criteria for measuring the flow limiting capability.



General Relief Request: G-4

Component: Pressure isolation valves

Code Requirements: For Section XI Category A Valves, IWV-3426 requires comparison of measured leakage rates with previous measured leakage rates.

Category: A,AC

Basis for Relief: Technical Specification section 3.4.3.2 defines the limiting conditions for operation and section 4.4.3.2.2 defines the surveillance requirements for pressure isolation valves. The limiting condition is specified as a maximum leakage rate of 1 gal/min at normal operating pressure. The surveillance requirements specifies leak rate testing once every 18 months and when repair or maintenance is performed that could affect the leakage rate. The intent of the Code requirement to compare leakage rates is to perform trend analysis which could be used to predict failure. Because of the long time interval between tests the comparison of data will not provide any useful information.

Alternate Testing: The Technical Specification defined surveillance testing will be performed, but no comparison of test results to previous results will be performed.



General Relief Request:

G-5

Component:

All safety-related pumps.

Test Requirements:

Vibration amplitude measurement using displacement (IWP-4500) and allowable ranges of test quantities (Table IWP-3100-2).

Basis for Relief:

A survey of plants with existing pump vibration test programs has been conducted in conjunction with a review of pump vibration testing literature. The consensus of opinion from both sources is that a significant improvement in the predictive capability of vibration testing can be achieved by measuring vibration velocity in place of vibration displacement. However, the literature review failed to provide a definitive reference standard for analysis of test results. A standard will be developed and submitted to the NRC for review and approval prior to commercial operation.

Alternate Testing:

Pump vibration testing will be performed for both preservice and inservice testing using vibration velocity measurements in lieu of displacement measurements.



PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN

FOR

SHOREHAM NUCLEAR POWER STATION

UNIT 1

SECTION II

PUMP IST PROGRAM PLAN





## 1. Introduction

This section presents the Program Plan for Inservice Testing of pumps at Unit 1 of the Shoreham Nuclear Power Station in compliance with the requirements of 10CFR50.55a. This Program Plan has been prepared to the requirements of the ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWP, 1980 Edition through the Winter 1981 Addenda. According to 10CFR50.55a, the Code edition and addenda applicable to pump IST programs will be those in effect twelve months prior to issuance of an operating license. Accordingly, this Program Plan will be revised, as necessary, to meet the requirements of new Code editions and addenda as applicable.



## 2. Pump IST Program Plan Concept

The Pump Program Plan specifies Section XI testing requirements for all ASME Class 1, 2, and 3 pumps provided with an emergency power source and which are required for safety related system operation. Section XI test requirements found to be impractical for this site are addressed in relief requests. Each relief request provides justification for not performing the Section XI specified test, and provides appropriate alternate testing.



## 3. Pump List

Pumps required for safety related system operation for this site are as follows:

<u>System</u>	<u>Dwg. No.</u>	<u>Rev. No.</u>	<u>No. of Pumps</u>
RHR	FM-20A	15	2
RHR	FM-20B	15	2
HPCI	FM-25B	12	1
RCIC	FM-22B	11	1
CORE SPRAY	FM-23A	15	2
SBLC	FM-21A	14	2
SERVICE WATER	FM-47A	12	4
RBCLCW	FM-15A	13	3
RBSVS & CRAC CHILLED WATER	FB-43A	11	2
RBSVS & CRAC CHILLED WATER	FB-43B	11	2
RBSVS & CRAC CONDENSING WATER	FB-43A	11	2
RBSVS & CRAC CONDENSING WATER	FB-43B	11	2
FPCCU	FM-19A	12	2
DIESEL FUEL OIL TRANSFER	FM-44A	11	6
SUPPRESSION POOL LEAKAGE RETURN	FM-46B	9	1



## 4. Pump Table Nomenclature

The following abbreviations have been used in the pump test table.

N	= Rotative Speed
P <sub>i</sub>	= Inlet Pressure
ΔP	= Differential Pressure Across Pump
Q <sub>f</sub>	= Flow Rate
V	= Vibration Amplitude
T <sub>b</sub>	= Bearing Temperature
Q	= Quarterly
X	= Measurement/Observation Per IWP
L	= Lubricant Level of Pressure
R	= Relief Request



## 5. Pump Table Notes

In the pump table, the test parameters to be measured or observed and the test frequency are identified. Footnotes 1 through 10 refer to amplification, deviations and exceptions to the Code requirements and are further discussed below:

- (1) Pump with constant speed drive, speed is not measured since test will be performed at nominal motor nameplate speed as required by Section XI, IWP-3100.
- (2) Inlet pressure to be calculated from the inlet liquid level. The liquid level will be measured while establishing and verifying Reference Data sets and used as information during subsequent test analysis.
- (3) Bearing temperature measurement not required (IWP-4310) since bearings are in the pumped fluid flow path.
- (4) Bearing temperatures are measured once a year as stipulated by Section XI, IWP-3300.
- (5) Clamp on ultrasonic flow meter to be used. Report No. ARL 35-82/C324 verifies the tolerance and accuracy to be within Section XI requirements.
- (6) Lubricant level or pressure not observed because of bearing lubrication design.
- (7) Pump inlet pressure determined from head tank level.
- (8) Pump inlet pressure determined from spent fuel pool level.
- (9) Flow rate will be measured by measuring day tank level vs time during pump test.
- (10) Lubricant temperature measured (IWP-4310) by installed thermocouple in the pump crankcase in lieu of measuring bearing temperature.



PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN

FOR

SHOREHAM NUCLEAR POWER STATION

UNIT 1

SECTION II

ATTACHMENT 1

PUMP TEST TABLE AND RELIEF REQUESTS

FOR

PUMPS





DOCUMENT NO. 50A2903 Rev 2

PUMP TEST TABLE

PAGE II-1-2 OF II-1-9

PUMP LIST						MEASURED PARAMETERS							REV NO.
SYSTEM	PUMP I.D.	DWG. NO.	COORD.	CLASS	TEST FREQ.	N	Pi	P	Q <sub>f</sub>	V	T <sub>b</sub> (4)	L	
RHR	P-014A	FM-20A	F-7	2	Q	(1)	X	X	X	X	(3)	(6)	
	P-014B	FM-20B	E-7	2	Q	(1)	X	X	X	X	(3)	(6)	
	P-014C	FM-20A	F-8	2	Q	(1)	X	X	X	X	(3)	(6)	
	P-014D	FM-20B	E-8	2	Q	(1)	X	X	X	X	(3)	(6)	
HPCI	P-016	FM-25B	D-4	2	Q	X	X	X	X	X	R	X	
RCTC	P-015	FM-22B	D-4	2	Q	X	X	X	X	X	R	X	
CORE SPRAY	P-013A	FM-23A	B-8	2	Q	(1)	X	X	X	X	(3)	(6)	
	P-013B	FM-23A	H-8	2	Q	(1)	X	X	X	X	(3)	(6)	
STANDBY LIQUID CONTROL	P-024A	FM-21A	H-5	2	Q	(1)	X	X	X	X	(10)	X	
	P-024B	FM-21A	H-7	2	Q	(1)	X	X	X	X	(10)	X	





DOCUMENT NO. 80A2903 Rev 2

PUMP TEST TABLE

PAGE II-1-3 OF II-1-9

PUMP LIST						MEASURED PARAMETERS							REV NO.
SYSTEM	PUMP I.D.	DWG. NO.	COORD.	CLASS	TEST FREQ.	N	PI	$\Delta P$	Q <sub>f</sub>	V	T <sub>b</sub> (4)	L	
SERVICE WATER	P-003A	FM-47A	G-7	3	Q	(1)	(2)	X	X	R	(3)	(6)	
	P-003B	FM-47A	H-7	3	Q	(1)	(2)	X	X	R	(3)	(6)	
	P-003C	FM-47A	F-7	3	Q	(1)	(2)	X	X	R	(3)	(6)	
	P-003D	FM-47A	J-7	3	Q	(1)	(2)	X	X	R	(3)	(6)	
RECLW	P-005A	FM-15A	E-2	3	Q	(1)	(7)	X	(5)	X	X	(6)	
	P-005B	FM-15A	J-2	3	Q	(1)	(7)	X	(5)	X	X	(6)	
	P-005C	FM-15A	H-2	3	Q	(1)	(7)	X	(5)	X	X	(6)	
RESVS & CRAC CHILLED WATER	P-137A	FB-43A	D-4	3	Q	(1)	X	X	X	X	X	X	
	P-137B	FB-43B	D-4	3	Q	(1)	X	X	X	X	X	X	
	P-138A	FB-43A	D-6	3	Q	(1)	X	X	X	X	X	X	
	P-138B	FB-43B	D-6	3	Q	(1)	X	X	X	X	X	X	
RESVS & CRAC CONDENSING WATER	P-139A	FB-43A	D-3	3	Q	(1)	X	X	X	X	X	X	
	P-139B	FB-43B	D-3	3	Q	(1)	X	X	X	X	X	X	
	P-140A	FB-43A	D-5	3	Q	(1)	X	X	X	X	X	X	
	P-140B	FB-43B	D-5	3	Q	(1)	X	X	X	X	X	X	
FPOCU	P-023A	FM-19A	E-7	3	Q	(1)	(8)	X	X	X	X	X	
	P-023B	FM-19A	E-8	3	Q	(1)	(8)	X	X	X	X	X	

DOCUMENT NO. 80A2903 Rev 2

## PUMP TEST TABLE

PAGE II-1-4 OF II-1-9

PUMP LIST						MEASURED PARAMETERS							REV NO.
SYSTEM	PUMP I.D.	DWG. NO.	COORD.	CLASS	TEST FREQ.	N	Pi	..P	Q <sub>f</sub>	V	T <sub>b</sub> (4)	L	
SUPPRESSION POOL LEAKAGE RETURN	P-270C	FM-46B	C-7	3	Q	(1)	R	X	X	X	X	X	
DIESEL FUEL OIL TRANSFER	P-201A	FM-44A	B-5	3	Q	(1)	R	X	( 2 )	X	X	(C)	
	P-201B	FM-44A	B-8	3	Q	(1)	R	X	( 9 )	X	X	(C)	
	P-201C	FM-44A	B-6	3	Q	(1)	R	X	( 9 )	X	X	(6)	
	P-202A	FM-44A	C-8	3	Q	(1)	R	X	( 9 )	X	X	(6)	
	P-202B	FM-44A	C-5	3	Q	(1)	R	X	( 9 )	X	X	(6)	
	P-202C	FM-44A	C-6	3	Q	(1)	R	X	( 9 )	X	X	(6)	

Shoreham No. 1

Relief Request

System: HPCI

Pump: P-016

Class: 2

Function: Emergency Core Cooling

Test Requirments: Measure bearing temperature.

Basis for Relief: The HPCI Pump is an integral unit with the steam driven turbine. Bearing temperature is a direct function of steam temperature. Therefore, measurement of bearing temperature would provide no meaningful information about the bearing.

Alternate Testing: None.



Shoreham No. 1

Relief Request

System: RCIC

Pump: P-015

Class: 2

Function: Provide adequate core cooling during reactor shutdown and isolation should the feedwater system not be available to provide the required make-up water.

Test Requirements: Measure bearing temperature.

Basis for Relief: The RCIC pump is an integral unit with the steam driven turbine. Bearing temperature is a direct function of steam temperature. Therefore, measurement of bearing temperature would provide no meaningful information about the bearing.

Alternate Testing: None.

Shoreham No. 1

Relief Request

System:	Service Water
Pump:	P003A,B,C,D
Class:	3
Function:	Provide cooling water to safety related equipment.
Test Requirements:	IWP-4500 specifies measuring vibration at the pump bearing housing or its structural support unless it is separated from the driver by any resilient mounting.
Basis for Relief:	The service water pumps are submerged under water and are inaccessible to perform vibration measurements. The motor drivers are shaft connected to the pumps and are accessible.
Alternate Testing:	Vibration measurements will be made on the lower (closest to pump) motor bearings.



Shoreham No. 1

Relief Request

System: Suppression Pool Leakage Return

Pump: P-270C

Class: 3

Function: Return fluid to the suppression pool resulting from pump seal leakage, instrument line leakage or valve packing failure.

Test Requirements: Measure pump inlet and differential pressures.

Basis for Relief: Pump is located above the sump pump fluid level and is designed to be self priming (negative NPSH) pump capable of five foot of lift. There is no pressure tap installed to measure pump inlet pressure or differential pressure.

Alternate Testing: Pump outlet pressure and flow are measured per code and will be used to evaluate pump performance.



	Shoreham No. 1
	Relief Request
System:	Diesel Fuel Oil Transfer
Pump:	P-201A,B,C : P-202A,B,C
Class:	3
Function:	Transfer diesel fuel oil from the storage tank to the day tank.
Test Requirements:	Measure pump inlet and differential pressures.
Basis for Relief:	Pump is located above the storage tank fluid level and is designed to be a self priming negative NPSH pump. There is no pressure tap installed to measure pump inlet or differential pressure.
Alternative Testing:	Pump outlet pressure is measured per Code and flow rate determined by measuring day tank level vs time during pump test. Outlet pressure and flow rate will be used to evaluate pump performance.





PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN

FOR

SHOREHAM NUCLEAR POWER STATION

UNIT 1

SECTION III

VALVE IST PROGRAM PLAN



## 1. Introduction

This section presents the Program Plan for Inservice Testing of Valves at Unit 1 of the Shoreham Nuclear Power Station in compliance with the requirements of 10CFR50.55a. This Program Plan has been prepared to the requirements of the ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWV, 1980 Edition through the Winter 1981 Addenda. According to 10CFR50.55a, the Code edition and addenda applicable to valve IST programs will be those in effect twelve months prior to issuance of an operating license. Accordingly, this Program Plan will be revised, as necessary, to meet the requirements of new Code editions and addenda as applicable.



## 2. Concept

The Valve Test Program Plan was developed to verify the operability of safety related systems. Two of the elements assuring system operability are valve operability and position of self actuated and power operated valves. The program addresses those self actuated and power operated valves whose operability and/or position are essential to safety related system operation. Section XI valve testing is performed to verify valve operability. The correct positioning of passive valves is verified by either direct observations or by other appropriate indicators, such as, indicator lights. This program specifies either Section XI or alternate testing, as appropriate, for those valves which perform a safety related function.

Valves are selected for inclusion in the test program based on a review of all plant systems. This review identifies those systems performing safety related functions. Each safety related system is then analyzed to determine which valves are essential to the safety related operation of the system. These valves are investigated to determine whether Section XI testing can be performed during normal operation. Those valves for which quarterly testing is determined to be inappropriate are analyzed further to determine if Code allowed cold shutdown testing is possible. If so, a justification for delay of test to cold shutdown is provided following the appropriate valve test tables. Relief requests describing appropriate alternative testing, and justifying exclusion from Section XI testing have been prepared for valves which cannot be tested quarterly or during cold shutdown and are provided following the appropriate valve test tables.



### 3. Code Interpretation

A number of items in Subsection IWV of the Code are subject to interpretation. The interpretations of a number of general items encountered in preparing the Valve Test Program Plan are provided below.

#### Relief Valves:

The code requires testing of pressure relief valves in accordance with ASME PTC 25.3-1976. The relief valves designated for test are only those which perform a system pressure relief function. Thermal relief valves, whose only function is to protect components or piping from thermal expansion are not considered to be safety related and are not addressed in the program. Where a relief valve performs both a system and a thermal relief function it has been included as testable. Thermal relief valves which also perform a containment isolation function are included in the program for Appendix J, Type C testing only.

#### Passive Valves:

The reference Code excludes valves used only for operating convenience and/or maintenance from testing. Also, the Code defines passive valves but specifies no operability test requirements. This program defines as passive any power operated valve which does not have to change position, but whose position has a direct bearing on safety related system operation.

A

#### System Test Valves:

Valves included in a system to align the system for testing are included for Section XI testing if their position is critical to safety related system operation. The system analysis postulates that the system is in a test mode when the initiation signal occurs. All valves, including those used only for testing, which must respond to the initiation signal, are included in the test program.

#### Pressure and Flow Control Valves:

The reference Code excludes valves which perform pressure or flow control functions. This program excludes them unless they also perform a system safety



related response function, such as, automatic closure on system initiation. The program addresses these valves by specifying testing of the safety related function and excluding the normal pressure or flow control functions.

#### Automatic Power Operated Valves:

Power operated valves which receive an automatic signal on system initiation are included in the program. These valves may be included as passive valves, if appropriate.

#### Remote Power Operated Valves:

The program includes power operated valves activated by remote switches if they are required to change position to align a system for safety related operation, terminate safety related system operation, or provide containment isolation capability during the long term post-LOCA operating mode. Typical of such valves are suppression pool suction valves which remain open during the accident but provide system isolation during the long term post-LOCA cooling mode.

#### Normal vs Safety Related System Operation:

Valves in systems which have both normal and safety related operating modes are included in the program, only if they perform a safety related function. Valves which provide normal system operation control and whose position has no effect on safety related operation are excluded from the program.

#### Dual Function Valves:

Valves which provide more than one function are tested for their safety related function only. Valves with multiple safety related functions are tested for each function. Examples are the automatic depressurization valves, which open and close in response to either an automatic or remote manual signal, and also act as relief valves. Both are safety related functions, and testing for both functions is included in the program. A manual stop check valve will also be a dual function valve if system operation is dependant on both check valve operability and manual operator position. When this condition exists the valve is treated as both an active testable check valve and a passive valve.

#### Simple Check Valves:

Simple check valves are tested to verify operability in the safety related flow direction. Normally closed simple check valves which must open are tested to verify full opening with forward flow. Normally open simple checks which must close on loss of flow are tested to verify closure on loss of forward flow. Normally, closed simple check valves which remain closed on system initiation are tested to verify absence of reverse flow. Normally open simple check valves which are required to remain open are tested to verify full flow in the forward direction. Simple check valves which are required to cycle open and closed are tested to verify full opening with forward flow and closure on loss of forward flow.



#### Manual Stop Check Valves:

Manual Stop Check Valves are tested to verify operability in the safety related flow direction. If the manual operator is withdrawn the valve operates as a simple check in the forward flow direction and is tested as a simple check. Reverse flow closure is verified as a simple check, if possible, or by use of the manual operator.

#### Testable Check Valves:

Check valves equipped with manual exercisers will be tested a simple check or by exercising using the manual exercising device. Check valve equipped with a power operator installed for the sole purpose of exercising the valve for operability will be tested as a simple check or by use of the power operator.

#### Power Operated Stop Check Valves:

Power operated stop check valve testing is based on the function of the operator. If the valve operator is always withdrawn and the valve operates as a simple check valve, except during maintenance, the valve is tested as a simple check. If the operator is normally withdrawn such that the valve operates as a simple check in the forward direction and the operator provides positive closure, it is tested as a simple check in the forward direction and exercised closed using the operator. In addition to exercising, the operator will be timed and failed as appropriate.

#### Pump Discharge Check Valves:

As a minimum, pump discharge check valves will be forward flow exercised. In addition, reverse flow closure will be verified when failure of the valve to close could result in a substantial reduction of system flow. Such a potential exists with parallel pumps connecting common suction and discharge headers. If the check valve on the idle pump fails to close a significant amount of system flow could be diverted back through the idle pump to the suction header.

#### System Piping Keep Fill Check Valves:

Keep fill lines are those lines attached to ECCS system piping whose function is maintenance of system water inventory to preclude water hammer. Forward flow operability is verified by a system check of water inventory performed at least quarterly. Reverse flow closure verification is performed only if failure of the valve to close could result in a significant reduction of ECCS system operation.



#### Check Valve Full/Partial Stroke:

In most cases full design flow through a check valve requires less than full mechanical valve movement. As used in this program, the term full stroke refers to the ability of the valve to pass design flow and not the full mechanical stroking. Forward flow full stroke operability testing will be by any method that verifies the valve capable of passing design flow. Any test that verifies less than full design flow capability is considered as a partial stroke test.

#### Category A (Containment Isolation Valve) Leak Testing:

All valves specified for Appendix J, Type C local leak rate testing are included in the Valve IST Program as Category A valves. A Relief Request (See G-2) has been included to perform the Appendix J, Type C testing in lieu of testing specified in IWV-3420.

#### Category A (Pressure Isolation Valve) Leak Testing:

All valves which perform a pressure isolation function between the Reactor Coolant System and a low pressure system are included in the Valve IST Program as Category A valves. These valves will be tested to the requirements specified in IWV-3420.

#### Category A (Containment and Pressure Isolation Valve) Leak Testing:

Valves which perform both a containment isolation and a pressure isolation function are included in the Valve IST Program Plan as category A valves. These valves will be tested to the requirements of Appendix J and Section XI.

#### Category A (Pressure Isolation) Valve Operability Testing:

When the pressure boundary consists of a testable check valve and a normally closed power operated valve, operability testing of both will be delayed until cold shutdown. Delay of the power operated valve is addressed in Section B.6 of the proposed Regulatory Guide "Identification of Valves for Inclusion in Inservice Testing Program" dated November 1981. Exercising the testable check valve during plant operation is also delayed, based on the lack of provisions for measuring leakage across the check valve. If the check were to be exercised and failed to fully reclose, then any subsequent inadvertent operation of the power operated valve could result in an inter-system-LOCA situation.

Other valve configurations which constitute a pressure boundary will be analyzed on a case-by-case basis to determine if exercising would result in a potential for an inter-system-LOCA. Where such a potential would result, operability testing will be delayed.

#### Testable Check Valve Bypass Pressure Equalization Valves:

Small power operated valves whose function is to equalize pressure across a testable check valve are not operability tested, but are included in the program as passive valves. The control of these valves is slaved to the check valve test operator. When the check valve is tested the bypass valve opens to equalize pressure and automatically recloses and remains closed at all other times. Its only safety related function is to provide containment isolation, which is assured by performing a position verification.

#### Locked Valves:

This program plan classifies as locked valves only those which are physically restrained from movement (i.e., chain and padlock), or sealed (i.e., wire and seal) in position. Keylocked valves are not considered to be physically locked.



## 4. Valve Test Table Nomenclature

The following abbreviations have been used in the Valve Test Table.

<u>Valve Type</u>				<u>Actuator Type</u>	
GT	Gate	BA	Ball	MO	Motor
GL	Globe	A	Angle	SA	Self
C	Check	D	Diaphragm	AO	Air
SC	Stop Check	VR	Vacuum Relief	EM	Electro-Mech.
R	Relief			M	Manual
E	Explosive			HYD	Hydraulic
B	Butterfly			E	Explosive

Normal Position

O	Open
LO	Locked open
LC	Locked Closed
C	Closed
-	Normal position depends on system conditions (check and relief valves)

Frequency

Q	Once per 92 days
C	Testing performed during cold shutdown (but no sooner than 90 days)
	Note: Testing may be performed during plant operating modes between normal operation and Tech. Spec. defined cold shutdown conditions.
R	Once per refueling
P	Tested during time period defined in: IWV-3511 (safety and relief valves) IWV-3610 (explosive actuated valves)



Test Requirements

ET	Full exercise
ST	Stroke time
PV	Passive valve
FS	Fail safe
SR	Relief valve
XT	Explosive valve
VR	Vacuum Relief Valve
LP	Leak test per Section XI (pressure isolation)
LJ	Leak test per Appendix J, Type C (containment isolation)
LC	Leak test per both Section XI and Appendix J, Type C (both pressure and containment isolation)

Stroke Direction

O	Open
C	Closed

Check Valve Test Direction

F	Forward Flow
R	Reverse Flow



## 5. Valve Test Table Format

Valve No.	Unique number assigned to each valve.
Class and Drawing Coord.	The ASME valve class and drawing reference location. This is a two line entry with the class on the first line and drawing coordinate on the second line.
Valve Cat.	Valve category as defined subsection IWV-2200.
Size (in.) and Type	A two line entry with the first being the valve size in inches and the second the valve type.
Actu. Type	The type of operator used to change valve position. For dual function valves this will be a two line entry. For example, a locked open stop check valve is entered as self-actuating on line one and manual on line two.
Norm. Posit.	The valve position during normal plant operation. For multiple loop systems where valve position will depend on which loop(s) is in service, on loop is assumed in operation and the remaining loops are assumed idle.
Test Req.	The test requirements which apply to the valve. For dual function valves multiple line entries of applicable tests which correspond to actuator type. For example, a locked open stop check valve is entered as exercise test on line one and as passive on line two.
Stroke Direct. and Time (sec.)	This is a multiple line entry for safety related stroke direction (first line) and maximum stroke time (second line). If both directions are safety related, four lines are used. This column also includes direction and maximum stroke time for positive closure power operated stop check valves.
Check Valve Test Direct.	Direction of check valve operability verification. May be a two line entry if valve operability is safety related in both directions.
C.S. Just. or Relief Req. No.	Reference number of the cold shutdown justification or relief request which are located following the valve test tables for each system.



C.S. or Alt. Test  
Perf.

Cold shutdown or alternate testing which is  
being performed in lieu of Code specified  
quarterly testing.

Remarks

Amplifying remarks as appropriate.

Rev. No.

This column records the latest document revision  
number for each valve.



## 6. Index

<u>System No.</u>	<u>System</u>	<u>Dwg. No.</u>	<u>Rev. No.</u>	<u>Attachment No.</u>
B-21	Main & Aux. Steam	FM-29A	11	1
		FM-40B	8	
B-21	Feedwater	FM-32A	12	2
B-31	Reactor Water Recirculation	FM-26A	11	3
		FM-26B	4	
C-11	Control Rod Drive	FM-27A	13	4
		FM-27B	13	
		FM-27C	9	
C-41	Standby Liquid Control	FM-21A	14	5
C-51	Neutron Monitoring	FM-62A	6	6
		FM-62B	6	
D-11	Radiation Monitoring	FM-76A	7	7
E-11	Residual Heat Removal	FM-20A	15	8
		FM-20B	15	
E-21	Core Spray	FM-23A	15	9
E-32	MSIV Leakage Control	FM-69A	5	10
E-41	HPCI	FM-25A	13	11
		FM-25B	12	
E-51	RCIC	FM-22A	13	12
		FM-22B	11	
G-11	Radwaste Equipment	FM-46A	10	13
		FM-46B	9	
G-33	Reactor Water Cleanup	FM-24A	15	14
G-41	Fuel Pool Cooling & Cleanup	FM-19A	12	15
M-50	RBSVS & CRAC	FB-43A	11	16
		FB-43B	11	
P-41	Service Water	FM-47A	12	17
P-42	RBCLCW	FM-15A	13	18
		FM-15C	10	
		FB-23B	14	
P-50	Instrument & Service Air	FM-38D	7	19
		FM-38E	4	



## 6. Index (cont.)

<u>System No.</u>	<u>System</u>	<u>Dwg. No.</u>	<u>Rev. No.</u>	<u>Attachment No.</u>
R-43	Fuel Oil Transfer	FM-44A	11	20
R-43	Diesel Generator Air Start	FM-44B	4	21
T-23	Drywell Floor Seal Pressure Monitoring	FM-55A	7	22
T-46	Reactor Building Normal Vent	FB-23A	12	23
T-48	Primary Containment Atmospheric Control	FM-52A FM-84A	10 2	24



PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 1

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
MAIN AND AUX. STEAM (B-21)  
DWG. NO. FM-29A



SYSTEM: MAIN AND AUX. STEAM (B-21)

## VALVE TEST TABLE

DWG. NO. FM-29ADOCUMENT NO. 80A2903 Rev 2PAGE III-1-2 OF III-1-13

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-031	1 F-7	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-032	1 H-7	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18					
AOV-081A	1 F-4	A	24 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C 5		CS-1 CS-1 CS-1	ET-C ST-C FS-C		
AOV-081B	1 F-4	A	24 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C 5		CS-1 CS-1 CS-1	ET-C ST-C FS-C		
AOV-081C	1 F-5	A	24 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C 5		CS-1 CS-1 CS-1	ET-C ST-C FS-C		
AOV-081D	1 F-6	A	24 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C 5		CS-1 CS-1 CS-1	ET-C ST-C FS-C		
AOV-081A	1 H-4	A	24 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C 5		CS-1 CS-1 CS-1	ET-C ST-C FS-C		



SYSTEM: MAIN AND AUX. STEAM (B-21)**NES**

## VALVE TEST TABLE

DWG. NO. FM-29ADOCUMENT NO. 80A2903 Rev 2PAGE III-1-3 OF III-1-13

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU- TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
AOV-082B	1 H-4	A	24 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C 5		CS-1 CS-1 CS-1	ET-C ST-C FS-C		
AOV-082C	1 H-5	A	24 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C 5		CS-1 CS-1 CS-1	ET-C ST-C FS-C		
AOV-082D	1 H-6	A	24 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C 5		CS-1 CS-1 CS-1	ET-C ST-C FS-C		
RV-092A	1 C-3	BC	6 R	SA AO	- C	SR-P ET-Q ST-Q FS-Q	O		RR-1 RR-1 RR-1	ET-R  FS-R	ADS Valve	
RV-092B	1 C-3	BC	6 R	SA AO	- C	SR-P ET-Q ST-Q FS-Q	O		RR-1 RR-1 RR-1	ET-R  FS-R	ADS Valve	
RV-092C	1 C-4	C	6 R	SA AO	-	SR-P						
RV-092D	1 C-4	C	6 R	SA AO	-	SR-P						

SYSTEM: MAIN AND AUX. STEAM (B-21)**NES**

## VALVE TEST TABLE

DWG. NO. FM-29ADOCUMENT NO. 80A2903 Rev 2PAGE III-1-4 OF III-1-13

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
RV-092E	1 C-4	BC	6 R	SA AO	- C	SR-P ET-Q ST-Q FS-Q	0		RR-1 RR-1 RR-1	ET-R FS-R	ADS Valve	
RV-092L	1 C-4	BC	6 R	SA AO	- C	SR-P ET-Q ST-Q FS-Q	0		RR-1 RR-1 RR-1	ET-R FS-R	ADS Valve	
RV-092F	1 C-5	C	6 R	SA AO	-	SR-P						
RV-092G	1 C-5	C	6 R	SA AO	-	SR-P						
RV-092K	1 C-5	BC	6 R	SA AO	- C	SR-P ET-Q ST-Q FS-Q	0		RR-1 RR-1 RR-1	ET-R FS-R	ADS Valve	
RV-092H	1 C-6	BC	6 R	SA AO	- C	SR-P ET-Q ST-Q FS-Q	0		RR-1 RR-1 RR-1	ET-R FS-R	ADS Valve	
RV-092J	1 C-6	BC	6 R	SA AO	- C	SR-P ET-Q ST-Q FS-Q	0		RR-1 RR-1 RR-1	ET-R FS-R	ADS Valve	

SYSTEM: MAIN & AUX. STEAM (B-21)**NES**

## VALVE TEST TABLE

DWG. NO. FM-29ADOCUMENT NO. 80A2903 Rev 2PAGE III-1-5 OF III-1-13

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
MOV-061	1 H-3	A	2 GL	MO	O	ET-Q ST-Q LJ-R	C 10					
MOV-062	1 H-4	A	2 GL	MO	O	ET-Q ST-Q LJ-R	C 10					
MOV-063	1 H-5	A	2 GL	MO	O	ET-Q ST-Q LJ-R	C 10					
MOV-064	1 H-6	A	2 GL	MO	O	ET-Q ST-Q LJ-R	C 10					
RV-093A	2 A-7	C	24 C	SA	-	ET-Q		F			Testable check valve. Use air test operator to test for valves RV-093A through RV-093M.	
RV-093B	2 A-7	C	24 C	SA	-	ET-Q		F				
RV-093C	2 A-7	C	24 C	SA	-	ET-Q		F				

SYSTEM: MAIN & AUX. STEAM (B-21)

**nes**

VALVE TEST TABLE

DWG. NO. FM-29A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-1-6 OF III-1-13

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
RV-093D	2 A-7	C	24 C	SA	-	ET-Q		F				
RV-093E	2 A-7	C	24 C	SA	-	ET-Q		F				
RV-093F	2 A-7	C	24 C	SA	-	ET-Q		F				
RV-093G	2 A-7	C	24 C	SA	-	ET-Q		F				
RV-093H	2 A-7	C	24 C	SA	-	ET-Q		F				
RV-093J	2 A-7	C	24 C	SA	-	ET-Q		F				
RV-093K	2 A-7	C	24 C	SA	-	ET-Q		F				

SYSTEM: MAIN & AUX. STEAM (B-21)**nes**

## VALVE TEST TABLE

DWG. NO. FM-29ADOCUMENT NO. 80A2903 Rev 2PAGE III-1-7 OF III-1-13

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT TEST PERF.	REMARKS	REV NO.
RV-093L	2 A-7	C	24 C	SA	-	ET-Q		F				
RV-093M	2 A-7	C	24 C	SA	-	ET-Q		F				
RV-095A	3 D-7	C	6 VR	SA	-	VR-P					RV-095A through RV-095L are vacuum relief valves. Tested as vacuum relief valves.	
RV-095B	3 D-7	C	6 VR	SA	-	VR-P						
RV-095C	3 D-7	C	6 VR	SA	-	VR-P						
RV-095D	3 D-7	C	6 VR	SA	-	VR-P						
RV-095E	3 D-7	C	6 VR	SA	-	VR-P						

SYSTEM: MAIN & AUX. STEAM (B-21)

**nes**

VALVE TEST TABLE

DWG. NO. EM-29A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-1-8 OF III-1-13

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
RV-095F	3 C-7	C	6 VR	SA	-	VR-P						
RV-095G	3 C-7	C	6 VR	SA	-	VR-P						
RV-095H	3 C-7	C	6 VR	SA	-	VR-P						
RV-095J	3 C-7	C	6 VR	SA	-	VR-P						
RV-095K	3 C-7	C	6 VR	SA	-	VR-P						
RV-095L	3 C-7	C	6 VR	SA	-	VR-P						
RV-096A	3 D-7	C	6 VR	SA	-	VR-P					RV-096A through RV096L are vacuum relief valves. Tested as vacuum relief valves.	

SYSTEM: MAIN &amp; AUX. STEAM (B-21)

1125

## VALVE TEST TABLE

DWG. NO. FM-095B

DOCUMENT NO. 80A2903 Rev 2

PAGE III-1-9 OF III-1-13

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	C.S. JUST OR ALT. RELIEF REQ. NO.	C.S. OR ALT. TEST PERE.	REMARKS	REV NO.
KV-096B	3 D-7	C	6 VR	SA	-	VR-P					
KV-096C	3 D-7	C	6 VR	SA	-	VR-P					
KV-096D	3 D-7	C	6 VR	SA	-	VR-P					
KV-096E	3 D-7	C	6 VR	SA	-	VR-P					
KV-096F	3 C-7	C	6 VR	SA	-	VR-P					
KV-096G	3 C-7	C	6 VR	SA	-	VR-P					
KV-096H	3 C-7	C	6 VR	SA	-	VR-P					

SYSTEM: MAIN & AUX. STEAM (B-21)**nes**

VALVE TEST TABLE

DWG. NO. FM-29ADOCUMENT NO. 80A2903 Rev 2PAGE III-1-10 OF III-1-13

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
RV-096J	3 C-7	C	6 VR	SA	-	VR-P						
RV-096K	3 C-7	C	6 VR	SA	-	VR-P						
RV-096L	3 C-7	C	6 VR	SA	-	VR-P						
MOV-083	1 A-4	B	2 GL	MO	C	PV						
MOV-084	1 A-4	B	2 GL	MO	C	PV						
MOV-034	2 I-7	B	3 GL	MO	C	PV						
MOV-068A	2 H-3	B	2 GL	MO	O	ET-Q ST-Q	C 7					



SYSTEM: MAIN & AUX. STEAM (B-21)

DWG. NO. FM-29A, FM-85A

DOCUMENT NO. 80A2903 Rev 2

1125

VALVE TEST TABLE

PAGE 111-1-11 OF 111-1-13

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-068B	2 H-4	B	2 GL	MO	O	ET-Q ST-Q	C 7					
MOV-068C	2 H-5	B	2 GL	NO	O	ET-C ST-Q	C 7					
MOV-068D	2 H-6	B	2 GL	MO	O	ET-Q ST-Q	C 7					
SOV-313A	2 D-7	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5				Located on Dwg. FM-48B system B-21.	
SOV-313B	2 C-7	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5				Located on Dwg. FM-48B system B-21.	

**COLD SHUTDOWN TEST JUSTIFICATION**CS - 1

**System:** Main and Aux. Steam

**Valve:** AOV-081A,B,C,D : AOV-082A,B,C,D

**Category:** A

**Class:** 1

**Function:** Main steam line isolation valves.

**ASME Section XI  
Quarterly Test  
Requirements:** Exercise and time.

**Cold Shutdown  
Test Justification:** Full stroke exercising results in loss of steam flow from one main steam line to the turbine. Also, recent industry information indicates that closing these valves with high steam flow in the line may be a large contributing factor in observed seat degradation. The valves are designed for partial stroke exercising with full steam flow during plant operation. The partial stroke test will verify operability of the valve and operator without the potential for seat damage which could result from full stroke exercising.

**Quarterly Part  
Stroke Testing:** Partial stroke close exercise.

**Cold  
Shutdown Testing:** Full stroke exercise and time.

**RELIEF REQUEST**  
**RR - 1**

**System:** Main and Aux. Steam

**Valve:** RV-092A,B,E,H,K,J,L

**Category:** BC

**Class:** 1

**Function:** ADS Valves.

**ASME Section XI  
Quarterly Test  
Requirements:** Exercise and time.

**Basis for Relief:** If the valves were to fail to reclose after testing the plant would be placed in a LOCA condition. Stroke time is a function of reactor pressure and, therefore, shall not be measured during exercise testing. In addition, a recent study (BWR Owners Group Evaluation of NUREG-0737 Item II.K.3.16 Reduction of Challenges and Failures of Relief Valves) recommends that the number of ADS valve openings be reduced as much as possible. Based on this study and the potential for causing a possible LOCA condition exercise testing of the ADS valves will be delayed to refueling.

**Alternate Testing:** Exercise at refueling.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 2

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
FEEDWATER (B-21)  
DWG. NO. FM-32A



SYSTEM: FEEDWATER (B-21)**NES**

## VALVE TEST TABLE

DWG. NO. FM-32ADOCUMENT NO. 80A2903 Rev 2PAGE III-2-2 OF III-2-4

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT TEST PERF.	REMARKS	REV NO.
MOV- 035A	1 D-4	BC	20 SC	SA MO	- C	ET-Q ET-Q ST-Q	C 139	F R	CS-1 CS-1	ET-C ST-C	Positive closure motor operated stop check.	
MOV-035B	1 D-5	BC	20 SC	SA MO	- O	ET-Q ET-Q ST-Q	C 139	F R	CS-1 CS-1	ET-C ST-C	Positive closure motor operated stop check.	
AOV-036A	1 C-4	AC	18 C	SA	-	ET-Q ET-Q LJ-R		F R	CS-1	ET-C	Testable check. Air operator for test only.	
AOV-036B	1 C-5	AC	18 C	SA	-	ET-Q ET-Q LJ-R		F R	CS-1	ET-C	Testable check. Air operator for test only.	
1103A	1 C-4	AC	18 C	SA	-	ET-Q ET-Q LJ-R		F R	RR-1	ET-R		
1103B	1 C-5	AC	18 C	SA	-	ET-Q ET-Q LJ-R		F R	RR-1	ET-R		

## COLD SHUTDOWN TEST JUSTIFICATION

CS - 1

System: Feedwater

Valve: MOV-035A,B : AOV-036A,B

Category: AC

Class: 1

Function: Feedwater isolation valves.

### ASME Section XI Quarterly Test Requirements:

Exercise (AOV-036A,B)  
Exercise and time (MOV-035A,B)

### Cold Shutdown Test Justification:

Exercising these valves closed would require significant reduction in power and stopping one line of feedwater flow. Isolation of one line of feedwater flow during normal operation introduces undesirable operational transients and could result in a reactor trip.

### Quarterly Part Stroke Testing:

MOV-035A,B are designed for partial stroke exercising during normal operation. AOV-036A,B are full stroke only and cannot be partial stroke exercised.

### Cold Shutdown Testing:

Exercise (AOV-036A,B)  
Exercise and time (MOV-035A,B)

**RELIEF REQUEST****RR - 1**

**System:** Feedwater

**Valve:** 1103A,B

**Category:** AC

**Class:** 1

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:** Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 3

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
REACTOR WATER RECIRCULATION (B-31)  
DWG. NO. FM-26 A,B





SYSTEM: REACTOR WATER RECIRCULATION (B-21)

**nes**

VALVE TEST TABLE

DWG. NO. FM-26A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-3-2 OF III-3-5

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-031A	1 E-7	B	28 GT	MO	O	ET-Q ST-Q	C 33		CS-1 CS-1	ET-C ST-C		
MOV-032A	1 H-6	B	28 GT	MO	O	ET-Q ST-Q	C 33		CS-1 CS-1	ET-C ST-C		
0002A	2 J-5	AC	3/4 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		

SYSTEM: REACTOR WATER RECIRCULATION (B-21)**NES**

## VALVE TEST TABLE

DWG. NO. FM-26BDOCUMENT NO. 80A2903 Rev 3PAGE III-3-3 OF III-3-5

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
MOV-081	2 E-1	A	3/4 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C				Stroke time not available. Will be added when determined.	3
MOV-082	2 D-1	A	3/4 GL	AO	O	ET-Q ST-Q FS-Q LJ-R	C				Stroke time not available. Will be added when determined.	3
MOV-031B	1 F-7	B	28 GT	MO	O	ET-Q ST-Q	C 33		CS-1 CS-1	ET-C ST-C		
MOV-032B	1 C-7	B	28 GT	MO	O	ET-Q ST-Q	C 33		CS-1 CS-1	ET-C ST-C		
0002B	2 B-5	AC	3/4 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		

**COLD SHUTDOWN TEST JUSTIFICATION**CS - 1

**System:** Reactor Water Recirculation

**Valve:** MOV-031A,B : MOV-032A,B

**Category:** B

**Class:** 1

**Function:** Reactor recirculation pump isolation valves.

**ASME Section XI  
Quarterly Test  
Requirements:**

Exercise and time.

**Cold Shutdown  
Test Justification:**

These valves are in the reactor recirculation main flow path. Partial or full stroke exercising during normal operation would reduce or stop flow in one loop of the reactor coolant system. Disturbance of normal operating reactor recirculation flow could result in adverse plant operation, such as changes in reactivity, power transients, and a possible reactor trip.

**Quarterly Part  
Stroke Testing:**

NA

**Cold  
Shutdown Testing:**

Exercise and time.

**RELIEF REQUEST**  
**RR - 1**

**System:** Reactor Water Recirculation

**Valve:** 0002A,B

**Category:** AC

**Class:** 2

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:** Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 4

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
CONTROL ROD DRIVE (C-11)  
DWG. NO. FM-27 A,B,C



SYSTEM: CONTROL ROD DRIVE (C-11)

**nes**

VALVE TEST TABLE

DWG. NO. FM-27A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-4-2 OF III-4-8

VALVE NO.	CLASS AND DWG. COOP.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
1028A	2 L-2	AC	3/4 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
1028B	2 L-4	AC	3/4 C	SA	-	ET-Q J-R		R	RR-1	ET-R		

SYSTEM: CONTROL ROD DRIVE (C-11)**NES**

## VALVE TEST TABLE

DWG. NO. FM-27BDOCUMENT NO. 80A2903 Rev 3PAGE III-4-3 OF III-4-8

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
AOV-081	1 D-1	B	1 GT	AO	O	ET-Q ST-Q FS-Q	O  C				Stroke time not available. Will be added when determined.	3
AOV-082	2 F-6	B	2 GT	AO	O	ET-Q ST-Q FS-Q	O  C				Stroke time not available. Will be added when determined.	3
AOV-050	2 C-1	B	1 GT	AO	O	ET-Q ST-Q FS-Q	O  C				Stroke time not available. Will be added when determined.	3
AOV-051	2 E-6	B	2 GT	AO	O	ET-Q ST-Q FS-Q	O  C				Stroke time not available. Will be added when available.	3



SYSTEM: CONTROL ROD DRIVE (C-11)**NES**

## VALVE TEST TABLE

DWG. NO. FM-27CDOCUMENT NO. 80A2903 Rev 2PAGE III-4-4 OF III-4-8

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR ALT. RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
AOV-127	2 B-2	B	3/4 GT	AO	C	ET-Q ST-Q FS-Q	0		RR-2 RR-2 RR-2		Tested by Tech. Spec. Control Rod Scram Insertion Time Testing. To be performed on 10% of HCU's each 120 days and 100% of HCU's each refueling.	
AOV-126	2 B-4	B	1/2 GT	AO	C	ET-Q ST-Q FS-Q	0		RR-2 RR-2 RR-2		Tested by Tech. Spec. Control Rod Scram Insertion Time Testing. To be performed on 10% of HCU's each 120 days and 100% of HCU's each refueling.	
HCU-114	2 E-2	C	3/4 C	SA	-	ET-Q		F	RR-2		Tested by Tech. Spec. Control Rod Scram Insertion Time Testing. To be performed on 10% of HCU's each 120 days and 100% of HCU's each refueling.	
HCU-115	2 G-4	C	1/2 C	SA	-	ET-Q		R	RR-3			
HCU-138	2 B-5	C	1/2 C	SA	-	ET-Q		R	RR-4		Tested by Tech. Spec. Control Rod Scram Insertion Time Testing. To be performed on 10% of HCU's each 120 days and 100% of HCU's each refueling.	



**RELIEF REQUEST**  
**RR - 1**

**System:** Control Rod Drive

**Valve:** 1028A,B

**Category:** AC

**Class:** 2

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI  
Quarterly Test  
Requirements:**

Verify reverse flow closure.

**Basis for Relief:**

The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:**

Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

## RELIEF REQUEST

RR - 2

**System:** Control Rod Drive

**Valve:** AOV-126 : AOV-127 : HCU-114  
(To be done for all 137 HCU's)

**Category:** B (AOV-126 : AOV-127)  
C (HCU-114)

**Class:** 2

**Function:** Reactor shutdown.

### ASME Section XI Quarterly Test Requirements:

Exercise, time and fail (AOV-126 : AOV-127).  
Verify forward flow operability (HCU-114).

### Basis for Relief:

Individual valve testing is not possible without causing a control rod scram with a resulting change in core reactivity. Quarterly testing of these valves would violate plant Technical Specifications which govern the methods and frequency of reactivity changes. The Technical Specification Control Rod Scram Insertion Time testing meets the intent of Section XI testing requirements.

### Alternate Testing:

Tech. Spec. Control Rod Scram Insertion Time testing serves to verify proper operation of each of these valves. To be performed on 10% of the HCU's each 120 days; on each individual control rod after any maintenance or modification to that rod or system is performed which would affect the scram insertion time for this rod; for all rods prior to thermal power exceeding 40% of rated thermal power following core alterations or after a reactor shutdown that is greater than 120 days.

**RELIEF REQUEST**  
**RR - 3**

**System:** Control Rod Drive

**Valve:** HCU-115  
(To be done for all 137 HCU's)

**Category:** C

**Class:** 2

**Function:** Reactor Shutdown.

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** Verification of reverse flow closure requires securing the CRD pumps, depressurizing the header and monitoring the individual accumulator pressure and alarm to verify that the valves have closed on reverse flow. To do this requires entry into a high radiation work area and could also result in a plant scram.

**Alternate Testing:** Verification of reverse flow closure will be performed at refueling when the header can be depressurized without a possible plant scram and when area radiation is sufficiently reduced to allow extend entry for testing. Testing will be by depressurizing the header and monitoring the individual accumulator pressure and alarm to verify that the valves have closed on reverse flow. This test if required by plant Tech. Spec. Surveillance Requirement 4.1.3.5.

**RELIEF REQUEST**  
**RR - 4**

**System:** Control Rod Drive

**Valve:** HCU-138  
(To be done for all 137 HCU's)

**Category:** C

**Class:** 2

**Function:** Reactor shutdown.

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** Individual valve testing is not possible without causing a control rod scram with a resulting change in core reactivity. Quarterly testing of these valves would violate plant Technical Specifications which govern the methods and frequency of reactivity changes. The Technical Specification Control Rod Scram Insertion Time Testing meets the intent of Section XI testing requirements.

**Alternate Testing:** Verification of reverse flow closure will be performed in conjunction with the Control Rod Scram Insertion Time Testing by observing the control rod cooling line pressure and flow indications. In addition the cooling water header relief valve will be monitored during the test. This test method is currently being analyzed to determine if it meets the intention of Section XI. If it does not, an alternate test method will be developed and implemented by the first plant refueling outage.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 5

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
STANDBY LIQUID CONTROL (C-41)  
DWG. NO. FM-21A



SYSTEM: STANDEY LIQUID CONTROL (C-41)

**nes**

VALVE TEST TABLE

DWG. NO. FM-21A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-5-2 OF III-5-5

VALVE NO.	CLASS AND DWG. DOOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
EV-010A	1 D-5	D	1½ E	E	C	XT-P						
EV-010B	1 D-7	D	1½ E	E	C	XT-P						
RV-021A	2 F-5	C	1 R	SA	-	SR-P						
RV-021B	2 F-7	C	1 R	SA	-	SR-P						
0008	1 A-6	AC	1½ C	SA	-	ET-Q ET-Q LJ-R		F R	RR-1 RR-2	ET-R ET-R		
0010	1 B-6	AC	1½ C	SA	-	ET-Q ET-Q LJ-R		F R	RR-1 RR-2	ET-R ET-R		
0007A	2 F-5	C	1½ C	SA	-	ET-Q		F				



SYSTEM: STANBY LIQUID CONTROL (C-41)

1125

VALVE TEST TABLE

DWG. NO. FM-21A

DOCUMENT NO. 80A2903 Rev 2

PAGE 111-5-3 OF 111-5-5

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM. POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
0007B	2 G-7	C	1 1/2 C	SA	-	ET-Q		F				

**RELIEF REQUEST**  
**RR - 1**

**System:** Standby Liquid Control

**Valve:** 0008 : 0010

**Category:** AC

**Class:** 1

**Function:** SBLC injection line check valves.

**ASME Section XI  
Quarterly Test  
Requirements:**

Verify forward flow operability.

**Basis for Relief:**

To verify forward flow operability during normal operation would require firing a squib valve and injecting water into the reactor vessel using the SBLC pumps. Injecting water during operation could result in adverse plant conditions such as changes in reactivity, power transients, thermal shock induced cracking and a possible plant trip.

**Alternate Testing:**

Verify forward flow operability during refueling during the standby liquid control system injection test, which fires at least one squib valve and pumps demineralized water into the reactor vessel.



**RELIEF REQUEST**  
**RR - 2**

**System:** Standby Liquid Control

**Valve:** 0008 : 0010

**Category:** AC

**Class:** 2

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:** Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 6

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
NEUTRON MONITORING (C-51)  
DWG. NO. FM-62 A,B



SYSTEM: NEUTRON MONITORING (C-51)

## VALVE TEST TABLE

NES

DWG. NO. FM-62A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-6-2 OF III-6-3

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
EV-801A	2 F-4	D	3/8 E	E	O	XT-P						
EV-801B	2 F-4	D	3/8 E	E	O	XT-P						
EV-801C	2 F-4	D	3/8 E	E	O	XT-P						
EV-801D	2 F-4	D	3/8 E	E	O	XT-P						
SOV-801A	2 F-4	A	3/8 BA	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
SOV-801B	2 F-4	A	3/8 BA	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
SOV-801C	2 F-4	A	3/8 BA	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					

SYSTEM: NEUTRON MONITORING

**nes**

VALVE TEST TABLE

DWG. NO. FN-62A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-6-3 OF III-6-3

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
SOV-801D	2 F-4	A	3/8 BA	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 7

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
RADIATION MONITORING (D-11)  
DWG. NO. FM-76A



SYSTEM: RADIATION MONITORING, (D-11)

**nes**

VALVE TEST TABLE

DWG. NO. FM-76A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-7-2 OF III-7-2

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-032A	2 B-6	A	1 GL	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-032B	2 B-6	A	1 GL	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-033A	2 B-8	A	1 GL	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-033B	2 B-8	A	1 GL	MO	O	ET-Q ST-Q LJ-R	C 18					

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 8

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
RESIDUAL HEAT REMOVAL (E-11)  
DWG. NO. FM-20 A,B





SYSTEM: RESIDUAL HEAT REMOVAL (E-11)

**nes**

VALVE TEST TABLE

DWG. NO. FM-20A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-8-2 OF III-8-23 3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-041A	2 I-6	A	6 GL	MO	C	ET-Q ST-Q LJ-R	C 44					
MOV-038A	2 G-2	A	10 A	MO	C	ET-Q ST-Q LJ-R	C 10					
MOV-039A	2 I-2	A	10 GT	MO	C	ET-Q ST-Q LJ-R	O 51					
MOV-037A	1 I-3	A	24 GT	MO	C	ET-Q ST-Q LC-R	O 24		CS-1 CS-1	ET-C ST-C		
MOV-045A	2 E-7	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24					
MOV-036A	2 G-3	B	24 A	MO	O	ET-Q ST-Q	O 53					
MOV-040A	2 G-5	A	16 GT	MO	C	ET-Q ST-Q LJ-R	C 90					



SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**NES**

## VALVE TEST TABLE

DWG. NO. FM-20ADOCUMENT NO. 8JA2903 Rev 3PAGE III-8-3 OF III-8-23 3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-031A	2 I-7	A	20 GT	MO	O	ET-Q ST-Q LJ-R	C 120					
MOV-031C	2 I-8	A	20 GT	MO	O	ET-Q ST-Q LJ-R	C 120					
MOV-032A	2 H-7	B	20 GT	MO	C	ET-Q ST-Q	O 120					
MOV-032C	2 H-8	B	20 GT	MO	C	ET-Q ST-Q	O 120					
MOV-042A	2 G-6	A	16 GL	MO	C	ET-Q ST-Q LJ-R	C 90					
MOV-043A	2 D-4	B	4 GT	MO	C	PV					This valve is dedicated to the FHR steam condensing mode of operation. The SCM as a normal operation mode has been deleted at SNPS-1.	
MOV-033A	2 D-7	B	16 GT	MO	O	ET-Q ST-Q	C 85					

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**NES**

## VALVE TEST TABLE

DWG. NO. FM-20ADOCUMENT NO. 80A2903 Rev 3PAGE III-8-4 OF III-8-23

3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-034A	2 D-8	B	18 A	MO	O	ET-Q ST-Q	C 144					
MOV-035A	2 B-4	B	16 GT	MO	O	ET-Q ST-Q	C 85					
AOV-081A	1 J-3	AC	24 C	SA	-	ET-Q ET-Q LC-R		F R	CS-2 CS-2	ET-C ET-C	Testable check valve (part stroke).	
0020A	2 D-7	C	16 C	SA	-	ET-Q		F				
0020C	2 D-8	C	16 C	SA	-	ET-Q		F				
RV-153A	2 B-3	C	1 R	SA	-	SR-P						
RV-152A	2 B-5	AC	4 R	SA	-	LJ-R					This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1.	

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)

**nes**

VALVE TEST TABLE

DWG. NO. FM-20A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-8-5 OF III-8-23



VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-055A	2 A-6	A	1 GL	MO	C	PV LJ-R					This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1.	
MOV-056A	2 A-5	A	1 GL	MO	C	PV LJ-R					This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1.	
RV-157A	2 B-6	AC	1 R	SA	-	LJ-R					Thermal relief valve. App. J, Type C test only.	
MOV-081A	1 J-2	A	2 GL	MO	C	PV LC-R					Valve opens and automatically recloses once pressure equalizes across the testable check valve.	
MOV-044A	2 E-6	A	4 GT	MO	C	PV LJ-R					This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1.	
MOV-057A	2 A-4	B	1 GL	MO	C	ET-Q ST-Q	0 17					
00035A	2 E-7	C	3 C	SA	-	ET-Q		F				

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**nes**

## VALVE TEST TABLE

DWG. NO. FM-20ADOCUMENT NO. 80A2903 Rev 3PAGE III-8-6 OF III-8-23

3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0035C	2 E-8	C	3 C	SA	-	ET-Q		F				
0037A	2 G-2	C	1 C	SA	-	ET-Q		F			Forward flow operability is verified by a system check to verify water inventory.	
3145	2 I-5	AC	1 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
3144	2 I-5	AC	1 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0022A	2 H-3	C	4 C	SA	-	ET-Q ET-Q		F R	RR-2		Forward flow operability is verified by a system check to verify water inventory.	3

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**NES**

## VALVE TEST TABLE

DWG. NO. FM-20ADOCUMENT NO. 80A2903 Rev 3PAGE III-8-7 OF III-8-23

△

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
AOV-061A	2 A-6	B	3/4 GT	AO	C	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	△
AOV-062A	2 A-6	B	3/4 GT	AO	C	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	△
SOV-168	2 H-6	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
0047	2 H-6	AC	3/4 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
SOV-166A	2 D-6	B	3/4 GL	EM	C	ET-Q ST-Q FS-Q	C 5					
SOV-166B	2 D-6	B	3/4 GL	EM	C	ET-Q ST-Q FS-Q	C 5					

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)

**NES**

VALVE TEST TABLE

DWG. NO. FM-20B

DOCUMENT NO. 80A2903 Rev 3

PAGE III-8-8 OF III-8-23



VALVE NO.	CLASS AND DWG. COUR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
MOV-041B	2 B-6	A	6 GL	MO	C	ET-Q ST-Q LJ-R	C 44					
MOV-040B	2 D-4	A	16 GT	MO	C	ET-Q ST-Q LJ-R	C 90					
MOV-038B	2 C-2	A	10 A	MO	C	ET-Q ST-Q LJ-R	C 10					
MOV-039B	2 B-2	A	10 GT	MO	C	ET-Q ST-Q LJ-R	O 51					
MOV-037B	1 B-3	A	24 GT	MO	C	ET-Q ST-Q LC-R	O 24		CS-1 CS-1	ET-C ST-C		
MOV-036B	2 D-3	B	24 A	MO	O	ET-Q ST-Q	O 53					
MOV-045B	2 F-7	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24					



SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**NES**

## VALVE TEST TABLE

DWG. NO. FM-20BDOCUMENT NO. 80A2903 Rev 3PAGE III-8-9 OF III-8-23

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-053	1 B-2	A	4 GL	MO	C	ET-Q ST-Q LC-R	C 22		CS-3 CS-3	ET-C ST-C		
MOV-054	1 A-2	A	4 GT	MO	C	ET-Q ST-Q LC-R	C 22		CS-3 CS-3	ET-C ST-C		
MOV-047	1 A-4	A	20 GT	MO	C	ET-Q ST-Q LC-R	C 35		CS-4 CS-4	ET-C ST-C		
MOV-048	1 A-4	A	20 GT	MO	C	ET-Q ST-Q LC-R	C 35		CS-4 CS-4	ET-C ST-C		
MOV-031B	2 B-7	A	20 GT	MO	O	ET-Q ST-Q LJ-R	C 120					
MOV-031D	2 B-8	A	20 GT	MO	O	ET-Q ST-Q LJ-R	C 120					
MOV-032B	2 C-7	B	20 GT	MO	C	ET-Q ST-Q	O 120					

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**nes**

VALVE TEST TABLE

DWG. NO. FM-20BDOCUMENT NO. 80A2903 Rev 3PAGE III-8-10 OF III-8-23

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. CR ALI. TEST PERF.	REMARKS	REV NO.
MOV-032D	2 C-8	B	20 GT	MO	C	ET-Q ST-Q	O 120					
MOV-042B	2 D-6	A	16 GL	MO	C	ET-Q ST-Q LJ-R	C 90					
MOV-049	2 E-5	B	10 GT	MO	C	PV					This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1. This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1. This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1.	
MOV-043B	2 F-4	B	4 GT	MO	C	PV						
MOV-044B	2 G-4	A	4 GT	MO	C	PV LJ-R						
MOV-035B	2 H-4	B	16 GT	MO	O	ET-Q ST-Q	C 85					
MOV-033B	2 G-7	B	16 GT	MO	O	ET-Q ST-Q	C 85					



SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**NES**

## VALVE TEST TABLE

DWG. NO. FM-20BDOCUMENT NO. 80A2903 Rev 3PAGE III-8-11 OF III-8-23

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
RV-163	2 G-2	AC	1 R	SA	-	LJ-R					Thermal relief valve. App. J, Type C test only.	
RV-164	2 F-3	AC	1 R	SA	-	LJ-R					Thermal relief valve. App. J, Type C test only.	
MOV-034B	2 G-8	B	18 A	MO	O	ET-Q ST-Q	C 144					
AOV-081B	1 A-3	AC	24 C	SA	-	ET-Q ET-Q LC-R		F R	CS-2 CS-2	ET-C ET-C	Testable check valve (part stroke).	
0020B	2 F-7	C	16 C	SA	-	ET-Q		F				
RV-155	2 F-5	AC	2 R	SA	-	LJ-R					This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1.	
RV-152B	2 I-5	AC	4 R	SA	-	LJ-R					This valve is dedicated to the RHR steam condensing mode of operation. the SCM as a normal operating mode has been deleted at SNPS-1.	

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**NES**

VALVE TEST TABLE

DWG. NO. FM-20BDOCUMENT NO. 80A2903 Rev 3PAGE III-8-12 OF III-8-23

△ 3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-055B	2 J-6	A	1 GL	MO	C	PV LJ-R					This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1.	
MOV-056B	2 J-5	A	1 GL	MO	C	PV LJ-R					This valve is dedicated to the RHR steam condensing mode of operation. The SCM as a normal operating mode has been deleted at SNPS-1.	
RV-157B	2 I-6	AC	1 R	SA	-	LJ-R					Thermal relief valve. App. J, Type C test only.	
MOV-081B	1 A-3	A	2 GL	MO	C	PV LC-R					Valve opens and automatically recloses once pressure equalizes across the testable check valve.	
MOV-050	2 C-4	B	24 GT	MO	C	PV					Power disconnected to operator.	
0035B	2 E-7	C	3 C	SA	-	ET-Q		F				
0035D	2 E-8	C	3 C	SA	-	ET-Q		F				

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**NES**

## VALVE TEST TABLE

DWG. NO. FM-20BDOCUMENT NO. 80A2903 Rev 3PAGE III-8-13 OF III-8-23

3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-057B	2 J-4	B	1 GL	MO	C	ET-Q ST-Q	0 17					
RV-153B	2 D-4	C	1 R	SA	-	SR-P						
0022B	2 D-3	C	4 C	SA	-	ET-Q ET-Q		F R	RR-2		Forward flow operability is verified by a system check to verify water inventory.	3
0023	2 C-1	C	4 C	SA	-	ET-Q ET-Q		F R	RR-2		Forward flow operability is verified by a system check to verify water inventory.	3
0037B	2 D-2	C	1 C	SA	-	ET-Q		F			Forward flow operability is verified by a system check to verify water inventory.	
0028	2 A-4	C	4 C	SA	-	ET-Q ET-Q		F R	RR-3 RR-2			3
MOV-051	2 C-4	B	4 GT	MO	C	ET-Q ST-Q	0 24					

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)**NES**

## VALVE TEST TABLE

DWG. NO. FM-20BDOCUMENT NO. 80A2903 Rev 3PAGE III-8-14 OF III-8-23

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
MOV-052	2 C-4	B	4 GL	MO	C	ET-Q ST-Q	0 16					
AOV-061B	2 J-6	B	3/4 GT	AO	C	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	
AOV-062B	2 J-6	B	3/4 GT	AO	C	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	
RV-154	2 C-5	C	1 R	SA	-	SR-P						
0030	1 A-2	C	4 C	SA	-	ET-Q		F	CS-5	ET-C		
SOV-169	2 B-6	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
0048	2 B-6	AC	3/4 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		

SYSTEM: RESIDUAL HEAT REMOVAL (E-11)

**1125**

VALVE TEST TABLE

DWG. NO. FM-20B

DOCUMENT NO. 80A2903 Rev 3

PAGE III-8-15 OF III-8-23

3

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT TEST PERF.	REMARKS	REV NO.
SOV-167A	2 G-6	B	3/4 GL	EM	C	ET-Q ST-Q FS-Q	C 5				
SOV-167B	2 G-6	B	3/4 GL	EM	C	ET-Q ST-Q FS-Q	C 5				



## COLD SHUTDOWN TEST JUSTIFICATION

CS - 1

System: RHR

Valve: MOV-037A,B

Category: A

Class: 1

Function: LPCI injection valves.

### ASME Section XI Quarterly Test Requirements:

Exercise and time.

### Cold Shutdown Test Justification:

Exercising these valves during normal operation increases the possibility of a inter-system-LOCA accident. If either of these valves is opened during normal operation a single downstream check valve becomes the sole pressure boundary between the reactor coolant system and the low pressure RHR system. A failure of the check valve while cycling the upstream motor operated valves could result in over pressurization of the RHR low pressure piping.

### Quarterly Part Stroke Testing:

NA

### Cold Shutdown Testing:

Exercise and time.

## COLD SHUTDOWN TEST JUSTIFICATION

CS - 2

System: RHR

Valve: AOV-081A,B

Category: AC

Class: 1

Function: RHR injection valves.

### ASME Section XI Quarterly Test Requirements:

Verify forward flow operability and reverse flow closure.

### Cold Shutdown Test Justification:

Valves are testable check valves with installed partial stroke open air operators. Partial stroke open testing during normal operation is precluded because stroking these valves would leave only one valve as a barrier between the high pressure reactor coolant system and the RHR system low pressure piping. In addition, there are no provisions to measure leakage across the check valves during normal operation and full leak tight closure after exercising cannot be verified. Inadvertent operation of the upstream motor operated valves could result in an inter-system-LOCA. Testing operability by injecting water into the RCS is not possible during normal operation because the RHR pumps develop insufficient head to overcome RCS pressure.

3

Quarterly Part  
Stroke Testing: NA

Cold  
Shutdown Testing: Forward flow exercise during normal cool down and verify reverse flow closure using the valve position indicator lights.



**COLD SHUTDOWN TEST JUSTIFICATION**CS - 3

**System:** RHR

**Valve:** MOV-053 : MOV-054

**Category:** A

**Class:** 1

**Function:** Inboard and outboard containment isolation valves on RHR reactor vessel head spray line.

**ASME Section XI  
Quarterly Test  
Requirements:**

Exercise and time.

**Cold Shutdown  
Test Justification:**

Valves are interlocked with reactor pressure at 135 psig and cannot be opened during normal plant operation.

**Quarterly Part  
Stroke Testing:**

NA

**Cold  
Shutdown Testing:**

Exercise and time.

**COLD SHUTDOWN TEST JUSTIFICATION**CS - 4

**System:** RHR

**Valve:** MOV-047 : MOV-048

**Category:** A

**Class:** 1

**Function:** Inboard and outboard containment isolation valves on RHR suction line from the reactor vessel.

**ASME Section XI  
Quarterly Test  
Requirements:**

Exercise and time.

**Cold Shutdown  
Test Justification:**

Valves are interlocked with reactor pressure at 135 psig and cannot be opened during normal plant operation.

**Quarterly Part  
Stroke Testing:**

NA

**Cold  
Shutdown Testing:**

Exercise and time.

## COLD SHUTDOWN TEST JUSTIFICATION

CS - 5

System: RHR

Valve: 0030

Category: C

Class: 1

Function:

ASME Section XI  
Quarterly Test  
Requirements:

Verify forward flow operability.

Cold Shutdown  
Test Justification:

Valve is inside the drywell (maintained inerted) and is downstream of valves MOV-053 and MOV-054 which are interlocked to prevent opening at reactor coolant system pressure above 135 psig. The only way to verify forward flow operability is by injecting water through the head spray line at cold shutdown when reactor coolant system pressure is less than 135 psig.

Quarterly Part  
Stroke Testing:

NA

Cold  
Shutdown Testing:

Forward flow exercise.

**RELIEF REQUEST**  
**RR - 1**

**System:** RHR

**Valve:** 3144 : 3145 : 0047 : 0048

**Category:** AC

**Class:** 2

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI  
Quarterly Test  
Requirement:**

Verify reverse flow closure.

**Basis for Relief:**

The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:**

Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

**RELIEF REQUEST**  
**RR - 2**

**System:** RHR

**Valve:** 0022A,B : 0023 : 0002A

**Category:** C

**Class:** 2

**Function:** Loop level injection line check valves to RHR system piping.

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** Loop level piping configuration precludes verification of reverse flow closure. To verify reverse flow closure would require securing the loop level pump and draining the loop level piping, operating the RHR system and monitoring an upstream vent line for leakage. This method would require opening vent valves during system operation at operating pressure, which presents a potential for injury to plant personnel.

**Alternate Testing:** Design changes are presently under consideration to either modify the loop level piping configuration or to modify the valves to provide a means of individual valve reverse flow closure verification. An appropriate modification(s) will be selected and completed during the first refueling outage. During the interim forward flow operability of valves 0022A,B and 0023 will be verified by a system check to verify system water inventory.



**RELIEF REQUEST**  
**RR - 3**

**System:** RHR

**Valve:** 0028

**Category:** C

**Class:** 2

**Function:** Loop level injection line check valve to RHR system piping.

**ASME Section XI  
Quarterly Test  
Requirements:**

Verify forward flow operability.

**Basis for Relief:**

This check valve is a branch line from the loop level pump to the 20 inch RHR pump suction line. The RHR piping that this branch line connects to is normally isolated from the RHR system by normally closed valves, and has no installed high point vent connection. Therefore, it is not possible to verify forward flow operability by performing a system check to verify system water inventory. The valve is a simple check valve without provisions for manual exercising.

**Alternate Testing:**

Design changes are presently under consideration to either modify the piping configuration or to modify the valve to provide a means to verify forward flow operability. An appropriate modifications(s) will be selected and completed during the first refueling outage.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 9

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
CORE SPRAY (E-21)  
DWG. NO. FM-23A





SYSTEM: CORE SPRAY (E-21)**nes**

## VALVE TEST TABLE

DWG. NO. FM-23ADOCUMENT NO. 80A2903 Rev 3PAGE III-9-2 OF III-9-7

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NO. IN POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
AOV-081A	1 E-3	AC	10 C	SA	-	ET-Q ET-Q LC-R		F R	RR-1 RR-1	ET-R ET-R		3
AOV-081B	1 F-3	AC	10 C	SA	-	ET-Q ET-Q LC-R		F R	RR-1 RR-1	ET-R ET-R		3
MOV-033A	1 D-3	A	10 GT	MO	C	ET-Q ST-Q LC-R	0 20		CS-1 CS-1	ET-C ST-C		3
MOV-033B	1 F-3	A	10 GT	MO	C	ET-Q ST-Q LC-R	C 20		CS-1 CS-1	ET-C ST-C		3
MOV-035A	2 C-4	A	10 GL	MO	C	ET-Q ST-Q LJ-R	C 67					
MOV-035B	2 G-4	A	10 GL	MO	C	ET-Q ST-Q LJ-R	C 67					
MOV-034A	2 B-6	A	3 GT	MO	C	ET-Q ST-Q LJ-R	C 17					

SYSTEM: CORE SPRAY (E-21)**nes**

## VALVE TEST TABLE

DWG. NO. PM-23ADOCUMENT NO. 80A2903 Rev 3PAGE III-9-3 OF III-9-7

3

VALVE NO.	CLASS AND DWG. COGR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-034B	2 I-6	A	3 GT	MO	C	ET-Q ST-Q LJ-R	C 17					
0013A	2 A-5	C	12 C	SA	-	ET-Q		F				
0013B	2 J-5	C	12 C	SA	-	ET-Q		F				
MOV-031A	2 C-7	A	14 GT	MO	O	ET-Q ST-Q LJ-R	C 77					
MOV-031B	2 G-7	A	14 GT	MO	O	ET-Q ST-Q LJ-R	C 77					
MOV-081A	1 E-3	A	2 GL	MO	C	PV LC-R					Valve opens and automatically recloses once pressure equalizes across the testable check valve.	
MOV-081B	1 F-3	A	2 GL	MO	C	PV LC-R					Valve opens and automatically recloses once pressure equalizes across the testable check valve.	

SYSTEM: CORE SPRAY (E-21)**NES**

## VALVE TEST TABLE

DWG. NO. FM-23ADOCUMENT NO. 80A2903 Rev 3PAGE III-9-4 OF III-9-7

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
RV-093A	2 B-3	C	1½ R	SA	-	SR-P						
RV-093B	2 H-3	C	1½ R	SA	-	SR-P						
0018B	2 H-2	C	2 C	SA	-	ET-Q ET-Q		F R	RR-2		Forward flow operability is verified by a system check to verify water inventory.	3
0015B	2 H-2	C	1 C	SA	-	ET-Q		F			Forward flow operability is verified by a system check to verify water inventory.	
0018A	2 C-2	C	2 C	SA	-	ET-Q ET-Q		F R	RR-2		Forward flow operability is verified by a system check to verify water inventory.	3
0015A	2 C-2	C	1 C	SA	-	ET-Q		F			Forward flow operability is verified by a system check to verify water inventory.	

**COLD SHUTDOWN TEST JUSTIFICATION**CS - 1

**System:** Core Spray

**Valve:** MOV-033A,B

**Category:** A

**Class:** 1

**Function:** Core spray injection line motor operated valves.

**ASME Section XI  
Quarterly Test  
Requirements:**

Exercise and time.

**Cold Shutdown  
Test Justification:**

Valves are interlocked with reactor coolant system pressure which precludes valves operation at RCS pressures greater than 500 psig. In addition, if the motor operated valve were to be opened the downstream check valve becomes the single boundary between the RCS and the low pressure core spray piping. This situation is a matter of concern since failure of the check valve as a pressure boundary could result in an inter-system-LOCA if the motor operated valve is exercised during normal plant operation.

**Quarterly Part  
Stroke Testing:**

NA

**Cold  
Shutdown Testing:**

Exercise and time.

Relief Request  
RR - 1

System: Core Spray  
Valve: AOV- 081A,B  
Category: AC  
Class: 1  
Function: Core spray system injection check valves.

ASME Section XI  
Quarterly Test  
Requirements:

Verify forward flow operability and reverse flow closure.

Basis for Relief: These are pressure isolation valves between the RCS and the low pressure core spray system piping. Plant Technical Specification 4.4.3.2.2 has been revised to require demonstration of valve operability by leak testing each time the valves have been disturbed, until the first refueling outage. During the first refueling outage the low pressure permissive interlocks on the upstream motor operated valves (MOV-033A,B) will be modified to preclude overpressurization of upstream piping which could occur coincident with a failure of the check valves. After modifications are complete the leak test requirement will be deleted. There are no provisions in the present design for measuring leakage across the valves after they have been exercised. They are located in long runs of vertical piping such that once they are opened and reclosed it is not possible to determine if a solid column of water exists above and below the valves. Without a solid column of water it is not possible to measure leakage using RCS pressure during startup. In order to verify reverse flow closure and leak tight integrity it is necessary to enter the drywell, close the downstream manual valves and use a special test rig. Entry into the inerted drywell is precluded during normal operation and cold shutdown. Since verification of leak tight closure is required each time the valves are exercised, verification of forward flow operability and reverse flow closure will be delayed until the first refueling.

Alternate Testing: The presently installed test operators provide approximately 25% open stroking. An investigation is being performed to determine if this is adequate to verify full flow opening. In addition, possible modifications to the operators to provide full stroke opening is being investigated. If the operators need to be modified to perform full stroke exercising, the modifications will be performed during the first refueling. Verification of forward flow operability and reverse flow closure will be performed at the first refueling. Subsequent to the above modifications, forward flow operability and reverse flow closure will be verified during cold shutdown.



**RELIEF REQUEST**  
**RR - 2**

**System:** Core Spray

**Valve:** 0018A,B

**Category:** C

**Class:** 2

**Function:** Loop level injection line check valves to core spray system.

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** Loop level piping configuration precludes verification of reverse flow closure.

**Alternate Testing:** Design changes are presently under consideration to either modify the loop level piping configuration or to modify the valves to provide a means of valve reverse flow closure verification. An appropriate modification(s) will be selected and completed during the first refueling outage. During the interim forward flow operability will be verified by a system check to verify system water inventory.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 10

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
MSIV LEAKAGE CONTROL (E-32)  
DWG. NO. FM-69A

III-10-1





SYSTEM: MSIV LEAKAGE CONTROL (E-32)

**nes**

VALVE TEST TABLE

DWG. NO. FM-69A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-10-2 OF III-10-6

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-021A	1 D-4	A	1½ GL	MO	C	ET-Q ST-Q LJ-R	C 8		CS-1 CS-1	ET-C ST-C		
MOV-021B	1 D-4	A	1½ GL	MO	C	ET-Q ST-Q LJ-k	C 8		CS-1 CS-1	ET-C ST-C		
MOV-021C	1 E-2	A	1½ GL	MO	C	ET-Q ST-Q LJ-R	C 8		CS-1 CS-1	ET-C ST-C		
MOV-021D	1 E-3	A	1½ GL	MO	C	ET-Q ST-Q LJ-R	C 8		CS-1 CS-1	ET-C ST-C		
MOV-022A	2 D-4	B	1½ GL	MO	C	ET-Q ST-Q	0 7					
MOV-022B	2 D-5	B	1½ GL	MO	C	ET-Q ST-Q	0 7					
MOV-022C	2 E-2	B	1½ GL	MO	C	ET-Q ST-Q	0 7					

SYSTEM: MSIV LEAKAGE CONTROL (E-21)

**NES**

VALVE TEST TABLE

DWG. NO. FM-69A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-10-3 OF III-10-6

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (in.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALI. TEST REF.	REMARKS	REV NO.
MOV-022D	2 E-3	B	1½ GL	MO	C	ET-Q ST-Q	0 7					
MOV-023A	2 E-6	B	1½ GL	MO	C	ET-Q ST-Q	0 7					
MOV-023B	2 D-6	B	1½ GL	MO	C	ET-Q ST-Q	0 7					
MOV-023C	2 G-6	B	1½ GL	MO	C	ET-Q ST-Q	0 7					
MOV-023D	2 F-6	B	1½ GL	MO	C	ET-Q ST-Q	0 7					
MOV-024	2 C-4	B	2 GL	MO	C	ET-Q ST-Q	0 7		CS-2 CS-2	ET-C ST-C		
MOV-025	2 C-5	B	2 GL	MO	C	ET-Q st-Q	0 6					

SYSTEM: MSIV LEAKAGE CONTROL (E-32)

**1125**

VALVE TEST TABLE

DWG. NO. FM-69A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-10-4 OF III-10-6

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM. POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	C.S. JUST OR ALT. RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MCV-026	2 B-4	B	2 GL	MO	C	ET-Q ST-Q	0 7	CS-2 CS-2	ET-C ST-C		
MCV-627	2 B-5	B	2 GL	MO	C	ET-Q ST-Q	0 7				

## COLD SHUTDOWN TEST JUSTIFICATION

CS - 1

System: MSIV Leakage Control

Valve: MOV-021A,B,C,D

Category: A

Class: 1

Function: Upstream bleed line isolation valves.

### ASME Section XI Quarterly Test Requirements:

Exercise and time.

### Cold Shutdown: Test Justification:

Valves are interlocked to main steam line pressure and cannot be opened at pressures greater than 35 psig. The interlock precludes inadvertent steam discharge.

### Quarterly Part Stroke Testing:

NA

### Cold Shutdown Testing:

Exercise and time.

**COLD SHUTDOWN TEST JUSTIFICATION**CS - 2

**System:** MSTV Leakage Control

**Valve:** MOV-024 : MOV-026

**Category:** B

**Class:** 2

**Function:** Downstream bleed isolation valve (MOV-024)  
Downstream depressurization branch line isolation valve (MOV-026)

**ASME Section XI  
Quarterly Test  
Requirements:** Exercise and time

**Cold Shutdown  
Test Justification:** Valves are interlocked to main steam line pressure and cannot be opened at pressures greater than 35 psig. The interlock precludes inadvertent steam discharge.

**Quarterly Part  
Stroke Testing:** NA

**Cold  
Shutdown Testing:** Exercise and time.



PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 11

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
HPCI (E-41)  
DWG. NO. FM-25 A,B



SYSTEM: HIGH PRESSURE COOLANT INJECTION (E-41)

**nes**

VALVE TEST TABLE

DWG. NO. FM-25A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-11-2 OF III-11-12



VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-031	2 F-8	B	16 GT	MO	C	ET-Q ST-Q	C 85					
MOV-036	2 D-6	A	4 GL	MO	C	ET-Q ST-Q LJ-R	O 10					
MOV-032	2 D-8	A	16 GT	MO	C	ET-Q ST-Q LJ-R	C 90					
MOV-043	2 G-6	B	10 GT	MO	C	ET-Q ST-Q	O 17					
MOV-035	1 E-5	B	14 GT	MO	C	ET-Q ST-Q	O 20					
MOV-042	1 D-4	A	10 GT	MO	C	ET-Q ST-Q LJ-R	C 18					
0001	2 F-8	C	16 C	SA	-	ET-Q		F				



SYSTEM: HIGH PRESSURE COOLANT INJECTION (E-41)**NES**

## VALVE TEST TABLE

DWG. NO. FM-25ADOCUMENT NO. 80A2903 Rev 3PAGE III-11-3 OF III-11-12

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
0002	2 D-8	C	16 C	SA	-	ET-Q		F	RR-3		Valve will be part stroked open quarterly using demin. water and upstream and downtest taps.	
0012	2 E-6	C	4 C	SA	-	ET-Q		F				
0013	2 E-5	C	14 C	SA	-	ET-Q		F				
0021	2 D-5	C	18 C	SA	-	ET-Q		F				
0022	2 D-5	AC	18 C	SA	-	ET-Q ET-Q LJ-R		F R	RR-1	ET-R	Verify forward flow operability quarterly during pump test. Verify reverse flow closure at refueling during App. J, Type C testing.	
MOV-037	2 F-5	B	10 GL	MO	C	ET-Q ST-Q	0 66					
MOV-041	1 C-4	A	10 GL	MO	O	ET-Q ST-Q LJ-R	C 17					

SYSTEM: HIGH PRESSURE COOLANT INJECTION (E-41)**nes**

## VALVE TEST TABLE

DWG. NO. FM-25ADOCUMENT NO. 80A2903 Rev 3PAGE III-11-4 OF III-11-12

△ 3

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-047	1 C-4	A	1 GL	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-048	1 C-4	A	1 GL	MO	O	ET-Q ST-Q LJ-R	C 18					
AOV-081	2 H-7	B	1 GT	AO	O	ET-Q ST-Q PS-Q	C				Stroke time not available. Will be added when determined.	△ 3
AOV-082	2 H-7	B	1 GT	AO	O	ET-Q ST-Q PS-Q	C				Stroke time not available. Will be added when determined.	△ 3
MOV-044	2 C-5	A	18 GT	MO	O	ET-Q ST-Q LJ-R	C 109					
MOV-049	2 C-5	A	2 GL	MO	O	ET-Q ST-Q LJ-R	C 22					
0023	2 D-5	C	2 C	SA.	-	ET-Q ET-Q		F R	RR-4 RR-4	ET-R ET-R		

SYSTEM: HIGH PRESSURE COOLANT INJECTION (E-41)

**nes**

VALVE TEST TABLE

DWG. NO. FM-25A

DOCUMENT NO. 60A2903 Rev 3

PAGE III-11-5 OF III-11-12

3

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN. AND TYPE)	ACTU. TYPE	NORM. POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV. NO.
0024	2 D-5	C	2 C	SA	-	ET-Q ET-Q		F R	RR-4 RR-4	ET-R ET-R		
MOV-034	2 E-4	B	14 GT	MO	0	ET-Q ST-Q	0 62					
0019	2 F-3	C	2 C	SA	-	ET-Q ET-Q		F K	RR-5		Forward flow operability is verified by a system check to verify water inventory.	3
0018	2 F-3	C	2 C	SA	-	ET-Q		F			Forward flow operability is verified by a system check to verify water inventory.	
MOV-038	2 H-5	B	10 GT	MO	C	ET-Q ST-Q	0 52					

SYSTEM: HIGH PRESSURE COOLANT INJECTION (E-41)**nes**

## VALVE TEST TABLE

DWG. NO. FM-25BDOCUMENT NO. 80A2903 Rev 3PAGE III-11-6 OF III-11-12

3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-039	2 D-5	B	2 GL	MO	C	ET-Q ST-Q	0 22					
HOV-051	2 H-2	B	10 GT	HYD	C	ET-Q ST-Q			RR-2		HPCI turbine throttle and stop valve.	
HOV-052	2 G-2	B	10 GT	HYD	C	ET-Q ST-Q			RR-2		HPCI turbine control valve.	
RV-145	2 C-7	C	3/4 R	SA	-	SR-P						
0007	2 C-5	C	2 C	SA	-	ET-Q		F				
0011	2 D-7	C	2 C	SA	-	ET-Q		F				
AOV-083	2 F-7	B	1 GT	AO	C	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3

SYSTEM: HIGH PRESSURE COOLANT INJECTION (E-41)

DWG. NO. FM-25B

DOCUMENT NO. 80A2903 Rev 3

PAGE III-11-7 OF III-11-12 A

1725

VALVE TEST TABLE

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM. POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	C.S. CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV. NO.
0026	2 A-5	C	1 C	SA	-	ET-Q				F		



**RELIEF REQUEST**  
**RR - 1****System:** HPCI**Valve:** 0022**Category:** AC**Class:** 2**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).**ASME Section XI  
Quarterly Test  
Requirements:**

Verify reverse flow closure.

**Basis for Relief:**

The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:**

Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

**RELIEF REQUEST**  
**RR - 2**

**System:** HPCI

**Valve:** HOV-051 : HOV-052

**Category:** B

**Class:** 2

**Function:** HPCI turbine throttle and stop and control valves.

**ASME Section XI  
Quarterly Test  
Requirements:**

Measure stroke time.

**Basis for Relief:**

The purpose of these valves is to regulate steam flow to the HPCI turbine. Operability is adequately demonstrated by proper turbine operation. Valve position is steam line pressure and turbine speed dependent and therefore will not repeatedly throttle to the same position. During turbine operation these valves move in response to control signals.

**Alternate Testing:**

Proper operation of these valves will be verified during turbine test. No stroke time testing will be performed.



**RELIEF REQUEST**  
**RR - 3**

**System:** HPCI

**Valve:** 0002

**Category:** C

**Class:** 2

**Function:** Suppression pool suction line to pump check valve.

**ASME Section XI  
Quarterly Test  
Requirements:** Full flow forward flow exercise.

**Basis for Relief:** The only possible full flow test would require pumping suppression pool water to either the a) feedwater system or b) condensate storage tank. The first is precluded by the poor quality of pool water and possible thermal shock induced pipe cracking problems and the second by condensate tank water quality problems that would result from introducing pool water into the storage tank. Either method would also require extensive flushing of the system after testing which would over burden the radwaste system. The valve can be partial stroke exercised by injecting demin. water at the upstream test tap and verifying partial valve opening at the downstream test tap.

**Alternate Testing:** A design change is presently under investigation to modify the valve by adding mechanical exercising feature that would provide full stroke test capability. If valve modification is possible the valve will be modified during the first refueling and a full exercise test performed quarterly. During the interim the valve will be partial stroke exercised quarterly using demin. water.

**RELIEF REQUEST**  
**RR - 4**

**System:** HPCI

**Valve:** 0023 : 0024

**Category:** C

**Class:** 2

**Function:** Vacuum breakers (forward flow) to preclude drawing water into the turbine exhaust line and to prevent steam (reverse flow closure) flow to the suppression pool air space.

**ASME Section XI  
Quarterly Test  
Requirements:**

Verify forward flow operability and reverse flow closure.

**Basis for Relief:**

The system design has no test provisions to allow for quarterly testing in either direction. The only method available to verify operability is by using a test similar to the Appendix J, Type C test. This test will be devised to verify both forward flow opening and reverse flow closure and will be performed at refueling.

**Alternate Testing:**

A special test procedure similar to the Appendix J, Type C test procedure will be used to verify forward flow operability and reverse flow closure at refueling.

**RELIEF REQUEST**  
**RR - 5**

**System:** HPCI

**Valve:** 0019

**Category:** C

**Class:** 2

**Function:** Loop level injection line check valve to HPCI system.

**ASME Section XI  
Quarterly Test  
Requirements:**

Verify reverse flow closure.

**Basis for Relief:**

Loop level piping configuration precludes verification of reverse flow closure. To review reverse flow closure would require securing the loop level pump and draining the loop level piping, operating the HPCI system and monitoring an upstream vent line for leakage. This method would require opening vent valves during system operation at operating pressure, which presents a potential for injury to plant personnel.

**Alternate Testing:**

Design changes are presently under consideration to either modify the loop level piping configuration or to modify the valve to provide a means of valve reverse flow closure verification. An appropriate modification(s) will be selected and completed during the first refueling outage. During the interim forward flow operability will be verified by a system check to verify system water inventory.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 12

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
RCIC (E-51)  
DWG. NO. FM-22 A,B



SYSTEM: REACTOR CORE ISOLATION COOLING (E-51)

DWG. NO. FM-22A

**1125**

DOCUMENT NO. 80A2903 Rev 2

VALVE TEST TABLE

PAGE III-12-2 OF III-12-11

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-042	1 D-3	A	3 GT	MO	C	ET-Q ST-Q LJ-R	C 18					
MOV-031	2 G-8	B	6 GT	MO	O	ET-Q ST-Q	C 37					
MOV-032	2 D-8	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
MOV-036	2 E-6	A	2 GL	MO	C	ET-Q ST-Q LJ-R	O 5					
MOV-037	2 F-5	B	4 GL	MO	C	ET-Q ST-Q	O 35					
MOV-035	1 D-4	B	4 GT	MO	C	ET-Q ST-Q	O 25					
MOV-043	2 G-6	B	3 GT	MO	C	ET-Q ST-Q	O 16					



SYSTEM: REACTOR CORE ISOLATION COOLING (E-51)

**nes**

VALVE TEST TABLE

DWG. NO. FM-22A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-12-3 OF III-12-11

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0001	2 F-8	C	6 C	SA	-	ET-Q		F				
0002	2 D-8	C	6 C	SA	-	ET-Q		F	RR-3		Valve will be part stroked open quarterly using demin. water and upstream and downstream test taps.	
0012	2 E-5	C	4 C	SA	-	ET-Q		F				
0020	2 E-5	C	8 C	SA	-	ET-Q		F				
0021	2 D-5	AC	8 C	SA	-	ET-Q ET-Q LJ-R		F R	RR-1	ET-R	Verify forward flow operability quarterly during pump test. Verify reverse flow closure at refueling during App. J, Type C testing.	
0022	2 D-5	C	1½ C	SA	-	ET-Q ET-Q		F R	RR-4 RR-4	ET-R ET-R		
0023	2 D-5	C	1½ C	SA	-	ET-Q ET-Q		F R	RR-4 RR-4	ET-R ET-R		

SYSTEM: REACTOR CORE ISOLATION COOLING (E-51)

**nes**

VALVE TEST TABLE

DWG. NO. FM-22A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-12-4 OF III-12-11

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT, AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0025	2 D-6	AC	2 C	SA	-	ET-Q ET-Q LJ-R		F R	RR-1	ET-R	Verify forward flow operability quarterly during pump test. Verify reverse flow closure at refueling during App. J, Type C testing.	
0024	2 E-6	C	2 C	SA	-	ET-Q		F				
MOV-041	1 C-3	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-047	1 C-3	A	1 GL	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-048	1 D-3	A	1 GL	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-034	2 E-5	B	4 GT	MO	O	ET-Q ST-Q	O 20					
MOV-045	2 C-5	A	8 GT	MO	O	ET-Q ST-Q LJ-R	C 48					



SYSTEM: REACTOR CORE ISOLATION COOLING (E-51)

NES

## VALVE TEST TABLE

DWG. NO. FM-22A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-12-5 OF III-12-11

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-049	2 C-5	A	1½ GL	MO	O	ET-Q ST-Q LJ-R	C 16					
0015	2 E-4	C	1 C	SA	-	ET-Q ET-Q		F R			Forward flow operability is verified by a system check to verify water inventory. Reverse flow closure is verified by absence of flow at relief valve RV-149 during pump test.	
0016	2 E-4	C	1 C	SA	-	ET-Q		F			Forward flow operability is verified by a system check to verify water inventory.	
MOV-046	2 D-6	AC	2 SC	SA MC	- O	ET-Q ET-Q ST-Q LJ-R	C 36	F R			Forward flow operability is verified during turbine test. Reverse closure is verified using positive closure motor operator.	
ACV-081	2 H-7	B	1 GT	AO	O	ET-Q ST-Q FS-Q	C				Stroke time is not available. Will be added when determined.	3
ACV-082	2 H-7	B	1 GT	AO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3

SYSTEM: REACTOR CORE ISOLATION COOLING (E-51)DWG. NO. FM-22BDOCUMENT NO. 80A2903 Rev 2

## VALVE TEST TABLE

PAGE III-12-6 OF III-12-11

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-038	2 D-5	B	2 GL	MO	C	ET-Q ST-Q	0 13					
MOV-044	2 G-3	B	3 GT	MO	O	ET-Q ST-Q			RR-2		RCIC turbine throttle and stop valve.	
MOV-051	2 G-3	B	3 GT	HYD	O	ET-Q ST-Q			RR-2		RCIC turbine governing valve.	
0006	2 F-6	C	2 C	SA	-	ET-Q		F				
0008	2 B-5	C	1 C	SA	-	ET-Q		F			Forward flow operability is verified by a system check to verify water inventory.	

SYSTEM: REACTOR CORE ISOLATION COOLING (E-51)

**nes**

VALVE TEST TABLE

DWG. NO. FM-22B

DOCUMENT NO. 80A2903 Rev 3

PAGE III-12-7 OF III-12-11

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM. POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	C.S. CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV. NO.
0010	2 A-5	C	1 C	SA	-	ET-Q	F				Forward flow operability is verified by a system check to verify water inventory.	
RV-145	2 C-7	C	3/4 R	SA	-	SR-P						
AOV-083	2 G-7	B	1 GT	AO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3

**RELIEF REQUEST**  
**RR - 1**

**System:** RCIC

**Valve:** 0021 : 0025

**Category:** AC

**Class:** 2

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:** Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

**RELIEF REQUEST**  
**RR - 2**

**System:** RCIC

**Valve:** MOV-044 : HOV-051

**Category:** B

**Class:** 2

**Function:** RCIC turbine throttle stop and governing valves.

**ASME Section XI  
Quarterly Test  
Requirements:** Measure stroke time.

**Basis for Relief:** The purpose of these valves is to regulate steam flow to the RCIC turbine. Operability is adequately demonstrated by proper turbine operation. Valve position is steam line pressure and turbine speed dependent and therefore will not repeatedly throttle to the same position. During turbine operation these valves move in response to control signals.

**Alternate Testing:** Proper operation of these valves will be verified during turbine test. No stroke time testing will be performed.



**RELIEF REQUEST**  
**RR - 3**

**System:** RCIC

**Valve:** 0002

**Category:** C

**Class:** 2

**Function:** Suppression pool suction line to pump check valve.

**ASME Section XI  
Quarterly Test  
Requirements:**

Full flow forward flow exercise.

**Basis for Relief:**

The only possible full flow test would require pumping suppression pool water to either the a) feedwater system or b) condensate storage tank. The first is precluded by the poor quality of pool water and possible thermal shock induced pipe cracking problems and the second by condensate tank water quality problems that would result from introducing pool water into the storage tank. Either method would also require extensive flushing of the system after testing which would over burden the radwaste system. The valve can be partial stroke exercised by injecting demin. water at the upstream test tap and verifying partial valve opening at the downstream test tap.

**Alternate Testing:**

A design change is presently under investigation to modify the valve by adding a mechanical exercising feature that would provide full stroke test capability. If valve modification is possible the valve will be modified during the first refueling and a full exercise test performed quarterly. During the interim the valve will be partial stroke exercised quarterly using demin. water.



**RELIEF REQUEST**  
**RR - 4****System:** RCIC**Valve:** 0022 : 0023**Category:** C**Class:** 2**Function:** Vacuum breakers (forward flow) to preclude drawing water into the turbine exhaust line and to prevent steam (reverse flow closure) flow to the suppression pool air space.**ASME Section XI  
Quarterly Test  
Requirements:**

Verify forward flow operability and reverse flow closure.

**Basis for Relief:**

The system design has no test provisions to allow for quarterly testing in either direction. The only method available to verify operability is by using a test similar to the Appendix J, Type C test. This test will be devised to verify both forward flow opening and reverse flow closure and will be performed at refueling.

**Alternate Testing:**

A special test procedure similar to the Appendix J, Type C test procedure will be used to verify forward flow operability and reverse flow closure at refueling.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 13

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
RADWASTE EQUIPMENT (G-11)  
DWG. NO. FM-46 A,B



SYSTEM: RADWASTE (G-11)**nes**

## VALVE TEST TABLE

DWG. NO. FM-46A,BDOCUMENT NO. 80A2903 Rev 2PAGE III-13-2 OF III-13-4

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-248	2 A-5	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18				FM-46A	
MOV-249	2 A-5	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18				FM-46A	
MOV-246	2 J-5	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-247	2 J-5	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 18					
MOV-639C	2 D-6	A	3 GT	MO	C	ET-Q ST-Q LJ-R	C 20					
2210C	2 D-6	AC	3 C	SA	-	ET-Q ET-Q LJ-R		F R	RR-2 RR-1	ET-R ET-R		

**RELIEF REQUEST**  
**RR - 1**

**System:** Radwaste

**Valve:** 2110C

**Category:** AC

**Class:** 2

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:** Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

**RELIEF REQUEST**  
**RR - 2**

**System:** Radwaste

**Valve:** 2110C

**Category:** AC

**Class:** 2

**Function:** Leakage return pump discharge line containment isolation valve.

**ASME Section XI  
Quarterly Test  
Requirements:** Verify forward flow operability.

**Basis for Relief:** To verify forward flow operability would require pumping water from the floor drain sump into the suppression pool. Typically water pumped from the sump is of relative poor quality. Injection of this poor quality water into the suppression pool would result in water quality control problems. This would be a plant operating problem during normal operation and cold shutdown when the suppression pool water is maintained relatively clean. It would have much less impact on operations at refueling when pool water quality tends to drop.

**Alternate Testing:** Verify forward flow operability at refueling.



PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 14

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
REACTOR WATER CLEANUP (G-33)  
DWG. NO. FM-24A





SYSTEM: REACTOR WATER CLEANUP (G-33)

**NES**

VALVE TEST TABLE

DWG. NO. FM-24A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-14-2 OF III-14-3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-033	1 F-6	A	6 GT	MO	O	ET-Q ST-Q LJ-R	C 36					
MOV-034	1 F-6	A	6 GT	MO	O	ET-Q ST-Q LJ-R	C 36					
0050A	1 A-1	C	6 C	SA	-	ET-Q		R	RR-1	ET-R		
0050B	1 A-2	C	6 C	SA	-	ET-Q		R	RR-1	ET-R		
0036A	1 B-1	C	6 C	SA	-	ET-Q		R	RR-1	ET-R		
0036B	1 B-2	C	6 C	SA	-	ET-Q		R	RR-1	ET-R		

**RELIEF REQUEST**  
**RR - 1**

**System:** Reactor Water Cleanup

**Valve:** 0036A,B : 0050A,B

**Category:** C

**Class:** 1

**Function:** System isolation

**ASME Section XI  
Quarterly Test  
Requirements:**

Verify reverse flow closure.

**Basis for Relief:**

Valves are located in the main steam tunnel which is inaccessible during normal plant operation or cold shutdown. In addition, interruption of normal RWCU letdown flow during normal operation or cold shutdown could cause serious reactor water chemistry problems.

**Alternate Testing:**

Reverse flow closure will be verified at refueling when entry to the main steam tunnel is possible.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 15

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
FUEL POOL COOLING AND CLEANUP (G-41)  
DWG. NO. FM-19A



SYSTEM: FUEL POOL COOLING & CLEANUP (G-41)

**nes**

VALVE TEST TABLE

DWG. NO. FM-19A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-15-2 OF III-15-3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-034A	2 C-6	A	10 GT	MO	C	ET-Q ST-Q LJ-R	C 60					
MOV-034B	2 C-6	A	10 GT	MO	C	ET-Q ST-Q LJ-R	C 60					
MOV-033A	2 A-6	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
MOV-033B	2 A-7	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
MOV-032A	2 H-5	B	6 D	MO	C	ET-Q ST-Q	O 38					
MOV-032B	2 H-6	B	6 D	MO	C	ET-Q ST-Q	O 38					
0003A	3 F-7	C	6 C	SA	-	ET-Q		F				

SYSTEM: FUEL POOL COOLING & CLEANUP (G-41)

**nes**

VALVE TEST TABLE

DWG. NO. FM-19A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-15-3 OF III-15-3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT TEST PERF.	REMARKS	REV NO.
0003B	3 F-8	C	6 C	SA	-	ET-Q		F				
MOV-031	3 J-5	B	2 D	MO	C	PV						

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 16

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
RBSVS AND CRAC (M-50)  
DWG. NO. FM-43 A,B





SYSTEM: PBSVS & CRAC (M-50)

**nes**

VALVE TEST TABLE

DWG. NO. FB-43A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-16-2 OF III-16-7

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0179A	3 C-2	C	6 C	SA	-	ET-Q		F				
0140A	3 C-5	C	6 C	SA	-	ET-Q		F				
0178A	3 C-2	C	6 C	SA	-	ET-Q		F				
0139A	3 C-5	C	6 C	SA	-	ET-Q		F				
0007A	3 E-3	C	6 C	SA	-	ET-Q		F				
0008A	3 E-5	C	6 C	SA	-	ET-Q		F				
AOV-062A	3 E-3	B	6 GT	AO	O	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	

SYSTEM: PPSVS &amp; CRAC (M-50)

DWG. NO. FB-43A

DOCUMENT NO. 80A2903 Rev 3

1125

## VALVE TEST TABLE

PAGE III-16-3 OF III-16-7

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM. POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
MOV-063A	3 E-5	B	6 GT	MO	O	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	
MOV-034A	3 A-3	B	10 B	MO	C	ET-Q ST-Q	O 72					
MOV-033A	3 A-4	B	10 B	MO	C	ET-Q ST-Q	O 72					
MOV-032A	3 A-4	B	10 B	MO	O/C	ET-Q ST-Q	C 72					
MOV-031A	3 A-4	B	10 B	MO	O/C	ET-Q ST-Q	C 72					
MOV-069A	3 A-3	B	2 GT	MO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3
MOV-068A	3 A-4	B	2 GT	MO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3

SYSTEM: RBSVS & CRAC (M-50)

**NES**

VALVE TEST TABLE

DWG. NO. FB-43A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-16-4 OF III-16-7

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0019A	3 E-4	C	6 C	SA	-	ET-Q		F				
0020A	3 E-6	C	6 C	SA	-	ET-Q		F				
AOV-039A	3 E-2	B	2 GT	AO	C	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	
AOV-040A	3 G-5	B	2 GT	AO	C	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	
RV-091A	3 F-7	C	1½ R	SA	-	SR-P						

SYSTEM: REVS &amp; CRAC (M-50)

1125

## VALVE TEST TABLE

PAGE III-16-5 OF III-16-7

DOCUMENT NO. 80A2903 Rev 2

DWG. NO. FB-43B

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0140B	3 C-5	C	6 C	SA	-	ET-Q	F				
0139B	3 C-5	C	6 C	SA	-	ET-Q	F				
0179B	3 C-2	C	6 C	SA	-	ET-Q	F				
0178B	3 C-2	C	6 C	SA	-	ET-Q	F				
0007B	3 D-3	C	6 C	SA	-	ET-Q	F				
0008B	3 D-5	C	6 C	SA	-	ET-Q	F				
AOV-062B	3 E-2	B	6 GT	AO	O	ET-Q ST-Q FS-Q				Stroke time not available. Will be added when determined.	

SYSTEM: RBSVS & CRAC (M-50)**nes**

## VALVE TEST TABLE

DWG. NO. FB-43BDOCUMENT NO. 80A2903 Rev 3PAGE III-16-6 OF III-16-7

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-063B	3 E-5	B	6 GT	AO	O	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	
MOV-034B	3 A-3	B	10 B	MO	C	ET-Q ST-Q	0 72					
MOV-033B	3 A-4	B	10 B	MO	C	ET-Q ST-Q	0 72					
MOV-032B	3 A-4	B	10 B	MO	O	ET-Q ST-Q	C 72					
MOV-031B	3 A-4	B	10 B	MO	O	ET-Q ST-Q	C 72					
MOV-069B	3 A-3	B	2 GT	AO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3
MOV-068B	3 A-4	B	2 GT	AO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3

SYSTEM: RESVS & CRAC (M-50)**NES**

## VALVE TEST TABLE

DWG. NO. FB-43BDOCUMENT NO. 80A2903 Rev 2PAGE III-16-7 OF III-16-7

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0019B	3 E-4	C	6 C	SA	-	ET-Q		F				
0020B	3 E-6	C	6 C	SA	-	ET-Q		F				
AOV-039B	3 F-2	B	2 GT	AO	C	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	
AOV-040B	3 G-5	B	2 GT	AO	C	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	
RV-091B	3 F-7	C	1½ R	SA	-	SR-P						



PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 17

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
SERVICE WATER (P-41)  
DWG. NO. FM-47A

III-17-1



NUCLEAR ENERGY SERVICES, INC.

SYSTEM: SERVICE WATER (P-41)

**nes**

VALVE TEST TABLE

DWG. NO. FM-47A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-17-2 OF III-17-9

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-031A	3 G-6	B	15 B	MO	O/C	ET-Q ST-Q	C 72					
MOV-031B	3 I-6	B	15 B	MO	O/C	ET-Q ST-Q	C 72					
MOV-031C	3 F-6	B	15 B	MO	O/C	ET-Q ST-Q	C 72					
MOV-031D	3 J-6	B	15 B	MO	O/C	ET-Q ST-Q	C 72					
MOV-032A	3 H-5	B	24 B	MO	O	ET-Q ST-Q	C 72					
MOV-032B	3 H-5	B	24 B	MO	O	ET-Q ST-Q	C 72					
MOV-035A	3 J-5	B	24 B	MO	LC	PV						

SYSTEM: SERVICE WATER (P-41)

**nes**

VALVE TEST TABLE

DWG. NO. FM-47A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-17-3 OF III-17-9

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-035B	3 J-5	B	24 B	MO	LC	PV						
MOV-033A	3 E-5	B	20 B	MO	C	ET-Q ST-Q	0 72					
MOV-033B	3 D-6	B	20 B	MO	C	ET-Q ST-Q	0 72					
MOV-033C	3 D-5	B	20 B	MO	C	ET-Q ST-Q	0 72					
MOV-033D	3 C-6	B	20 B	MO	C	ET-Q ST-Q	0 72					
MOV-039A	3 D-6	B	1 D	MO	O	ET-Q ST-Q	C 72					
MOV-039B	3 D-6	B	1 D	MO	O	ET-Q ST-Q	C 72					

SYSTEM: SERVICE WATER (P-41)**NES**

## VALVE TEST TABLE

DWG NO. FM-47ADOCUMENT NO. 80A2903 Rev 2PAGE III-17-4 OF III-17-9

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-034A	3 D-7	B	20 B	MO	C	ET-Q ST-Q	0 72					
MOV-034B	3 B-7	B	20 B	MO	C	ET-Q ST-Q	0 72					
MOV-037A	3 B-5	B	16 B	MO	O/C	ET-Q ST-Q	0 72					
MOV-037B	3 B-4	B	16 B	MO	O/C	ET-Q ST-Q	0 72					
AOV-016A	3 H-1	B	6 GT	AO	C	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	
AOV-016B	3 F-1	B	6 GT	AO	C	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	
AOV-016C	3 G-1	B	6 GT	AO	C	ET-Q ST-Q FS-Q					Stroke time not available. Will be added when determined.	

SYSTEM: SERVICE WATER (P-41)**NES**

## VALVE TEST TABLE

DWG. NO. FM-47ADOCUMENT NO. 8012903 Rev 2PAGE III-17-5 OF III-17-9

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-036A	3 J-3	B	10 GT	MO	O	ET-Q ST-Q	0 72					
MOV-036B	3 K-3	B	10 GT	MO	O	ET-Q ST-Q	0 72					
MOV-036C	3 K-3	B	10 GT	MO	O	ET-Q ST-Q	0 72					
0002A	3 G-6	C	18 C	SA	-	ET-Q ET-Q		F R				
0002B	3 H-6	C	18 C	SA	-	ET-Q ET-Q		F R				
0002C	3 F-6	C	18 C	SA	-	ET-Q ET-Q		F R				
0002D	3 J-6	C	18 C	SA	-	ET-Q ET-Q		F R				



SYSTEM: SERVICE WATER (P-41)**NES**

## VALVE TEST TABLE

DWG. NO. FM-47ADOCUMENT NO. 80A2903 Rev 2PAGE III-17-6 OF III-17-9

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
VIC-041	3 C-6	C	20 C	SA M	-	ET-Q ET-Q		F R			Manually testable check valve. Use full stroke test operator to verify operability.	
0008A	3 A-7	C	20 C	SA	-	ET-Q		F				
0008B	3 A-7	C	20 C	SA	-	ET-Q		F				
0010A	3 A-6	C	16 C	SA	-	ET-Q		F				
0010B	3 A-6	C	16 C	SA	-	ET-Q		F				
6V/0013A	3 G-3	C	6 C	SA	-	ET-Q ET-Q		F R				
6V/0013B	3 E-3	C	6 C	SA	-	ET-Q ET-Q		F R				



SYSTEM: SERVICE WATER (P-41)

NES

## VALVE TEST TABLE

DWG. NO. FM-47A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-17-7 OF III-17-9

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
6V/0013C	3 F-3	C	6 C	SA	-	ET-Q ET-Q	F R				
6V/0014A	3 H-3	C	6 C	SA	-	ET-Q ET-Q	F R				
6V/0014B	3 F-3	C	6 C	SA	-	ET-Q ET-Q	F R				
6V/0014C	3 G-3	C	6 C	SA	-	ET-Q ET-Q	F R				
MOV-042A	3 E-4	B	6 B	MD	C	ET-Q ST-Q	C 24				
MOV-042B	3 E-4	B	6 B	MD	C	ET-Q ST-Q	C 24				
MOV-043	3 E-4	B	1 GT	MD	O	ET-Q ST-Q	C 24				

SYSTEM: SERVICE WATER (P-41)

**NES**

VALVE TEST TABLE

DWG. NO. FM-47A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-17-8 OF III-17-9

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-129A	3 B-3	B	10 B	MO	O/C	ET-Q ST-Q	C 36					
MOV-129B	3 A-2	B	10 B	MO	O/C	ET-Q ST-Q	C 36					
0032A	3 I-3	C	10 C	SA	-	ET-Q		F				
0032B	3 I-3	C	10 C	SA	-	ET-Q		F				
0033A	3 I-3	C	10 C	SA	-	ET-Q		F				
0033B	3 I-3	C	10 C	SA	-	ET-Q		F				
0034A	3 J-3	C	10 C	SA	-	ET-Q ET-Q		F R				

SYSTEM: SERVICE WATER (P-41)

**nes**

VALVE TEST TABLE

DWG. NO. FM-47A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-17-9 OF III-17-9

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0034B	3 K-3	C	10 C	SA	-	ET-Q ET-Q		F R				
0035A	3 J-3	C	10 C	SA	-	ET-Q ET-Q		F R				
0035B	3 K-3	C	10 C	SA	-	ET-Q ET-Q		F R				

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 18

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
RBCLW (P-42)  
DWG. NO. FM-15 A,C : FB-23B



SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (P-42)

**NES**

VALVE TEST TABLE

DWG. NO. FM-15A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-18-2 OF III-18-16

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-032A	3 G-1	B	8 GT	MO	O	ET-Q ST-Q	C 60					
MOV-032B	3 H-1	B	8 GT	MO	O	ET-Q ST-Q	C 60					
MOV-033A	3 E-1	B	6 GT	MO	O	ET-Q ST-Q	C 40		CS-1 CS-1	ET-C ST-C		
MOV-033B	3 E-1	B	6 GT	MO	O	ET-Q ST-Q	C 40		CS-1 CS-1	ET-C ST-C		
MOV-034A	3 I-1	B	6 GT	MO	O	ET-Q ST-Q	C 40		CS-1 CS-1	ET-C ST-C		
MOV-034B	3 H-1	B	6 GT	MO	O	ET-Q ST-Q	C 40		CS-1 CS-1	ET-C ST-C		
MOV-042A	3 G-9	B	14 GT	MO	C	ET-Q ST-Q	C 80					

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (P-42)

**nes**

VALVE TEST TABLE

DWG. NO. FM-15A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-18-3 OF III-18-16

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-042B	3 G-9	B	14 GT	MO	C	ET-Q ST-Q	C 80					
MOV-043A	3 E-7	B	8 GT	MO	O	ET-Q ST-Q	C 52					
MOV-043B	3 E-7	B	8 GT	MO	O	ET-Q ST-Q	C 52					
MOV-044A	3 G-7	B	8 GT	MO	O	ET-Q ST-Q	C 52					
MOV-044B	3 G-7	B	8 GT	MO	O	ET-Q ST-Q	C 52					
MOV-031A	3 G-6	B	8 GT	MO	O	ET-Q ST-Q	C 60					
MOV-031B	3 G-6	B	8 GT	MO	O	ET-Q ST-Q	C 60					



SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (P-42)

**nes**

VALVE TEST TABLE

DWG. NO. FM-15A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-18-4 OF III-18-16

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-041A	3 G-9	B	14 GT	MO	O	ET-Q ST-Q	C 80					
MOV-041B	3 G-9	B	14 GT	MO	O	ET-Q ST-Q	C 80					
0005A	3 F-2	C	8 C	SA	-	ET-Q ET-Q		F R				
0005B	3 J-2	C	8 C	SA	-	ET-Q ET-Q		F R				
0005C	3 H-2	C	8 C	SA	-	ET-Q ET-Q		F R				
0036A	3 D-6	C	12 C	SA	-	ET-Q		F				
0036B	2 J-6	C	12 C	SA	-	ET-Q		F				

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (P-42)

**nes**

VALVE TEST TABLE

DWG. NO. FM-15A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-18-5 OF III-18-16

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
AOV-292	3 G-8	BC	8 SC	SA AO	- O	ET-Q ET-Q ST-Q	C	F R	CS-2 CS-2	ET-C ST-C	Positive closure stop check valve. Air operator used to test for reverse closures. Stroke time not available. Will be added when determined.	

SYSTEM: REACTOR BLDG., CLOSED LOOP COOLING WATER (P-42)

**NES**

VALVE TEST TABLE

DWG. NO. FM-15C

DOCUMENT NO. 80A2903 Rev 2

PAGE III-18-6 OF III-18-16

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-035	2 E-6	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24		CS-3 CS-3	ET-C ST-C		
MOV-036	2 A-4	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24		CS-3 CS-3	ET-C ST-C		
MOV-047	2 F-6	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24		CS-3 CS-3	ET-C ST-C		
MOV-048	2 J-4	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24		CS-3 CS-3	ET-C ST-C		
MOV-293	3 A-4	BC	6 SC	SA AO	- O	ET-Q ET-Q ST-Q	C	F R	CS-4 CS-4	ET-C ST-C	Positive closure stop check valve. Air operator used to test for reverse closure. Stroke time not available. Will be added when determined.	
MOV-294	3 K-4	BC	6 SC	SA AO	- O	ET-Q ET-Q ST-Q	C	F R	CS-4 CS-4	ET-C ST-C	Positive closure stop check valve. Air operator used to test for reverse closure. Stroke time not available. Will be added when determined.	

SYSTEM: REACTOR BLDG., CLOSED LOOP COOLING WATER (P-42)

**1105**

VALVE TEST TABLE

DWG. NO. FM-23B

DOCUMENT NO. 80A2903 Rev 2

PAGE III-18-7 OF III-18-16

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAL.	SIZE (IN) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. TIME (SEC.)	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT TEST PERF.	REMARKS	REV NO.
MOV-231	2 A-1	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24	CS-5 CS-5	ET-C ST-C		
MOV-232	2 A-2	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18				
MOV-233	2 A-4	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18				
MOV-234	2 A-5	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18				
MOV-235	2 A-6	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18				
MOV-236	2 L-1	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24	CS-5 CS-5	ET-C ST-C		
MOV-237	2 L-2	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18				

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (P-42)

1125

VALVE TEST TABLE

DWG. NO. FM-23B

DOCUMENT NO. 80A2903 Rev 2

PAGE III-18-8 OF III-18-16

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-238	2 L-3	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18				
MOV-239	2 L-5	A	3 GT	MO	O	ET-Q ST-Q LJ-R	C 18				
MOV-240	2 L-6	A	3 GT	MO	C	ET-Q ST-Q LJ-R	C 18				
MOV-147	2 B-1	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24	CS-5 CS-5	ET-C ST-C		
MOV-148	2 K-1	A	4 GT	MO	O	ET-Q ST-Q LJ-R	C 24	CS-5 CS-5	ET-C ST-C		
0037AA	2 A-2	AC	3 C	SA	-	ET-Q LJ-R		RR-1	ET-R		
0037AB	2 A-4	AC	3 C	SA	-	ET-Q LJ-R		RR-1	ET-R		

SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (P-42)

**nes**

VALVE TEST TABLE

DWG. NO. FB-23B

DOCUMENT NO. 80A2903 Rev 2

PAGE III-18-9 OF III-18-16

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0037AC	2 A-5	AC	3 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0037AD	2 A-6	AC	3 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0037BA	2 L-2	AC	3 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0037BB	2 L-4	AC	3 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0037BC	2 L-5	AC	3 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0037BD	2 L-6	AC	3 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
RV-291A	2 A-1	AC	1 R	SA	-	LJ-R					Thermal relief valve. App. J, Type C test only.	



SYSTEM: REACTOR BLDG. CLOSED LOOP COOLING WATER (P-42)

**nes**

VALVE TEST TABLE

DWG. NO. FB-23B

DOCUMENT NO. 80A2903 Rev 2

PAGE III-18-10 OF III-18-16

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
RV-291B	2 K-1	AC	1 R	SA	-	LJ-R					Thermal relief valve. App. J, Type C test only.	

**COLD SHUTDOWN TEST JUSTIFICATION**CS - 1

**System:** RBCLCW

**Valve:** MOV-033A,B : MOV-034A,B

**Category:** B

**Class:** 3

**Function:** Isolate non-essential cooling loads during a LOCA.

**ASME Section XI  
Quarterly Test  
Requirements:**

Exercise and time.

**Cold Shutdown  
Test Justification:**

To test these valves would require interruption of cooling water flow to the RWCU non-regenerative heat exchangers and pumps, CRD pumps and one half of the drywell coolers. Both halves of the drywell coolers are required during normal operation. Interruption of flow to either half of the drywell coolers could cause a reactor trip due to high drywell temperature or pressure. In addition, failure of these valves to reopen could cause damage to equipment being cooled.

**Quarterly Part  
Stroke Testing:**

Valves are full stroke only valves and cannot be partial stroke exercised.

**Cold  
Shutdown Testing:**

Exercise and time.

**COLD SHUTDOWN TEST JUSTIFICATION**CS - 2

**System:** RBCLCW

**Valve:** AOV-282

**Category:** BC

**Class:** 3

**Function:** Return isolation check valve.

**ASME Section XI  
Quarterly Test  
Requirements:** Exercise, time and fail.

**Cold Shutdown  
Test Justification:** Exercising valve would interrupt flow to the recirculation pump M-G set oil coolers, this could cause oil to overheat and cause a possible plant shutdown.

**Quarterly Part  
Stroke Testing:** Valve is a full stroke only valve and cannot be partial stroke exercised.

**Cold  
Shutdown Testing:** Exercise, time and fail.

**COLD SHUTDOWN TEST JUSTIFICATION**CS - 3

**System:** RBCLCW

**Valve:** MOV-035 : MOV-036 : MOV-047 : MOV-048

**Category:** A

**Class:** 2

**Function:** Inlet and outlet isolation valves to recirc. pump seal coolers, motor bearing cooler and motor winding cooler.

**ASME Section XI  
Quarterly Test  
Requirements:** Exercise and time.

**Cold Shutdown  
Test Justification:** To test these valves would require interruption of cooling water to the recirc. pump seal coolers, motor bearing cooler or motor winding cooler. Loss of cooling water for more than 10 minutes could damage the recirculation pumps. Loss of cooling requires the plant to be shutdown.

**Quarterly Part  
Stroke Testing:** Valves are full stroke only valves and cannot be partial stroke exercised.

**Cold  
Shutdown Testing:** Exercise and time.

**COLD SHUTDOWN TEST JUSTIFICATION**CS - 4

**System:** RBCLCW

**Valve:** AOV-293 : AOV-294

**Category:** BC

**Class:** 3

**Function:** Isolate non-essential cooling loads during a LOCA.

**ASME Section XI  
Quarterly Test  
Requirements:**

Exercise and time.

**Cold Shutdown  
Test Justification:**

To test these valves would require interruption of cooling water flow to the RWCU non-regenerative heat exchangers and pumps, CRD pumps and one half of the drywell coolers. Both halves of the drywell coolers are required during normal operation. Interruption of flow to either half of the drywell coolers could cause a reactor trip due to high drywell temperature or pressure. In addition, failure of these valves to reopen could cause damage to equipment being cooled.

**Quarterly Part  
Stroke Testing:**

Valves are full stroke only valves and cannot be partial stroke exercised.

**Cold  
Shutdown Testing:**

Exercise and time.

## COLD SHUTDOWN TEST JUSTIFICATION

CS - 5

System: RBCLCW

Valve: MOV-147 : MOV-148 : MOV-231 : MOV-236

Category: A

Class: 2

Function: Drywell cooling water supply and return containment isolation valves.

ASME Section XI  
Quarterly Test  
Requirements: Exercise and time.

Cold Shutdown  
Test Justification: To test these valves would require interruption of cooling water to one half of the drywell cooling system. Both halves of the drywell cooling system are required during normal operation. Interruption of flow to either half of the drywell coolers could cause a reactor trip due to high drywell temperature or pressure.

Quarterly Part  
Stroke Testing: Valves are full stroke only valves and cannot be partial stroke exercised.

Cold  
Shutdown Testing: Exercise and time.



**RELIEF REQUEST**  
**RR - 1**

**System:** RBCLCW

**Valve:** 0037 AA, AB, AC, AD, BA, BB, BC, BD

**Category:** AC

**Class:** 2

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI Quarterly Test Requirements:** Verify reverse flow closure.

**Basis for Relief:** The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:** Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 19

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
INSTRUMENT AND SERVICE AIR (P-50)  
DWG. NO. FM-38 D,E



SYSTEM: INSTRUMENT AND SERVICE AIR (P-50)

**nes**

VALVE TEST TABLE

DWG. NO. FM-38E

DOCUMENT NO. 80A2903 Rev 2

PAGE III-19-2 OF III-19-5

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-104	2 C-7	A	1 GL	MO	C	ET-Q ST-Q LJ-R	C 18					
MOV-106	2 H-7	A	1 GL	MO	C	ET-Q ST-Q LJ-R	C 18					
MOV-103A	2 C-5	A	1½ GL	MO	O	ET-Q ST-Q LJ-R	C 26					
MOV-103B	2 G-5	A	1½ GL	MO	O	ET-Q ST-Q LJ-R	C 26					
0695A	2 F-5	AC	1½ C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0695B	2 D-5	AC	1½ C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0811	2 H-7	AC	1 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		

SYSTEM: INSTRUMENT AND SERVICE AIR (P-50)

**1125**

VALVE TEST TABLE

DWG. NO. FM-38E & FM-38D

DOCUMENT NO. 80A2903 Rev 2

PAGE III-19-3 OF III-19-5

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0821	2 C-7	AC	1 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0603	2 E-6	AC	1½ C	SA	-	ET-Q LJ-R		R	RR-1	ET-R	Located on Dwg. No. FM-38D.	
0601	2 E-6	A	1½ GT	M	LC	PV LJ-R					Located on Dwg. No. FM-38D.	
MOV-105A	2 F-5	B	1½ GL	MO	O	ET-Q ST-Q	C 14					
MOV-105B	2 E-5	B	1½ GL	MO	O	ET-Q ST-Q	C 14					
MOV-113A	2 C-5	B	1½ GL	MO	O	ET-Q ST-Q	C 13					
MOV-113B	2 H-5	B	1½ GL	MO	O	ET-Q ST-Q	C 13					

SYSTEM: INSTRUMENT AND SERVICE AIR (P-50)

**nes**

VALVE TEST TABLE

DWG. NO. FM-38E

DOCUMENT NO. 80A2903 Rev 2

PAGE III-19-4 OF III-19-5

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0702B	2 B-5	C	1½ C	SA	-	ET-Q		R				
0702A	2 H-5	C	1½ C	SA	-	ET-Q		R				
MOV-114A	2 C-4	B	1½ GL	MO	C	ET-Q ST-Q	0 13					
MOV-114B	C H-4	B	1½ GL	MO	C	ET-Q ST-Q	0 13					
SOV-028	2 F-3	A	¾ B	EM	O	ET-Q ST-Q FS-Q LJ-R	C 5				System C-51.	
0867	2 D-3	C	¾ C	SA	-	ET-Q LJ-R		R	RR-1	ET-R	System C-51.	

**RELIEF REQUEST**  
**RR - 1**

**System:** Instrument and Service Air

**Valve:** 0695A,B : 0603 : 0811 : 0821 : 1C51-0867

**Category:** AC

**Class:** 2

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:** Reverse flow closure will be verified during Appendix J, Type C testing at refueling.



PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 20

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
FUEL OIL TRANSFER (R-43)  
DWG. NO. FM-44A



SYSTEM: FUEL OIL TRANSFER (R-43)

**nes**

VALVE TEST TABLE

DWG. NO. FM-44A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-20-2 OF III-20-4

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0200A	3 C-8	C	2 C	SA	-	ET-Q		F				
0201A	3 C-8	C	2 C	SA	-	ET-Q		F				
0200C	3 C-6	C	2 C	SA	-	ET-Q		F				
0201C	3 C-6	C	2 C	SA	-	ET-Q		F				
0200B	3 C-5	C	2 C	SA	-	ET-Q		F				
0201B	3 C-5	C	2 C	SA	-	ET-Q		F				
RV-025A	3 C-8	C	3/4 R	SA	-	SR-P						

SYSTEM: FUEL OIL TRANSFER (R-43)

**nes**

VALVE TEST TABLE

DWG. NO. FM-44A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-20-3 OF III-20-4

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
RV-025B	3 C-5	C	3/4 R	SA	-	SR-P						
RV-025C	3 C-6	C	3/4 R	SA	-	SR-P						
RV-026A	3 C-8	C	3/4 R	SA	-	SR-P						
RV-026B	3 C-5	C	3/4 R	SA	-	SR-P						
RV-026C	3 C-6	C	3/4 R	SA	-	SR-P						
RV-099A	3 E-8	C	3/4 R	SA	-	SR-P						
RV-099B	3 E-5	C	3/4 R	SA	-	SR-P						

# VALVE TEST TABLE

**NES**

SYSTEM: FUEL OIL TRANSFER (R-43)

PAGE III-20-4 OF III-20-4

DOCUMENT NO. 80A2903 Rev 2

DWG. NO. FM-44A

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALI TEST PERF.	REMARKS	REV NO.
RV-099C	3 E-7	C	3/4 R	SA	-	SR-P						

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 21

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
DIESEL GENERATOR AIR START (R-43)  
DWG. NO. FM-44B

III-21-1



SYSTEM: DIESEL GENERATOR AIR START (R-43)

**NES**

VALVE TEST TABLE

DWG. NO. FM-44B

DOCUMENT NO. 80A2903 Rev 2

PAGE III-21-2 OF III-21-4

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0209A	3 F-7	C	4 C	SA	-	ET-Q		R				
0208A	3 D-7	C	4 C	SA	-	ET-Q		R				
0209C	3 F-4	C	4 C	SA	-	ET-Q		R				
0208C	3 D-4	C	4 C	SA	-	ET-Q		R				
0209B	3 F-2	C	4 C	SA	-	ET-Q		R				
0208B	3 D-2	C	4 C	SA	-	ET-Q		R				
SV-034A	3 C-6	C	1 R	SA	-	SR-P						



SYSTEM: DIESEL GENERATOR AIR START (R-43)

**nes**

VALVE TEST TABLE

DWG. NO. FM-44B

DOCUMENT NO. 80A2903 Rev 2

PAGE III-21-3 OF III-21-4

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
SV-035A	3 E-6	C	1 R	SA	-	SR-P						
SV-036A	3 E-6	C	1 R	SA	-	SR-P						
SV-037A	3 G-6	C	1 R	SA	-	SR-P						
SV-034C	3 C-4	C	1 R	SA	-	SR-P						
SV-035C	3 E-4	C	1 R	SA	-	SR-P						
SV-036C	3 E-4	C	1 R	SA	-	SR-P						
SV-037C	3 G-4	C	1 R	SA	-	SR-P						

SYSTEM: DIESEL GENERATOR AIR START (R-43)

**nes**

VALVE TEST TABLE

DWG. NO. FM-44B

DOCUMENT NO. 80A2903 Rev 2

PAGE III-21-4 OF III-21-4

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
SV-034B	3 C-1	C	1 R	SA	-	SR-P						
SV-035B	3 E-1	C	1 R	SA	-	SR-P						
SV-036B	3 E-1	C	1 R	SA	-	SR-P						
SV-037B	3 G-1	C	1 R	SA	-	SR-P						

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 22

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
DRYWELL FLOOR SEAL PRESSURE MONITORING (T-23)  
DWG. NO. FM-55A



SYSTEM: DRYWELL FLOOR SEAL PRESSURE MONITORING (T-23)

**nes**

VALVE TEST TABLE

DWG. NO. FM-55A

DOCUMENT NO. 80A2903 Rev 2

PAGE III-22-2 OF III-22-2

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-031A	2 C-2	A	1/2 GL	MO	O	ET-Q ST-Q LJ-R	C 10					
MOV-031B	2 C-6	A	1/2 GL	MO	O	ET-Q ST-Q LJ-R	C 10					
RV-021A	2 F-3	C	3/4 R	SA	-	SR-P						
RV-021B	2 F-6	C	3/4 R	SA	-	SR-P						

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 23

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
REACTOR BLDG. NORMAL VENT. (T-46)  
DWG. NO. FB-23A



SYSTEM: REACTOR BLDG., NORMAL VENT., (T-46)

**1125**

VALVE TEST TABLE

DWG. NO. FB-23B

DOCUMENT NO. 80A2903 Rev 2

PAGE III-23-2 OF III-23-4

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
AOV-038A	2 H-8	A	18 B	AO	C	PV LJ-R						
AOV-038B	2 H-8	A	18 B	AO	C	PV LJ-R						
AOV-038C	2 H-8	A	18 B	AO	C	PV LJ-R						
AOV-038D	2 H-8	A	18 B	AO	C	PV LJ-R						
AOV-039A	2 G-8	A	18 B	AO	C	PV LJ-R						
AOV-039B	2 F-8	A	18 B	AO	C	PV LJ-R						
AOV-039C	2 H-8	A	18 B	AO	C	PV LJ-R						



SYSTEM: REACTOR BLDG. NORMAL VENT (T-46)**nes**

## VALVE TEST TABLE

DWG. NO. FB-23ADOCUMENT NO. 80A2903 RevPAGE III-23-3 OF III-23-4

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
AOV-039D	2 H-8	A	18 B	AO	C	PV LJ-R						
AOV-078A	2 G-8	A	6 GT	AO	C	ET-Q ST-Q FS-Q LJ-R	C				Stroke time not available. Will be added when determined.	3
AOV-078B	2 F-8	A	6 GT	AO	C	ET-Q ST-Q FS-Q LJ-R	C				Stroke time not available. Will be added when available.	3
AOV-079A	2 F-8	A	6 GT	AO	C	ET-Q ST-Q FS-Q LJ-R	C				Stroke time not available. Will be added when determined.	3
AOV-079B	2 F-8	A	6 GT	AO	C	ET-Q ST-Q FS-Q LJ-R	C				Stroke time not available. Will be added when determined.	3
AOV-035A	- L-4	B	72 B	AO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3
AOV-035B	- L-4	B	72 B	AO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3

SYSTEM: REACTOR BLDG. NORMAL VENT. (T-46)

**nes**

VALVE TEST TABLE

DWG. NO. FB-23A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-23-4 OF III-23-4

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALI. TEST PERF.	REMARKS	REV NO.
ACV-037A	- B-5	B	72 B	AO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3
ACV-037B	- B-5	B	72 B	AO	O	ET-Q ST-Q FS-Q	C				Stroke time not available. Will be added when determined.	3

PUMP AND VALVE INSERVICE TESTING PROGRAM PLAN  
FOR  
SHOREHAM NUCLEAR POWER PLANT  
UNIT NO. 1

SECTION III  
ATTACHMENT 24

VALVE TEST TABLES AND RELIEF REQUESTS  
FOR  
PRIMARY CONTAINMENT ATMOSPHERIC CONTROL (T-48)  
DWG. NO. FM-52A : FM-84A



SYSTEM: PRIMARY CONTAINMENT ATMOSPHERIC CONTROL (T-48)

**nes**

VALVE TEST TABLE

DWG. NO. FM-52A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-24-2 OF III-24-12

3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
SOV-126A	2 F-3	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
SOV-126B	2 F-3	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
SOV-127A	2 C-7	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
SOV-127B	2 C-7	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
SOV-128A	2 E-3	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
SOV-128B	2 E-3	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					
SOV-129A	2 H-7	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5					

SYSTEM: PRIMARY CONTAINMENT ATMOSPHERIC CONTROL (T-48)

**1125**

VALVE TEST TABLE

DWG. NO. FM-52A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-24-3 OF III-24-12

A

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	C.S. JUST OR RELIEF REQ. NO.	C.S. OR ALT TEST PERF	REMARKS	REV NO.
SCV-129B	2 H-7	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5				
SCV-134	2 I-5	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5				
SCV-131	2 C-5	A	3/4 GT	EM	C	ET-Q ST-Q FS-Q LJ-R	C 5				
MOV-031A	2 F-5	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36				
MOV-031B	2 E-5	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36				
MOV-032A	2 F-6	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36				
MOV-032B	2 E-6	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36				

SYSTEM: PRIMARY CONTAINMENT ATMOSPHERIC CONTROL (T-48)

**NES**

VALVE TEST TABLE

DWG. NO. FM-52A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-24-4 OF III-24-12



VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-033A	2 F-6	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
MOV-033B	2 E-6	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
MOV-034A	2 G-8	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
MOV-034B	2 E-8	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
MOV-035A	2 G-5	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 24					
MOV-035B	2 F-5	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 24					
MOV-037A	2 G-6	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					



SYSTEM: PRIMARY CONTAINMENT ATMOSPHERIC CONTROL (T-48)

**nes**

VALVE TEST TABLE

DWG. NO. FM-52A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-24-5 OF III-24-12

△ 3

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-037B	2 E-6	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
MOV-038A	2 G-6	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 24					
MOV-038B	2 D-6	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 24					
MOV-040A	2 G-8	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
MOV-040B	2 D-8	A	6 GT	MO	C	ET-Q ST-Q LJ-R	C 36					
AOV-001A	2 F-4	A	4 GT	AO	C	ET-Q ST-Q FS-Q LJ-R	C				System T-24. Stroke time not available. Will be added when determined.	△ 3
AOV-001B	2 F-4	A	4 GT	AO	C	ET-Q ST-Q FS-Q LJ-R	C				System T-24. Stroke time not available. Will be added when determined.	△ 3

SYSTEM: PRIMARY CONTAINMENT ATMOSPHERIC CONTROL (T-48)

**nes**

VALVE TEST TABLE

DWG. NO. FM-52A & FM-84A

DOCUMENT NO. 8GA2903 Rev 3

PAGE III-24-6 OF III-24-12

△ 3

VALVE NO.	CLASS AND DWG. COOR.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
0016A	2 H-5	AC	3/4 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
0016B	2 C-5	AC	3/4 C	SA	-	ET-Q LJ-R		R	RR-1	ET-R		
AOV-004A	2 D-8	A	4 GL	AO	C	ET-Q ST-Q FS-Q LJ-R	C				System T-24. Dwg. FM-84A. Stroke time not available. Will be added when determined.	△ 3
AOV-004B	2 D-8	A	4 GL	AO	C	ET-Q ST-Q FS-Q LJ-R	C				System T-24. Dwg. FM-84A. Stroke time not available. Will be added when determined.	△ 3
MOV-043A	2 G-5	B	4 GT	MO	C	ET-Q ST-Q	0 24					
MOV-043B	2 D-5	B	4 GT	MO	C	ET-Q ST-Q	0 24					
MOV-041	2 D-2	B	4 GT	MO	C	ET-Q ST-Q	0 24					

SYSTEM: PRIMARY CONTAINMENT ATMOSPHERIC CONTROL (T-48)

**NES**

VALVE TEST TABLE

DWG. NO. FM-52A

DOCUMENT NO. 60A2903 Rev 3

PAGE III-24-7 OF III-24-12



VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT AND TIME (SEC.)	CHECK VALVE TEST DIRECT	C.S. JUST OR RELIEF REQ. NO	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
MOV-042	2 C-3	B	4 GT	MO	C	ET-Q ST-Q	0 24					
0004A	2 H-5	C	6 C	SA	-	ET-Q		F	RR-2		Test with hydrogen recombiner operability test, every 6 months.	
0004B	2 B-5	C	6 C	SA	-	ET-Q		F	RR-2		Test with hydrogen recombiner operability test, every 6 months.	
MOV-044A	2 G-7	B	4 GT	MO	C	ET-Q ST-Q	0 24					
MOV-044B	2 D-7	B	4 GT	MO	C	ET-Q ST-Q	0 24					
MOV-016A	2 I-4	B	1 GL	MO	C	ET-Q ST-Q	0 30		RR-3 RR-3		Located on Dwg. 11600.026.87-1E. H <sub>2</sub> recombiner water spray valve. Tested with hydrogen recombiner operability test, every 6 months.	
MOV-016B	2 B-4	B	1 GL	MO	C	ET-Q ST-Q	0 30		RR-3 RR-3		Located on Dwg. 11600.026.87-1E. H <sub>2</sub> recombiner water spray valve. Tested with hydrogen recombiner operability test, every 6 months.	


SYSTEM: PRIMARY CONTAINMENT ATMOSPHERIC CONTROL (T-48)





**NES**

VALVE TEST TABLE

DWG. NO. FM-52A

DOCUMENT NO. 80A2903 Rev 3

PAGE III-24-8 OF III-24-12 

VALVE NO.	CLASS AND DWG. COORD.	VALVE CAT.	SIZE (IN.) AND TYPE	ACTU. TYPE	NORM POSIT.	TEST REQ.	STROKE DIRECT. AND TIME (SEC.)	CHECK VALVE TEST DIRECT.	C.S. JUST. OR RELIEF REQ. NO.	C.S. OR ALT. TEST PERF.	REMARKS	REV NO.
SOV-136A	2 G-4	B	1/2 GL	EM	C	ET-Q ST-Q FS-Q	C 5		RR-4 RR-4 RR-4			
SOV-136B	2 D-4	B	1/2 GL	EM	C	ET-Q ST-Q FS-Q	C 5		RR-4 RR-4 RR-4			
SOV-137A	2 H-4	B	1/2 GL	EM	C	ET-Q ST-Q FS-Q	C 5		RR-4 RR-4 RR-4			
SOV-137B	2 D-4	B	1/2 GL	EM	C	ET-Q ST-Q FS-Q	C 5		RR-4 RR-4 RR-4			

**RELIEF REQUEST**  
**RR - 1**

**System:** Primary Containment Atmospheric Control

**Valve:** 0016A,B

**Category:** AC

**Class:** 2

**Function:** Containment isolation simple check valve (reverse flow closure for containment isolation only).

**ASME Section XI  
Quarterly Test  
Requirements:** Verify reverse flow closure.

**Basis for Relief:** The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C testing at refueling.

**Alternate Testing:** Reverse flow closure will be verified during Appendix J, Type C testing at refueling.

**RELIEF REQUEST**  
**RR - 2**

**System:** Primary Containment Atmospheric Control

**Valve:** 0004A,B

**Category:** C

**Class:** 2

**Function:** Hydrogen recombiner outlet check valves.

**ASME Section XI  
Quarterly Test  
Requirements:** Exercise

**Basis for Relief:** The only way to verify full flow opening is during the hydrogen recombiner functional test which is performed by Technical Specification Surveillance Requirements 4.6.6.1 which test the hydrogen recombiners for operability at least once every six months.

**Alternate Testing:** Verify operability during hydrogen recombiner functional testing at least once every six months.



## RELIEF REQUEST

RR - 3

**System:** Primary Containment Atmospheric Control

**Valve:** MOV-016A,B

**Category:** B

**Class:** 2

**Function:** Hydrogen recombiner water spray valves.

**ASME Section XI  
Quarterly Test  
Requirements:**

Exercise and time.

**Basis for Relief:**

These valves are slaved to the hydrogen recombiner controls and open automatically on initiation of the hydrogen recombiner. They do not have separate test provisions and cannot be operated independent of recombiner initiation. These valves can only be tested during the hydrogen recombiner functional test which is performed by Technical Specification Surveillance Requirement 4.6.6.1 which is performed at least once every six months.

**Alternate Testing:**

Exercise and time during hydrogen recombiner functional testing at least once every six months.

**RELIEF REQUEST**  
**RR -**

**System:** Primary Containment Atmospheric Control

**Valve:** SOV-136A,B : SOV-137A,B

**Category:** B

**Class:** 2

**Function:** H<sub>2</sub>/O<sub>2</sub> analyzer isolation valves.

**ASME Section XI  
Quarterly Test  
Requirements:**

Exercise, time and fail.

**Basis for Relief:**

Valve design preclude verification of valve position. Valve position indication for these valves is by indicator lights which only indicate whether or not the solenoids are energized. The valve design does not provide any direct means to observe valve position. These valves are isolation valves in the lines to the H<sub>2</sub>/O<sub>2</sub> analyzers and cannot be position verified by other methods, such as, system flow or pressure.

**Alternate Testing:**

Design changes are presently under consideration to modify the valves to provide a means of valve position indication. An appropriate modification(s) will be selected and completed at the first refueling outage. This modification will be such that valve exercising, timing and fail safe testing will be possible. In the interim valve exercising will be performed quarterly using the present indicators.