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November 16, 1979

Docket No. 50-348

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. A. Schwencer

Gentlemen:

Joseph M. Farley Nuclear Plant - Unit No. 1
Inservice Testing Program

In accordance with the requirements set forth in 10CFR50, Section 50.55a(g)(6)(i) and agreements reached in the Inservice Testing Program meeting held September 26 and 27, 1979 with representatives of the NRC, Alabama Power Company hereby submits seven (7) copies of Revision 1 of the document entitled "Joseph M. Farley Nuclear Plant - Unit No. 1 Inservice Testing Program". The items revised are indicated on these document replacement pages.

It should be noted that the program requires a 3-month exercising frequency for the Containment Purge valves. Since the program is a long-term commitment (100 months), a 3-month frequency was considered applicable. Presently the valves cannot be exercised at this frequency due to design and regulatory considerations. The valve exercising will resume upon resolution of regulatory limitations.

In addition, Alabama Power Company is submitting responses to the seventeen (17) questions posed by the NRC reviewer concerning check valves which cannot be full-stroke exercised at a frequency greater than each refueling outage. The applicable valves are:

Q1E13V014 - CTMT Spray Pump Suction From RWST

Q1E21V032 A, B. C - Accumulator Discharge to RCS

Q1E21V037 A, B. C - Accumulator Discharge to RCS

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It is hereby requested that the subject program, as revised, be approved and the ASME Section XI Code Relief requested be granted pursuant to Section 50.55a(g)(6)(i) of 10CFR50.

Should you have any questions, please advise.

Yours very truly,

F. L. Clayton, Jr.

FLCJr/JGS:bhj

Enclosures: Seven (7) copies "Joseph M. Farley Nuclear Plant-Unit No. 1 Inservice Testing Program - Revision 1

cc: Mr. R. A. Thomas
Mr. G. F. Trowbridge

Farley Nuclear Plant Unit 1
Inservice Testing Program

DATE: November 14, 1979

INSERTION INSTRUCTIONS

Section/Page	Instruction
Pumps	Replace entirely
Valves	Replace entirely

2.0 INSERVICE TESTING OF PUMPS

Table P-1 describes the inservice testing program for pumps subject to the requirements of Subsection IWP of the 1974 Edition of ASME Section XI with Addenda through Summer 1975. The table provides identification of the pumps to be tested, pump code classes, parameters to be measured and test intervals. Relief from the testing requirements of Section XI is requested where full compliance with the requirements of the code is not practical. In such cases, specific information is provided which identifies the applicable code requirements, justification for the relief request, and the testing to be used as an alternate.

TABLE P-I PUMP TESTING PROGRAM

Rev. No. 1

Pump Identification Total Plant Numbering System	Pump Description	ASME Code Class	Measured Parameters	Test Interval	Relief Request
Q1E21P002A-A	Charging (HHSI)	2	1. Inlet Pressure (Pi)	Monthly	NO
Q1E21P002B-AB			2. Outlet Pressure (Po)	Monthly	NO
Q1E21P002C-B			3. Differential Pressure (ΔP = Po - Pi)	Monthly	2.1.6
			4. Vibration Amplitude	Quarterly	2.1.1
			5. Bearing Temperature	Annually	NO
			6. Lubricant Level or Pressure	Observe Quarterly	2.1.1

TABLE P-I PUMP TESTING PROGRAM

Rev. No. 1

Pump Identification Total Plant Numbering System	Pump Description	ASME Code Class	Measured Parameters	Test Interval	Relief Request
Q1E11P001A-A	Residual Heat Removal (RHR)	2	1. Inlet Pressure (Pi)	Monthly	2.1.11
Q1E11P001B-B			2. Outlet Pressure (Po)	Monthly	2.1.11
			3. Differential Pressure ($\Delta P = Po - Pi$)	Monthly	2.1.11
			4. Vibration Amplitude	Quarterly	2.1.1
			5. Bearing Temperature	Annually	NO
			6. Lubricant Level or Pressure	Observe Quarterly	2.1.1
			7. Flow Rate	Monthly	2.1.11
Q1P17P001A-B	Component Cooling Water (CCW)	3	1. Inlet Pressure (Pi)	Quarterly	2.1.1
Q1P17P001B-AB			2. Outlet Pressure (Po)	Quarterly	2.1.1
Q1P17P001C-A			3. Differential Pressure ($\Delta P = Po - Pi$)	Quarterly	2.1.1
			4. Vibration Amplitude	Quarterly	2.1.1
			5. Bearing Temperature	Annually	NO
			6. Lubricant Level or Pressure	Observe Quarterly	2.1.1
			7. Flow Rate	Monthly	2.1.7

TABLE P-I PUMP TESTING PROGRAM

Rev. No. 1

Pump Identification Total Plant Numbering System	Pump Description	ASME Code Class	Measured Parameters	Test Interval	Relief Request
Q1P16P001A-A	Service Water (SW)	3	1. Inlet Pressure (Pi)	Quarterly	2.1.1, 2.1.2, 2.1.3
Q1P16P001B-A			2. Outlet Pressure (Po)	Quarterly	2.1.1, 2.1.3
Q1P16P001C-AB			3. Differential Pressure (ΔP = Po - Pi)	Quarterly	2.1.1, 2.1.3
Q1P16P001D-B			4. Flow Rate	Quarterly Monthly	2.1.1, 2.1.3 2.1.8
Q1P16P001E-B			5. Vibration Amplitude	Quarterly	2.1.1
			6. Bearing Temperature	Annually	NO
			7. Lubricant Level or Pressure	Observe Quarterly	2.1.1
Q1N23P001A-A	Auxiliary Feed-water (Motor Driven)	3	1. Inlet Pressure (Pi)	Monthly	NO
Q1N23P001B-B			2. Outlet Pressure (Po)	Monthly	NO
			3. Differential Pressure (ΔP = Po - Pi)	Monthly	NO
			4. Vibration Amplitude	Quarterly	2.1.1
			5. Bearing Temperature	Annually	NO
			6. Lubricant Level or Pressure	Observe Quarterly	2.1.1

TABLE P-I PUMP TESTING PROGRAM

Rev. No. 1

Pump Identification Total Plant Numbering System	Pump Description	ASME Code Class	Measured Parameters	Test Interval	Relief Request
Q1N23P002	Auxiliary Feedwater (Turbine Driven)	3	1. Inlet Pressure (Pi)	Monthly	NO
			2. Outlet Pressure (Po)	Monthly	NO
			3. Differential Pressure ($\Delta P = Po - Pi$)	Monthly	2.1.9
			4. Flow Rate	Monthly	2.1.9
			5. Vibration Amplitude	Quarterly	2.1.1
			6. Bearing Temperature	Annually	NO
			7. Lubricant Level or Pressure	Observe Quarterly	2.1.1
			8. Speed	Quarterly	2.1.1

TABLE P-I PUMP TESTING PROGRAM

Rev. No. 1

Pump Identification Total Plant Numbering System	Pump Description	ASME Code Class	Measured Parameters	Test Interval	Relief Request
Q1E13P001A-A	Containment Spray (CS)	2	1. Inlet Pressure (Pi)	Monthly	NO
Q1E13P001B-B			2. Outlet Pressure (Po)	Monthly	NO
			3. Differential Pressure (ΔP = Po - Pi)	Monthly	NO
			4. Vibration Amplitude	Quarterly	2.1.1
			5. Bearing Temperature	Annually	NO
			6. Lubricant Level or Pressure	Observe Quarterly	2.1.1
QSP25P004-B	River Water (RW)	3	1. Inlet Pressure (Pi)	Quarterly	2.1.1, 2.1.4
QSP25P005-B			2. Outlet Pressure (Po)	Monthly	2.1.1, 2.1.10
QSP25P008-A			3. Differential Pressure (ΔP = Po - Pi)	Quarterly	2.1.1, 2.1.5
QSP25P009-A			4. Vibration Amplitude	Quarterly	2.1.1
QSP25P010-A			5. Bearing Temperature	Annually	NO
			6. Lubricant Level or Pressure	Observe Quarterly	2.1.1

2.1 Request for Relief from ASME Section XI Requirements

2.1.1 Test Requirement

Sub-Article IWP-3100 requires that the necessary test parameters of Table IWP-3100-1 be measured at each test and Sub-Article IWP-3400 requires that an inservice test be run on each pump nominally each month during normal plant operation. 1

2.1.1.1 Basis for Relief

The intent of imposing the pump testing program is to provide assurance of an increased level of plant safety obtained by verifying that the pumps are capable of performing their safety function. A monthly test provides such assurance; however, monthly testing also requires additional run times and unusual operation of the equipment necessary to drive the pump and to align the system for the test. A penalty for increased usage and run time is increased equipment degradation and possibly failure. An optimized testing program would provide assurance of pump operability and have the least impact on the normal degradation of equipment expected over its service lifetime. Operating experience has indicated that pumps will not degrade over a single 30-day period. Of the approximately 24 monthly tests previously conducted on each of the pumps in the Farley Unit No. 1 program, adequate assurance of operability is provided in as few as eight 3-month tests. In addition, extensive investigation has been conducted within the ASME Section XI Subgroup for inservice testing of pumps and valves concerning the optimization of the test frequency. The investigation has resulted in a proposed revision to the code which would require a pump test frequency of nominally once every 3 months.

2.1.1.2 Alternate Testing

The pumps will be tested and the required parameters measured nominally once every three (3) months. If deviations fall within the "alert range" of Table IWP-3100-2, the frequency of testing shall be increased to monthly until the cause of the deviation is determined and corrected and either the existing reference values reverified or a new set established per IWP-3111.

In addition, the pumps will be operated nominally once every month to maintain the lubrication of the pump bearings and to prevent other undesirable occurrences. The test will require the pumps to be run in either their test or normal operating configuration for at least five (5) minutes and a single hydraulic parameter to be measured to detect any gross degradation of the pumps or the system in which they operate. In cases of multiple pump operation within a system or train of a system, a system or train parameter will be measured and used to verify that the pumps are operating sufficiently to satisfy system requirements. The parameters to be measured monthly are indicated in Table P-1. Any pumps whose measured parameters indicates unsatisfactory performance will be retested within 48 hours and parameters measured in accordance with the quarterly test interval indicated in Table P-1. Any further corrective action will result from the quarterly test parameters. 1

2.1.2 Test Requirement

Sub-Article IWP-4200 requires direct pressure measurement.

1362 010

2.1.2.1 Basis for Relief

The service water pumps are of vertical design with no means of direct inlet pressure measurement as required by IWP-4200.

2.1.2.2 Alternate Testing

Indirect inlet pressure measurement will be obtained utilizing service water structure wet pit station level instrumentation. The level is then converted to pump inlet pressure by the following calculation:

$$\text{Inlet Pressure} = \frac{\text{Wet Pit Level (ft.)} - 152.5 \text{ ft.}}{2.3066 \text{ ft/psig}}$$

2.1.3 Test Requirement

Sub-Article IWP-3400 requires that an inservice test shall be run on each pump.

2.1.3.1 Basis for Relief

Due to the demands of dependent systems, the individual testing of service water pumps as required by IWP-3400 would jeopardize safe plant operation and be impossible to accomplish during plant shutdown.

2.1.3.2 Alternate Testing

Tests involving combinations of two pumps within each train will indicate the hydraulic condition of the pumping system. The combinations are arranged such that each pump is included in at least one combination test in each train. The initial tests are run on all combinations in each train including the swing pump to provide base line data for any subsequent tests. In the event of a detection of hydraulic change by a test, the test results are applied to both pumps in the combination. Each of the pumps is then tested in combination with another appropriate pump to assess the individual pump operational readiness.

2.1.4 Test Requirement

Sub-Article IWP-4200 requires direct pressure measurement.

2.1.4.1 Basis for Relief

The river water pumps are of vertical design with no means of direct inlet pressure measurement as required by IWP-4200.

2.1.4.2 Alternate Testing

Indirect inlet pressure measurement will be obtained by using river water structure wet pit station level instrumentation. The level is then converted to pump inlet pressure by the following calculation:

$$\text{Inlet Pressure} = \frac{\text{Wet Pit Level (ft.)} - 62.5 \text{ ft.}}{2.3066 \text{ ft/psig}}$$

2.1.5 Test Requirement

Sub-Article IWP-3100 requires that all subsequent test results shall be compared to reference values established during preoperational testing or during the first inservice test run.

2.1.5.1 Basis for Relief

Due to a continuously fluctuating river level and the fixed resistance associated with the system, the determination of readily duplicated points of operation as required by IWP-3110 is not possible.

2.1.5.2 Alternate Testing

Each pump's test results are maintained as reference values. When subsequent results provide an inlet pressure within ±2% of a previous test inlet pressure, the tests are compared and an assessment of the pump hydraulic condition is made.

2.1.6 Test Requirement

Sub-Article IWP-3100 requires that each measured test quantity be compared to the reference value of the same quantity and any deviation determined shall be compared to the limits given in Table IWP-3100-2.

2.1.6.1 Basis for Relief

In order to comply with this test requirement for the Charging/HHSI pump ΔP, the pumps must be aligned to their fixed resistance recirculation flow path. This alignment to the test configuration requires that normal charging and RCP seal water requirements be provided from a pump in the other train and isolation of the pump train to be tested. The pump now providing normal charging and seal water must be provided with its cooling water from the appropriate train source which may cause realignment in that system and its support systems. The pump now aligned in the test configuration is not available for charging or HHSI. 1

In addition, the normal charging and seal supply configuration is not considered fixed resistance and adequate flow instrumentation is not provided.

2.1.6.2 Alternate Testing

A test parameter of ΔP will be determined while the pumps are operating, either normally or in accordance with the alternate testing specified in paragraph 2.1.1.2, in their normal operating configuration providing charging and RCP seal requirements. The acceptable limit for each pump's ΔP will be equivalent to 93% of the manufacturer's curve at a maximum charging and recirculation flow of 180 GPM ($\Delta P \geq 2315$ psi). Inability to meet this criteria will result in corrective action as provided in paragraph 2.1.1.2. The ΔP parameter will be measured, compared, and analyzed in accordance with code nominally once every 3 months.

1362 012

2.1.7 Test Requirement

Sub-Article IWP-3100 requires that each measured test quantity be compared to the reference value of the same quantity and any deviations determined shall be compared to the limits given in Table IWP-3100-2.

2.1.7.1 Basis for Relief

The flow measuring devices for the Component Cooling Water System are located downstream of the CCW heat exchangers and are neither designed nor strategically located to provide flow indication within sufficient accuracy to accommodate the test requirement. As a result, CCW pump ΔP must be measured while the pumps are aligned in a fixed resistance recirculation flow path in order to satisfy the test requirement. This alignment to the test configuration requires that each pump be manually isolated from its normal flow path each month. CCW system requirements must be met by the other CCW pumps which may cause train supply switchover for certain systems such as RHR or Charging. This alignment to a test configuration on a monthly frequency reduces pump availability and is contrary to the justification for quarterly testing provided in paragraph 2.1.1.1.

2.1.7.2 Alternate Testing

A test parameter of flow (Q) will be measured while the pumps are operating, either normally or in accordance with the alternate testing specified in paragraph 2.1.1.2, in their normal operating configuration. Due to variable resistance in the system and the accuracy of the flow measurement, the flow parameter will be required to meet or exceed a heat exchanger discharge flow corresponding to hot shutdown loads ($Q \geq 6400$ GPM). Inability to meet this criteria will result in corrective action as provided in paragraph 2.1.1.2. This alternate test will not be conducted coincidently with the quarterly requirements of Table P-1 and paragraph 2.1.1.2. 1

2.1.8 Test Requirement

Sub-Article IWP-3100 requires that each measured test quantity be compared to the reference value of the same quantity and any deviation determined shall be compared to the limits given in Table IWP-3100-2.

2.1.8.1 Basis for Relief

As indicated in paragraph 2.1.3.1, the service water pumps cannot be individually tested. The pumps must be tested quarterly by train (two (2) pumps) as a variable resistance system. This is accomplished by throttling the flow to a repeatable quantity and measuring the ΔP. The monthly measurement of a single hydraulic parameter, as allowed in paragraph 2.1.1.2 and comparison per the test requirement, is meaningless since either flow (Q) or differential pressure (ΔP) is readily attainable regardless of pump operability. The monthly measurement of both hydraulic parameters imposes extended abnormal operating conditions on the pumps and the system in order to attain the repeatable values and defeats the purpose implementing quarterly tests as provided in paragraph 2.1.1.1.

1362 013

2.1.8.2 Alternate Testing

A test parameter of flow (Q) will be measured for each train (two (2) pumps operating in each train). The swing pump will be operated with either of the pumps in the train to which it is aligned and flow will be measured for the train. The pumps will be operationally acceptable if the test flow meets or exceeds a quantity equivalent to the cold shutdown requirements for that system train ($Q \geq 15{,}200$ GPM). Inability to meet this criteria will result in corrective action as provided in paragraph 2.1.1.2. The flow parameter will be measured, compared, and analyzed in accordance with the Code nominally once every 3 months.

2.1.9 Test Requirement

Sub-Article IWP-3100 requires that each measured test quantity be compared to the reference value of the same quantity and any deviation determined shall be compared to the limits given in Table IWP-3100-2.

2.1.9.1 Basis for Relief

The plant Technical Specifications require that the pumps be tested at least once per 31 days by verifying that the pump develops a differential pressure of at least 93% for the applicable flow rate as determined from the manufacturer's pump performance curve when the secondary steam supply pressure is greater than 90 psig. A test in accordance with the Code requires a different hydraulic test circuit than the Technical Specification test in order to obtain a fixed resistance recirculation flow path because the flow device used in the Tech. Spec. test is not designed for the accuracy limitations of the Code. As a result, tests performed monthly and quarterly as described in paragraph 2.1.1 would require two (2) separate tests with two (2) separate system alignments and an increased test duration. 1

The monthly test required by the Tech. Spec. accomplishes the same purpose as the Code test with a more conservative allowable range for test quantities in the required action range. For example:

	Code	Tech. Spec.
Req'd. Action if	$\Delta P < .90\Delta Pr$ or $> 1.03\ \Delta Pr$	$\Delta P \leq .93\ \Delta Pc$*
Req'd. Action if	$Q < .90\ Qr$ or $> 1.03\ Qr$	$Q = Qc$*

* Where Qc and ΔPc are points on the mfg. curve.

2.1.9.2 Alternate Testing

The pumps will be tested and hydraulic parameters measured and analyzed in accordance with plant Technical Specifications.

2.1.10 Test Requirement

Sub-Article IWP-3100 requires that each measured test quantity be compared to the reference value of the same quantity and any deviation determined shall be compared to the limits given in Table IWP-3100-2.

1362 014

2.1.10.1 Basis for Relief

Since discharge pressure instrumentation is provided for each train, single pump tests are required in order to satisfy the test requirement for ΔP. Starting and stopping of individual pumps and aligning the system into a test configuration for testing on a monthly basis defeats the intent and purpose of quarterly testing provided in paragraph 2.1.1.

2.1.10.2 Alternate Testing

A test parameter of discharge pressure (Po) will be measured for each train with two (2) pumps operating and providing normal pond supply. All pumps will be operated with another pump in that particular train. The pumps will be operationally acceptable if the test discharge pressure (Po) meets or exceeds a quantity corresponding to a ΔP for the system at minimum river level with two (2) pump flow. Inability to meet this criteria will result in corrective action as provided in paragraph 2.1.1.2. This alternate test will not be conducted coincidentally with the quarterly requirements of Table P-1 and paragraph 2.1.1.2. 1

2.1.11 Test Requirement

Sub-Article IWP-3100 requires that each measured test quantity be compared to the reference value of the same quantity and any deviation determined shall be compared to the limits given in Table IWP-3100-2.

2.1.11.1 Basis for Relief

In order to satisfy the test requirement for ΔP, each pump must be aligned to a fixed resistance recirculation flow path. In the event the system is providing reactor coolant flow or is aligned to do so, each of the pumps must be realigned for the test while the other pump is realigned to satisfy reactor coolant flow requirements. The test configuration also requires the train to be isolated from the RCS and aligned to the RWST. This test configuration jeopardizes the overpressurization protection requirements outlined in the Technical Specifications.

1362 015

2.1.11.2 Alternate Testing

Test parameters will be measured and acceptability determined in accordance with the following:

Test	RCS	Pump Function	Parameter Measured	Acceptance Criteria	Criteria Basis
(1)	Power Operation or Pressure ≥450 psig	ECCS	ΔP, each pump	Per Test Requirement (2.1.11)	Code
(2)	Pressure <450 psig and/or temperature <310°F, RC Pump(s) Operating.	Aligned to RCS for RHR	ΔP, each pump	≥126.5 psid	.93 ΔPc* @ Qc*=2000 GPM
(3)	Pressure <450 psig and/or temperature <310°F, RC Pump Not Operating.	Reactor Coolant Flow	Q, each pump	≥3000 GPM	Tech. Spec.

* Where Qc and ΔPc are points on the mfg. curve.

Inability to meet this criteria will result in corrective action as provided in paragraph 2.1.1.2. The alternate tests (2) or (3) will not be conducted coincidently with the quarterly requirements of Table P-1 and paragraph 2.1.1.2. In the event the quarterly requirements of Table P-1 and Test (1) are required when the RCS condition is as specified in tests (2) or (3), tests (2) or (3) will be conducted in lieu of the quarterly requirements. The Quarterly Test Parameters and the test (1) parameter will then be measured, compared, and analyzed in accordance with the test requirement (2.1.11) within one (1) week after the plant is returned to normal operation.

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1362 016

3.0 INSERVICE TESTING OF VALVES

Table V-1 describes the inservice testing for valves subject to the requirements of Subsection IWV of the 1974 Edition of ASME Section XI with Addenda through Summer 1975. The table provides the identification of the valves to be tested, valve code classes, test categories, type, size, test requirements, function, and any alternate testing necessary. Table V-2 provides a legend which describes the alpha coding used in Table V-1. Relief from the testing requirements of Section XI is requested where full compliance with the requirements of the code is not practical. In such cases Table V-1 refers to a specific relief request number for the appropriate valves. The relief request provides specific information which identifies the applicable code requirements, justification for the relief request, and the testing to be used as an alternate. The design of Farley Nuclear Plant does not include any valves which would be classified as ASME Section XI Category D valves. Category E valves are not included in the program because no regular testing is required. The position of all Category E valves will be verified before and after valve operation as part of the system operating procedures and recorded in the plant record.

Table V-1 Valve Test Program

System Name: Reactor Coolant System

Revision Number: 1

System Number: Q1B13

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V026A	1-8090A	2	D-175037/2	F-2	A	1/8	N	M	C	Q	NT	3.1.29	--	Pressurizer Press. Trans. to Dead Weight Press. Gen.	
										LT	--	NO	--		
V026B	1-8090B	2	D-175037/2	F-2	A	1/8	N	M	C	Q	NT	3.1.29	--	Pressurizer Press. Trans. to Dead Weight Press. Gen.	
										LT	--	NO	--		
V031A	1-8010A	1	D-175037/2	D-5	C	6	PR	SA	C	SRV	--	NO	--	Pressurizer Safety Valve	
V031B	1-8010B	1	D-175037/2	D-4	C	6	PR	SA	C	SRV	--	NO	--	Pressurizer Safety Valve	
V031C	1-8010C	1	D-175037/2	D-3	C	6	PR	SA	C	SRV	--	NO	--	Pressurizer Safety Valve	
V037	1-8047	2	D-175037/2	B-10	A	1	D	AO	O	Q*	--	NO	--	Nitrogen to RCS Pressurizer Relief Tank	
										MT	--	NO	10		
										LT	--	NO	--		
V038	1-8046	2	D-175037/2	B-10	AC	3	CK	SA	O	CV	RR	3.1.3	--	Reactor Make-up Water to Pressurizer Relief Tank	
										LT	--	NO	--		

1362 019

53702

Table V-1 Valve Test Program

System Name: Reactor Coolant System

Revision Number: 1

System Number: Q1B13

(Note: See Table V for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V039	1-8033	2	D-175037/2	B-11	A	1	D	AO	O	Q*	--	NO	--	Nitrogen to RCS Pressurizer	
										MT	--	NO	10	Relief Tank	
										LT	--	NO	--		
V040	1-8028	2	D-175037/2	B-11	A	3	D	AO	C	Q*	--	NO	--	RMW to RCS Pressurizer Relief	
										MT	--	NO	10	Tank	
										LT	--	NO	--		
V054	1-8092	2	D-175037/2	C-6	AC	2	CK	SA	O	CV	RR	3.1.3	--	Charging Pump Relief Valve	
										LT	--	NO	--	Discharge to RCS Pressurizer	
														Relief Tank	

E11

1362 021

Table V-1 Valve Test Program

System Name: RHR LHSI System

Revision Number: 1

System Number: Q1E11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001A	1-8701A	1	D-175041	G-3	A	12	GA	MO	C	Q*	CS	3.1.8	--	Reactor Coolant from RCS to RHR Pump	
												3.1.32			
												3.1.33			
										MT	--	NO	120		
										LT	--	NO	--		
V001B	1-8702A	1	D-175041	E-3	A	12	GA	MO	C	Q*	CS	3.1.8	--	Reactor Coolant from RCS to RHR Pump	
												3.1.32			
												3.1.33			
										MT	--	NO	120		
										LT	--	NO	--		
V009A	1-8706A	2	D-175041	B-8	B	8	GA	MO	C	Q*	--	NO	--	Charging Pump Suction from RHR Heat Exchanger	
										MT	--	NO	15		

Table V-1 Valve Test Program

System Name: RHR LHSI System

Revision Number: 1

System Number: Q1E11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V009B	1-8706B	2	D-175041	C-8	B	8	GA	MO	C	Q*	--	NO	--	Charging Pump Suction from RHR Heat Exchanger	
										MT	--	NO	15		
V015A	1-8708A	2	D-175041	G-4	C	3	PR	SA	C	SRV	--	NO	--	RHR Pump Suction	
V015B	1-8708B	2	D-175041	E-4	C	3	PR	SA	C	SRV	--	NO	--	RHR Pump Suction	
V016A	1-8701B	1	D-175041	G-2	B	12	GA	MO	C	Q*	CS	3.1.8	--	RHR Pump Suction	
												3.1.32			
												3.1.33			
										MT	--	NO	120		
V016B	1-8702B	1	D-175041	E-2	B	12	GA	MO	C	Q*	CS	3.1.8	--	RHR Pump Suction	
												3.1.32			
												3.1.33			
										MT	--	NO	120		

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13622 023

5370-2

Table V-1 Valve Test Program

System Name: RHR LHSI System

Revision Number: 1

System Number: Q1E11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V021A	1-8973A	1	D-175038/2	E-1	AC	6	CK	SA	C	CV	RR	3.1.12	--	RHR Pumps Disc. to SIS Injection CL	
										LT	--	NO	--		
V021B	1-8973B	1	D-175038/2	F-1	AC	6	CK	SA	C	CV	RR	3.1.12	--	RHR Pumps Disc. to SIS Injection CL	
										LT	--	NO	--		
V021C	1-8973C	1	D-175038/2	G-1	AC	6	CK	SA	C	CV	RR	3.1.12	--	RHR Pumps Disc. to SIS Injection CL	
										LT	--	NO	--		
V023A	1-8888A	2	D-175038/2	G-3	B	10	GA	MO	O	Q*	--	NO	--	RHR Pump Discharge	
										MT	--	NO	17		
V023B	1-8888B	2	D-175038/2	F-3	B	10	GA	MO	O	Q*	--	NO	--	RHR Pump Discharge	
										MT	--	NO	17		
V024A	1-8887A	2	D-175038/2	F-4	B	10	GA	MO	O	Q*	--	NO	--	RHR Pump Discharge	
										MT	--	NO	17		

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1362-024

5370-2

Table V-1 Valve Test Program

System Name: RHR LHSI System

Revision Number: 1

System Number: Q1E11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V024B	1-8887B	2	D-175038/2	G-4	B	10	GA	MO	O	Q*	--	NO	--	RHR Pump Discharge	
										MT	--	NO	17		
V025A	1-8811A	2	D-175038/2	J-4	A	14	GA	MO	C	Q	--	NO	--	RHR Pump (LHSI) Suction from CTMT Sump	
										MT	RPI	3.1.23	17		
										LT	CI	3.1.4	--		
V025B	1-8811B	2	D-175038/2	H-4	A	14	GA	MO	C	Q	--	NO	--	RHR Pump (LHSI) Suction from CTMT Sump	
										MT	RPI	3.1.23	17		
										LT	CI	3.1.4	--		
V026A	1-8812A	2	D-175038/2	J-6	A	14	GA	MO	C	Q*	--	NO	--	RHR (LHSI) Pump Suction from CTMT Sump	
										MT	--	NO	17		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: RHR LHSI System Revision Number: 1

System Number: Q1E11 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V026B	1-8812B	2	D-175038/2	H-5	A	14	GA	MO	C	Q*	--	NO	--	RHR (LHSI) Pump Suction from CTMT Sump	
										MT	--	NO	17		
										LT	--	NO	--		
V027A	1-8809A	2	D-175038/2	F-10	B	14	GA	MO	O	Q*	--	NO	--	RWST to RHR (LHSI) Pump	
										MT	--	NO	20		
V027B	1-8809B	2	D-175038/2	G-10	B	14	GA	MO	O	Q*	--	NO	--	RWST to RHR (LHSI) Pump	
										MT	--	NO	20		
V028	1-8958	2	D-175038/2	F-10	C	14	CK	SA	C	CV	--	3.1.10	--	RWST Supply to RHR (LHSI) Pump	
V032A	1-HCV603A	2	D-175041	B-7	B	10	B	AO	O	Q*	--	NO	--	Residual HX Tube Side Disc. to SIS	
										MT	NST	3.1.9	--		
V032B	1-HCV603B	2	D-175041	C-7	B	10	B	AO	O	Q*	--	NO	--	Residual HX Tube Side Disc. to SIS	
										MT	NST	3.1.9	--		

Table V-1 Valve Test Program

System Name: RHR LHSI System

Revision Number: 1

System Number: Q1E11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V033A	1-HCV605A	2	D-175041	C-7	B	8	B	AO	C	Q*	--	NO	--	Residual HX By-Pass	
										MT	NST	3.1.9	--		
V033B	1-HCV605B	2	D-175041	D-8	B	8	B	AO	C	Q*	--	NO	--	Residual HX By-Pass	
										MT	NST	3.1.9	--		
V037A	1-FCV602A	2	D-175041	D-5	B	2	GL	MO	O	Q*	--	NO	--	RHR Pump Recirculation	
										MT	--	NO	15		
V037B	1-FCV602B	2	D-175041	D-5	B	2	GL	MO	O	Q*	--	NO	--	RHR Pump Recirculation	
										MT	--	NO	15		
V038A	1-8716A	2	D-175041	B-5	C	10	CK	SA	C	CV	--	3.1.10	--	RHR Discharge to RCS	
V038B	1-8716B	2	D-175041	C-5	C	10	CK	SA	C	CV	--	3.1.10	--	RHR Discharge to RCS	
V039A	1-8864B	2	D-175038/2	F-3	AC	3/4	PR	SA	C	SRV	--	NO	--	Residual Heat Exchanger Discharge	
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: RHR LHSI System

Revision Number: 1

System Number: Q1E11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V039B	1-8864A	2	D-175038/2	F-3	AC	3/4	PR	SA	C	SRV	--	NO	--	Residual Heat Exchanger Discharge	
										LT	--	NO	--		
V040	1-8865	2	D-175038/2	F-3	AC	3/4	PR	SA	C	SRV	--	NO	--	Residual Heat Exchanger Discharge	
										LT	--	NO	--		
V042A	1-8974B	2	D-175038/2	G-2	C	10	CK	SA	C	CV	RR	3.1.12	--	RHR Pumps Disc. to SIS Injection CL	
V042B	1-8974A	2	D-175038/2	E-2	C	10	CK	SA	C	CV	RR	3.1.12	--	RHR Pumps Disc. to SIS Injection CL	
V044	1-8889	2	D-175038/2	F-3	B	10	GA	MO	C	Q*	CS	3.1.17	--	SIS Residual HX Tube Side Disc. to SIS HL	
												3.1.32			
												3.1.33			
										MT	--	NO	17		
V051A	1-8998A	1	D-175038/1	C-2	AC	6	CK	SA	C	CV	RR	3.1.13	--	SIS - Boron Injection Tank to RCS CL Loops	
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: RHR LHSI System

Revision Number: 1

System Number: Q1E11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V051B	1-8998B	1	D-175038/1	D-2	AC	6	CK	SA	C	CV	RR	3.1.13	--	SIS - Boron Injection Tank to RCS CL Loops	
										LT	--	NO	--		
V051C	1-8998C	1	D-175038/1	D-2	AC	6	CK	SA	C	CV	RR	3.1.13	--	SIS - Boron Injection Tank to RCS CL Loops	
										LT	--	NO	--		


E12
1362 030

Table V-1 Valve Test Program

System Name: Containment Cooling System

Revision Number: 1

System Number: Q1E12

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Categor/	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPMS	Other														
V001A	1-HV3999A	2	D-175010/2	B-10	B	36	B	AO	O	Q*	--	NO	--	Reactor Cavity Cooling System	
										MT	--	NO	45		
V001B	1-HV3999B	2	D-175010/2	B-10	B	36	B	AO	O	Q*	--	NO	--	Reactor Cavity Cooling System	
										MT	--	NO	45		

3-12

1362 031

5370-2

Table V-1 Valve Test Program

System Name: Containment Spray System

Revision Number: 1

System Number: Q1E13

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V002A	1-8822A	2	D-175038/3	C-2	C	8	CK	SA	C	CV	RR	3.1.40	--	CTMT Spray Pump Discharge	
V002B	1-8822B	2	D-175038/3	F-2	C	8	CK	SA	C	CV	RR	3.1.40	--	CTMT Spray Pump Discharge	
V003A	1-8826A	2	D-175038/3	H-3	A	12	GA	MO	C	Q*	--	NO	--	CTMT Spray Pump Suction from CTMT Sump	
										MT	RPI	3.1.23	17		
										LT	CI	3.1.4	--		
V003B	1-8826B	2	D-175038/3	H-3	A	12	GA	MO	C	Q*	--	NO	--	CTMT Spray Pump Suction from CTMT Sump	
										MT	RPI	3.1.23	17		
										LT	CI	3.1.4	--		
V004A	1-8827A	2	D-175038/3	H-4	A	12	GA	MO	C	Q*	--	NO	--	CTMT Spray Pump Suction from CTMT Sump	
										MT	--	NO	17		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Containment Spray System

Revision Number: 1

System Number: Q1E13

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V004B	1-8827B	2	D-175038/3	H-4	A	12	GA	MO	C	Q*	--	NO	--	CTMT Spray Pump Suction from CTMT Sump	
										MT	--	NO	17		
										LT	--	NO	--		
V005A	1-8820A	2	D-175038/3	B-5	B	8	GA	MO	C	Q*	--	NO	--	CTMT Spray Pump Discharge	
										MT	--	NO	15		
V005B	1-8820B	2	D-175038/3	G-5	B	8	GA	MO	C	Q*	--	NO	--	CTMT Spray Pump Discharge	
										MT	--	NO	15		
V007A	1-8839A	2	D-175038/3	C-6	C	3	CK	SA	C	CV	RR	3.1.39	--	Spray Additive Tank Discharge to Eductors	
V007B	1-8839B	2	D-175038/3	F-6	C	3	CK	SA	C	CV	RR	3.1.39	--	Spray Additive Tank Discharge to Eductors	
V012A	1-8817A	2	D-175038/3	E-10	B	10	GA	MO	O	Q*	--	NO	--	RWST to CTMT Spray Pump	
										MT	--	NO	17		

Table V-1 Valve Test Program

System Name: Containment Spray System

Revision Number: 1

System Number: Q1E13

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V012B	1-8817B	2	D-175038/3	G-10	B	10	GA	MO	O	Q*	--	NO	--	RWST to CTMT Spray Pump	
										MT	--	NO	17		
V014	1-8816	2	D-175038/3	E-10	C	12	CK	SA	C	CV	--	3.1.31	--	Containment Spray Suction from RWST	
V018	1-8841	3	D-175038/3	C-9	C	3/4	PR	SA	C	SRV	--	NO	--	SIS-Spray Additive Tank Relief Valve	
V021A	1-8836A	3	D-175038/3	F-8	B	3	GA	MO	C	Q*	--	NO	--	Spray Additive Tank Discharge to Eductors	
										MT	--	NO	15		
V021B	1-8836B	3	D-175038/3	F-9	B	3	GA	MO	C	Q*	--	NO	--	Spray Additive Tank Discharge to Eductors	
										MT	--	NO	15		

Table V-1 Valve Test Program

System Name: Containment Isolation System

Revision Number: 1

System Number: Q1E14

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001	None	2	D-175010/2	A-2	AC	1	CK	SA	O	CV	RR	3.1.3	--	CTMT Air Sample	
										LT	--	NO	--		
V002	1-MOV3660	2	D-175010/2	B-2	A	1	GL	MO	O	Q*	CS	3.1.27	--	CTMT Air Sample	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
										LT	--	NO	--		
V003	1-MOV3318A	2	D-175010/2	C-2	A	1	GL	MO	C	Q*	CS	3.1.28	--	CTMT Diff. Pressure Iso. Valve	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Containment Isolation System

Revision Number: 1

System Number: Q1E14

(Note: See Table 2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V004	1-MOV3318B	2	D-175010/2	C-2	A	1	GL	MO	C	Q*	CS	3.1.28	--	CTMT Diff. Pressure Iso. Valve	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
										LT	--	NO	--		
HV3657	None	2	D-175010/2	A-4	A	1	GL	AO	O	Q*	CS	3.1.27	--	CTMT Air Sample	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Containment Isolation System

Revision Number: 1

System Number: Q1E14

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
HV3658	None	2	D-175010/2	B-4	A	1	GL	AO	O	Q*	CS	3.1.27	--	CTMT Air Sample	
												3.1.32			
												3.1.33			
										MT	--	NC	10		
										LT	--	NO	--		

1362 040

E15

Table V-1 Valve Test Program

System Name: Penetration Room Filtration System Revision Number: 1

System Number: Q1E15 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001A	1-MOV3361B	3	D-175022	D-4	B	18	B	MO	O	Q*	--	NO	--	Penetration Filtration System	
										MT	--	NO	45		
V001B	1-MOV3361A	3	D-175022	D-5	B	18	B	MO	O	Q*	--	NO	--	Penetration Filtration System	
										MT	--	NO	45		
V001C	1-MOV3362B	3	D-175022	D-5	B	18	B	MO	O	Q*	--	NO	--	Penetration Filtration System	
										MT	--	NO	45		
V001D	1-MOV3362A	3	D-175022	D-6	B	18	B	MO	O	Q*	--	NO	--	Penetration Filtration System	
										MT	--	NO	45		
V002A	1-HV3356A	3	D-175022	C-2	B	14	B	AO	C	Q*	--	NO	--	Penetration Room Recirculation Fan Discharge	
										MT	--	NO	45		
V002B	1-HV3356B	3	D-175022	B-8	B	14	B	AO	C	Q*	--	NO	--	Penetration Room Recirculation Fan Discharge	
										MT	--	NO	45		

Table V-1 Valve Test Program

System Name: Penetration Room Filtration System

Revision Number: 1

System Number: Q1E15

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V003A	1-HV3357A	3	D-175022	A-2	B	12	B	AO	C	Q*	--	NO	--	Penetration Room Recirculation Fan Discharge	
										MT	--	NO	45		
V003B	1-HV3357B	3	D-175022	D-8	B	12	B	AO	C	Q*	--	NO	--	Penetration Room Recirculation Fan Discharge	
										MT	--	NO	45		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V004A	1-8801A	2	D-175038/1	C-5	B	3	GA	MO	C	Q*	--	NO	--	Boron Injection Tank Discharge	
										MT	--	NO	10		
V004B	1-8801B	2	D-175038/1	D-5	B	3	GA	MO	C	Q*	--	NO	--	Boron Injection Tank Discharge	
										MT	--	NO	10		
V005A	1-8940A	2	D-175038/1	C-8	C	1	CK	SA	O	CV	--	NO	--	Boron Injection Recirculation Pump Discharge	
V006B	1-8940B	2	D-175038/1	D-8	C	1	CK	SA	O	CV	--	NO	--	Boron Injection Recirculation Pump Discharge	
V015	1-8942	2	D-175038/1	D-8	B	1	GL	AO	O	Q*	CS	3.1.38	--	Boron Injection Recirculation Pump Disc to Boron Injection Tank	
										MT	--	NO	10		
V016A	1-8803A	2	D-175038/1	G-7	B	3	GA	MO	C	Q*	--	NO	--	HHSI Pumps Discharge to Boron Injection Tank	
										MT	--	NO	10		
V016B	1-8803B	2	D-175038/1	G-7	B	3	GA	MO	C	Q*	--	NO	--	HHSI Pumps Discharge to Boron Injection Tank	
										MT	--	NO	10		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V026	1-8926	2	D-175038/1	E-12	C	8	CK	SA	C	CV	RR	3.1.14	--	HHSI Suction from RWST	
V032A	1-8948A	1	D-175038/2	D-2	C	12	CK	SA	C	CV	RR	3.1.15	--	Accumulator Tank Discharge to RCS Loops CL	
V032B	1-8948B	1	D-175038/2	D-2	C	12	CK	SA	C	CV	RR	3.1.15	--	Accumulator Tank Discharge to RCS Loops CL	
V032C	1-8948C	1	D-175038/2	E-2	C	12	CK	SA	C	CV	RR	3.1.15	--	Accumulator Tank Discharge to RCS Loops CL	
V037A	1-8956A	1	D-175038/2	D-3	C	12	CK	SA	C	CV	RR	3.1.34	--	Accumulator Tank Discharge to RCS Loops CL	
V037B	1-8956B	1	D-175038/2	D-6	C	12	CK	SA	C	CV	RR	3.1.34	--	Accumulator Tank Discharge to RCS Loops CL	
V037C	1-8956C	1	D-175038/2	D-8	C	12	CK	SA	C	CV	RR	3.1.34	--	Accumulator Tank Discharge to RCS Loops CL	
V049	1-8871	2	D-175038/2	E-9	A	3/4	GL	AO	C	Q*	--	NO	--	SIS Acc. Test Line to RWST	
										MT	--	NO	10		
										LT	--	NO	--		

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1362 045

5370-2

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V050	1-8961	2	D-175038/2	E-10	A	3/4	GL	AO	C	Q*	--	NO	--	SIS Acc. Test Line to RWST	
										MT	--	NO	10		
										LT	--	NO	--		
V052	1-8861	2	D-175038/2	D-9	AC	1	CK	SA	C	CV	NT	3.1.35	--	SIS Acc. Tanks fill Line	
										LT	--	NO	--		
V056A	1-8945A	2	D-175038/1	C-6	B	1	GL	AO	O	Q*	CS	3.1.38	--	Boron Inj. Tank Recirculation	
										MT	--	NO	10		
V056B	1-8945B	2	D-175038/1	C-7	B	1	GL	AO	O	Q*	CS	3.1.38	--	Boron Inj. Tank Recirculation	
										MT	--	NO	10		
V058	1-8947	2	D-175038/2	A-9	AC	1	CK	SA	O	CV	RR	3.1.3	--	Nitrogen Supply to Accumulator Tanks	
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V059	1-8880	2	D-175038/2	A-10	A	1	GL	AO	C	Q*	--	NO	--	Nitrogen Supply to Accumulator Tanks	
										MT	--	NO	10		
										LT	--	NO	--		
V062A	1-8997A	1	D-175038/1	E-3	AC	2	CK	SA	C	CV	RR	3.1.14	--	SIS-Boron Injection Tank to RCS Loops CL	
										LT	--	NO	--		
V062B	1-8997B	1	D-175038/1	E-3	AC	2	CK	SA	C	CV	RR	3.1.14	--	SIS-Boron Injection Tank to RCS Loops CL	
										LT	--	NO	--		
V062C	1-8997C	1	D-175038/1	F-3	AC	2	CK	SA	C	CV	RR	3.1.14	--	SIS-Boron Injection Tank to RCS Loops CL	
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V063	1-8885	2	D-175038/1	B-6	B	3	GA	MO	C	Q*	CS	3.1.25	--	HHSI Pumps Discharge to RC Loops CL	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
V066A	1-8995A	1	D-175038/1	A-4	AC	2	CK	SA	C	CV	RR	3.1.2	--	HHSI Pumps Discharge to RC Loops CL	
										LT	--	NO	--		
V066B	1-8995B	1	D-175038/1	B-4	AC	2	CK	SA	C	CV	RR	3.1.2	--	HHSI Pumps Discharge to RC Loops CL	
										LT	--	NO	--		
V066C	1-8995C	1	D-175038/1	C-4	AC	2	CK	SA	C	CV	RR	3.1.2	--	HHSI Pumps Discharge to RC Loops CL	
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V068	1-8886	2	D-175038/1	H-7	B	3	GA	MO	C	Q*	CS	3.1.25	--	HHSI Pumps Discharge to RC Loops HL	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
V072	1-8884	2	D-175038/1	J-6	B	3	GA	MO	C	Q*	CS	3.1.25	--	HHSI Pumps Discharge to RC Loops HL	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
V076A	1-8988A	1	D-175038/1	F-4	AC	6	CK	SA	C	CV	RR	3.1.1	--	Water from Residual HX to SI to RCS HL Loops 1 & 2	
										LT	--	NO	--		
V076B	1-8988B	1	D-175038/1	G-4	AC	6	CK	SA	C	CV	RR	3.1.1	--	Water from Residual HX to SI to RCS HL Loops 1 & 2	
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V077A	1-8993A	1	D-175038/1	F-2	AC	6	CK	SA	C	CV	RR	3.1.36	--	HHSI/LHSI and RHR to RC HL Loops 1 & 2	
										LT	--	NO	--		
V077B	1-8993B	1	D-175038/1	G-2	AC	6	CK	SA	C	CV	RR	3.1.36	--	HHSI/LHSI and RHR to RC HL Loops 1 & 2	
										LT	--	NO	--		
V077C	1-8993C	1	D-175038/1	G-1	AC	6	CK	SA	C	CV	RR	3.1.2	--	HHSI/LHSI and RHR to RC HL Loops 1 & 2	
										LT	--	NO	--		
V078A	1-8990A	1	D-175038/1	G-3	C	2	CK	SA	C	CV	RR	3.1.2	--	HHSI Pumps Discharge to RC Loops HL	
V078B	1-8990B	1	D-175038/1	G-3	C	2	CK	SA	C	CV	RR	3.1.2	--	HHSI Pumps Discharge to RC Loops HL	
V078C	1-8990C	1	D-175038/1	G-3	C	2	CK	SA	C	CV	RR	3.1.2	--	HHSI Pumps Discharge to RC Loops HL	
V079A	1-8992A	1	D-175038/1	G-3	C	2	CK	SA	C	CV	RR	3.1.2	--	HHSI Pumps Discharge to RC Loops HL	
V079B	1-8992B	1	D-175038/1	G-2	C	2	CK	SA	C	CV	RR	3.1.2	--	HHSI Pumps Discharge to RC Loops HL	
V079C	1-8992C	1	D-175038/1	G-2	C	2	CK	SA	C	CV	RR	3.1.2	--	HHSI Pumps Discharge to RC Loops HL	

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Categor/ Size (inches)		Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V091	1-8860	2	D-175038/2	D-10	A	1	GL	AO	C	Q*	--	NO	--	SIS Acc. Tanks Fill Line	
										MT	--	NO	10		
										LT	--	NO	--		
V115A	1-8368A	2	D-175039/1	G-2	AC	2	CK	SA	O	CV	RR	3.1.3	--	CVCS Seal Inj.-RC Pump	
										LT	--	NO	--		
V115B	1-8368B	2	D-175039/1	G-2	AC	2	CK	SA	O	CV	RR	3.1.3	--	CVCS Seal Inj.-RC Pump	
										LT	--	NO	--		
V115C	1-8368C	2	D-175039/1	G-2	AC	2	CK	SA	O	CV	RR	3.1.3	--	CVCS Seal Inj.-RC Pump	
										LT	--	NO	--		
V119	1-8381	2	D-175039/1	B-11	AC	3	CK	SA	O	CV	RR	3.1.3	--	CVCS Charging Pump Discharge to Reg. HX	
										LT	--	NO	--		
V122A	1-8481A	2	D-175039/2	F-4	C	3	CK	SA	C	CV	--	3.1.42	--	Charging Pump Discharge	

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V122B	1-8481B	2	D-175039/2	G-4	C	3	CK	SA	C	CV	--	3.1.42	--	Charging Pump Discharge	
V122C	1-8481C	2	D-175039/2	H-4	C	3	CK	SA	C	CV	--	3.1.42	--	Charging Pump Discharge	
V210	1-8442	2	D-175039/2	H-8	C	2	CK	SA	C	CV	RR	3.1.41	--	CVCS BA Filter to Charging Pump Suction	
V213	1-8103	2	D-175039/1	D-11	AC	3/4	CK	SA	O	CV	RR	3.1.3	--	Seal Water from RC Pumps to Seal Water Heat Exchanger	
										LT	--	NO	--		
V249A	1-8112	2	D-175039/1	C-11	A	3	GA	MO	O	Q*	CS	3.1.18	--	Seal Water from RC Pumps to Seal Water Heat Exchanger	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
										LT	--	NO	--		

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Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Categor/	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V249B	1-8100	2	D-175039/1	C-11	A	3	GA	MO	O	Q*	CS	3.1.18	--	Seal Water from RC Pumps to Seal Water Heat Exchanger	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
										LT	--	NO	--		
V253A	1-8149A	2	D-175039/1	A-6	A	2	GL	AO	C	Q*	--	NO	--	RC from Reg. Heat Exchanger Shell Side to CVCS Letdown Heat Exchanger	
										MT	--	NO	10		
										LT	--	NO	--		
V253B	1-8149B	2	D-175039/1	A-7	A	2	GL	AO	O	Q*	--	NO	--	RC from Reg. Heat Exchanger Shell Side to CVCS Letdown Heat Exchanger	
										MT	--	NO	10		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V253C	1-8149C	2	D-175039/1	A-7	A	2	GL	AO	C	Q*	--	NO	--	RC from Reg. Heat Exchanger Shell Side to CVCS Letdown Heat Exchanger	
										MT	--	NO	10		
										LT	--	NO	--		
V254	1-8152	2	D-175039/1	A-11	A	3	GL	AO	O	Q*	CS	3.1.19	--	RC from Reg. Heat Exhanger Shell Side to CVCS Letdown Heat Exchanger	
										MT	--	NO	10		
										LT	--	NO	--		
V257	1-8107	2	D-175039/2	E-1	A	3	GA	MO	O	Q*	CS	3.1.19	--	CVCS Charging Pump Discharge to Reg. Heat Exchanger	
										MT	--	NO	10		
										LT	--	NO	--		
V258	1-8108	2	D-175039/2	E-2	A	3	GA	MO	O	Q*	CS	3.1.19	--	CVCS Charging Pump Discharge to Reg. Heat Exchanger	
										MT	--	NO	10		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: HHSI CVCS System Revision Number: 1

System Number: Q1E21 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V259A	1-8109A	2	D-175039/2	E-4	B	2	GL	MO	O	Q*	--	NO	--	Charging Pump Bypass Orifice Line	
										MT	--	NO	15		
V259B	1-8109B	2	D-175039/2	F-4	B	2	GL	MO	O	Q*	--	NO	--	Charging Pump Bypass Orifice Line	
										MT	--	NO	15		
V259C	1-8109C	2	D-175039/2	G-4	B	2	GL	MO	O	Q*	--	NO	--	Charging Pump Bypass Orifice Line	
										MT	--	NO	15		
V263A	1-8116A	2	D-175039/2	F-6	AC	3/4	PR	SA	C	SRV	--	NO	--	SIS RHR HX to Charging Pumps Suction	
										LT	--	NO	--		
V263B	1-8116B	2	D-175039/2	J-6	AC	3/4	PR	SA	C	SRV	--	NO	--	SIS RHR HX to Charging Pumps Suction	
										LT	--	NO	--		
V264	1-8104	2	D-175039/2	H-8	B	2	GL	MO	C	Q*	RR	3.1.37	--	CVCS BA Filter to Charging Pump Suction	
										MT	--	NO	15		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category/ Size (inches)		Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TRNS	Other														
V265	1-8106	2	D-175039/2	D-4	B	3	GA	MO	O	Q*	--	NO	--	Charging Pump Bypass Orifice Disc. to Seal Water Heat Exchanger	
										MT	--	NO	15		
V324A	1-8130A	2	D-175039/2	G-6	B	8	GA	MO	O	Q*	--	NO	--	Charging Pump Suction from Residual HX	
										MT	--	NO	15		
V324B	1-8130B	2	D-175039/2	G-6	B	8	GA	MO	O	Q*	--	NO	--	Charging Pump Suction from Residual HX	
										MT	--	NO	15		
V325A	1-8131A	2	D-175039/2	G-6	B	8	GA	MO	O	Q*	--	NO	--	Charging Pump Suction from Residual Heat Exchanger	
										MT	--	NO	15		
V325B	1-8131B	2	D-175039/2	H-6	B	8	GA	MO	O	Q*	--	NO	--	Charging Pump Suction from Residual Heat Exchanger	
										MT	--	NO	15		
V326A	1-8132A	2	D-175039/2	F-3	B	4	GA	MO	O	Q*	--	NO	--	Charging Pump Disc.	
										MT	--	NO	15		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V326B	1-8132B	2	D-175039/2	G-3	B	4	GA	MO	O	Q*	--	NO	--	Charging Pump Disc.	
										MT	--	NO	15		
V327A	1-8133A	2	D-175039/2	G-3	B	4	GA	MO	O	Q*	--	NO	--	Charging Pump Disc.	
										MT	--	NO	15		
V327B	1-8133B	2	D-175039/2	H-3	B	4	GA	MO	O	Q*	--	NO	--	Charging Pump Disc.	
										MT	--	NO	15		
V336A	1-LCV115B	2	D-175039/2	G-7	B	8	GA	MO	C	Q*	--	NO	--	Charging Pump Suction from Refueling Water Storage Tank	
										MT	--	NO	15		
V336B	1-LCV115D	2	D-175039/2	H-7	B	8	GA	MO	C	Q*	--	NO	--	Charging Pump Suction from Refueling Water Storage Tank	
										MT	--	NO	15		

Table V-1 Valve Test Program

System Name: HHSI CVCS System

Revision Number: 1

System Number: Q1E21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V376A	1-LCV115C	2	D-175039/2	E-6	B	4	GA	MO	O	Q*	CS	3.1.19	--	Charging Pump Suction from Volume Control Tank	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
V376B	1-LCV115E	2	D-175039/2	E-6	B	4	GA	MO	O	Q*	CS	3.1.19	--	Charging Pump Suction from Volume Control Tank	
												3.1.32			
												3.1.33			
										MT	--	NO	15		

Table V-1 Valve Test Program

System Name: Reactor Cavity Post LOCA Dilution System Revision Number: 1

System Number: Q1E22 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001A	1-MOV3872A	3	D-175019	D-5	B	2½	GA	MO	C	Q	--	NO	--	Air from Reactor Cavity Hydrogen Dilution Fan to Reactor	
										MT	--	NO	20	Cavity Wall	
V001B	1-MOV3872B	3	D-175019	E-5	B	2½	GA	MO	C	Q	--	NO	--	Air from Reactor Cavity Hydrogen Dilution Fan to Reactor	
										MT	--	NO	20	Cavity Wall	

Table V-1 Valve Test Program

System Name: Post Accident CTMT Venting & Sampling System Revision Number: 1

System Number: Q1E23 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category/ Size (inches)		Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V002	1-MOV3740	2	D-175019	C-10	A	6	GL	MO	C	Q*	--	NO	--	CTMT - Post Accident Vent	
										MT	--	NO	45		
										LT	--	NO	--		
V003	1-MOV3530	2	D-175019	C-9	A	6	GL	MO	C	Q*	--	NO	--	CTMT Post-LOCA Vent	
										MT	--	NO	45		
										LT	--	NO	--		
V021	1-MOV3536	2	D-175019	B-8	B	2	GL	MO	C	Q*	RR	3.1.30	--	CTMT Pressurization Line	
										MT	--	NO	15		
V022A	1-MOV3528A	2	D-175019	C-8	A	3/4	GL	MO	C	Q*	--	NO	--	CTMT Post-LOCA Sample	
										MT	--	NO	15		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Post Accident CTMT Venting & Sampling System

Revision Number: 1

System Number: Q1E23

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category/ Size (inches)		Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V022B	1-MOV3528B	2	D-175019	C-9	A	3/4	GL	MO	C	Q*	--	NO	--	CTMT Post-LOCA Sample	
										MT	--	NO	15		
										LT	--	NO	--		
V022C	1-MOV3528C	2	D-175019	C-8	A	3/4	GL	MO	C	Q*	--	NO	--	CTMT Post-LOCA Sample	
										MT	--	NO	15		
										LT	--	NO	--		
V022D	1-MOV3528D	2	D-175019	D-9	A	3/4	GL	MO	C	Q*	--	NO	--	CTMT Post-LOCA Sample	
										MT	--	NO	15		
										LT	--	NO	--		
V023A	1-MOV3739A	2	D-175019	C-10	A	3/4	GL	MO	C	Q*	--	NO	--	Air Sample from CTMT to Air Sample Fan	
										MT	--	NO	15		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Post Accident CTMT Venting & Sampling System

Revision Number: 1

System Number: Q1E23

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category/ Size (inches)		Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V023B	1-MOV3739B	2	D-175019	D-10	A	3/4	GL	MO	C	Q*	--	NO	--	Air Sample from CTMT to Air Sample Fan	
										MT	--	NO	15		
										LT	--	NO	--		
V024A	1-MOV3745A	2	D-175019	G-10	A	3/4	GL	MO	C	Q*	--	NO	--	Air Sample Return from Air Sample Fan	
										MT	--	NO	15		
										LT	--	NO	--		
V024B	1-MOV3745B	2	D-175019	F-10	A	3/4	GL	MO	C	Q*	--	NO	--	Air Sample Return from Air Sample Fan	
										MT	--	NO	15		
										LT	--	NO	--		
V025A	1-MOV3835A	2	D-175019	G-9	A	3/4	GL	MO	C	Q*	--	NO	--	CTMT Post-LOCA Sample Return	
										MT	--	NO	15		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Post Accident CTMT Venting & Sampling System

Revision Number: 1

System Number: Q1E23

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V025B	1-MOV3835B	2	D-175019	F-9	A	3/4	GL	MO	C	Q*	--	NO	--	CTMT Post-LOCA Sample Return	
										MT	--	NO	15		
										LT	--	NO	--		

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Table V-1 Valve Test Program

System Name: Liquid Waste Disposal System Revision Number: 1

System Number: Q1G21 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Categor/	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001	1-HV7150	2	D-175042/1	B-5	A	3/4	D	AO	O	Q*	--	NO	--	Reactor Coolant Drain Tank Vent to WGS	
										MT	--	NO	10		
										LT	--	NO	--		
V005	1-7135	2	D-175042/1	C-11	A	3	D	M	C	Q	NT	3.1.29	--	Reactor Coolant Drain Tank Pump Disc. Control Valve	
										LT	--	NO	--	By-Pass	
V006	1-7136	2	D-175042/1	B-10	A	3	D	AO	O	Q*	--	NO	--	Reactor Coolant Drain Tank Pump Disc. to Recycle Holdup Tank	
										MT	--	NO	10		
										LT	--	NO	--		
V064	1-LCV1003	2	D-175042/1	C-10	A	3	GL	AO	O	Q*	--	NO	--	Reactor Coolant Drain Tank Pump Disc. Control Valve	
										MT	--	NO	10		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Liquid Waste Disposal System

Revision Number: 1

System Number: Q1G21

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category/	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V082	1-HV7126	2	D-175042/1	C-4	A	3/4	D	AO	O	Q*	--	NO	--	Reactor Coolant Drain Tank Vent to Waste Gas System	
										MT	--	NO	10		
										LT	--	NO	--		
V204	None	2	D-175004/1	G-9	AC	2	CK	SA	O	CV	RR	3.1.3	--	Containment Sump Recirculation	
										LT	--	NO	--		
V291	None	2	D-175004/1	H-8	AC	3/4	CK	SA	O	CV	RR	3.1.3	--	Containment Sump Pump Discharge	
										LT	--	NO	--		
HV3376	None	2	D-175004/1	H-8	A	3	GL	AO	O	Q*	--	NO	--	Containment Sump Pump Discharge	
										MT	--	NO	10		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Liquid Waste Disposal System Revision Number: 1

System Number: Q1G21 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
HV3377	None	2	D-175004/1	H-8	A	3	GL	AO	O	Q*	--	NO	--	Containment Sump Pump Discharge	
										MT	--	NO	10		
										LT	--	NO	--		
HV3380	None	2	D-175004/1	G-8	A	2	GL	AO	O	Q*	--	NO	--	Containment Sump Recirculation	
										MT	--	NO	10		
										LT	--	NO	--		

G31

Table V-1 Valve Test Program

System Name: Spent Fuel Pool Cooling & Clean-Up System Revision Number: 1

System Number: Q1G31 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V012	None	2	D-175043	B-4	A	2	D	M	C	Q*	NT	3.1.29	--	Spent Fuel Pool Clean-up Loop to Refueling Cavity	
										LT	--	NO	--		
V013	None	2	D-175043	B-3	AC	2	CK	SA	O	CV	RR	3.1.3	--	Spent Fuel Pool Clean-up Loop to Refueling Cavity	
										LT	--	NO	--		

N11

1362 072

Table V-1 Valve Test Program

System Name: Main Steam System

Revision Number: 1

System Number: Q1N11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001A	1-HV3369A	2	D-175033/1	G-7	B	32	RC	AO	O	CSP*	--	3.1.32	--	Steam Generator Discharge to H.P. Turbine (MSIV)	
												3.1.33			
										MT	--	NO	5		
V001B	1-HV3369B	2	D-175033/1	E-8	B	32	RC	AO	O	CSP*	--	3.1.32	--	Steam Generator Discharge to H.P. Turbine (MSIV)	
												3.1.33			
										MT	--	NO	5		
V001C	1-HV3369C	2	D-175003/1	B-8	B	32	RC	AO	O	CSP*	--	3.1.32	--	Steam Generator Discharge to H.P. Turbine (MSIV)	
												3.1.33			
										MT	--	NO	5		
V002A	1-HV3370A	2	D-175033/1	G-8	B	32	RC	AO	O	CSP*	--	3.1.32	--	Steam Generator to H.P. Turbine (MSIV)	
												3.1.33			
										MT	--	NO	5		

Table V-1 Valve Test Program

System Name: Main Steam System

Revision Number: 1

System Number: Q1N11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V002B	1-HV3370B	2	D-175033/1	E-8	B	32	RC	AO	O	CSP*	--	3.1.32	--	Steam Generator to H.P. Turbine (MSIV)	
												3.1.33			
										MT	--	NO	5		
V002C	1-HV3370C	2	D-175033/1	B-8	B	32	RC	AO	O	CSP*	--	3.1.32	--	Steam Generator to H.P. Turbine (MSIV)	
												3.1.33			
										MT	--	NO	5		
V003A	1-HV3368A	2	D-175033/1	G-7	B	3	GA	AO	C	Q*	CS	3.1.22	--	MSIV Bypass	
												3.1.32			
												3.1.33			
										MT	--	NO	10		

Table V-1 Valve Test Program

System Name: Main Steam System

Revision Number: 1

System Number: Q1N11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V003B	1-HV3368B	2	D-175033/1	E-8	B	3	GA	AO	C	Q*	CS	3.1.22	--	MSIV Bypass	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
V003C	1-HV3368C	2	D-175033/1	C-8	B	3	GA	AO	C	Q*	CS	3.1.22	--	MSIV Bypass	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
V003D	1-HV3976A	2	D-175033/1	G-8	B	3	GA	AO	C	Q*	CS	3.1.22	--	MSIV Bypass	
												3.1.32			
												3.1.33			
										MT	--	NO	10		

Table V-1 Valve Test Program

System Name: Main Steam System

Revision Number: 1

System Number: Q1N11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V003E	1-HV3976B	2	D-175033/1	E-8	B	3	GA	AO	C	Q*	CS	3.1.22	--	MSIV Bypass	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
V003F	1-HV3976C	2	D-175033/1	C-8	B	3	GA	AO	C	Q*	CS	3.1.22	--	MSIV Bypass	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
V010A	None	2	D-175033/1	G-3	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V010B	None	2	D-175033/1	G-4	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V010C	None	2	D-175033/1	G-4	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V010D	None	2	D-175033/1	G-4	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	

Table V-1 Valve Test Program

System Name: Main Steam System

Revision Number: 1

System Number: Q1N11

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V010E	None	2	D-175033/1	G-5	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V011A	None	2	D-175033/1	D-3	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V011B	None	2	D-175033/1	D-4	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V011C	None	2	D-175033/1	D-4	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V011D	None	2	D-175033/1	D-4	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V011E	None	2	D-175033/1	D-5	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V012A	None	2	D-175033/1	B-3	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V012B	None	2	D-175033/1	B-4	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V012C	None	2	D-175033/1	B-4	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V012D	None	2	D-175033/1	B-4	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	
V012E	None	2	D-175033/1	B-5	C	6	PR	SA	C	SRV	--	NO	--	Main Steam Line Safety/Relief	

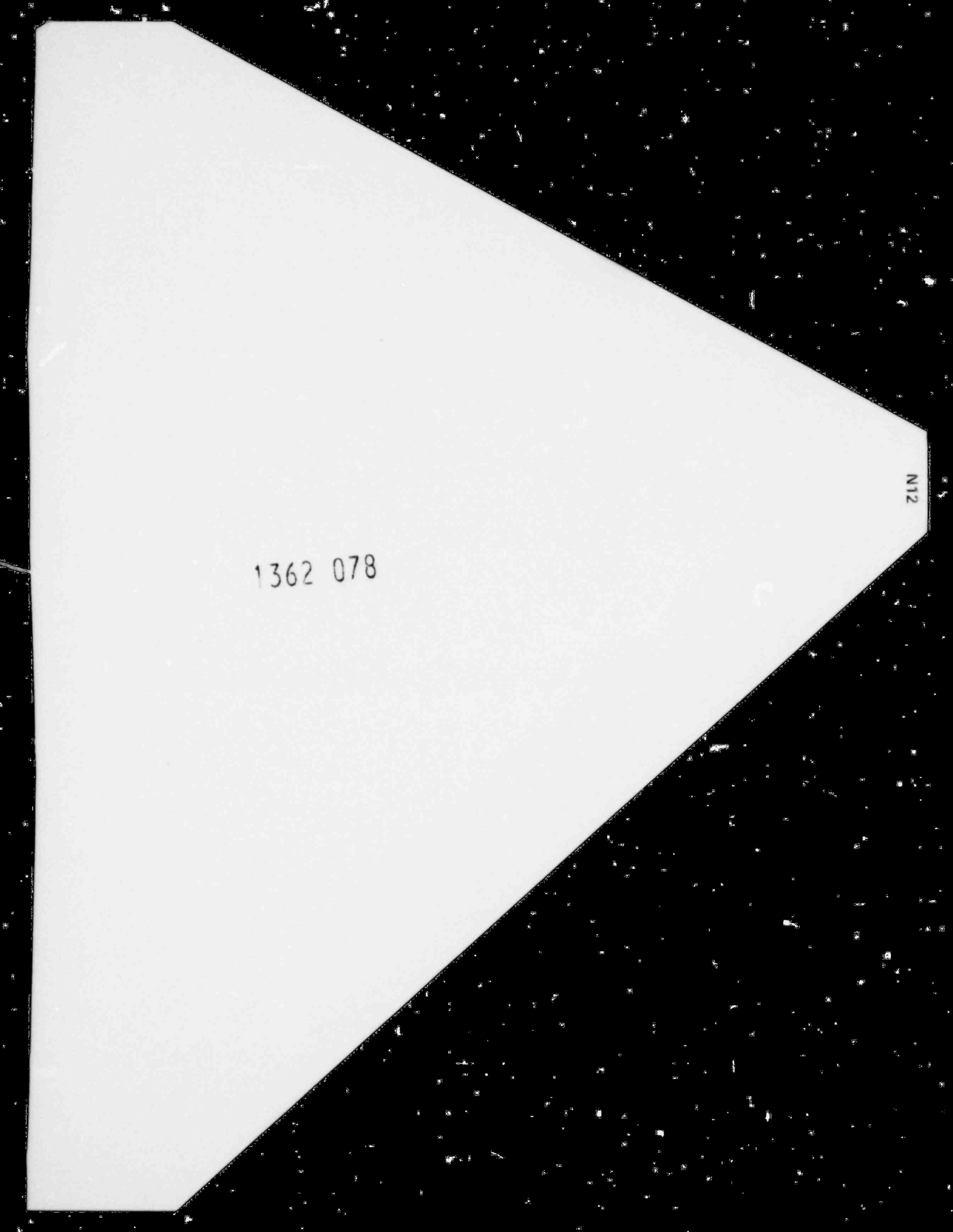
N12
1362 078

Table V-1 Valve Test Program

System Name: Aux. Steam System

Revision Number: 1

System Number: Q1N12

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
HV3226	None	3	D-175033/2	C-5	B	3	GL	AO	C	Q*	--	NO	--	Main Steam to Aux. Feedwater Pump Turbine	
										MT	--	NO	45		
HV3234A	None	2	D-175033/2	G-8	B	1	GL	AO	O	Q*	--	NO	--	Main Steam to Aux. Feedwater Pump Turbine	
										MT	--	NO	10		
HV3234B	None	2	D-175033/2	C-8	B	1	GL	AO	O	Q*	--	NO	--	Main Steam to Aux. Feedwater Pump Turbine	
										MT	--	NO	10		
V001A	1-HV3235A	2	D-175033/2	E-8	B	3	GL	AO	C	Q*	--	NO	--	Main Steam to Aux. Feedwater Pump Turbine	
										MT	--	NO	10		
V001B	1-HV3235B	2	D-175033/2	D-8	B	3	GL	AO	C	Q*	--	NO	--	Main Steam to Aux. Feedwater Pump Turbine	
										MT	--	NO	10		
V010A	None	3	D-175033/2	E-6	C	4	CK	SA	C	CV	--	3.1.26	--	Main Steam to Aux. Feedwater Pump Turbine	
V010B	None	3	D-175033/2	D-6	C	4	CK	SA	C	CV	--	3.1.26	--	Main Steam to Aux. Feedwater Pump Turbine	

3-30

1362 079

Table V-1 Valve Test Program

System Name: Condensate & Feedwater System

Revision Number: 1

System Number: Q1N21/Q1C22

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001A	1-MOV3232A	2	D-175073	G-7	C	14	CK	SA	O	CV	CS	3.1.24	--	Main Feedwater to Steam Generator	
												3.1.32			
V001B	1-MOV3232B	2	D-175073	E-7	C	14	CK	SA	O	CV	CS	3.1.24	--	Main Feedwater to Steam Generator	
												3.1.32			
V001C	1-MOV3232C	2	D-175073	B-7	C	14	CK	SA	O	CV	CS	3.1.24	--	Main Feedwater to Steam Generator	
												3.1.32			
FCV478	None	3	D-175073	G-6	B	14	GL	AO	O	Q*	CS	3.1.24	--	Main Feedwater Regulator	
												3.1.32			
												3.1.33			
										MT	--	NO	5		

Table V-1 Valve Test Program

System Name: Condensate & Feedwater System

Revision Number: 1

System Number: Q1N21/Q1C22

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category/	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
FCV488	None	3	D-175073	D-6	B	14	GL	AO	O	Q*	CS	3.1.24	--	Main Feedwater Regulator	
												3.1.32			
												3.1.33			
										MT	--	NO	5		
FCV498	None	3	D-175073	B-6	B	14	GL	AO	O	Q*	CS	3.1.24	--	Main Feedwater Regulator	
												3.1.32			
												3.1.33			
										MT	--	NO	5		
FCV479	None	3	D-175073	F-5	B	6	GL	AO	O	Q*	CS	3.1.24	--	Main Feedwater Regulator Bypass	
												3.1.32			
												3.1.33			
										MT	--	NO	5		

Table V-1 Valve Test Program

System Name: Condensate & Feedwater System

Revision Number: 1

System Number: Q1N21/Q1C22

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
FCV489	None	3	D-175073	D-5	B	6	GL	AO	O	Q*	CS	3.1.24	--	Main Feedwater Regulator Bypass	
												3.1.32			
												3.1.33			
										MT	--	NO	5		
FCV499	None	3	D-175073	A-5	B	6	GL	AO	O	Q*	CS	3.1.24	--	Main Feedwater Regulator Bypass	
												3.1.32			
												3.1.33			
										MT	--	NO	5		

Table V-1 Valve Test Program

System Name: Aux. Feedwater System

Revision Number: 1

System Number: Q1N23

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V002A	None	3	D-175007	B-6	C	4	CK	SA	C	CV	CS	3.1.32	--	MDAFW Discharge to Steam Generators	
												3.1.5	--		
V002B	None	3	D-175007	E-6	C	4	CK	SA	C	CV	CS	3.1.32	--	MDAFW Discharge to Steam Generators	
												3.1.5	--		
V002C	None	3	D-175007	B-9	C	4	CK	SA	C	CV	CS	3.1.32	--	MDAFW Discharge to Steam Generators	
												3.1.5	--		
V002D	None	3	D-175007	C-9	C	4	CK	SA	C	CV	CS	3.1.32	--	TDAFW Discharge to Steam Generators	
												3.1.7	--		
V002E	None	3	D-175007	D-9	C	4	CK	SA	C	CV	CS	3.1.32	--	MDAFW Discharge to Steam Generators	
												3.1.5	--		
V002F	None	3	D-175007	F-9	C	4	CK	SA	C	CV	CS	3.1.32	--	TDAFW Discharge to Steam Generators	
												3.1.7	--		

Table V-1 Valve Test Program

System Name: Aux. Feedwater System

Revision Number: 1

System Number: Q1N23

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V002G	None	3	D-175007	G-9	C	4	CK	SA	C	CV	CS	3.1.32	--	MDAFW Discharge to Steam Generators	
												3.1.5	--		
V002H	None	3	D-175007	H-9	C	4	CK	SA	C	CV	CS	3.1.32	--	TDAFW Discharge to Steam Generators	
												3.1.7	--		
V003	None	3	D-175007	G-6	C	6	CK	SA	C	CV	CS	3.1.32	--	TDAFW Discharge to Steam Generators	
												3.1.7			
V006	None	3	D-175007	H-3	C	8	CK	SA	C	CV	--	3.1.43	--	Turbine-Driven Aux. Feedwater Pump Suction	
V007A	None	3	D-175007	B-3	C	6	CK	SA	C	CSP	--	3.1.44	--	Motor-Driven Aux. Feedwater Pump Suction	
V007B	None	3	D-175007	E-3	C	6	CK	SA	C	CSP	--	3.1.44	--	Motor-Driven Aux. Feedwater Pump Suction	
V011A	1-MOV3350A	2	D-175007	B-10	C	4	CK	SA	C	CV	CS	3.1.5	--	Aux. Feedwater to Steam Generator	
												3.1.32			

Table V-1 Valve Test Program

System Name: Aux. Feedwater System

Revision Number: 1

System Number: Q1N23

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V011B	1-MOV3350B	2	D-175007	D-10	C	4	CK	SA	C	CV	CS	3.1.5	--	Aux. Feedwater to Steam Generator	
												3.1.32			
V011C	1-MOV3350C	2	D-175007	G-10	C	4	CK	SA	C	CV	CS	3.1.5	--	Aux. Feedwater to Steam Generator	
												3.1.32			
V013A	1-MOV3210A	3	D-175007	A-3	B	6	GA	MO	C	Q*	RR	3.1.6	--	Service Water to Aux. Feedwater Pump Suction	
										MT	--	NO	15		
V013B	1-MOV3210B	3	D-175007	D-3	B	6	GA	MO	C	Q*	RR	3.1.6	--	Service Water to Aux. Feedwater Pump Suction	
										MT	--	NO	15		
V014A	1-MOV3209A	3	D-175007	A-2	B	8	GA	MO	C	Q*	RR	3.1.6	--	Service Water to Aux. Feedwater Pump Suction	
										MT	--	NO	15		
V014B	1-MOV3209B	3	D-175007	D-2	B	8	GA	MO	C	Q*	RR	3.1.6	--	Service Water to Aux. Feedwater Pump Suction	
										MT	--	NO	15		

Table V-1 Valve Test Program

System Name: Aux. Feedwater System

Revision Number: 1

System Number: Q1N23

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V014C	1-MOV3216	3	D-175007	G-3	B	8	GA	MO	C	Q*	RR	3.1.6	--	Service Water to Aux. Feedwater Pump Suction	
										MT	--	NO	15		
V025A	1-MOV3764A	3	D-175007	B-7	B	4	GA	MO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		
V025B	1-MOV3764B	3	D-175007	D-7	B	4	GA	MO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		
V025C	1-MOV3764C	3	D-175007	F-7	B	4	GA	MO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		
V025D	1-MOV3764D	3	D-175007	D-7	B	4	GA	MO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		
V025E	1-MOV3764E	3	D-175007	B-7	B	4	GA	MO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		

Table V-1 Valve Test Program

System Name: Aux. Feedwater System

Revision Number: 1

System Number: Q1N23

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V025F	1-MOV3764F	3	D-175007	G-7	B	4	GA	MO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		

Table V-1 Valve Test Program

System Name: Aux. Feedwater System

Revision Number: 1

System Number: Q1N23

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
HV3227A	None	3	D-175007	B-8	B	3	GL	AO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		
HV3227B	None	3	D-175007	D-8	B	3	GL	AO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		
HV3227C	None	3	D-175007	G-8	B	3	GL	AO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		
HV3228A	None	3	D-175007	C-8	B	3	GL	AO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		
HV3228B	None	3	D-175007	F-8	B	3	GL	AO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		
HV3228C	None	3	D-175007	H-8	B	3	GL	AO	O	Q*	--	NO	--	Aux. Feedwater to Steam Generators	
										MT	--	NO	45		

Table V-1 Valve Test Program

System Name: Condensate & Demin. Water Transfer and Storage Revision Number: 1

System Number: Q1P11 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001	1-HV3659	2	D-175047	H-10	A	3	GL	AO	C	Q*	--	NO	--	Demin. Water to Reactor Vessel Head Storage Stand	
										MT	--	NO	10		
										LT	--	NO	--		
V002	None	2	D-175047	H-8	AC	3	CK	SA	O	CV	RR	3.1.3	--	Demin. Water to Reactor Vessel Head Storage Stand	
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Containment Purge System

Revision Number: 1

System Number: Q1P13

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V281	1-HV3198D	2	D-175010/2	F-3	A	48	B	AO	C	Q*	--	NO	--	Containment Purge Supply	
										MT	--	NO	5		
										LT	--	NO	--		
V282	1-HV3197	2	D-175010/1	G-9	A	48	B	AO	C	Q*	--	NO	--	Containment Purge Supply	
										MT	--	NO	5		
										LT	--	NO	--		
V283	1-HV3196	2	D-175010/1	E-9	A	48	B	AO	C	Q*	--	NO	--	Containment Purge Exhaust	
										MT	--	NO	5		
										LT	--	NO	--		
V284	1-HV3198A	2	D-175010/2	D-3	A	48	B	AO	C	Q*	--	NO	--	Containment Purge Exhaust	
										MT	--	NO	5		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Containment Purge System

Revision Number: 1

System Number: Q1P13

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V289	1-HV2866A	2	D-175010/2	F-3	A	18	B	AO	C	Q*	--	NO	--	Containment Mini-Purge	
										MT	--	NO	5		
										LT	--	NO	--		
V290	1-HV2866B	2	D-175010/1	F-9	A	18	B	AO	C	Q*	--	NO	--	Containment Mini-Purge	
										MT	--	NO	5		
										LT	--	NO	--		
V291	1-HV2867A	2	D-175010/2	D-3	A	18	B	AO	C	Q*	--	NO	--	Containment Mini-Purge	
										MT	--	NO	5		
										LT	--	NO	--		
V292	1-HV2867B	2	D-175010/1	E-10	A	18	B	AO	C	Q*	--	NO	--	Containment Mini-Purge	
										MT	--	NO	5		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Sampling System Revision Number: 1

System Number: Q1P15 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
HV3103	None	2	D-175009/1	A-3	A	3/8	GL	AO	O	Q*	--	NO	--	Pressurizer Liquid Sample Line to GFFD	
										MT	--	NO	10		
										LT	--	NO	--		
HV3104	None	2	D-175009/2	F-2	A	3/8	GL	AO	O	Q*	--	NO	--	Pressurizer Steam Sample Line to GFFD	
										MT	--	NO	10		
										LT	--	NO	--		
HV3331	None	2	D-175009/2	F-4	A	3/8	GL	AO	O	Q*	--	NO	--	Pressurizer Steam Sample Line to GFFD	
										MT	--	NO	10		
										LT	--	NO	--		
HV3332	None	2	D-175009/1	A-5	A	3/8	GL	AO	O	Q*	--	NO	--	Pressurizer Liquid Sample to Gross Failed Fuel Detector (GFFD)	
										MT	--	NO	10		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Sampling System

Revision Number: 1

System Number: Q1P15

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
HV3333	None	2	D-175009/1	C-5	A	3/8	GL	AO	O	Q*	--	NO	--	Loops 2 & 3 Reactor Coolant HL Sample Line to GFFD	
										MT	--	NO	10		
										LT	--	NO	--		
HV3334	None	2	D-175009/1	G-5	A	3/8	GL	AO	O	Q*	--	NO	--	Accumulator Tanks 1, 2, and 3 Sample Lines to GFFD	
										MT	--	NO	10		
										LT	--	NO	--		
HV3765	None	2	D-175009/1	C-4	A	3/8	GL	AO	O	Q*	--	NO	--	Loops Nos. 1, 2, and 3 Reactor Coolant Hot Leg Sample Line to GFFD	
										MT	--	NO	10		
										LT	--	NO	--		
HV3766	None	2	D-175009/1	G-4	A	3/8	GL	AO	O	Q*	--	NO	--	Accumulator Tanks 1, 2, and 3 Sample Line to GFFD	
										MT	--	NO	10		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Service Water System

Revision Number: 2

System Number: Q1P16

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V010A	1-MOV3019A	2	D-175003/1	A-7	B	12	GA	MO	O	Q*	--	NO	--	Service Water to Containment Coolers	
										MT	--	NO	75		
V010B	1-MOV3019B	2	D-175003/1	C-7	B	12	GA	MO	O	Q*	--	NO	--	Service Water to Containment Coolers	
										MT	--	NO	75		
V010C	1-MOV3019C	2	D-175003/1	E-7	B	12	GA	MO	O	Q*	--	NO	--	Service Water to Containment Coolers	
										MT	--	NO	75		
V010D	1-MOV3019D	2	D-175003/1	F-7	B	12	GA	MO	O	Q*	--	NO	--	Service Water to Containment Coolers	
										MT	--	NO	75		
V043A	1-MOV3024A	2	D-175003/1	A-10	B	10	GA	MO	C	Q*	--	NO	--	Service Water Discharge from Containment Coolers	
										MT	--	NO	65		
V043B	1-MOV3024B	2	D-175003/1	C-10	B	10	GA	MO	C	Q*	--	NO	--	Service Water Discharge from Containment Coolers	
										MT	--	NO	65		

Table V-1 Valve Test Program

System Name: Service Water System

Revision Number: 1

System Number: Q1P16

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V043C	1-MOV3024C	2	D-175003/1	E-10	B	10	GA	MO	C	Q*	--	NO	--	Service Water Discharge from Containment Coolers	
										MT	--	NO	65		
V043D	1-MOV3024D	2	D-175003/1	F-10	B	10	GA	MO	C	Q*	--	NO	--	Service Water Discharge from Containment Coolers	
										MT	--	NO	65		
V071	1-MOV3135	2	D-175003/2	B-9	A	6	GA	MO	O	Q*	CS	3.1.11	--	Service Water to Reactor Coolant Pump Motor Coolers	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
										LT	--	NO	--		

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Table V-1 Valve Test Program

System Name: Service Water System

Revision Number: 1

System Number: Q1P16

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V072	1-MOV3134	2	D-175003/2	B-12	A	6	GA	MO	O	Q*	CS	3.1.11	--	Service Water Return from Reactor Coolant Pump	
												3.1.32		Motor Coolers	
												3.1.33			
										MT	--	NO	15		
										LT	--	NO	--		
V075	None	2	D-175003/2	B-9	AC	6	CK	SA	O	CV	RR	3.1.3	--	Service Water to Reactor Coolant Pump Motor Coolers	
										LT	--	NO	--		
V081	1-MOV3131	2	D-175003/2	B-12	A	6	GA	MO	O	Q*	--	3.1.11	--	Service Water Return from Reactor Coolant Pump	
												3.1.32		Motor Coolers	
												3.1.33			
										MT	--	NO	15		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Service Water System Revision Number: 1

System Number: Q1P16 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V207A	1-MOV3441A	2	D-175003/1	A-9	B	10	GA	MO	0	Q*	--	NO	--	CTMT Coolers Service Water Discharge	
										MT	--	NO	65		
V207B	1-MOV3441B	2	D-175003/1	C-9	B	10	GA	MO	0	Q*	--	NO	--	CTMT Coolers Service Water Discharge	
										MT	--	NO	65		
V207C	1-MOV3441C	2	D-175003/1	E-9	B	10	GA	MO	0	Q*	--	NO	--	CTMT Coolers Service Water Discharge	
										MT	--	NO	65		
V207D	1-MOV3441D	2	D-175003/1	F-9	B	10	GA	MO	0	Q*	--	NO	--	CTMT Coolers Service Water Discharge	
										MT	--	NO	65		
V514	None	3	D-170119/2	--	B	24	B	MO	0	Q*	--	NO	--	Service Water Supply to Turbine Building - Train B	
										MT	--	NO	75		
V515	None	3	D-170119/2	--	B	24	B	MO	0	Q*	--	NO	--	Service Water Supply to Turbine Building - Train A	
										MT	--	NO	75		

Table V-1 Valve Test Program

System Name: Service Water System

Revision Number: 1

System Number: Q1P16

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V516	None	3	D-170119/2	--	B	24	B	MO	O	Q*	--	NO	--	Service Water Supply to Turbine Building - Train A	
										MT	--	NO	75		
V517	None	3	D-170119/2	--	B	24	B	MO	O	Q*	--	NO	--	Service Water Supply to Turbine Building - Train B	
										MT	--	NO	75		
V518	None	3	D-170119/3	--	B	12	B	MO	O	Q*	--	NO	--	Service Water Supply to Diesel Building - Train B	
										MT	--	NO	75		
V519	None	3	D-170119/3	--	B	12	B	MO	O	Q*	--	NO	--	Service Water to Diesel Building - Train A	
										MT	--	NO	75		
V538	None	3	D-170119/2	--	B	42	B	MO	C	Q*	--	NO	--	Emergency Service Water Recirculation Line to Pond - Train B	
										MT	--	NO	45		
V539	None	3	D-170119/2	--	B	42	B	MO	C	Q*	--	NO	--	Emergency Service Water Recirculation Line to Pond - Train A	
										MT	--	NO	45		

Table V-1 Valve Test Program

System Name: Service Water System

Revision Number: 1

System Number: Q1P16

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V545	None	3	D-170119/2	--	B	30	B	MO	O	Q*	--	NO	--	Service Water Train B to River	
										MT	--	NO	45		
V546	None	3	D-170119/2	--	B	30	B	MO	O	Q*	--	NO	--	Service Water Train A to River	
										MT	--	NO	45		
V659	None	3	D-170119/3	--	C	6	CK	SA	C	CV	--	3.1.16	--	Unit 1 Service Water Supply to Diesel Gen. 2C	
V660	None	3	D-170119/3	--	C	6	CK	SA	C	CV	--	3.1.16	--	Unit 1 Service Water Supply to Diesel Gen. 1C	
V661	None	3	D-170119/3	--	C	8	CK	SA	C	CV	--	3.1.16	--	Unit 1 Service Water Supply to Diesel Gen. 1-2A	

Table V-1 Valve Test Program

System Name: Component Cooling Water System

Revision Number: 1

System Number: Q1P17

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V082	1-MOV3052	2	D-175002/2	C-1	A	6	GA	MO	O	Q*	CS	3.1.20	--	Component Cooling Water (CCW) to Reactor Coolant Pumps	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
										LT	--	NO	--		
V083	None	2	D-175002/2	C-2	AC	6	CK	SA	O	CV	RR	3.1.3	--	CCW Supply to Reactor Coolant Pumps	
										LT	--	NO	--		
V097	1-MOV3046	2	D-175002/2	B-6	A	6	GA	MO	O	Q*	CS	3.1.20	--	CCW Return from Reactor Coolant Pump Bearings	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Component Cooling Water System

Revision Number: 1

System Number: Q1P17

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V099	1-MOV3182	2	D-175002/2	C-7	A	6	GA	MO	O	Q*	CS	3.1.20	--	CCW Return from Reactor Coolant Pump Bearings	
												3.1.32			
												3.1.33			
										MT	--	NO	15		
										LT	--	NO	--		
V117A	1-MOV3031A	3	D-175002/1	A-5	B	2	GL	MO	C	Q*	--	NO	--	Reactor Make-up Water to Component Cooling Water System	
										MT	--	NO	15		
V117B	1-MOV3031B	3	D-175002/1	B-5	B	2	GL	MO	C	Q*	--	NO	--	Reactor Make-up Water to Component Cooling Water System	
										MT	--	NO	15		
V121A	1-MOV3030A	3	D-175002/1	A-5	B	2	GL	MO	C	Q*	--	NO	--	Demin. Water to Component Cooling Water System	
										MT	--	NO	15		

Table V-1 Valve Test Program

System Name: Component Cooling Water System Revision Number: 1

System Number: Q1P17 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V121B	1-MOV3030B	3	D-175002/1	B-5	B	2	GL	MO	C	Q*	--	NO	--	Demin. Water to Component Cooling Water System	
										MT	--	NO	15		
V159	None	2	D-175002/2	E-2	AC	6	CK	SA	O	CV	RR	3.1.3	--	CCW Supply to Excess Letdown Heat Exchanger	
										LT	--	NO	--		
HV3045	None	2	D-175002/2	D-6	A	3	GL	AO	O	Q*	CS	3.1.20	--	CCW Return from Reactor Coolant Pumps Thermal Barrier	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
										LT	--	NO	--		
HV3067	None	2	D-175002/2	E-6	A	6	GL	AO	O	Q*	--	NO	--	CCW Return from Excess Letdown Heat Exchanger	
										MT	--	NO	10		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Component Cooling Water System Revision Number: 1

System Number: Q1P17 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sn Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
HV3095	None	2	D-175002/2	E-1	A	6	GL	AO	O	Q*	--	NO	--	CCW Supply to Excess Letdown Heat Exchanger	
										MT	--	NO	10		
										LT	--	NO	--		
HV3096A	None	3	D-175002/2	G-12	B	8	GL	AO	O	Q*	--	NO	--	CCW Supply to Recycle Sys., Waste Gas Sys., Hydrogen Recombiner.	
										MT	--	NO	10		
HV3096B	None	3	D-175002/2	F-7	B	8	GL	AO	O	Q*	--	NO	--	CCW Supply to Recycle Sys., Waste Gas Sys., Hydrogen Recombiner.	
										MT	--	NO	10		
HV3184	None	2	D-175002/2	D-6	A	3	GL	AO	O	Q*	CS	3.1.20	--	CCW Return from Reactor Coolant Pumps Thermal Barrier	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: Component Cooling Water System

Revision Number: 1

System Number: Q1P17

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
HV3443	None	2	D-175002/2	E-5	A	6	GL	AO	O	Q*	--	NO	--	CCW Return from Excess Letdown Heat Exchanger	
										MT	--	NO	10		
										LT	--	NO	--		
RV3028	None	3	D-175002/1	A-2	B	2	GL	AO	O	Q*	--	NO	--	CCW Surge Tank Vent Valve Disch. to Auxiliary Building	
										MT	--	NO	45		

Table V-1 Valve Test Program

System Name: Service Air System

Revision Number: 1

System Number: Q1P18

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001	None	2	D-175035/1	G-7	A	2	GL	M	C	Q	NT	3.1.29	--	Service Air to Pipe Penetration Rooms and	
										LT	--	NO	--	Containment	
V002	None	2	D-175035/1	G-7	A	2	GL	M	C	Q	NT	3.1.29	--	Service Air to Pipe Penetration Rooms and	
										LT	--	NO	--	Containment	

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Table V-1 Valve Test Program

System Name: Instrument Air System

Revision Number: 1

System Number: Q1P19

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V002	None	2	D-175034/3	D-2	AC	2	CK	SA	O	CV	RR	3.1.3	--	Containment Instrument Air Supply	
										LT	--	NO	--		
HV3611	None	2	D-175034/2	E-11	A	2	GL	AO	O	Q*	CS	3.1.21	--	Containment Instrument Air Supply	
												3.1.32			
												3.1.33			
										MT	--	NO	10		
										LT	--	NO	--		

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Table V-1 Valve Test Program

System Name: CTMT Cooling & Purge System Revision Number: 1

System Number: Q1P23 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V002A	1-MOV3238	2	D-175010/1	G-2	A	8	GL	MO	C	Q	NT	3.1.29	--	Containment Leak Rate Test Valve	
										MT	NST	3.1.29	--		
										LT	--	NO	--		
V002B	1-MOV3239	2	D-175010/1	G-2	A	8	GL	MO	C	Q	NT	3.1.29	--	Containment Leak Rate Test Valve	
										MT	NST	3.1.29			
										LT	--	NO	--		

Table V-1 Valve Test Program

System Name: River Water System

Revision Number: 1

System Number: QSP25

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V513	None	3	D-170119/7	--	B	54	B	MO	O	Q*	--	NO	--	River Water Pond Supply - Train B	
										MT	--	NO	45		
V514	None	3	D-170119/7	--	B	54	B	MO	O	Q*	--	NO	--	River Water Pond Supply - Train A	
										MT	--	NO	45		
517	None	3	D-170119/7	--	B	60	B	MO	C	Q*	--	NO	--	River Water Supply to Service Water Wet Pit - Train A	
										MT	--	NO	45		
V518	None	3	D-170119/7	--	B	60	B	MO	C	Q*	--	NO	--	River Water Supply to Service Water Wet Pit - Train B	
										MT	--	NO	45		

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5370-2

Table V-1 Valve Test Program

System Name: Non-Radioactive Vent System

Revision Number: 1

System Number: QSV47

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001A	1-HV3624	3	D-205012	F-5	B	14	B	AO	0	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		
V001B	1-HV3625	3	D-205012	G-5	B	14	B	AO	0	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		
V002A	1-HV3623	3	D-205012	G-3	B	20	B	AO	0	Q*	--	NO	--	Computer Room HVAC	
										MT	--	NO	10		
V002B	1-HV3622	3	D-205012	G-3	B	20	B	AO	0	Q*	--	NO	--	Computer Room HVAC	
										MT	--	NO	10		
V003A	1-HV3626	3	D-205012	F-5	B	24	B	AO	0	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		
V003B	1-HV3627	3	D-205012	G-5	B	24	B	AO	0	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		

1 2 1 6 2 2 9 1

5370-2

Table V-1 Valve Test Program

System Name: Non-Radioactive Vent System

Revision Number: 1

System Number: QSV47

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V003C	1-HV3479A	3	D-205012	E-4	B	24	B	AO	O	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		

1362 1122

Table V-1 Valve Test Program

System Name: Spent Fuel Pool Vent & Filtration System

Revision Number: 1

System Number: Q1V48

(Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001A	1-HV3538A	3	D-175022	B-11	B	16	B	AO	C	Q*	--	NO	--	Spent Fuel Pool Filtration System to Penetration Room	
										MT	--	NO	45	Filter Unit	
V001B	1-HV3538B	3	D-175022	D-11	B	16	B	AO	C	Q*	--	NO	--	Spent Fuel Pool Filtration System to Penetration Room	
										MT	--	NO	45	Filter Unit	

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5370-4

Table V-1 Valve Test Program

System Name: Control Room HVAC & Filtration Systems Revision Number: 1

System Number: QSV49 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V001A	1-MOV3478A	3	D-175012	B-7	B	8	B	MO	O	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		
V001B	1-MOV3478B	3	D-205012	B-3	B	8	B	MO	O	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		
V004A	1-HV3649A	3	D-175012	E-6	B	20	B	AO	O	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		
V004B	1-HV3649B	3	D-175012	E-7	B	20	B	AO	O	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		
V004C	1-HV3649C	3	D-175012	E-7	B	20	B	AO	O	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	10		
V008	1-MOV2769A	3	D-175012	A-7	B	8	B	MO	O	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	65		

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5370-2

Table V-1 Valve Test Program

System Name: Control Room HVAC & Filtration Systems Revision Number: 1

System Number: QSV49 (Note: See Table V-2 for Legend of Symbols)

Valve Number		Code Class	P&ID/Sh Number	Coordinates	Section XI Valve Category	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Test Alternates	Relief Requests	Stroke Time Limit (Sec.)	Function	Remarks
TPNS	Other														
V009	1-MOV2769B	3	D-205012	A-3	B	8	B	MO	O	Q*	--	NO	--	Control Room HVAC	
										MT	--	NO	65		

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TABLE V-2 LEGEND OF SYMBOLS

Legend for Valve Type

B - Butterfly

CK - Check

D - Diaphragm

GA - Gate

GL - Globe

N - Needle

PR - Pressure Relief or Safety

RC - Reversed check valve for Main Steam Isolation. Check valve is reversed in line to block flow.

Legend for Actuator Type

AO - Air Operated

M - Manual

MO - Motor Operated

SA - System Actuated

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Legend for Valve Testing Requirements

Q - Exercise valves (full stroke) for operability every three (3) months except that when one train of a redundant system is inoperable, then nonredundant valves in the remaining train should not be cycled since their failure would cause a loss of total system function. 1

LT - Valves are leak tested per Section XI Article IWV-3420.

MT - Stroke time measurements are taken and compared to the stroke time limiting value per Section XI Article IWV-3410.

CV - Exercise check valves to the position required to fulfill their function every three (3) months.

SRV- Safety and relief valves are tested per Section XI Article IWV-3510.

CSP- Exercise valve (full stroke) for operability every cold shutdown and exercise valve (partial stroke) every (3) months.

* - Remote valve position indicator lights are used to verify valve stem position. 1

Legend for Valve Testing Alternates

RR - Exercise valve for operability at each reactor refueling outage.

CI - Containment isolation valve can be leak tested only in reverse pressure differential mode.

RPI- Redundant remote position indicator will be used for stroke time measurements.

NT - No testing required.

NST- No stroke time measurements are taken. 1

CS - Exercise valve (full stroke) for operability during each cold shutdown and at each refueling outage. In case of frequent cold shutdowns, valve testing will not be performed more often than once every three (3) months for Category A, B, and C valves.

Valve testing will commence not later than 48 hours after an unscheduled cold shutdown and continue until complete or until plant is ready to return to power. Completion of all valve testing is not a prerequisite to return to power. Any testing not completed at one cold shutdown should be performed during the subsequent cold shutdowns to meet the code-specified testing frequency. 1

1362 129

3.1 Relief Requests

3.1.1 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.1.1 Basis for Relief

Operability testing of these normally closed check valves per IWV-3520 during normal operation or cold shutdown is not practical. During normal operation, these valves cannot be full or partial stroked because the RHR/LHSI pumps cannot overcome RCS pressure. During cold shutdown, these valves cannot be fully or partially stroked without bypassing the core during RHR and defeating the RHR cooling function.

3.1.1.2 Alternate Testing

The valves will be full-stroke tested at each refueling outage when RHR/LHSI design flow is used to fill the reactor cavity.

3.1.2 Test Requirement

1

Exercise check valves for operability at least once every three (3) months.

3.1.2.1 Basis for Relief

Operability testing of these normally closed check valves per IWV-3520 during normal operation or cold shutdown is not practical. During normal operation, these valves cannot be full-stroke exercised because the HHSI pumps cannot achieve design flow against RCS pressure. Partially stroking the valves at power would induce thermal shock to the safety injection nozzles. During cold shutdown, full stroking would overpressurize the RCS.

3.1.2.2 Alternate Testing

The valves will be verified as operable by comparing HHSI flow to the sum of the established individual reactor loop injection flows. The valve test will coincide with the testing of the HHSI system during each refueling outage.

3.1.3 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.3.1 Basis for Relief

Due to plant design it is not practical to verify by any positive means, neither directly nor indirectly, the operability of these normally open check valves per the requirements of IWV-3520.

1

3.1.3.2 Alternate Testing

Valve closure will be verified during the performance of the valve leak-rate test which shall be conducted at the same frequency as reactor refueling outages per the plant Technical Specifications.

3.1.4 Test Requirement

Valves shall be leak tested with the differential pressure in the same direction as applied when the valves are performing their safety functions.

3.1.4.1 Basis for Relief

These valves provide primary isolation for containment sump penetrations with no provisions for leak rate testing with the differential pressure in the same direction as applied when the valves are performing their function as required by IWV-3420(c).

3.1.4.2 Alternate Testing

Leak rate testing will be performed by applying the differential pressure between the primary and secondary isolation valves.

3.1.5 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.5.1 Basis for Relief

The only positive means of exercising this normally closed valve is by directing AFW flow into the Steam Generators. The initiation of AFW during power operation will result in unnecessary thermal shock to the Auxiliary Feedwater-to-Main Feedwater connection. An introduction of cold water into the secondary system will also cause power transients.

3.1.5.2 Alternate Testing

AFW flow will be directed through the valve at the design flow rate of the AFW system at cold shutdown. Verification of this flow through the valve in conjunction with verification that the control valve position is the same for each test will provide assurance that the valve has opened sufficiently to perform its function.

3.1.6 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.6.1 Basis for Relief

It is not practical to exercise these valves during normal plant operation or at cold shutdown per IWV-3410. The exercising of these valves would introduce chlorides and fluorides into the Steam Generators, jeopardizing the secondary water chemistry. 1

3.1.6.2 Alternate Testing

These valves will be exercised at reactor refueling outages.

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3.1.7 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.7.1 Basis for Relief

The only positive means of exercising (full or partial stroke) of this normally closed valve is by directing AFW flow into the Steam Generators. The initiation of AFW during power operation will result in unnecessary thermal shock to the Auxiliary Feedwater-to-Main Feedwater connection. An introduction of cold water into the secondary system will also cause power transients. The operation of the Turbine Driven AFW pump during cold shutdown is not possible because Turbine Drive steam is not available. 1

3.1.7.2 Alternate Testing

AFW flow will be directed through the valve at the design flow of the AFW system during a mode of operation approaching cold shutdown or leaving cold shutdown in which steam is available. Verification of this flow through the valve in conjunction with verification that the control valve position is the same for each test will provide assurance that the valve has opened sufficiently to perform its function.

3.1.8 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.8.1 Basis for Relief

The operability testing (full or partial stroke) of these valves during normal operation cannot be accomplished during normal operation because:

1) Valve is interlocked with RCS pressure signal which prohibits valve opening at a RCS pressure greater than 402.5 psig.

2) The motor operated valve is not designed for partial stroking.

3.1.8.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.9 Test Requirement

The stroke time of all power operated valves shall be measured.

3.1.9.1 Basis for Relief

The measurement of stroke time for these flow control valves provides no increase in the level of safety for this system. The valves have no active function when the system is aligned for the LHSI function. 1

1362 132

3.1.9.2 Alternate Testing

The operability testing of these valves every 3 months will verify that the valves will operate from a closed to an open position.

3.1.10 Test Requirement

IWV-3520(2) requires that confirmation that the disk moves away from the seat shall be by visual observation, by electrical signal, by pressure indications, or by other positive means.

3.1.10.1 Basis for Relief

Due to plant design, the operability of these normally closed check valves cannot be determined by any of the specific methods allowed in IWV-3520(2).

3.1.10.2 Alternate Testing

The only positive means of demonstrating operability is by verification of flow such that the valves move to perform their function. During power operation, the RHR pumps will be operated to provide design flow in the recirculation path back to the RWST, thereby full stroking these valves.

3.1.11 Test Requirement

Exercise valves for operability at least once every three (3) months.

3.1.11.1 Basis for Relief

1

The operability testing of these valves during normal operation could cause a loss of system function. The failure of one of these valves in a nonconservative (closed) position would cause overheating of the RCP motors and would require the shutdown of RC Pumps and of the Reactor. Valve design does not facilitate partial-stroke testing.

3.1.11.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.12 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.12.1 Basis for Relief

The operability testing of these normally closed check valves per IWV-3520 requires flow verification under LHSI into each RCS loop. These valves cannot be exercised during power operation because the LHSI/RHR pumps cannot overcome RCS pressure. During cold shutdown, these valves cannot be full-stroke exercised because design flow cannot be verified through the valve unless all initial test conditions can be met (i.e., suction from RWST through both pumps to the RCS with the RCS at atmospheric pressure).

1362 133

3.1.12.2 Alternate Testing

The valves will be full-stroked using the LHSI design flow during each refueling outage. 1

3.1.13 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.13.1 Basis for Relief

The operability testing of these normally closed check valves per IWV-3520 requires flow verification under HHSI or LHSI into each RCS loop. This flow verification cannot be accomplished during normal operation or cold shutdown.

During normal operation with the Reactor Coolant System at operating pressure, these valves cannot be full-stroke exercised because the HHSI pumps cannot provide design flow and the LHSI pumps cannot provide any flow.

During normal operation, partial-stroke exercising these valves would induce undesired thermal shock to the safety injection nozzles. 1

During cold shutdown, design flow (full-stroke exercising) cannot be verified because the Reactor Coolant System is pressurized.

3.1.13.2 Alternate Testing

The valve will be verified as operable by comparing HHSI flow through the BIT to the sum of the established individual reactor loop injection flows. The valve test will coincide with the testing of the HHSI system via the BIT at each refueling outage.

3.1.14 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.14.1 Basis for Relief

The operability testing of this normally closed check valve per IWV-3520 requires flow verification under HHSI into each RCS loop. This flow verification cannot be accomplished during normal operation or cold shutdown. During normal operation, full or partial stroking would cause overboration of the RCS, possibly causing a plant shutdown. During cold shutdown, stroking the valve would cause overpressurization of the RCS. 1

3.1.14.2 Alternate Testing

The valve will be verified as operable by initiation of HHSI through the BIT to the RCS during each refueling outage.

3.1.15 Test Requirement

Exercise check valves for operability at least once every three (3) months.

1362 134

3.1.15.1 Basis for Relief

The operability testing of these normally closed check valves per IWV-3520 during normal operation or cold shutdown is not practical. During normal operation, these valves cannot be full- or partial-stroke exercised because the accumulators cannot overcome RCS pressure. During cold shutdown, these valves cannot be fully or partially stroked without overpressurizing the RCS. During refueling outages, these valves cannot be full-stroke exercised at accumulator operating pressure without causing internal core damage due to excessive flow rates. Disassembly of the valves during refueling outages requires the draining of the accumulators and associated piping.

3.1.15.2 Alternate Testing

The valves will be partial-stroke exercised at each refueling outage by discharging the accumulators into the RCS with the accumulators at atmospheric pressure. The valves will be verified as closed prior to the exercising by testing for leakage with a differential pressure $\geq$100 psi across the valves. A decrease in accumulator level when the system is discharged to the RCS will verify a partial stroke.

3.1.16 Test Requirement

IWV-3520(2) requires that confirmation that the disk moves away from the seat shall be by visual observation, by electrical signal, by appropriate pressure indications, or by other positive means. 1

3.1.16.1 Basis for Relief

Due to plant design, the operability of these normally closed check valves cannot be determined by any of the specific methods allowed in IWV-3520(2).

3.1.16.2 Alternate Testing

Verification that the valve will sufficiently open to perform its function is provided if:

1) Diesel Generator is supplied by this valve; i.e., Unit No. 2 supply is isolated;

2) Diesel Generator is operating (tested pursuant to Technical Specifications); and

3) Diesel-Generator Jacket Cooling-Water Temperature is adequate for continued operation.

3.1.17 Test Requirement

Exercise the valve for operability at least once every three (3) months.

3.1.17.1 Basis for Relief

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The operability testing (full or partial stroke) of this valve during normal operation could subject the RHR system to pressure in excess of its design

pressure (600 psig). It is assumed for the purpose of the cycling test that the upstream check valves have failed. Venting of the upstream pressure cannot be accomplished under any conditions because of the radiation hazard to plant personnel.

3.1.17.2 Alternate Testing

Once every three (3) months the upstream pressure will be measured. If the pressure is less than or equal to 550 psig, then the valve will be full-stroke exercised. If the pressure is greater than 550 psig, the valve will not be exercised that quarter. If the upstream pressure prohibits quarterly testing, the valve will be full stroked at cold shutdowns. 1

3.1.18 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.18.1 Basis for Relief

The operability testing (full stroke) of these valves during normal operation could cause a loss of system function. The failure of these valves in a non-conservative position during a cycling test would cause the loss of the RCP seal water cooling function. The design of the valve will not facilitate a partial-stroke test.

3.1.18.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.19 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.19.1 Basis for Relief

The operability testing (full stroke) of these valves during normal operation could jeopardize the charging function of the CVCS. Failure in a nonconservative position would eliminate the VCT as a source of RCS charging and possibly cause a reactor trip. The design of the valves will not facilitate a partial-stroke test. 1

3.1.19.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.20 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.20.1 Basis for Relief

The operability testing (full stroke) of these valves during normal operation would jeopardize the RCP cooling function. Cycling of the valves would interrupt the CCW supply to the reactor coolant pumps. Also the failure of the

valves in a nonconservative position during the cycling test would result in a loss of the system function. The design of the motor-operated valves will not facilitate a partial-stroke test.

3.1.20.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.21 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.21.1 Basis for Relief

The operability testing (full stroke) of this valve during normal operation would cause an interruption of instrument air supply to instruments and equipment associated with the RCS. Also, a failure in a nonconservative position during a cycling test would cause a complete loss of instrument air supply to the containment. The design of the valve will not facilitate a partial-stroke test.

3.1.21.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.22 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.22.1 Basis for Relief

The operability testing (full stroke) of these valves during normal operation is not possible. The bypass valves are interlocked with the MSIVs such that when the MSIVs are open, the bypass valves are closed. The design of the valves will not facilitate a partial-stroke test.

3.1.22.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.23 Test Requirement

Normally inaccessible valves with remote position indicators shall be visually observed at the same (or greater) frequency as reactor refueling outages to confirm operability of position indicators.

3.1.23.1 Basis for Relief

Remote position indicators will be used to verify valve position per IWV-3300. However, visual observation of valve operation is not practical. Such observation would require removal of the valve protective chamber which is also considered to be a portion of the containment pressure boundary. Since the valve is provided with redundant indicators, position is accurately reflected by the remote indications.

1

1362 137

3.1.23.2 Alternate Testing

The leak rate test during each refueling outage will verify that the remote position indicators accurately reflect the closed position of the valves. No practical means exists to verify the open position of the valves. However, following each leak-rate test the air pressure will be relieved by opening these valves, thus verifying that the disk moves away from the seat. 1

3.1.24 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.24.1 Basis for Relief

The operability testing (full stroke) of these valves during normal operation would cause an interruption of feedwater to the Steam Generators and introduce unwarranted transients to the primary as well as the secondary systems. The design of the valves will not facilitate a partial-stroke test.

3.1.24.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.25 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.25.1 Basis for Relief

The operability testing (full stroke) of this valve during normal operation could put the plant in an unsafe condition. The normally closed valve provides back-up safety-injection into the RCS bypassing the BIT. Failure during cycling in a nonconservative position would jeopardize the normal safety injection function. The valve design does not facilitate a partial-stroke test. 1

3.1.25.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.26 Test Requirement

IWV-3520(2) requires that confirmation that the disk moves away from the seat shall be by visual observation, by electrical signal, by appropriate pressure indications, or by other positive means. 1

3.1.26.1 Basis for Relief

Due to plant design, the operability of these normally closed check valves cannot be determined by any of the specific methods allowed in IWV-3520(2).

1362 138

3.1.26.2 Alternate Testing

The only positive means of demonstrating operability is by verification of flow such that the valves move to perform their function. Steam for the Turbine Driven Auxiliary Feedwater Pump quarterly test will be supplied through each of these valves in succession. An acceptable pump test verifies that each valve moves to perform its function. 1

3.1.27 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.27.1 Basis for Relief

The operability testing (full stroke) of these valves during normal operation could cause a loss of system function. A failure while cycling in a nonconservative position would cause a loss of the CTMT radiation monitoring system. The valve design does not facilitate a partial-stroke test.

3.1.27.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.28 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.28.1 Basis for Relief

The operability testing (full stroke) of these valves during normal operation could cause a loss of system function. A failure while cycling in a nonconservative position would cause a loss of the CTMT Pressure Instrument System. The valve design does not facilitate a partial-stroke test.

3.1.28.2 Alternate Testing

The valves will be full-stroke tested for operability at each cold shutdown.

3.1.29 Test Requirement

Exercise the valves for operability at least once every three (3) months.

3.1.29.1 Basis for Relief

The operability testing (full or partial stroke) during normal operation or cold shutdown of these valves provides no assurance of an increase in safety. The valves are containment isolation valves which are normally closed and passive.

3.1.29.2 Alternate Testing 1

The valves' closed position will be verified during the performance of the leak-rate tests at each refueling outage.

1362 139

3.1.30 Test Requirement

The valve will be full-stroke tested for operability at least once every three (3) months.

3.1.30.1 Basis for Relief

The operability testing (full stroke) of this valve during normal operation or cold shutdown could cause a loss of system function. During normal operation, opening the valve dumps all instrument air into the CTMT atmosphere causing a loss of RCS pressure control for spray and a loss of letdown control. During cold shutdown, exercising the valve would cause loss of pressure control and level control. Valve design does not facilitate a partial-stroke test.

3.1.30.2 Alternate Testing

The valve will be full-stroke tested for operability at each refueling outage.

3.1.31 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.31.1 Basis for Relief

The operability testing (full stroke) of this normally closed check valve per IWV-3520 during plant operation, cold shutdown, or refueling is not practical. The only means of full stroking the valve is by initiating the Containment Spray System which would cause excessive damage to equipment in CTMT. Manually exercising the valve would require removing the valve bonnet after draining the RWST. This action would put the plant in an unsafe condition. 1

3.1.31.2 Alternate Testing

The valve will be verified as operable during the quarterly testing of the Containment Spray Pumps. Due to system design, the valve can only be partial-stroke tested.

3.1.32 Test Requirement

IWV-3410(g) and IWV-3520(c) state that when corrective action is required as a result of tests made during cold shutdown, the condition shall be corrected before startup. A retest showing acceptable operation shall be run following any required corrective action before the valve is returned to service.

3.1.32.1 Basis for Relief

The plant Technical Specifications provide the requirements and plant conditions necessary for plant startup.

3.1.32.2 Alternate Testing

The test requirement will be satisfied before the valve is required for plant operability as defined in the plant Technical Specifications.

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3.1.33 Test Requirement

IWV-3410(c) states that if an increase in stroke time of 25% or more from the previous test for valves with stroke times greater than ten seconds or 50% or more for valves with stroke times less than or equal to ten seconds is observed, test frequency shall be increased to once each month until corrective action is taken.

3.1.33.1 Basis for Relief

Valves that are normally tested during cold shutdown or refueling cannot be tested once each month. Stroking these valves during power operation may place the plant in an unsafe condition.

3.1.33.2 Alternate Testing

The test frequency shall be increased to once each cold shutdown, not to exceed once each month.

3.1.34 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.34.1 Basis for Relief

The operability testing of these normally closed check valves per IWV-3520 during normal operation or cold shutdown is not practical. During normal operation, these valves cannot be full-stroke exercised because the accumulators cannot overcome RCS pressure. The valves cannot be partial-stroke exercised during normal operation without making the accumulators inoperable, thus placing the plant in an unsafe condition. During cold shutdown, these valves cannot be fully or partially stroked without overpressurizing the RCS. During refueling outages, these valves cannot be full-stroke exercised at accumulator operating pressure without causing internal core damage due to excessive flow rates. Disassembly of the valves during refueling outages requires the draining of the accumulators and associated piping.

3.1.34.2 Alternate Testing

The valves will be partial-stroke exercised at each refueling outage by discharging the accumulators into the RCS with the accumulators at atmospheric pressure. The valves will be verified as closed prior to the exercising by testing for leakage with a differential pressure $\geq$100 psi across the valves. A decrease in accumulator level when the system is discharged to the RCS will verify a partial stroke.

3.1.35 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.35.1 Basis for Relief

The valve is a passive containment isolation valve whose safety function is to remain closed.

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3.1.35.2 Alternate Testing

Valve closure will be verified during the performance of the valve leak-rate test which shall be conducted at the same frequency as refueling outages.

3.1.36 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.36.1 Basis for Relief

Operability testing of these normally closed check valves per IWV-3520 during normal operation or cold shutdown is not practical. During normal operation, these valves cannot be full stroked because the HHSI pumps cannot provide design flow and the LHSI pumps cannot provide any flow. Partial stroking the valves at power would induce thermal shock to the safety injection nozzles. During cold shutdown, full or partial stroking would overpressurize the RCS.

3.1.36.2 Alternate Testing

The valves will be full stroked by initiation of LHSI while filling the cavity during each refueling outage. Establishment of LHSI/ECCS design flow through the Hot Leg injection path will verify that the valves have sufficiently opened to perform their function.

3.1.37 Test Requirement

Exercise the valve for operability at least once every three (3) months. 1

3.1.37.1 Basis for Relief

Operability testing of this valve during normal operation or cold shutdown would require that the boric acid system be made inoperable, thus placing the plant in an unsafe condition.

3.1.37.2 Alternate Testing

The valve will be full-stroke tested for operability at each refueling outage.

3.1.38 Test Requirement

Exercise valves for operability at least once every three (3) months.

3.1.38.1 Basis for Relief

The operability testing (full stroke) of this valve during normal operation could cause a loss of system function. A failure while cycling in a nonconservative (closed) position would render the boron injection system inoperable. The volume of the BIT could not be assured. Valve design does not facilitate a partial-stroke test.

3.1.38.2 Alternate Testing

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The valves will be full-stroke tested for operability at each cold shutdown.

3.1.39 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.39.1 Basis for Relief

Operability testing of these normally closed check valves per IWV-3520 during normal operation or cold shutdown is not practical. During normal operation, exercising these valves with flow would introduce sodium hydroxide into the RWST (ECCS water supply). During cold shutdown, both trains of the system would have to be made inoperable in order to drain the system for bonnet removal and manual exercising of the valve disk. This test is beyond the scope of cold shutdown testing.

3.1.39.2 Alternate Testing

The valves will be verified as operable by removing the bonnet and manually full-stroke exercising the disk at each refueling outage.

3.1.40 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.40.1 Basis for Relief

Operability testing of these normally closed check valves per IWV-3520 during power operation or cold shutdown is not practical. During power operation the CTMT is not available. During cold shutdown, valve disassembly or an air test for flow verification requires draining a portion of the system. These tests are beyond the scope of cold-shutdown testing. 1

3.1.40.2 Alternate Testing

The valves will be verified as operable by removing the bonnet and manually full-stroke exercising the disk at each refueling outage.

3.1.41 Test Requirement

Exercise check valves for operability at least once every three (3) months.

3.1.41.1 Basis for Relief

Operability testing of this normally closed check valve per IWV-3520 during normal operation or cold shutdown would require that the boric acid system be made inoperable, thus placing the plant in an unsafe condition.

3.1.41.2 Alternate Testing

The valve will be full-stroke tested at each refueling outage. A flow or differential pressure greater than or equal to the manufacturer's minimum full-open values (Flow $\geq$ 10 GPM, $\Delta P \geq$ 5 psig) will be verified.

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3.1.42 Test Requirement

IWV-3520(2) requires that confirmation that the disk moves away from the seat shall be by visual observation, by electrical signal, by appropriate pressure indications, or by other positive means.

3.1.42.1 Basis for Relief

Due to plant design, the operability of this normally closed check valve cannot be determined by any of the specific methods allowed in IWV-3520(2).

3.1.42.2 Alternate Testing

The only positive means of demonstrating operability is by verification of flow such that the valve is full-stroke exercised. A flow greater than or equal to the manufacturer's minimum full-open value (Flow $\geq$ 70 GPM) will be verified quarterly provided the associated charging pump is operable.

3.1.43 Test Requirement

IWV-3520(2) requires that confirmation that the disk moves away from the seat shall be by visual observation, by electrical signal, by appropriate pressure indications, or by other positive means.

3.1.43.1 Basis for Relief

Due to plant design, the operability of this normally closed check valve cannot be determined by any of the specific methods allowed in IWV-3520(2). 1

3.1.43.2 Alternate Testing

The only positive means of demonstrating operability is by verification of flow such that the valve moves to perform its function. An acceptable quarterly test on the Turbine Driven Auxiliary Feedwater Pump verifies that the valve moves to perform its function and passes design flow (700 GPM).

3.1.44 Test Requirement

Sub-Article IWV-3520(2) requires that the differential pressure for equivalent flow be no greater than that observed during preoperational testing when flow is used to test a swing or tilting disk valve.

3.1.44.1 Basis for Relief

No instrumentation is provided for the determination of differential pressure across the valve.

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3.1.44.2 Alternate Testing

A partial-stroke test will be accomplished during the quarterly testing of the MDAFW pumps. Acceptance of the pump test will provide assurance that the valve has partially opened. A full-stroke test will be accomplished by providing MDAFW pump design flow to the Steam Generators during cold shutdown. Verificaton that design flow is reached provides assurance that the valve has opened in order to perform its function.