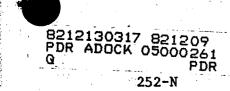
APPENDIX A ENG-10

CAROLINA POWER & LIGHT COMPANY H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2 IN-SERVICE INSPECTION PROGRAM INTERVAL 2

MARCH 7, 1981 TO MARCH 7, 1991



#### TABLE OF CONTENTS

PAGE

4

#### TITLE

						ij	ł
Abstract				. :			
List of Dra	wings					iii	
Attachment	A - Pump and Valve Test Program				<b>/</b>	A ]	L
Table	1 - Codes and Symbols				1 of	f ]	L
Table	2 - Pump Test Program		-		1 of	fź	2
Table	2 - Specific Requests for Relief			• .	1 of	f	4
Table	3 - Valve Test Program			1	-	_	
Table	3 - Specific Requests for Relief	· · ·	·	· ·	1 0		
Table	4 - Additional Valve Information	•		•	1 0	f	7



#### ABSTRACT H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2 IN-SERVICE INSPECTION PROGRAM INTERVAL 2 - MARCH 7, 1981 TO MARCH 7, 1991

In accordance with 10CFR 50.55a(g)(4)(ii) the H. B. Robinson Unit 2 ISI Program is being updated to ASME Section XI, 1977 Edition with addenda through the summer, 1978, addenda. Steam generator inspections will continue to be inspected under Plant Technical Specifications. Specific reliefs are requested in accordance with 10CFR 50.55a(g)(5)(iii).

The interval for which this program is applicable will commence on March 7, 1981, and end on March 7, 1991.

The ISI Program was developed employing the classification guidelines contained in 10CFR 50.2(v) for Quality Group A. Regulatory Guide 1.26, Revision 2, was used for classification of items in Quality Groups B and C, along with ANSI N18.2, 1973 and ANSI N18.2a, 1975. Quality Groups A, B, and C are the same as ASME classes 1, 2 and 3 respectively.

The List of Drawings identifies the drawings used in developing the program.

Attachment A describes the Class 1, 2, and 3 pump and valve inspection program developed in accordance with Subsections IWP and IWV of ASME Section XI.

# H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2 IN-SERVICE INSPECTION PROGRAM LIST OF DRAWINGS

Drawing #	Sheets	Title
ISI-5379-353		Sampling System
ISI-5379-376	1 of 3	Component Cooling System
	` 2 of 3	
•	3 of 3	
ISI-5379-684		Chemical and Volume Control System
ISI-5379-685	1 of 3	Chemical and Volume Control System
	2 of 3	
	3 of 3	
ISI-5379-686	1 of 2	Chemical and Volume Control System
	2 of 2	
ISI-5379-920	1 of 4	(Liquid) Waste Disposal System
ISI-5379-921	1 of 2	(Gaseous) Waste Disposal System
	2 of 2	
ISI-5379-1082	1 of 2	Safety Injection System
	2 of 2	
ISI-5379-1484		Residual Heat Removal System
ISI-5379-1485		Spend Fuel Pit Coolant System
ISI-5379-1971	1 of 2	Reactor Coolant System
	2 of 2	
ISI-G-190196	1 of 3	Main, Extraction and Aux. Steam Sys.
ISI-G-190197	2 of 3	Feedwater, Condensate and Air Evacuation Sys.
ISI-G-190199	1 of 7	Service & Cooling Water System
	2 of 7	
	3 of 7	
ISI-G-190234	1 of 2	Steam Generator Blow-Down System
ISI-G-190261	3 of 8	Penetration Pressurization System
	7 of 8	
	8 of 8	
ISI-G-190262		Isolation Valve Seal Water
ISI-G-190304	1 of 2	HVAC - Turb, Fuel, Aux, and Reactor Buildings
ISI-HBR2-6490		Post Accident Sampling System
ISI-HBR2-6933		Post Accident Containment Venting System
ISI-HBR2-7063		Flow Diagram Legend
ISI-SK-1		Fire Protection System
ISI-SK-2	· · ·	Fuel Transfer Tube
ISI-G-190204A	1 of 3	Emergency Diesel Generator System
ISI-G-190200	1 of 3	Instrument and Service Air





iii Rev. O

#### Attachment A

#### ASME SECTION XI PUMP & VALVE TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

The pump and valve testing program shall be conducted in accordance with Subsections IWP and IWV of Section XI of the 1977 Edition of the ASME Boiler and Pressure Vessel Code through the Summer, 1978 Addenda, except for specific relief requested in accordance with 10CFR50.55a(g)(5)(iii), which is identified in Tables 2 and 3 for pumps and valves respectively.

The interval for which this pump and valve testing program is applicable commences on March 7, 1981, and expires on March 7, 1991.

The pump and value testing program was developed employing the classification guidelines contained in 10CFR50.2(v) for Quality Group A and Regulatory Guide 1.26, Revison 2 for Quality Groups B and C along with ANSI N18.2, 1973, and N18.2a, 1975. Quality Groups A, B, and C are the same as ASME Class 1, 2, and 3, respectively.

The List of Drawings identifies the drawings used to develop the pump and valve testing program.

Table 1 lists the codes and symbols used throughout the program.

Table 2 lists all safety related Class 1, 2, and 3 pumps included in the testing program. The test parameters measured and the testing frequency are also listed.

Table 3 lists all safety related Class 1, 2, and 3 valves included in the program. Specifically excluded per IWV-1200 are valves used for operating convenience only, such as manual vent, drain, instrument, test maintenance, pressure regulating, thermal relief, and system control valves. Test methods and frequencies are also listed. Valve maximum stroke times are listed. Valves which cannot be tested during normal operation have the next acceptable frequency listed as allowed by IWV-3412(a), IWV-3415 and IWV-3416.

Table 4 provides additional information concerning testing requirements as they were applied to specific valves.

Cold shutdown testing, when required, will commence 48 hours after initiation of cold shutdown conditions as defined in Technical Specifications, except for refueling outages. Testing will continue until completed or until the plant is ready to return to operation. Completion of all testing will not be a prerequisite to returning to operation. Testing not completed at one shutdown will be continued during subsequent shutdowns.

A-1

### H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

#### CODES AND SYMBOLS

#### Valve Types

#### Actuator Types

BF Butterfly	A0Air
CK Check	M Manual
na Dianhraem	MO Motor
GA Gate	SA Self Actuate
GL Globe	SO Solenoid
ND Needle	Valve Position
REG Regulator	CL Closed
REG Regulator	0 Open
	LC Locked Closed
VB Vacuum Breaker	LO Locked Open

#### Valve Test Methods

	· .		11								
	F			•	•	•		•	• -		Observe Failure Mode
	- FF										Normally closed check valves
•	T.T.	• •	•	•	. •	•	•		•		are given a forward flow test
						· · ·					to verify that disc opens.
÷	J	• •		•	•		•	•	•	•	Category A containment isolation
		·	·		2		•				valve tested in accordance with
											10CFR50 App. J.
	LT					•		•		•	Leak Test
	RF								•		Normally open check valves are
	14	• •				•		-	-		given a reverse flow test to show
											that disc seats.
	RV				•	•	•	•	•		Relief Valve (Test per IWV-3510)
	S										Full Stroke
	T		•	•	Ī						Measure Time
	VI	• •	•••	•	•	••	•	•	•		Verify Remote Indication
								÷ .			

#### Misc. Symbols

 NA .		• •	• •	Not	Applicabl	e
NR .	• • • •	• •	• •	Not	Required	1 
	in the second					· · · ·

M	•	•	•	•	•	•	•	•	•	monthly	
0	•	•	•	•	•	•	•	•	•	Quarterly	NR
Ĉ.							•	•	•	Cold Shutdown	
R	•	•	•	•		•	•	•	•	Refueling	
										Annual	
x			•				•	•	•	Frequency Determined fro	m
	•									Table IWV-3510-1	
J	_						•			Frequency Determined by	
Ť		•	-	•						10CFR50 App. J.	
	1.1										

Weekly

Test Intervals

W



H. B. ROBINSON STE ECTRIC PLANT UNIT NO. 2 PUMP THE PROGRAM



Page <u>1</u> of <u>2</u>

Pump Name				Tes	t Paramet	ter Measured			Relief
& Drawing Number	Pump No.	Speed n	Inlet Pressure P <sub>i</sub>	Differential Pressure ΔP	Flow Rate Q	Vibration Amplitude V	Lubricant Level or Pressure	Bearing Temperature T <sub>b</sub>	<b>Request</b> And Remarks
Auxiliary Feedwater G-190197	AFW-A* AFW-B* AFW-SD	NR NR Q	Q Q Q	Q Q Q	NR NR NR	Q Q Q	Q Q Q	NR NR NR	1,2,4 P.T. 1,2,4 22.1A 1,2,4 B,C 1,2,4 P.T.
Safety Injection 5379-1082	SI-A* SI-B* SI-C*	NR NR NR	Q Q Q	Q Q Q	NR NR NR	Q Q Q	Q Q Q	NR NR NR	1,2,4 P.1. 1,2,4 2.7A 1,2,4 B,C
Residual Heat Remo <b>val</b> 5379-1484	RHR-A* RHR-B*	NR NR	Q Q	Q Q	NR NR	Q Q	Q Q	NR NR	1,2,4 P.T. 1,2,4 2.8A B,C
Containment Spray 5379-1082	CS-A* CS-B*	NR NR	Q Q	Q Q	NR NR	Q Q	Q Q	NR NR	1,2,4 P.T. 1,2,4 3.4A B,C
Service Water G-190199 Sh. 1	SW-A* SW-B* SW-C* SW-D*	NR NR NR NR	Q Q Q Q	R R R R	NR NR NR NR	Q Q Q Q	Q Q Q Q	NR NR NR NR	1,2,3 P.T. 1,2,3 4.1A 1,2,3 B,C 1,2,3
Component Cooling 5379-376 Sh. 1	CCW-B* CCW-C*	NR NR	Q Q	Q Q	NR NR	Q Q	Q Q	NR NR	1,2,4 P.T. 1,2,4 36.2
Service Water Booster G-190199 Sh. 2	SWBP-A* SWBP-B*	NR NR	Q Q	Q Q	QQ	Q Q	Q Q	NR NR	1,2 P.T. 1,2 4.1A B,C



H. B. ROBINSON STEAN PUMP TE

TAUXY 2 N STEAM CTRIC PLANT UNIT NO. 2 PUMP THE ROGRAM

Page <u>2</u> of <u>2</u>

Pump Name				Tes	st Parame	ter Measured			Relief
& Drawing Number	Pump No.	Speed n	Inlet Pressure P <sub>i</sub>	Differential Pressure ΔP	Flow Rate Q	Vibration Amplitude V	Lubricant Level or Pressure	Bearing Temperature Tb	Request And Remarks
Charging 5379-685 Sh. 2	CVC-B CVC-C	Q Q	Q Q	Q Q	Q Q	Q Q	Q Q	NR NR NR	1,2 P.T. 1,2 18.2A B,C 1,2,4 P.T.
Boric Acid Transfer 5379-685 Sh. 3	A* B*	NR NR	Q Q	Q Q	NR NR	Q Q	NR NR		1,2,4 7.1A
Diesel Fuel Transfer G-190204A Sh. 1	A* B*	NR NR	Q Q	Q Q	R R	Q Q	NR NR	NR NR	1,2,5 1,2,5
*Synchronous	s or inducti	on mot	ors do not	require speed	check (IW	P-4400).	<u> </u>		

#### H. B. ROBINSON UNIT 2 SPECIFIC REQUESTS FOR RELIEF

This section provides justification for the specific relief requested from Code test requirements as provided for in 10CFR50.55a(g)(5)(iii). Each request is identified by a unique number and identifies the pump(s) for which the request is being made. The specific Code test requirement found to be impractical is defined and the basis for exclusion from Code requirements is presented. Any testing performed in lieu of Code requirements is specified.

1. Specific Relief Request:

Monthly In service Test

Applicable To:

All pumps

Basis for Relief Request:

Monthly Section XI operability testing has been a plant requirement for most of these pumps since operation began. An analysis of the results of these tests and comparable data from other operating plants has shown no significant changes in performance. Based on this analysis, the continuation of Section XI monthly testing would not significantly increase plant safety.

Monthly pump testing requires a total of at least 250 hours per year of pump operation, at least 575 man-hours per year, for data acquisition, and at least 50 man-hours per year for data reduction, analysis, and record keeping. This amounts to a total of 525 man-hours per year. At a conservative total cost of \$20 per man-hour, this amounts to \$12,500 per year. Based upon the average exposure rates in the pump access areas, the total man-rem exposure per year for pump testing is approximately 1.0 man-rem. At the present conservatively estimated cost of \$10,000 per man-rem to plant personnel, this exposure costs an additional \$10,000 per year. Total cost to our customers is approximately \$25,200 per year, for no significant increase in safety.

#### Alternate Testing:

Pumps will be tested in compliance with ASME Section XI and this program once per quarter. This is in agreement with changes that were implemented in Subsection IWP of the Code in the Winter, 1979, addenda.



#### H. B. ROBINSON UNIT 2 SPECIFIC REQUESTS FOR RELIEF

2. Specific Relief Request:

Measuring pump bearing temperature annually.

Applicable to:

All pumps.

Basis for Relief Request:

The referenced Edition of the Code requires bearing temperature to be recorded annually. It has been demonstrated by experience that bearing temperature rise occurs only minutes prior to bearing failure. Therefore, the detection of possible bearing failure by a yearly temperature measurement is extremely unlikely. It requires at least an hour of pump operation to achieve stable bearing temperatures. The small probability of detection of bearing failure by temperature measurement does not justify the additional pump operating time required to obtain the measurements.

Alternate Testing:

NONE. This is in agreement with present changes that are being implemented in Subsection IWP of the Code to delete yearly bearing temperature measurement. Deletion of bearing temperature has been approved and will be included in future Addenda. See minutes of the November 28, 1979, meeting of the Operating and Maintenance Working Group -Testing of Pumps and Valves in San Jose, California, dated January 9, 1980.

3. Specific Relief Request:

A. Flow rate measurements as required by IWP-3000.

B. Differential pressure measurements as required by IWP-3000.

Applicable To:

Service Water Pumps

Basis for Relief Request:

The service water pumps are used for removing heat from certain secondary system components during normal operation. Since heat load varies and inlet temperatures vary, automatic temperature control valves will vary the flow rates through



#### H. B. ROBINSON UNIT 2 SPECIFIC REQUESTS FOR RELIEF

the individual components, thus varying pump resistance. The system has no installed flow measuring devices capable of measuring flow from the pumps. The piping is concrete lined which prohibits the use of ultrasonic flow measuring techniques. There is insufficient room on the outlet piping of each individual pump to allow installation of any accurate flow devices.

H. B. Robinson currently verifies service water system operation during refueling by conducting a "dead head" (zero flow) test on each pump. This test provides a point for comparison to determine the condition of the pumps since the previous tests. These tests will be used as an alternative to the monthly Section XI test. If a pump is declared inoperable and maintenance is required on that pump, the pump will be tested in the manner in which the refueling tests are performed. Vibration and normal pump parameters will be checked on a quarterly basis as per the ISI Program requirements.

Alternate Testing:

Verification of system operation during refueling by conducting "dead head" (zero flow) test on each pump.

Specific Relief Request:

Measure Flow Rate.

Applicable To:

4.

Auxiliary Feedwater A, B, and SD, Safety Injection A, B, and C, Residual Heat Removal A and B, Containment Spray A and B, Component Cooling A and B, and Boric Acid Transfer A and B.

Basis for Relief Request:

Instrumentation is not installed to measure flow rate for testing.

For the first ISI interval, these pumps (except Boric Acid Transfer A and B) were tested in a fixed resistance configuration so that any change in performance would be indicated by a change in differential pressure. This method of testing has proven satisfactory and will be continued.

Alternate Testing:

NONE.



252-N

Page <u>3</u> of <u>4</u> Rev. 0

#### H. B. ROBINSON UNIT 2 SPECIFIC REQUESTS FOR RELIEF

5. Specific Relief Request:

Measure Flow Rate.

Applicable To:

Diesel Fuel Oil Transfer Pumps A and B

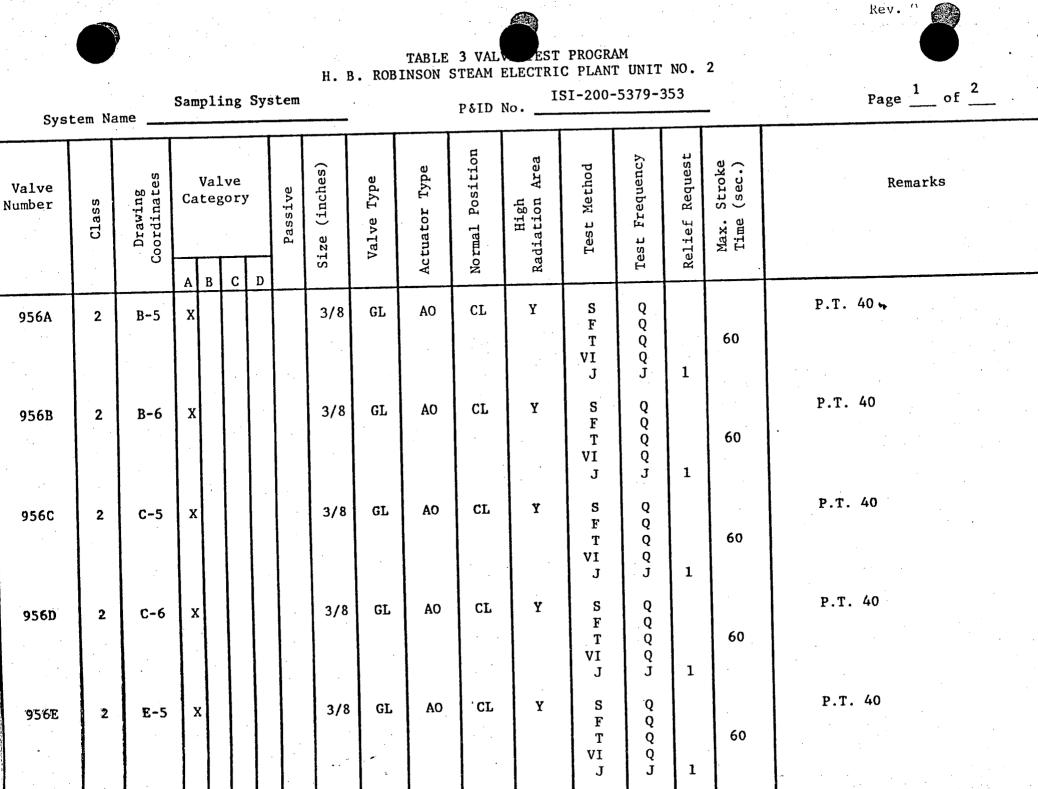
Basis for Relief Request:

These pumps discharge through a fixed resistance system of piping into the fuel oil day tanks. There is no flow instrumentation installed in this piping. Differential pressure will be measured quarterly for these pumps.

These pumps are run weekly to restore the level in the day tank after performance of the diesel generator test. This frequency is four times that required by IWP-3400, Summer 78 Addenda, and twelve times that referenced in Relief Request 1.

Alternate Testing:

Flow rates will be measured by a separate test procedure using manual calculations at refueling intervals.



· ·	959 2 J-4	956H 2 G-6 X	956G 2 G-5 X	956F 2 E-6 X	Number Valver Class Drawing Coordinates	Sar System Name
	×	~			Valve Category A B C D	Sampling System
<u></u>	3/8	3/8	3/8	3/8	Passive Size (inches)	H.
· · · · · · · · · · · · · · · · · · ·	GL	GL	GL	GL	Valve Type	B. ROB
	AO	AO	AO	AO	Actuator Type	ROB INSON
	CL	CL	CL	CL	Normal Position	STEAM E P&ID N
	<u></u>	к	Ч	Ч	High Radiation Area	ELECTRIC ISI-
	VT T	L L L L L L L L L L L L L L L L L L L	U T F S	Чных	Test Method	111
<u> </u>	0000	40000	90000	90000	Test Frequency	PLANT UNIT NO. 200-5379-353
		<b>⊢</b> ⊿	<b>₩</b>	نبا 	Relief Request	3 3
	. 60	60	• 60	60	Max. Stroke Time (sec.)	
	P.T. 40	P.T. 40	P.T. 40	P.T. 40 🖡	Remarks	Page 2 of 2

TABLE 3 VALV ST PROGRAM

Rev. 1



TABLE 3 VALVE EST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Component PATD No ISI-200-5379-376, Sh. 1 of 3

**---**

Rev. 0

Normal Parameter     Normal Parameter       107     1020     10000     1000	S     S     S     S     Class       B     K     K     H-     Drawing Coordinates     Toraving Coordinates       B     K     K     H-     Drawing Coordinates     Toraving Coordinates       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     X       X     X     X     X     X       X     X     X     X     X       X     X     X     X     X       X     X     X     X     X       X     X     X     X     X       X     X     X     X     X       X     X     X     X     X       X     X     X     X     X       X     X     X     X     X       X     X <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>-<u></u></th><th></th><th>-<u></u></th><th>-<u></u></th><th>·</th><th></th><th></th><th>-</th><th></th></td<>									- <u></u>		- <u></u>	- <u></u>	·			-	
Image: Constraint of the second state of the seco	yestern Name     Auxiliary Coolant Sys. Component       Waite     Waite       Waite     Waite       Waite     Vaite       Waite     Vaite </td <td></td> <td>•</td>																	•
Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction of the system       Image: Construction of the system     Image: Construction	3     3     3     Class       3     3     Class     Cordinates       3     3     Class     Cordinates       3     3     1     1       3     3     1     1       3     1     1     1       3     1     1     1       3     1     1     1       4     1     1     1       5     1     1     5       5     1     5     Size (inches)       4     1     1     5       5     1     5     Size (inches)       3     1     6     CX       3     1     1     1       5     1     1     1       6     1     1     1       7     1     1     1       1     1     1     1       1     1     1     1       1     1     1     1       1     1     1        1     1     <				,	<u></u>												
w     w     w     Class       H     K     K     H     Drawing Coordinates       W     K     K     H     Drawing Coordinates       X     X     X     K     C       X     X     X     K     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       X     X     X     X     C       Y     X     X     X     X       Y     X     X     X     X       Y     X     X     X     X       Y     X     X     X     X       Y     X     X     X     X       Y     X     X     X     X       Y     X     X     X     X       Y     X     X     X     X       Y     X     X     X     X       Y     Y     Y     X     X       X     X     X     X     X       X     X	3     3     3     3     4     Class       3     3     3     3     4     Class       3     3     3     4     5     5       3     3     4     5     5     5       3     3     4     5     5     5       3     4     5     5     5     5       3     4     5     5     5     5       3     4     5     5     5     5       3     4     5     5     5     5       3     4     5     5     5     5       3     4     5     5     5     5       3     4     5     5     5     5       4     5     5     5     5     5       5     5     5     5     5     5       7     7     7     7     7     7       3     4     5     5     5     5       5     5     5     5     5     5       7     7     7     7     7       5     5     5     7     7       5     5     7     7 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td><u> </u></td> <td></td> <td></td> <td></td> <td><u> </u></td> <td></td> <td></td> <td></td> <td>· </td> <td>•</td> <td></td> <td></td>						<u> </u>				<u> </u>				· 	•		
w     w     w     Class       H     H     H     H     H       H     H     H     H       H     H     H     H       H     H	u     u     u     u     u     u     Class       B     H     5     5     5     Cordinates     Value       B     K     C     Value     Passive     Value       X     C     D     Passive     Size (inches)       X     I     6     Size (inches)     Size (inches)       X     I     6     CX     Valve Type       3x4     FW     S     Actuator Type       CI     W     W     High       Radiation Area     FF     FF       V     QQ     QQ     Test Frequency       N     FF     FF     FF       V     QQ     QQ     FF       Y     P.T.     36.1     Yate       P.T.     S6.1     Yate     P.T.													· · · · · · · · · · · · · · · · · · ·				
w     w     w     w     Class       H     H     Drawing Coordinates     Drawing Coordinates       x     x     x     x       x     x	w       w       Class         w       w       Class         w       w       Category         v       v       v								 							•		
w     w     w     w     Class       H     H     H     F     Drawing Coordinates       H     K     H     K     H       W     S     H     Drawing Coordinates       X     X     X     C       X     X     X     C       X     X     X     C       X     X     X     C       X     X     X     C       X     X     X     C       X     X     X     C       X     X     X     C       X     X     X     C       X     X     X     C       X     X     X     C       X     X     X     X       X     X     X       X     X     X       X     X     X       X     X     X       X     X       X     X     X       X     X     X       X     X     X       X     X     X       X     X     X       X     X     X       X     X     X       X     X     X	w     w     Colass       w     Colass       w     Colass       w     K-5       b     Correspondent       w     K-5       b     Colass       w     Caregory       v     K-5       x     b        x     b </td <td>• •</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u> </u></td> <td></td>	• •						<u> </u>										
w     w     w     w     Class       H     X     H     Drawing Coordinates       H     X     H     Drawing Coordinates       W     X     Y     O       X     X     X     O       X     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     O       Y     X     X     X       Y     X     X     X       Y     X     X     X       Y     X     X     X       Y     X     X     X       Y     X     X     X       Y     X	So     So     So     So     So     Class       So     So     So     So     Class     Drawing Coordinates       So     So     So     Category     Drawing Coordinates       So     No     Reference       So     So     So     Category       So     So     So     Category       So     So     So     So       So     So     So     So     So       So     So     So     So     So     So       So     So     So     So     So     So       So     So     So     So     So     So       So     So     So     So     So     So        F						·	· · · · · · · · · · · · · · · · · · ·										
w     w     w     Class       N     N     H     Drawing Coordinates       N     N     N       <	w     w     Class       Water     Water       Wate	P.T. 36.1			·	×	RV	N	CL	SA	RV	3x4	-	×	• • •	B-4	ω	707
w     w     Class       ∑     ∴     Drawing Coordinates       >     >       ×     ∧       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∩       ×     ∞       ○     ○	w     w     Class     Name     Auxiliary Coolant       W     W     Drawing Coordinates     Name     Auxiliary Coolant       Name     H-S     Drawing Coordinates     Name     Auxiliary Coolant       Name     Name     Name     Auxiliary Coolant     Name       Name     Name     Name     Auxiliary Coolant     Name       Name     Name     Name     Name     Name       Name     Name     Name	H	•	· · ·		00	FF RF	N	0/C	SA	CK	16		×		M-5	ິພ	702C
ω       Class          Drawing Coordinates <td< td=""><td>w     Class     Name       H     Drawing Coordinates     Coordinates       N     Coordinates     Coordinates       N     Passive     Coordinates       Normal Position     Coordinates     Coordinates       Nax. Stroke     Time (sec.)     Coordinates       No     Normal Position     Coordinates       No     Coordinates     Coordinates    <tr< td=""><td>P.T. 36.2</td><td></td><td>· · · ·</td><td></td><td>00</td><td>FF</td><td>Z</td><td>0/C</td><td>SA</td><td>CK</td><td>16</td><td></td><td>×</td><td></td><td>K-5</td><td>ω</td><td>702B</td></tr<></td></td<>	w     Class     Name       H     Drawing Coordinates     Coordinates       N     Coordinates     Coordinates       N     Passive     Coordinates       Normal Position     Coordinates     Coordinates       Nax. Stroke     Time (sec.)     Coordinates       No     Normal Position     Coordinates       No     Coordinates     Coordinates <tr< td=""><td>P.T. 36.2</td><td></td><td>· · · ·</td><td></td><td>00</td><td>FF</td><td>Z</td><td>0/C</td><td>SA</td><td>CK</td><td>16</td><td></td><td>×</td><td></td><td>K-5</td><td>ω</td><td>702B</td></tr<>	P.T. 36.2		· · · ·		00	FF	Z	0/C	SA	CK	16		×		K-5	ω	702B
Class Drawing Coordinates Drawing Coordinates Passive Coordinates Coordinate	Class       Name         Drawing Coordinates       Auxiliary Coolant Coordinates         A       Cate Coordinates         A       Cate Coordinates         A       Cate Coordinates         Coordinates       Auxiliary Coolant Cooling         Coordinates       Auxiliary Coolant Cooling         A       Cate Coordinates         Coordinates       Passive         Size (inches)       Valve Type         Actuator Type       Normal Position         High Radiation Area       Test Method         Test Frequency       Relief Request         Max. Stroke Time (sec.)       To         Relief Request       Max. Stroke Time (sec.)					مم	FF	N	0/c	SA	CK	16		X		H-5	ω	702A
ass wing linates Cat Val Of Va	Auxiliary Coolant Sys. Component P&ID No. ISI-200-5379-376, Sh. 1 of 3 Wing linates Category sive (inches) e Type Position ligh ion Area Method Prequency Request Stroke (sec.) Remarks			Max. Time	Relief	Test F	Test	H Radiat	Normal	Actuat	Valvo	Size	Pas	C .			Cl	
	Auxiliary Coolant Sys. Component     P&ID No.     ISI-200-5379-376, Sh. 1 of 3     Page 1       Cooling	Remarks		Stroke (sec.)	Request	requency	Method	igh ion Area	Position	or Type	е Туре	(inches)	ssive	Valve tegory			ass	Valve Number

### TABLE 3 VALVE EST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Syst	em Na	Auxi				lan	t Sy	H. B ys. Cor		INSON	3 VALV STEAM I P&ID I	ELECTRI IS	C PLANI	r unit	NO. 76, S	2 h. 2 of -	Rev. 3 3 Page $\frac{1}{1}$ of $\frac{2}{1}$
Valve Number	Class	Drawing Coordinates	Ca	Val teg	ory	D	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
FCV-626 715 716A 716B	2 2 2 2	K-14 N-12 J-3 J-3	x		x			3 3x4 6 6	GA RV GA GA	MO SA MO MO	0 CL 0	Y Y Y Y	S T VI J RV S T VI S T J VI	C C C C C C C C C C C C C C C C C C C	1	60 60 60	P.T. 42.0 • P.T. 36.1 P.T. 42.0 P.T. 42.0
722A 722B 722C 729 .730	3 3 3 2	M-8 I-8 K-8 H-13 I-14	x		X X X			3/4x1 3/4x1 3/4x1 3x4 6	RV	SA SA SA MO	CL CL CL O	Y Y Y Y Y	RV RV RV RV RV S T J VI	X X X X C C J C	1	60	P.T. 36.1 P.T. 36.1 P.T. 36.1 P.T. 36.1 P.T. 42.0

TABLE 3 VALVE ST PROGRAM

Rev.  $\overline{3}$ 

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Syst	tem Na	Auxi ame					nt Sy	H. E ys. Cor	•		P&ID	No.				- h. 2 of -	3	Page 2 of 2
Valve Number	Class	Drawing Coordinates	Са		gory		Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)		Remarks
735	-2	J-16	A X	В	С	D		3	GL	МО	0	Ŷ	S T VI J	C C J	1	120	P.T. 42.0	
737A	2	N-3		x				3	GA	М	0	Y	S	Q			P.T. 36.2	
739	2	M-14		X				3	GL	AO	CL	Y	S F T VI	Q Q Q Q Q		60	P.T. 36.2	
749A	3	D-3		x				16	GA	MO	CL	Y	S T VI	Q Q Q		300	P.T. 2.8A	
749B	3	D-6		x				16	GA	мо	CL	Y	S T VI	Q Q Q		300	P.T. 2.8A	
791A	3	B-15			<b>X</b>			3/4x1	RV	SA	CL	Y	RV	X	1	•	P.T. 36.1	
791B	3	D-15			<b>X</b>			3/4x1	RV	SA	CL	Y	RV	x			P.T. 36.1	

Ì

TABLE 3 VALVE EST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Auxiliary Coolant Sys. Component P&ID No.

ISI-200-5379-376, Sh. 3 of 3

Page 1 of

Rev. 0

					7	71	75	7		Valve Number	
					791K	791J	791E	791D		lve ber	
					ω	ω	ω	-ω	<u></u>	Class	
					E-5	C-4	I-10	L-10	Co	Drawing pordinates	
									A R	Valve Category	
					~×.	×	×		с П	lve gory	
· · ·	, 									Passive	
					β/4x1	β/4x1	8/4x1	3/4x1	Si	ze (inches)	
					RV	RV	RV	RV	V	alve Type	
		-			SA	SA	SA	SA	Act	cuator Type	
					CL	CL	CL	CL	Nor	mal Position	
					Ч	Ч	А	ү	Rac	High liation Area	
					RV	RV	RV	RV		lest Method	
			·		×	×	×	Х	Te	st Frequency	
		· .							Re	lief Request	
	<u>, , , , , , , , , , , , , , , , , , , </u>		•	· · · ·	•					Max. Stroke Time (sec.)	
				•	P.T.	P.T.	P.T.	P.T.			
		•	• •		36.1			36.1			
		• .	•	· .		· .		4		Remarks	
			· .							rks	
				• . • •			·• .				
									1		

•

CVCS

TABLE 3 VALVE ST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Rev.

ISI-200-5379-685, Sh. 1 of 3

0 f ŝ

Valve Number 200A 200B 2000 203 202A System Name 2 N N Ν N Class C-15 **B-10** B-11 B-9 A-9 Drawing Coordinates × Category Þ Valve X × × в X റ D Passive 2x3 Size (inches) ω Ν 2 Ν RV GL GL GL Valve Type GA AO AO И AO SA Actuator Type P&ID No. £ Normal Position 0. 0 Ó C High R Ч ч z R Radiation Area VI TFS VI F S VI FS RV പര Test Method 0000 0000 0000 × <u>ч</u> 0 Test Frequency Relief Request مسر 10 10 10 Max. Stroke Time (sec.) P.T. **P.T.** Ρ.Τ. P.T. P.T. 18.2A 42.0 18.2A 18.2A 25.4 Page 4 Remarks





TABLE 3 VALVE ST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2 ISI-200-5379-685, Sh. 1 of 3

Rev. 3 Page  $\frac{2}{2}$  of  $\frac{3}{2}$ 

System Name

CVCS

Sys	stem Na	ame						<u> </u>								1	
Valve Number	Class	Drawing Coordinates	Ca	Valv tego B	ory	D	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
204A 204B 282 292A 293A 293C 293C 295 297A 297B	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	D-14 N-14 M-14 L-14 N-15 M-1	x x x x x x x x					2 2 3/4 2 2 3 2 3 2 2 2	GL GL GL GL GL GL ND ND	AO AO M M M M M M M	0 0 0 0/c 0/c C 0 0	Y Y N N N N N	S F T VI J S F T VI J S J S J S J S J S J S J S J S J S J	C C C C L C L C L C L C L C L C L C L C	1 1 1 1 1 1 1 1	10 60	<ul> <li>P.T. 42.0</li> </ul>

System Name			CVCS				B. ROB	TABLE ROBINSON S	STEAM E P&ID N	STEAM ELECTRIC P&ID No.		PLANT UNIT NO. 200-5379-685, 9	NO. 2	1 of	3 Page	Rev. 3 3 of 3
Valve Number	Class	Drawing oordinates	Valve Category	e ry	Passive	ize (inches)	Valve Type	tuator Type	rmal Position	High diation Area	Test Method	est Frequency	elief Request	Max. Stroke Time (sec.)	Rem	Remarks
			B		-	່	<b>1</b>	z	<b>2</b>	z	מ	n'			H.	
297C	2	M-10	×			2	ND	М	0	N	S L	Υ C	j		P.T. 42.0	
309A	N.	D-15	×	*	×	2	GL	K	CL	N	<u>(</u>	Ċ,	<b>⊢</b>		}	
381	N.	G-14	×			ω	GA	MO	0	N	ы N	000		60	P.T. 42.0	•
											L V I	40	μ-	.*		
382	دن ري	F-13		×		ω	RV	SA	CL	Y	RV	×			P.T. 25.4	
							· .									
		•	·····	<u></u>								<del></del>				
		• • •							······		· · · · · · · · · · · · · · · · · · ·					
		- -					<u></u> .									
•								· · · ·								
•••									<u> </u>		<u></u> ,					•
•••	· ·	411 <u></u>	· <u>····································</u>		· · ·											

TABLE 3 VALVE IEST PROGRAM



Rev. 6

## TABLE 3 VALVE ST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Syst	em Na	ame	CV	cs				n. n	, KUD	INSON			-200-5	379-68	5, SI	n. 2 of -	3 Page <u>1</u> of <u>2</u>
Valve Number	Class	Drawing Coordinates		Valv tego	ory	D	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
FCV-113A	3	J-13		x				1	GL	AO	С	Y	S F T VI	С С С С		30	P.T. 42.0 א
LCV-115B	3	K-9		X				4	BF	AO	CL	N	S F T VI	C C C C		30	P.T. 42.0
LCV-115C	3	H-7		х				4	GA	MO	Ö	Y	S T VI	Ċ C C		30	P.T. 42.0
209	3	B-7			x			2x3	RV	SA	CL	Y	RV	x			P.T. 25.4
257	3	C-8			x			2x3	RV	SA	CL	Y	RV	х			P.T. 25.4
266	3	I-7			X			4	СК	SA	0	Y	FF RF	· Q R	11		FF Verified by normal charging pump flow.
283A	3	J-3			x			3/4x2	RV	SA	CL	Y	RV	<b>X</b> -			P.T. 25.4
283B	3	K-3			x			3/4x2	RV	SA	CL	<b>Y</b> .	RV	X			P.T. 25.4
283C	3.	M-3			x			3/4x2	RV	SA	CL	Y	RV	x			P.T. 25.4
													Same are from				



н.

Valve Number

2 TABLE 3 VALVE T PROGRAM B. ROBINSON STEAM ELECTRIC PLANT UNIT NO.

of 2 Page

Rev.

2

2 Sh.

ო of

ISI-200-5379-685,

Remarks p.T.40.0 Partial Stroke P.T. 18.2A P.T. 42.0 9 G.P. (.cec.) smiT 60 Max. Stroke í Relief Request 10 Test Frequency υ 0 0  $\circ \circ \circ$ Test Method S I I FF FF ΕF hgiH Radiation Area ⋗ ₽ ⊁ P &ID No. Normal Position CL CL CL CL Actuator Type  $\mathbf{SA}$ SA SA MO Sqlve Type S СK S GA (səubri) əzil 2 ----4 3 Passive Ω Valve Category × × × ç CVCS × g . . 4 selentbrood J-13 K-10 L-13 L-13 Drawing System Name ŝ ssel) ġ e ŝ

355

351

350



TABLE 3 VALVE TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

System Name

cvcs

Page  $\frac{1}{2}$  of  $\frac{1}{2}$ 

0)0				 				· · · · ·								· · · · · · · · · · · · · · · · · · ·	
Valve Jumber	Class	Drawing Coordinates	Ca	ve gory C	D	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)		Remarks
397A 397B	3	L-7 L-8	A	 x x			2	ск ск	SA SA	CL CL	N N	FF FF	Q Q			P.T. 18.2A, P.T. 18.2A,	
														•			
								- A-									

	•
· · ·	

TABLE 3 VALVE ST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Rev.

Syst	System Name		CVCS					P&ID No.		5379-686	Sh.	1 of	<b>N</b>	Page 1 of 1
Valve Number	Class	Drawing oordinates	Valve Category	Passive	ze (inches)	Valve Type	tuator Type	rmal Position	High diation Area	Test Method	st Frequency	lief Request	Max. Stroke Time (sec.)	Remarks
			A B C D		9		A	N	R		] ]	F		
1118A	<b>ω</b>	в-6	X		2x3	RV	SA	CL	YES	RV	×			P.T. 25.4 *
1118B	ω ·	E-6	X		2x3	RV	SA	CL	YES	RV	X			P.T. 25.4
1118C	ω	G-6	X		2x3	RV	SA	CL	YES	RV	×			P.T. 25.4
•	*.							•						
				· .					<u> </u>	•			•	
					· · ·	· · ·	<u>.</u>							
		· · · · ·			<u> </u>				· · ·			<u>.</u>		
		<u>.</u>		· .			<u> </u>	· · · · · · · · · · · · · · · ·						
								<u> </u>					<u></u>	
• • •				· · · · ·	-									
						<u></u>			········					
				~	-	-		- <b>3628</b> -						

TEE

TABLE 3 VAL EST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Waste Disposal P&TD No. ISI

P&ID No. ISI-406-5379-920, Sh. 1 of 4

Page

۲

of 2

Rev

	مىلىيە تەركەنىيەت ئەتلەسلىرىدە بىر د	In the State State State of the				
1786	1728	1723	1722	1721	Valve Number	Sys
2	N	2	2	2	Class	System Name
F-11	L-10	L-9	J-9	J-10	Drawing Coordinates	ame
×	×	×	×	×	Va Cate	
					Valve Category A B C D	
- <u></u>				<u></u>	Passive	
	2	N	ω	دى ب	Size (inches)	
DA	DA	DA	DA	DA	Valve Type	
AO	AO	AO	AO	AO	Actuator Type	
0	0	0	0	0	Normal Position	F C E C
К	×	Ч	Å	Ч	High Radiation Area	
сц Ч Ч Ч Ч Ч Ч Ч Ч Ч Ч Ч В В В В В В В В	С Ч Ц Ц Ц Ц С Ц Ц С Ц Ц С Ц Ц С Ц С Ц С	VI FS	C H H K	ЧЦЧЖ Ю	Test Method	
40000	40000	40000	99999	40000	Test Frequency	
	ļ.	ted.	jund.	<b>Fed</b>	Relief Request	
60	60	60	60	60	Max. Stroke Time (sec.)	
P.T. 40	P.T. 40	P.T. 40	P.T. 40	P.T. 40		
					Remarks	





TABLE 3 VALVE ST PROGRAM

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Waste Disposal

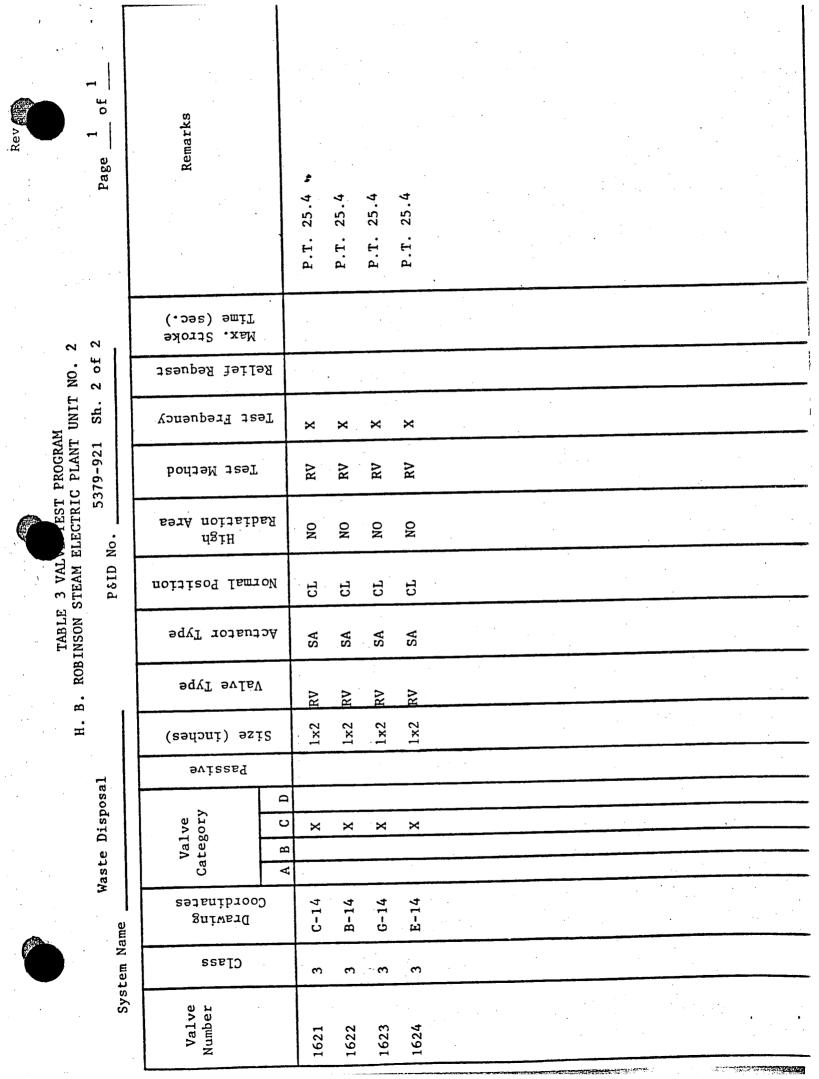
ISI-406-5379-920, Sh. 1 of 4

2 2 Page \_\_\_\_ of \_\_\_

Rev.

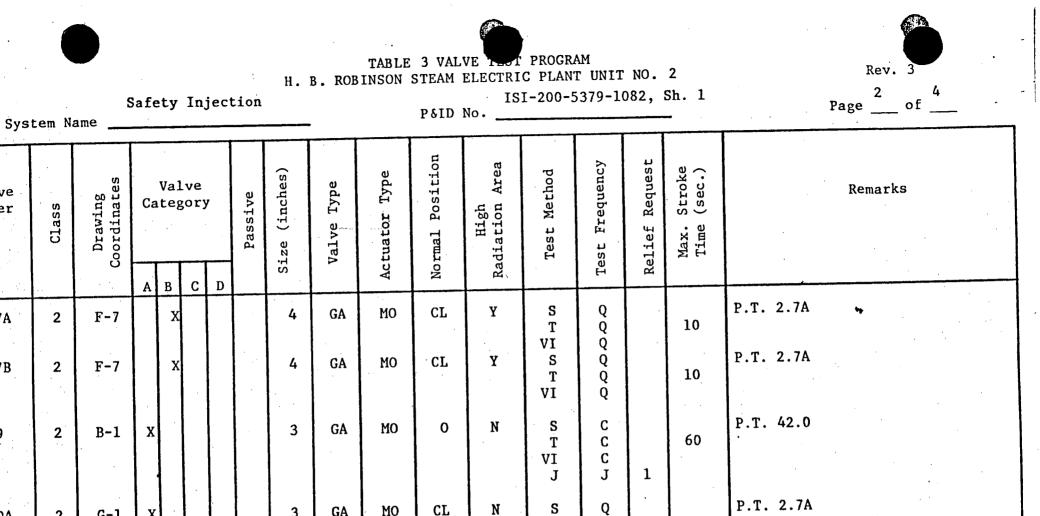
System Name \_\_\_\_\_

Valve Number	Class	Drawing Coordinates	Ca	Val teg B	D	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
1787	2	E-11	X				1	DA	AO	0	Y	S F T VI J	7 0 0 0	1	60	P.T. 40 ••
1789	2	F-10	x			-	3/4	DA	AO	0	Y	S F T VI J	Q Q Q J	1	60	P.T. 40
1793 1794	2 2	E-11 G-11	X	X			1 3/4	DA DA	M AO	0	Y Y	S S F T	Q Q Q Q		60	P.T. 40 P.T. 40
												VI J	Q J	1,		
		ŏ														



Sy	System N	Name	Safety Injection	ction	н.в	B. ROB	INSON S	P&ID No	ECTRI( IS]	-2 P		1 1	2 Sh. 1		Page 1 of 4	
Valve Number	Class	Drawing Coordinates	Valve Category	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)		Remarks	· · · · ·
			A B C L		-	DV/	c >		z	RV	×			P.T. 25.4		
RV-842 841A	A 2	H-1 D-9	XX		нн	GL	SA AO	jo CL	N Z	א א א ד	× م			.T. 2.	5	
		. , .							· .	VI T	200		30			
841B	B 2	D-9	×		ļ	GL	AO	0	N	ч N	00			P.T. 2.7A		•
			· · · · · · · · · · · · · · · · · · ·							ŶI VI	224		30		· · · · · · ·	• .
845A	<u>م</u> ع	J-7	×	<u></u>	N	GL	МО	C	N	N I N	000	·	60	P.T.2.13		
845B	ີສ ບ	J-7	×		N	GL	МО	Ω	N	V T S	000	· ·	60	P.T.2.13	•	·
857A	7A 2	р 1	X		3/4x]	RV	SA	CL	Y	RV	×	1		P.T. 25.4		
864A	4A 2	2 D-16	×		16	GA	МО	o	Z	VIS	000		120	P.T. 2.13		
864B		2 D-16	×		16	GA	МО	· 0	N	V I S	000		120	P.T. 2.13		
<b>-</b>	** <u>*****</u>			<u>.</u>			· · · · · · · · · · · · · · · · · · ·									
		-		•	•	:			a minte nambude i su							

] ġ TAT ST PROGRAM



Valve

umber

867A

867B

			1									J	J	1		
870A	2	G-1	x				3	GA	MO	CL	N	S T VI	Q Q Q		10	P.T. 2.7A
870B	2	G-1	X				3	GA	MO	CL	N	J S T	Q J Q Q	1	10	P.T. 2.7A
							;					VI J	Q J	1		
871	2	J-14			x		3/4x1	RV	SA	CL	N ·	RV	x			
872	3	H-6			x		3/4x1	RV	SA	CL	N	RV	x			P.T. 25.4
878A	2,	F-10		x			4	GA <sup>*</sup>	MO	0	N	S T VI	C C C		120	P.T. 42.0





H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Safety Injection

ISI-200-5379-1082, Sh. 1

Page of \_\_\_\_

System Name \_\_\_\_

No. of Concession, Name

Position Request Area Frequency Stroke (sec.) (inches) Method Type Drawing Coordinates Type Valve Remarks Valve Class Passive High Radiation Category Number Actuator Valve Max. Time Test Selief No rmal Size Test ABCD P.T. 42.0 S 0 N С 4 GA MO D-10 X 878B 2 120 т С VT С Refueling - P.T. 2.9 7 Ŕ CL N FF SA CK 3 H-11 X 879A 2 (Partial Stroke Quarterly P.T. 2.7A) Refueling - P.T. 2.9 R 7 CL N FF SA CK 3 E-11 X 2 879B (Partial Stroke Quarterly P.T. 2.7A) Refueling - P.T. 2.9 7  $\mathbf{CL}$ FF R N CK SA 3 X C-11 879C 2 (Partial Stroke Quarterly **P.T. 2.7A**) P.T. 3.4A S Q MO CL N 6 GA M-9 X 880A 2 60 0 Т VI Q P.T. 3.4A Q N S 6 MO CL X GA 880B 2 N-9 60 Q Т VI Q P.T. 3.4A Q S CLN MO 6 X GA 2 K-9 880C 60 Q Т VI Q P.T. 3.4A S Q CL N GA MO 6 Х 2 K-9 880D 60 Т Q VI Q Ĵ. 1 N J LC Х 1 GL Μ H-2 Х 883L 2 J J 1 LC Ν Μ 1 GL Х Х 883W 2 G-3

November 3, 1982

Meeting: Duke Power with NRC-MEB

#### Attendance

M. L. Childers
R. O. Sharpe
R. R. Weidler
L. B. Castles
J. N. Underwood
W. L. Culpepper
C. L. Ray, Jr.
D. Terao
Grant Marr
Gordon Beeman
K. N. Jabbour
R. W. Bonsall
D. L. Caldwell

Duke-SRAL/Licensing Duke-Nuclear Production/Licensing Duke-Design Engineering/M&N Duke-Design Engineering/M&N Duke-Design Engineering/M&N Duke-Design Engineering/M&N NRC/MEB PNL PNL NRC/DL/LB#4 Duke-Design Engineering/M&N Duke-Design Engineering/M&N Mr. Harold R. Denton, Director December 6, 1982 Page 2

cc: Mr. Jesse L. Riley Carolina Environmental Study Group 854 Henley Place Charlotte, North Carolina 28207

> Mr. Henry A. Presler, Chairman Charlotte-Mecklenburg Environmental Coalition 943 Henley Place Charlotte, North Carolina 28207

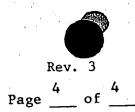
Mr. Gordon Beeman Pacific Northwest Laboratories Richland, Washington 99352





TABLE 3 VALVE FEST PROGRAM

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

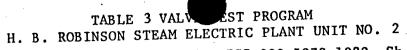


Safety Injection

ISI-200-5379-1082, Sh. 1 P&ID No

Sys	tem Na	ame									P&ID	No					
Valve Number	Class	Drawing Coordinates		Va] iteg	lve gory		Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
			A	В	С	D						-					
889A	2	L-13			х			2	СК	SA	CL	N	FF	Q			P.T. 3.4A 😽
889B	2	L-13			x			2	СК	SA	CL	N	FF	Q .	12		P.T. 3.4A
890A	2	M-8			x			6	СК	SA	CL	N	FF	£	∦8		P.T. 42.0 Partial Stroke Full Stroke-Refueling
890B	2	K-8			x		1.1	6	СК	SA	CL	N	FF	C R	<b>78</b>		P.T. 42.0 Partial Stroke Full Stroke-Refueling
891A	2	N-5	x					6	ĠA	м	0	N	S	с			P.T. 42.0
													J	J	1		
891B	2	K-5	х					6	GA	М	0	N	S J	C J	1		P.T. 42.0
		· .			x				OV	SA	CL	Y	RF	Q			P.T. 7.1A
894	2,	F-5			X			1	СК								
895V	2	A-2	Х			Ì.		3/4	GL	м	LC	N	J	J	1 .		
898F	2	A-2	х					3/4	GL	M	LC	N	J	J	1		
870C	3	G-5			x			3/4	VB	SA	С	N	S	R	.12		
· 87.0D	3	G-5			x			3/4	VВ	SA	C ·	N	S	R	12		
					ł												
									• •								





ISI-200-5379-1082, Sh. 2

Kev. U

Page 1 of

Safety Injection

P&ID No.

System Name

Sys	tem Na		 										гг	<u> </u>	[	
Valve Number	Class	Drawing Coordinates	Val teg B	ve gory	D	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
858A	2	B-11		x			2x3	RV	SA	CL	Y	RV	х			P.T. 25.4 😽
858B	2	É-11		x			2x3	RV	SA	CL	Y	RV	x			P.T. 25.4
858C	2	H-11		x			2 <b>x3</b>	RV	SA	CL	Y	RV	x			P.T. 25.4
859	2	C-1		x			3x4	RV	SA	CL	N	RV	x			P.T. 25.4
860A	2	N-8	x				14	GA	мо	CL	Y	S T	Q Q		120	P.T. 2.8A
												VI	Q			
860B	2	N-8	x				14	GA	MO	CL	Y	S T VI	Q Q Q		120	P.T. 2.8A
861A	2	N-9	x				14	GA	мо	CL	Ŷ	S T VI	Q Q Q		120	P.T. 2.8A
861B	2	N-9	x				14	GA	MO	CL	Y	S T VI	Q Q Q		120	P.T. 2.8A
•									ļ					<u> </u>	<u> </u>	

ST PROGRAM TABLE 3 VALVE H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Syst	.em Na		Safe	ety	Inj	ject	ion		•		P&ID	No	SI-5379	9-1082	, Sh.	2	Page _2 of _4
Valve Number	Class	Drawing Coordinates		Val teg	ve gory	,	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
			A	В	С	D							S	с		120	P.T. 42.0 •
862A	2	J-16		Х				14	GA	MO	0	YES	T VI	C C		•	
862B	2	K-16		x				14	GA	MO	0	YES	S T VI	C C C		120	P.T. 42.0
863A	2	I-12		x				8	GA	MO	CL	YES	S T VI	C C C		120	P.T. 42.0
863B	2	J-12		x				8	GA	МО	CL	YES	S T VI	C C C		120	P.T. 42.0
																1	
· · ·																	

Rev.

()

٨.

TABLE 3 VALVE TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Safety Injection

ISI-200-5379-1082, Sh. 2

Rev

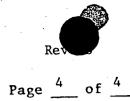
Page \_\_\_\_\_ of \_\_\_\_\_

n P&ID No.

System Name Position Request Area Frequency Stroke (sec.) Method (inches) Type Drawing Coordinates Valve Type Remarks Valve Passive High Radiation Category Class Number Actuator Valve' Max. Time Test Relief Normal Size Test В CD A P.T. 2.5 С Y S MO 0 GA 10 865A 2 D-9 X 10 Т С VI С P.T. 2.5 Ÿ S С MO 0 10 GA G-9 865B 2 X 10 Т С C VI P.T. 2.5 S С Y ĠA 0 10 MO J-9 2 X 865C 10 С Т С VI P.T. 42.0 С S Y CL GA MO 2 866A 1 G-1 Х 60 С Т С ٧Ĩ P.T. 42.0 S С Y MO CL GA 2 G-2 Х 866B 1 60 С Т С VI P.T. 2.9 4 Y FF Ŕ CK SA CL X 2 H-2 873A 2 P.T. 2.9 4 FF R Y CK SA CL 2 Χ 2 Ġ-2 873B P.T. 2.9 4 FF R Y SA CL2 CK X G-3 2 873C P.T. 2.9 4 FF R CK SA CL Y 2 L-2 Х 873D 1.



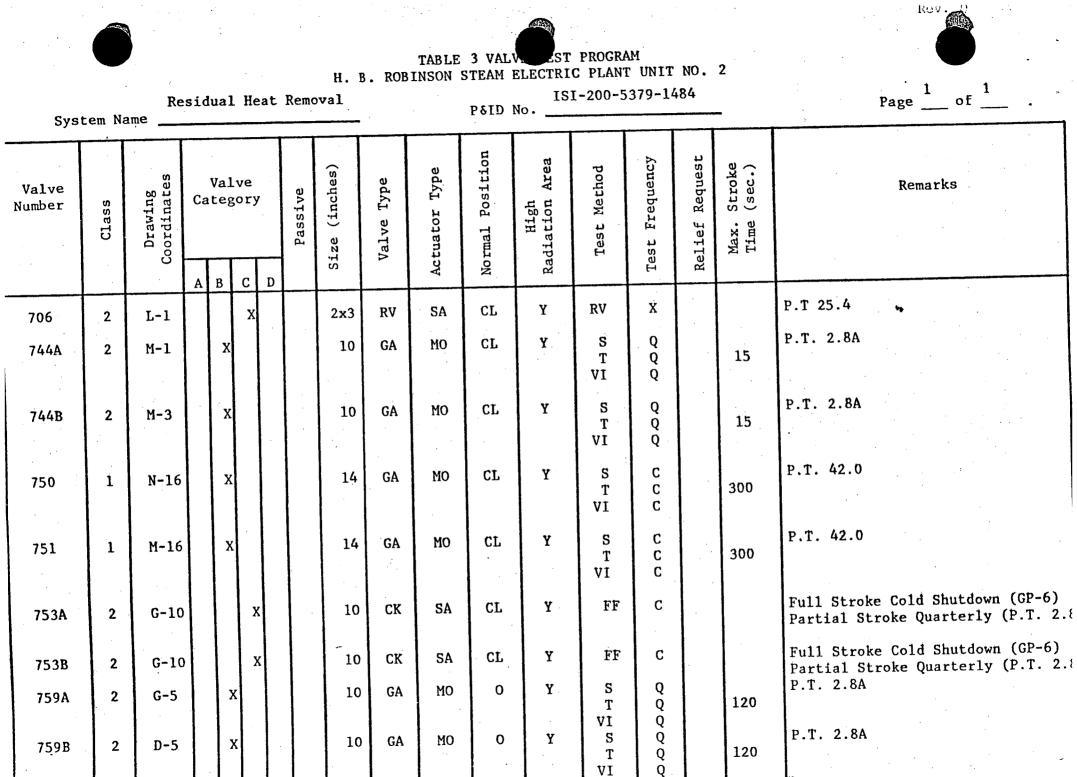
## TABLE 3 VALUEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2



Safety Injection System Name

P&ID No. \_\_\_\_\_\_ ISI-200-5379-1082, Sh. 2

0,0		•								T	7	1	T	T		
Valve Number	Class	Drawing Coordinates	Cat	Valv tego B (		Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
873E	1	K-3			х		2	СК	SA	CL	Y	FF	R	4	•	P.T. 2.9 *
873F	L,	I-4			Х		2	СК	SÀ	CL	Y	FF	R	- 4		P.T. 2.9
874A	1	H-1			x		2	СК	SA	CL	Y	FF	R	4		P.T. 2.9
874B	i	H-2			x		2	СК	SA	CL	Y	FF	R	4	• • • •	P.T. 2.9
875A	1	J-3			х		10	СК	SA	CL	Y	FF	С			P.T. 42.0 Full Stroke P.T. 2.5 Partial Stroke
875B	1	K-3			x		10	СК	SA	CL	. <b>Y</b> _	FF	С		1	P.T. 42.0 Full Stroke P.T. 2.5 Partial Stroke
875C	1	M-2			x		10	СК	SA	CL	Y	FF	С			P.T. 42.0 Full Stroke P.T. 2.5 Partial Stroke
875D	1	D-7			x		10	СК	SA	CL	Y	FF	с	3		P.T. 2.5 Partial Stroke
875E	1	G-7			x		10	СК	SA	CL	Y	FF	с	3		P.T. 2.5 Partial Stroke
875F	1	J-7			x		10	СК	SA	CL	Y	FF	с	3		P.T. 2.5 Partial Stroke
876A	1	D-6			x		8	ск	SA	CL	Y	FF	С			P.T. 42.0
876B	1	G-6			x		8	ск	SA	CL	Y	FF	С			P.T. 42.0
876C	- 1	J-6			x		8	ск	SA	CL	Y	FF	С			P.T. 42.0
													. •			
876C										·						
												<u> </u>				





### TABLE 3 VALVE TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Reactor Coolant

ISI-100-5379-1971, Sh. 2

Sys	tem Na		Rea	icto	or (	200]	ant				P&ID I		1-100-5	5379-15	, ,	-	Page of
Valve Number	Class	Drawing Coordinates			ve ory	D	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
PCV-455C	1	E-17		x		<u>D</u>		3	GL	AO	CL	Y	S F T VI	с с с с с		2	P.T. 42.0 •
PCV-456	1	D-17		X				3	GL	AO	CL	Y .	S F T VI	C C C C		2	P.T. 42.0
516	2	C-1	x					3/8	GL	AO	CL	Y	S F T VI J	Q Q Q Q	1	60	P.T. 40
519A	2	F-1	x					3	DA	AO	CL	Y	S F T VI J	Q Q Q J	1	60	P.T. 40
DWC-1		F-18					x	3/8	1	м	CL	Y	J	J	1		
DWC-2		F-19	x				X	3/8	GA	M	CL	Y	J '	J	1		
•						ł				•		ł		· .			

Rey Page 1 of 2

Syst	System Name	1	Reactor Coolant	ant	H.	B. ROB	TABLE INSON S	3 VAL STEAM H P&ID N	TABLE 3 VAL EST P ROBINSON STEAM ELECTRIC 1 P&ID No. ISI-10		ROGRAM PLANT UNIT NO. DO-5379-1971, :		h. 2	$\frac{ReV}{2}$
Valve Number	Class	Drawing Coordinates	Valve Category A B C J	U Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke <sup>**</sup> Time (sec.)	Remarks
519B	2	F-2			ω	DA	AO	CL	Ч	U T T S	40000		60	P.T. 40 *
535	<del>1</del>	D-17	×		ယ	GA	МО	0	Х	N L N	<b>n</b> 22		60	P.T. 42.0(S,T) P.T. 40 (VI)
536	<b></b>	E-17	×	<u></u>	ω	GA	МО	0	А	N H N	<u>0 0 0</u>		60	P.T. 42.0(S,T) P.T. 40 (VI)
550	2	E - 2	×		3/4	DA	AO	0	×	V T T T S	مممو	• •	120	P. T. 40
551A	 سر :	B-11	×	<u>`</u>	4x6	RV	SA	CL	Y	J RV	≈ -	ŀ		P.T. 25.1
551B	. +	B-13	X		4x6	RV	SA	CL	Y	RV	R.			P.T. 25.1
551C	ب	B-15	×		4x6	RV	SA	CL	У	RV	R			•
553	2	C-2	X	<u> </u>	3/8	GL	AO	° C	ү	H म N	000		60	P.I. 40
<b>24/2</b> /2017	- • •				· . · .					U U U	црр	<u>ــــــــــــــــــــــــــــــــــــ</u>	00	
				-										





Main Extraction & Auxiliary Steam

ISI-G-190196, Sh. 1 P&ID No.

### Page 1 of 3

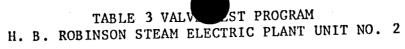
Rev

System Name

の日本の方法の日本の

	3931													<b>]</b>		1	1	
	Valve Number	Class	Drawing Coordinates	Ca	[	ve ory C	D	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
	S-V1-3A	2	J-16			x	-		26	СК	SA	0	N	RF	R	2		••
	S-V1-3B	2	E-16			x			26	СК	SA	ο	N	RF	R	2		
М	S-V1-3C	2	A-16			x			26	ск	SA	0	N	RF	R	2		
	S-V1-3A sol.	2	J-15		x				26	GA	AO	0	N	S F T VI	C C C C		5	P.T. 41
	S-V1-3B sol.	2	E-15		x				26	GA	AO	0	N	S F T VI	C C C C		5	P.T. 41
	15- <b>V1-3C</b> [sol.	2	A-15		x				26	GA	AO	0	N .	S F T VI	C C C C		5	P.T. 41
	1S-V1-8A	2	Ķ-15		x				2	GL	МО	С	N	S T VI	Q Q Q		120	P.T. 22.1A
and the second	1S-V1-8B	2	G-15		x				2	GL	МО	с	N	S T VI	Q Q Q		120	P.T. 22.1A
	•																	





P&ID No. \_\_\_\_\_\_ ISI-G-190196, Sh. 1

Main Extraction & Auxiliary Steam System Name \_\_\_\_

Rev.

						r		1			1		T		
Valve Number	Class	Drawing Coordinates		alve egor	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
MS-V1-8C MS-V1-9A	2 3	C-15 K-15	2	< x		2 2 2	GL CK CK	MO SA SA	C CL CL	N N N	S T VI FF FF	0 0 0 0 0 0 0 0		120	P.T. 22.1A , P.T. 22.1A P.T. 22.1A
MS-V1-9B MS-V1-9C SV1-1A	3 3 2	G-16 C-16 J-10		x x x		2	CK RV	SA SA	CL C	N N N	FF RV RV	Q R R			P.T. 22.1A P.T. 25.2 P.T. 25.2
SV1-2A SV1-3A SV1-4A	2 2 2	J-11 J-12 J-13		X X	e.	6 6 6	RV RV RV	SA SA SA	C C C	N N	RV RV RV	R R R			P.T. 25.2 P.T. 25.2 P.T. 25.2
SV1-1B SV1-2B SV1-3B	2 2 2	F-10 F-11 F-12		x x x		6 6 6	RV RV RV	SA SA SA	C C C	N N N	RV RV RV RV	R R R			P.T. 25.2 P.T. 25.2 P.T. 25.2 P.T. 25.2
SV1-4B SV1-1C SV1-2C	2 2 2	F-13 B-10 B-11		K K		6 6 6	RV RV RV	SA SA SA	C C C	N N N	RV RV RV	R R			P.T. 25.2 P.T. 25.2 P.T. 25.2



TABLE 3 VAL ST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Main Extraction & Auxiliary Steam P&II

P&ID No. ISI-G-190196, Sh. 1

Page 3 of

ω

Rev

SV1-4C SV1-3C Valve Number System Name Ν Ν Class B-13 B-12 Drawing Coordinates Valve Category ⊳ Β C 5 Passive 6 6 Size (inches) RV RV Valve Type SA SA Actuator Type Normal Position C C High z z Radiation Area RV RV Test Method R R Test Frequency Relief Request Max. Stroke . . Time (sec.) P.T. P.T. 25.2 25.2 \$ Remarks

EST PROGRAM TABLE 3 VALVE. Rev. 3 H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2 Page  $\frac{1}{2}$  of  $\frac{3}{2}$ Feedwater Condensate & Air Evacuation P&ID No. \_\_\_\_\_\_ ISI-G-190197, Sh. 2 System Name Position Request Area Frequency Stroke (sec.) (inches) Type Method Drawing Coordinates Type Valve Remarks Valve Passive High Radiation Category Class Number Actuator Valve Relief Test Max. Time No rmal Size Test С AB D Partial Stroke Quarterly-P.T. 22.14 CL С Х 6 CK SA N FF AFW-2 3 I-17 Full Stroke Cold Shutdown-OP-14 Full Stroke Cold Shutdown-OP-14 С  $\mathbf{CL}$ N FF Х CK SA 6 AFW-19 3 H-11 Partial Stroke Quarterly-P.T. 22.14 P.T. 22.1A N S Х GA MO 0 AFW-20A L-8 4 3 Т 60 VI P.T. 22.1A N S Х MO 0 4 GA M-8 AFW-20B 3 60 Т VI P.T. 40 Q S X N 6 GA Μ LC AFW-24 L-14 3 Partial Stroke Quarterly-P.T. 22-14 FF C Х N CL 4 CK SA AFW-40 L-10 3 ull Stroke Cold Shutdown-OP-14 Partial Stroke Quarterly-P.T. 22-1 $\ell$ FF С Х CK SA CL N 4 AFW-41 N-10 3 Full Stroke Cold Shutdown-OP-14 **DP-14** FF С Y CL Х CK SA M-5 4 **AFW-68** 2 **bP-14** Y FF C CL Х CK SA 4 AFW-69 L-5 2 0P-14 С Y FF CK SA CL Х N-5 AFW-70 4 2 P.T. 22.1C S Y MO CL Q Q Q Q Q Q Q 0X GA C-10 4 AFW-V2-14A 3 60 Т VI Р.Т. 22.1C CL S MO Y X GA AFW-V2-14E 3 E-10 60 Т VI

TABLE 3 VALVE EST PROGRAM

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Rev. 3

Syst	tem Na	Feed	wat	er Co	onde	nsate	H. 8 & Ai	B. ROB r Evac	INSON	STEAM   P&ID	IS: No.	[-G-190			£	Page $2 \text{ of } 3$
Valve Number	Class	Drawing Coordinates		Valve tegor B C	у 	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
AFW-V2- 14C	3	G-10		x			4	GA	MO	CL	Y	S T VI	Q Q Q		60	P.T. 22.1C
AFW-V2- 16A	2	M-7		X			4	GA	мо	CL	N	S T VI	Q Q Q Q Q		60	P.T. 22.1A
AFW-V2- 16B	2	L-7		х			4	GA	MO	CL	N	S T VI	Q Q Q		60	P.T. 22.1B
AFW-V2- 16C	2	N-7		х			4	GA	MO	CL	N	S T VI	Q Q Q		60	P.T. 22.1C
DW-19	3	K-17		x		1	6	GA	м	LC	N	S	Q		NA	P.T. 40
DW-21	3	K-16		x			6	GA	м	LC	N	S	Q		NA	P.T. 40
FCV-479	3	B-11		x			4	GL	AO	CL	Y	S F T VI	C C C C		60	P.T. 41
FCV-489	3	D-11		x			4	GA	AO	CL	¥.	S F T VI	C C C C		60	P.T. 41
															g La control de	



TABLE 3 VALV. EST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Page Rev. ω \_\_\_\_ of 3

	FW-V2-6C	FW-V2-6B	FW-V2-6A	FCV-499	Valve Number	Syst
	دىم	. ω	س <sub>ا</sub> ،		Class	System Name
	F-12	D-12	B-12	F = 11	Drawing Coordinates	
· · · · · · · · · · · · · · · · · · ·	×	×	×	×	Valve Category A B C	Feedwater Condensate
					U Passive	densat
 	16	16	16	4	Size (inches)	& A3
 	GA	GA	GA	GL	Valve Type	
	MO	MO	МО	AO	Actuator Type	Evacuation
	0	0	0	CL	Normal Position	P & I D
	N	N	N	ĸ	High Radiation Area	No. ISI
	V T S	VI I S	U T S	VI F V	Test Method	
	000	ဂဂဂ	000	0000	Test Frequency	G-190197,
<b>.</b>	· · ·				Relief Request	Sh. 2
	120	120	120	60	Max. Stroke Time (sec.)	
	P.T. 41	P.T. 41	P.T. 41		Remarks	Page of

Ļ	

ļ.,

TABLE 3 VAL TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Service and Cooling Water

System Name

P&ID No. \_\_\_\_\_\_\_\_ ISI-G-190199, Sh. 1

Page \_\_\_\_of

**---**

Rev

A Contraction of the Contraction	·						
			377	376	375	374	Valve Number
			ω	ω	ω	ω	Class
			K-6	K-3	<b>K-</b> 5	K-2	Drawing Coordinates
· · · · · · · · · · · · · · · · · · ·							Valve Category
			×	×	×	<u> ~ ~ ~ +</u>	8
			· 				Passive
		· .	18	18	18	18	Size (inches)
· .			CK	CK	CK	CK .	Valve Type
		· · ·	SA	SA	SA	SA	Actuator Type
			0/c	0/c	0/C	0/C	Normal Position
			ż	N	N	N	High Radiation Area
			RF RF	FF	FF RF	FF	Test Method
			20	20	00	00	Test Frequency
						• .	Relief Request
							Max. Stroke Time (sec.)
			P.T. 4.1A	P.T. 4.1A	P.T. 4.1A	P.T. 4.1	
			1A	IA	Α	4.1A 🖡	Remarks
	· · · ·					•	



## TABLE 3 VALVE EST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Page \_\_\_\_ of

3

Service and Cooling Water

ISI-G-190199, Sh. 2 P&ID No.

System	Name
--------	------

Syst	em Na	ame											T		i	
Valve Number	Class	Drawing Coordinates	Cate			Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
V6-33A	2	Н-8	A B		D		6	BF	мо	0	N	S T VI	Q Q Q		300	P.T. 10.1A 🕶
V6-33B	2	H-7	x				6	BF	MO	0	N	S T VI			300	P.T. 10.1A
v6-33C	2	H-7	X				6	BF	мо	0	N	S T VI	Q Q Q		300	P.T. 10.1A
V6-33D	2	н-6	X				6	BF	мо	0	<b>N</b>	S T VI	Q Q Q		300	P.T. 10.1A
V6-33E	2	H-8	Σ	ζ			6	BF	MO	0	N	S T VI	Q Q Q		300	P.T. 10.1A
v6-33F	2	J-7		ĸ			6	BF	MO	0	N	S T VI	Q Q Q		300	P.T. 10.1A
/6-34A	2	D-16		x			6	BF	мо	0	N	S T VI	Q Q Q		300	P.T. 10.1C



## TABLE 3 VALVE TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Service and Cooling Water

ISI-G-190199, Sh. 2 P&ID No.

Page  $\frac{2}{2}$  of  $\frac{3}{2}$ 

kev. D

System Name

						1										
Valve Number	Class	Drawing Coordinates	V Cat	- [		Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
V6-34B	2	C-16	Υ 1 Υ				6	BF	мо	0	N	S T VI	Q Q Q Q		300	P.T. 10.1C w
v6-34C	2	C-16	2	x			6	BF	мо	0	N	S T VI	Q Q Q		300 <sub>.</sub>	P.T. 10.1C
v6-34D	2	B-16		x			6	BF	мо	0	N	S T VI	Q Q Q		300	P.T. 10.1C
v6-35A	2	B-12		x			1	GL	MO	0	N	S T VI	Q Q Q		300	P.T. 10.1B
V6-35B	2	B-11		x			1	GL	MO	0	N	S ·· T VI	Q Q Q		300	P.T. 10.1B
v6-35C	2	B-11		х			1	GL	MO	0	N	S T VI	Q Q Q		300	P.T. 10.1B
76-35D	2	B-10		x			1	GL	мо	0	N	S T VI	Q Q Q		300	P.T. 10.1B
					C.										ra under (1944-dama	

563	562	561	560	Valve Number Class
ω	ω	ω	ω	Class Z
K-11	K-11	J-8	J-7	Drawing Coordinates
 ×	×	_×	×	Service and Valve Category A B C D
		<u></u>		
  	<u> </u>	12	12	Size (inches)
 CK	СК	CK	CK	Valve Type
SA	SA	SA	SA	Actuator Type
 0/c	o/c	0/c	0/c	Normal Position
N	N	N	N	Radiation Area
ΡF	FF	FF	FF	Test Method
٥	Q	Q	Q	Test Method Test Frequency
				Relief Request
				Max. Stroke Time (sec.)
P.T. 22.1A	P.T. 22.1A	P.T. 4.1A	P.T. 4.1A *	Page of Remarks

TABLE 3 VALVE TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

and the second and

in the second

2 ა

Rev. L)

4

#### TABLE 3 VALVESEST PROGRAM INSON STEAM H. B. ROBINSON STEAM



2.54 Arr. 6. 1914

المستعلمة وتستعيد معمل

## System Name Service and Cooling Water

P&ID No. ISI-G-190199, Sh. 3



V6-16A       3       N-20       X       X       16       GA       MO       0       N       S       Q       300       P.T. 4.1A         V6-16B       3       M-20       X       I       16       GA       MO       0       N       S       Q       300       P.T. 4.1A         118       3       M-20       X       I       6       GA       M       IC       N       S       Q       300       P.T. 4.1A         530       3       L-25       X       I       CK       SA       CL       N       S       Q       NA       P.T. 4.1A         541       3       L-19       X       1       CK       SA       CL       N       FF       Q       P.T. 4.1A         542       3       M-19       X       1       CK       SA       CL       N       FF       Q       6       P.T. 22.1A         543       3       M-19       X       1       CK       SA       CL       N       FF       Q       6       P.T. 22.1A         544       3       M-20       X       6       CK       SA       CL       N       FF	Valve Number	Class	Drawing Coordinates	Ca	ate	Lve gory	: :	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
V6-16B       3       M-20       X       I       16       GA       MO       O       N       S T VI VI VI VI Q Q Q       Q Q Q Q       300       P.T. 4.1A         118       3       M-20       X       I       6       GA       M       LC       N       S       Q Q VI       300       P.T. 4.1A         530       3       L-25       X       I       CK       SA       CL       N       FF       Q       NA       P.T. 4.1A         541       3       I-19       X       I       CK       SA       CL       N       FF       Q       A       P.T. 4.1A         542       3       M-19       X       I       CK       SA       CL       N       FF       Q       A       P.T. 22.1A         543       3       M-19       X       I       CK       SA       CL       N       FF       Q       6       P.T. 22.1A         543       3       M-19       X       I       CK       SA       CL       N       FF       Q       6       P.T. 4.1A         544       3       M-20       X       6       CK       SA       CL	V6-16A	3	N-20			С	D		16	GA	MO	<u> </u>	Į	S				P.T. 4.1A
116       3       1.20       1       CK       SA       CL       N       FF       Q       P.T. 22.1A         530       3       1-19       X       30       CK       SA       O/C       N       FF       Q       P.T. 22.1A         541       3       1-19       X       30       CK       SA       O/C       N       FF       Q       P.T. 4.1A         542       3       M-19       X       1       CK       SA       CL       N       FF       Q       6       P.T. 22.1A         543       3       M-19       X       1       CK       SA       CL       N       FF       Q       6       P.T. 22.1A         543       3       M-19       X       1       CK       SA       CL       N       FF       Q       6       P.T. 22.1A         544       3       M-20       X       6       CK       SA       CL       N       FF       Q       5       P.T. 400         544       3       M-20       X       6       CK       SA       CL       N       FF       Q       5       P.T. 4.1A	V6-16B	3	M-20		x			-	16	GA		0		VI S T VI	Q Q Q Q		300	
530       3       1-19       X       30       CK       SA       0/C       N       FF       Q       P.T. 4.1A         541       3       I-19       X       1       CK       SA       CL       N       FF       Q       6       P.T. 4.1A         542       3       M-19       X       1       CK       SA       CL       N       FF       Q       6       P.T. 22.1A         543       3       M-19       X       1       CK       SA       CL       N       FF       Q       6       P.T. 22.1A         543       3       M-19       X       1       CK       SA       CL       N       FF       Q       6       P.T. 22.1A         544       3       M-20       X       6       CK       SA       CL       N       FF       Q       5       P.T. 40         544       3       M-20       X       6       CK       SA       CL       N       FF       Q       5       P.T. 4.1A				ŀ		x				1	]	CL	N	FF	Q			P.T. 22.1A
541     5     1     CK     SA     CL     N     FF     Q     6     P.T. 22.1A       543     3     M-19     X     1     CK     SA     CL     N     FF     Q     6     P.T. 22.1A       543     3     M-19     X     1     CK     SA     CL     N     FF     Q     6     P.T. 22.1A       543     3     M-19     X     1     CK     SA     CL     N     FF     Q     6     P.T. 22.1A       544     3     M-20     X     6     CK     SA     CL     N     FF     Q     5     P.T. 400       544     3     M-20     X     6     CK     SA     CL     N     FF     Q     5     P.T. 4.1A									1			0/C	N	FF	Q		•	P.T. 4.1A
542     5     1     CK     SA     CL     N     FF     Q     6.       543     3     M-19     X     1     CK     SA     CL     N     FF     Q     6.     P.T. 22.1A       544     3     M-20     X     6     CK     SA     CL     N     FF     Q     5.       544     3     M-20     X     6     CK     SA     CL     N     FF     Q     5.									1		SA		N	FF	Q	6		P.T. 22.1A
543     3     M-20     X     6     CK     SA     CL     N     FF     Q     5     P.T. 40       544     3     M-20     X     6     CK     SA     CL     N     FF     Q     5     P.T. 40										СК	SA	CL	N	FF	Q	6.		P.T. 22.1A
P.T. 4.1A										СК	SA	CL	N	FF		5		P.T. 40
									30	СК	SA	0/C	N	FF	Q			P.T. 4.1A

TABLE 3 VALVEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Rev.

	CV-1932A     2     K-5     X     3/4     GA     AO     O     N     S       T     T     T     T     T     T     T     T	CV-1931B 2 F-5 X 3/4 GA AO O N S T T VI	CV-1931A 2 F-5 X 3/4 GA AO O N F T T T VI	CV-1930B 2 B-5 X 3/4 GA AO O N F T T	FCV-1930A 2 B-5 X 3/4 GA AO O N F F VI	Class Class Drawing Coordinates Drawing Coordinates Coordinates Passive Passive Size (inches) Valve Type Actuator Type Normal Position High Radiation Area Test Method	System Name Steam Generator Blowdown P&ID No. ISI-G-190234
<u>س</u>	<u>_</u>	ω	ω	<u></u>	س	······································	Blowd
3/4	1/4	/4	4	4		Size (inches)	lown
GA	GA	GA	GA	GA	GA	Valve Type	•
AO	AO	AO	AO	AO	AO	Actuator Type	
0	· · · O	0	0	0	0	Normal Position	P&ID N
Z	N	2	N	N	Z	High Radiation Area	
VI F S	VI T T	N H H N	V T F S	V T T T T T S	VIFS	Test Method	[-G-190
0000	0000	~~~	0000	~~~~	0000	Test Frequency	234
					•	Relief Request	
10	10	10	10	10	10	Max. Stroke Time (sec.)	
P.T. 40	P.T. 40	P.T. 40	P.T. 40	P.T. 40	P.T. 40		
		· · · · ·			<b>.</b>	Remarks	Page 1



Rev.

2

2

### TABLE 3 VALVE LEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Syst	em Na		eam (	Gen	era	tor	Blo	wdown			P&ID	IS No.	I-G-190	234		-	Page	of
Valve Number	Class	Drawing Coordinates	Cat		ory		Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Tíme (sec.)	Remarks	3
<del>CV-1933A</del>	2	C-4	A	B X	С	D		374	GA	AO	0	N	S F T VI	Q Q Q Q Q Q Q Q		10	P.T. 40	
CV-1933B	2	D-4		x				3/4	GA	AO	0	N	S F T VI	Q Q Q Q Q		10	P.T. 40	
CV-1934A	2	G-4		x		-		3/4	GA	AO	0	N	S F T VI			10	P.T. 40	
CV-1934B	2	H-4		X				3/4	GA	AO	0	N	S F T VI	Q Q Q Q		10	P.T. 40	
CV-1935A	2	K-4		X				3/4	GA	AO	0	N	S F T VI	Q Q Q Q Q		10	р.т. 40	
C <b>V-193</b> 5B	2	L-4		x				3/4	GA	AO	0	N	S F T VI			10	P.T. 40	





TABLE 3 VALVEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Penetration Pressurization (PPS)

ISI-G-190261, Sh. 7 of 8

Page 1 of 2

Rev

System Name

Valve Number	Class	Drawing Coordinates	0	Va Cate			Passive	(inches)	ve Type	tor Type	l Position	High tion Area	t Method	Frequency	f Request	. Stroke le (sec.)	Remarks
		Dr		A B	T	сг	-	Size	Valve	Actuator	No rmal	Hígh Radiatíon	Test	Test	Relief	Max. Time	
EV-H2A	2	E-2	†x	-	╏			1	ЗW	\$0	-	N	S J	Q J	1		P.T. 40
EV-H2B	2	E-5	x					3/8	3W	SO	-	N	S J	Q J	1	•	P.T. <sup>40</sup>
EV-1722	2	E-9	x				x	1	3W	SO	-	N	J.	J	1		
3 <b>V-1727</b>	2	D-5	X					3/8	3W	SO	-	N	S J	Q J	1		P.T. <sup>40</sup>
EV-1728	2	A-5	x					3/8	ЗW	SO	-	N	S J	Q J	1		P.T. <sup>40</sup>
225C	2	A-5	Ĺ				x	3/8	GA	M	CL	N	J	J	1		
226C	2	C-5	X				X	3/8	GA	м	CL	N	J	J	1		
			-								,						
•								l	ļ								





### TABLE 3 VALVE ST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Page  $\frac{2}{2}$  of  $\frac{2}{2}$ 

Rev.

System Name

PPS

P&T

P&ID No. \_\_\_\_\_\_ ISI-G-190261, Sh. 7 of 8

595	cem Na	a.iiie							<b>_</b>			<b></b>						
Valve Number	Class	Drawing Coordinates		· T	ve ory C	D	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)		Remarks
235C	2	E-5	X		-		X	3/8	GA	M	CL	N	J	J	1			• •
					÷		x	3/8	GA	M	CL	N	J	J	1			••••••••••••••••••••••••••••••••••••••
245A	2	E-9	х				•	0/0	UA.						l			
251C	2	E-2	х				Х	3/8	GA -	М	CL	N	J	J	1			
												<u>.</u>						
							<u>.</u>											
									·								•	· .
			Ì				<b>.</b>	1							1			
						·						1						
				ľ														
																1		
							ŀ										· · ·	
												1						
				l														
									1									
	ł		1	ł	1.	1	ł	1	· 1	1	5	1	۱. 				!	





TABLE 3 VALVE TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Penetration Pressurization (PPS)

IS P&ID No.

ISI-G-190261, Sh. 8 of 8

Rev.

Page  $\frac{1}{2}$  of  $\frac{1}{2}$ 

System Name

Position Relief Request Area Frequency Stroke (sec.) (inches) Type Test Method Drawing Coordinates Type Valve Remarks Valve Passive Category High Radiation Class Number Actuator Valve No rmal Max. Time Size Test CD В Α 1 SO N J J 3W Х -A-12 X 11 EV-1723 2 1 J J N 3W S0 -EV-1724 2 A-16 X X 1  $\mathbf{J}$  . J CLМ 1 X 3/8 GA Μ 2 A-16 241C X J  $\mathbf{C}\mathbf{L}$ J 1 М N X 3/8 GA A-12 248A 2 X J N J 1 CK SA x 3/8 Х 274C 2 G-12 X



TABLE 3 VALVEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Isolation Valve Seal Water

P&ID No. ISI-G-190262

ЧÖ Page \_

Rev.

	s								•		•		 		
	Remarks		\$			a.				·	· .				
			P.T. 2.6			•									
	Max. Stroke Time (sec.)						-								
	lelief Request	в					-		 	:					
	Yoneuperi Jee	T	۲. ۲		<u> </u>				 						
	Тезt Меthod		۲ H						 						
	hgiH adiation Area	B	Y		· .				 				,		
	noijieof lamic	PN	0/01					· .							
	sqvī rotsutc	A	SA						 						
	9qYI ອνίεV		CK							41- <b></b>		<del>ان زر</del> ین و در زر			<b></b> .
	(səųsui) əzi	s	3/8						 						
	eviseq				ور المراجع ا										- ما مناهد
		P													
	Valve itegor)	<u>ပ</u>	×						 					<u> </u>	
	Valve Category	A B	×		<u></u>		<u></u>								. ••••••••
me	Drawing Coordinates		· .							و میں					
System Name	eseíð		5	<u>ຮ</u>											
Syst	Valve Number		Check valves a class	boundari			1999		2700-00-00-00-00-00-00-00-00-00-00-00-00-	Wings. Ar			، الدينية	•	

TABLE 3 VALVEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2



	НУАС				P&ID N	No. ISI-	[-G-190304,	1 1	Sh. 1	of 2	Page 1 of
3 N N N	Valve Category	Passive .ze (inches)	Valve Type	tuator Type	rmal Position	High diation Area	Test Method	st Frequency	lief Request	Max. Stroke Time (sec.)	Remarks
3 N N N	A B C D	Si	v	Act	Nor	Rac		Te	Re		
5 N N	X	1	GA	AO	0	N	τi ο			÷ .	P.T. 40 *
5 N N							VI			60	· · · · · · · · · · · · · · · · · · ·
5 N N	×		GA	AO	0	z	ິ	0			P.T. 40
5 N					• •		VI T	ممم		60	
5 N							<u>د</u> :	د ,	ч		
	9 X		GA	AO	0	N	ЧमS	000		60	P.T. 40
 3							L IV	ЧФ	<b>ا</b>		
KMS-4 2 1-19	× 0		GA	AO	0	N	<u>ت</u> ال	00			P.T. 40
			<u></u>				ч Ч Г Г	цора	Ч	60	
V12-6 2 F-10		X 42	BF	AO	0	N	<u> </u>	ц.	د_	60	
•	0 X										
•		· · · · · · · · · · · · · · · · · · ·			· ·					· .	
		•									

V12-11 2 H-17 X 6 BF AO C Y S Q F.T. 40	V12-10 2 H-18 X 6 BF AO C Y 5 Q F.T. 40	V12-9 2 G-17 X X 42 BF A0 0 N J J 1 60	V12-8 2 G-18 X X 42 BF A0 0 N J J 1 60	 Number         Class         Drawing coordinates         Drawing coordinates         Drawing coordinates         Drawing 	TABLE 3 VALVE EST PROGRAM         H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2         HVAC         P&ID No.         ISI-G-190304, Sh. 1 of 2         Page         2         Point
O	40			\$ Remarks	1

Rev.

· · ·			v12-13		V12-12		Valve Number	
		•	2-1				nbe	
			ώ		2		йê	Sy
								System
		ν.	2		2		Class	
· · · · · · · · · · · · · · · · · · ·								Name
			G		Ģ	т	rawing	me
			G-11		G-10	Cor	ordinates	
			×		х	A	Ca	H H
						в	Valve Category	HVAC
						C	1ve goi	
						<b>  </b>	e cy	
· ·						U		41
	· · · · · · · · · · · · · · · · · · ·		X		X		Passive	· ·
	•		6	. ,	6	Siz	e (inches)	H.
								II
			BF	· ·	BF	V.	lve Type	• <del>•</del>
			н <b>ј</b>		, <b>[1</b> ] ,	va	Ive Type	RO
						1		TAB LI ROB I NSON
		,	AO		AO	Actu	ator Type	TAB
· · · · · · · · · · · · · · · · · · ·				·				TABLE INSON S
								P T 3
			0		0	Norn	al Position	3 VAI TEAM P&ID
								VALV EAM EI &ID No
			N		Z		High	ELE No.
· · ·						Radi	ation Area	
								LVUEST PROGRAM ELECTRIC PLANT UNI ISI-G-190304,
			C,	•	<u> </u>		est Method	PR(
			_			1 1	est nethod	-19
								T O3
			لم		4	Tes	E Frequency	04
					–	Pol	ief Request	PROGRAM PLANT UNIT NO. -G-190304, Sh.
							Tet Kequese	
				•		м	ax. Stroke	of 2
			60		60	Т	ime (sec.)	N
· · · · · · · · · · · · · · · · · · ·								
			÷					
						1	·	
			÷ .				· ·	
	. *							Page
				•. ,	4		Re	66
		 				1	Remarks	ω -
	* .	• .,					rks	
			· · · · ·			1		of
								ω
						1		
								, ·
		• •						
								' · ·

Rev.



ないので、「「「「」」



## TABLE 3 VALUE TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

s Sys	stem N		st	Acc	ide	nt S	Samp	ling		•	P&ID	No	I-HBR2	-6490			Page $\frac{1}{}$ of $\frac{1}{}$ .
Valve Number	Class	Drawing Coordinates		ate	lve gory		Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
PAS-1 PAS-2 PAS-3 PAS-4 PAS-5 PAS-6	2 2 2 2 2 2	C-5 D-5 C-5 D-5 D-5 D-5	A X X X X X X X	В	C	D	X X X X X X	3/8	GL GL GL GL GL	M M M M M	CL CL CL CL CL	N N N N	LT LT LT LT LT	R R R R R			<pre>P.T. 51 ↔ P.T. 51 P.T. 51 P.T. 51 P.T. 51 P.T. 51</pre>

. .

1

1

TABLE 3 VALVATE T PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2

Rev. U

Syst	tem Na	Pos ame	st À	\cci	iden	nt C	Cont.		8. KUB	Gas	P&ID	τe	I-HBR2-	-6933		-	Page <u>1</u> of <u>2</u>
Valve Number	Class	Drawing Coordinates			Lve gory	,	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	May Strolt. Time (sec.)	Remarks
			A	В	С	D				4							
PCV-1716	2	G-4	x					.2.	GA	AO	0	N	S F	C C	1	60	P.T. 42.0 א
	·						<i></i>						VI J	C J			
SA-43	2	G-4	x				X	2	DA	M	LC	N	J	J	1		
SA-44	2	G-3	x				X	2	DA	M.	LC	N	J	J	1		
V8-5	2	G-3	x		x			2	СК	SA	0/C	N	J	J	9		
V12-14	2	B-1	x					3	DA	AO	с	N	S	Q			P.T. 40
													F T	QQ		60	
													VI J	Q J	1		
V12-15	2	B-3	x					3	DA	AO	с	N	S F	Q Q			P.T. 40
							1						T Vİ	Q Q		60	
													J	<b>J</b> J	1		
										· .							
		:.															

· · · · · · · · · · · · · · · · · · ·			v12-19	/12-18	Valve Jumber	System
			N	2	Class	em Name
		•	D-4	D-2	Drawing Coordinates	Post
			×		Valve Category A B C	Accident
					D Passive	Cont.
			ω	ω	Size (inches)	H. Vent
			DA	DA	Valve Type	B. ROB & Ins.
			AO	AO	Actuator Type	INSON Gas
· · ·			G	G	Normal Position	STEAM EL P&ID No
			N	Y	High Radiation Area	ECT
		 ۲ ک	Ч Ч Ч Ч Ч Ч Ч Ч	N H H N	Test Method	RIC PLANT UNIT ISI-HBR2-6933
	. ·	ر یک	مممه	40000	Test Frequency	r UNIT -6933
				₩	Relief Request	
			60	60	Max. Stroke Time (sec.)	N
			P.T. 40	P.T. 40	Remarks	Page 2 of 2

40 40 40 40 40 40 40 40 40 40 40 40 40 4	Sys	System Name	ane ,	Fire Protection	ction				P\$ID	No.	ISI-SK-1	-SK-1	NO.		Page 1 of 1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Valve Number	Class	Drawing Coordinates	Valve ategory B C	Passive	Size (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	FP-248	N	ł	X		4	GA	Ю	0	ү		*~~~		60	T, VI - P <sub>♥</sub> T.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	FP-249	N		×		4	GA	MO	<b>O</b>	Ч	VI T S	QQQR		60	T, VI - P.T.
2 1 X X X X X X X X X X CA MO O V CA MO O V T T T T T T T T T T T T T	FP-256	N	1	X		4	GA	МО	0	K	LINN	GOGR		60	T, VI - P.T.
	£₽~258	N		×		4	GA	МО	0	× ×	VI LT	ROOD		60	, T, VI - P.T.
													· · ·		

100 V . J

	D

TABLE 3 VAN TEST PROGRAM

FP GATE	Valve Number	Sys
	Class	System Name
1	Drawing Coordinates	1
	Valve Category A B C	Fuel Tra
	P	Transfer
	Passive Size (inches)	Tube
G S	Valve Type	
	Actuator Type	
	Normal Position	P & 1 D
	, High Radiation Area	No
	Test Method	ISI-SK-2
۲.	Test Frequency	
	Relief Request	
	Max. Stroke Time (sec.)	
	Remarks	Page 1 of

Syst	em lia	En En	mer	gen	су	Die	sel'	II. B Genera			3 VALV TEAM E P&ID N	L: NIC	PROGRA PLANT 190204/	N1   UNI(T) A^, Sh.	NO. 2 11 of	2.	Page $1_{1}$ of $1_{1}$
Valve umber	Class	Drawing Coordinates			ve ory C		Passive	șize (inches)	Valve Type	Actuator Type	Normal Position	High Radiation Area	Test Method	Test Frequency	Relief Request	Max. Stroke Time (sec.)	Remarks
)-14	3	M-2		x	2			2	GL	M	CL.	Nı	S;	Q)			P.T. 40,
)-9B-2	3	G-5	1	x		ي الم		2 <sup>,</sup>	GA	S0	CL.	N:	S;	Q			$\mathbf{P} \cdot \mathbf{T} \cdot 40$
)-10B	3'	G`−5		x	27) -			2'	GL	M	CL.	N	S	Q			P.T. 40, P.T. 40,
<b>)-9B-1</b>	3	F-5		X				2	GA	SØ	CL.	Ni	S:	Q			P.T. 40
0-1'0A	3 <sup>,</sup>	M-5		X				2	GL	M	CL.	Ni	S;	ଦ ଦ			P.F. 40
0-9A-2	3	N-5		Х				2	GA	SO	CL	N	S S	Q			P.T. 40
'0-9 <b>A-1</b>	3	M-5		Х				2	GA	SO	CL. CL	N N	S.	Q			P.T. 40
)G-AS-14	3	D-15		Х				3/4	GL	M	- ·	N	FF	Q			P.T. 40
G-ASA-1		F-15			X			3/4	CK GL	SA M	CL	N	S	Q			Р.Т. 40
DG-AS-10		D-13		х				2	CK	SA	-	N	FF	Q			P.T. 40
DG-ASB-1	3	C-15			X			3/4									
• • •																	
					÷												

#### TABLE 3 - VALVE TEST PROGRAM H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2 SPECIFIC REQUESTS FOR RELIEF

ż

This section provides justification for specific requests for relief from code requirements as provided for in 10CFR50.55a(g)(5)(iii). Each relief requested is identified by a unique number and identifies the valve(s) for which the relief request is being made. The code test requirement found to be impractical is defined and the basis for exclusion from code requirements is presented. Any alternate testing is specified.

1. Specific Relief Request:

Seat leak testing and Category A valves as required by IWV-3420.

Applicable To:

All Category A valves for which test method is designated as J.

Basis for Relief Request:

10CFR50 Appendix J requires periodic leak testing of Containment Isolation Valves. All Section XI Category A valves for this plant are containment isolation valves and require Section XI leak testing. In order to preclude redundant test requirements on these valves, the Appendix J requirements will be met in lieu of the Section XI requirements.

The H. B. Robinson containment has two features in its design that assure adequate integrity during and following a loss of Coolant Accident. These are the Isolation Valve Seal Water System and the Penetration Pressurization System. These two systems are conservatively designed, seismically qualified, and operated in accordance with Unit Technical Specifications and the requirements of 10CFR50 Appendix J for seal systems that can be used in lieu of local Type C valve testing.

Alternate Testing:

The PPS and IVSW systems will be tested as required by 10CFR50 Appendix J.

2. Specific Relief Request:

Exercising of valves as required by IWV-3520.



# TABLE 3 - VALVE TEST PROGRAMH. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2<br/>SPECIFIC REQUESTS FOR RELIEF

Applicable to:

MS-V1-3A-C

Basis for Relief Request:

These values are the Main Steam check values downstream of the MSIV's. Normal steam flow verifies the proper opening of the values. Section XI requires reverse flow seating of the values. Due to the design of the system, no meaningful test can be performed to prove this seating at any operating condition. Therefore, a special test method must be employed to verify reverse flow seating due to the special requirements that will be necessary. The frequency will be refueling outage intervals.

3. SPECIFIC RELIEF REQUEST:

Full Stroke Testing as Required by IWV-3520

APPLICABLE TO:

Valves 875D, 875E, and 875F

BASIS FOR RELIEF REQUEST:

These Accumulator Check Valves are partially stroked at cold shutdown by varying reactor coolant system pressure and observing increases and decreases in accumulator level. Stroke verification by passing design flow during cold shutdown is not practical due to the large volume of water that would be added to the Reactor Coolant System. Calculations have shown that a differential pressure of approximately 25 psi will shear any particles that may attempt to prevent the valve from functioning (FSAR Section 6.2.3). Based on this calculation and partial stroke testing presently performed full stroke testing requirements are waived.



#### 4. SPECIFIC RELIEF REQUEST:

Full Stroke Testing as Required by IWV-3520

APPLICABLE TO:

Valves 873A, 873B, 873C, 873D, 873E, 873F, 874A, and 874B

BASIS FOR RELIEF REQUEST:

These values in the Safety Injection System can only be tested by adding water to the Reactor Coolant System. During normal operation, this is not possible. Injection during cold shutdown is not practical due to boron concentration of the water added. At refueling intervals, these values are fully stroked during the Safety Injection System Test while the reactor vessel head is removed and the refueling cavity can be filled. This constitutes the only practical interval that this test can be performed.

5. SPECIFIC RELIEF REQUEST:

Full Stroke Testing as Required by IWV-3520

APPLICABLE TO:

Valve SW-544

BASIS FOR RELIEF REQUEST:

This valve is partially stroked quarterly by verifying flow through a downstream tell-tale drain. Valve SW-544 is in the service water supply to the Auxiliary Feedwater (AFW) Pump Suction Line. It is a back-up water supply that would only be initiated in emergency conditions (condensate tank level less than 10%). The deep well water system also serves as a back-up AFW pump suction supply source.

Full stroke testing can only be accomplished by adding untreated lake water to the AFW System which has controlled water chemistry. Therefore, system design does not allow full stroke testing. Dismantling the value at refueling intervals is not considered necessary nor practical. Disassembly for full stroke vertification only does not add to the safety margin verified by a quarterly partial stroke test. In fact, disassembly for full stroke vertification may prove detrimental and could possibly add to services water system leakage during operation. The position taken is, considering partial stroke testing now performed quarterly and the redundant role this system shares with the deep well water system, no other testing or periodic disassembly for testing purposes is required.

6. SPECIFIC RELIEF REQUEST:

Individual Full Stroke Verification of Valves

APPLICABLE TO:

Valves SW-542 and SW-543

BASIS FOR RELIEF REQUEST:

These values are installed in parallel, non-isolable flowpaths. Therefore, full stroke verification cannot be performed individually on each value. Flow through these values is verified collectively at quarterly intervals.

7. SPECIFIC RELIEF REQUEST:

Full Stroke Testing as Required by IWV-3520

APPLICABLE TO:

Valves 879A, 879B, and 879C

BASIS FOR RELIEF REQUEST:

These values are partially stroked quarterly while performing the Safety Injection Pump Test while aligned for recirculation operation. Full stroke testing during normal plant operation would require injection into the reactor coolant loops which is not possible. These values are, however, full stroke exercised during performance of the Safety Injection System Test at each refueling outage. Therefore, exemption to the cold shutdown stroking requirement of IWV-3520 is claimed.

8. SPECIFIC RELIEF REQUEST:

Full Stroke Testing as Required by IWV-3520

**APPLICABLE TO:** 

Valves 890A and 890B

Rev. 0 Page 4 of 6

· ·

254-D

#### BASIS FOR RELIEF REQUEST:

These values are tested at cold shutdown by injecting air upstream and observing a pressure increase on a temporary test gauge downstream. The cold shutdown test constitutes the only method to verify disk travel short of initiating flow through the spray nozzles or disassembly.

Proper full stroke operation of these valves will be verified at refueling intervals.

SPECIFIC RELIEF REQUEST:

Reverse Flow Testing

APPLICABLE TO:

9.

Valve V8-5

BASIS FOR RELIEF REQUEST:

This value, in the instrument air supply line to containment, cannot be aligned for a reverse flow test. This value is subject to a reverse flow test during the containment integrated leak rate test which is conducted at intervals not to exceed three refueling outages.

Instrument air is a closed system inside containment with valve IA-PCV-1716 serving as the boundary isolation valve.

#### 10. SPECIFIC RELIEF REQUEST:

Full Stroke Forward Flow Testing

APPLICABLE TO:

Valve 357

BASIS FOR RELIEF REQUEST:

This value is partially stroked quarterly by verifying flow through value 121E. Since 357 cannot be isolated from the RWST, it cannot be disassembled periodically to inspect the internals.

### 11. SPECIFIC RELIEF REQUEST:

Reverse Flow Testing at Quarterly Intervals

APPLICABLE TO:

Valve 266

BASIS FOR RELIEF REQUEST:

Reverse flow testing of this value during normal operation is not possible since this would result in loss of suction to the charging pumps. Since special techniques; i.e., pressure drop across value, or radiography, or disassembly, etc., must be used to verify seating of the value, a cold shutdown testing interval is not practical. Seating of this check value will be verified during refueling outages.

### 12. SPECIFIC RELIEF REQUEST:

Stroke Test of IWV-3520

APPLICABLE TO:

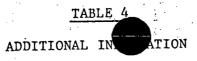
Valves 870C and 870D

BASIC FOR RELIEF REQUEST:

Due to special techniques that must be performed to ensure the vacuum breaking capability of these valves, the frequency has been set at refueling intervals. Vacuum breakers are not specifically identified in Section XI. A classification of C-active has been conservatively chosen.









SYSTEM	VALVE	DESCRIPTION	REMARKS
CVCS	FCV-113A	RCS Normal Boration Flow Path Isolation	This control valve assumes a position coincident with a given primary water dilution rate to assure proper boration. Cycling the valve full open during power operation could add an undesir- able concentration of boric acid to the RCS.
cvcs	LCV-115B	RWST to RCS via Charging Pumps Isolation	Testing of this valve during normal operation would result in addition of borated water (1950 ppm) to the RCS. During normal operation, this would have an undesirable effect on reactor power level. This valve opens automatically on low-low VCT level.
cvcs	LCV-115C	VCT to Charging Pumps Isolation	Testing of this valve during normal operation would disrupt suction to the charging pumps with potential loss of pumps and all RCP seal flow.
cvcs	350 & 351	Emergency Boration Flow . Path to RCS	These valves are used to inject boric acid from the BAST directly to the RCS via the charging pumps. Cycling during normal operation would result in overboration.
cvcs	202A & 282	Charging Line to RCS Manual Isolation	Cycling these valves during normal operation would disrupt charg- ing flow to the RCS. Use of the bypass valve, 309A, as a flow path while cycling 202A and 282, will bypass HCV-121 and effect RCP seal water flow, and this is undesirable.
cvcs	204A & 204B	RCS Letdown Flow Isolation	Testing during normal operation causes loss of letdown flow. Should this occur coincident with normal charging flow and one of these valves fail to reopen, a high RCS level trip would result
cvcs	297A, B, C 292A, 293A, 293C, 295	RCP Seal Water Injection Isolation	Cycling of these valves during normal operation would disrupt seal flow to the RCP's.
CVCS	381	RCP Seal Water Return Line Isolation	Testing during normal operation would result in disruption of seal flow and raise the potential for seal damage.
CVCS	266	VCT to Charging Pumps Check Valve.	See Relief Request 11.

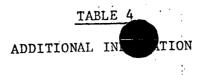
TABLE 4 ATION ADDITIONAL IN

. ·

Page 2

SYSTEM	VALVE	DESCRIPTION	REMARKS
Auxiliary Feedwater	AFW-2	Condensate Storage Tank to AFW Pump Suction Check Valve	This valve is partially stroked quarterly due to the running of the AFW pumps on miniflow recirculation. Design flow is passed through the valve at cold shutdown intervals when the AFW pumps feed the steam generators pursuant to OP-14.
			The AFW pumps are not used to feed the steam generators during normal operation due to the potential for thermal shocking the feedwater nozzles and the feed rings.
Auxiliary Feedwater	AFW-19	Steam Driven AFW Pump Discharge Check Valve	Same as for AFW-2.
Auxiliary Feedwater	AFW-40, 41	Motor Driven AFW Pumps Discharge Check Valves	Same as for AFW-2.
Auxiliary Feedwater	AFW-68, 69, 70	Auxiliary Feedwater to Main Feedwater Check Valves	These values are not cycled at power due to the practice of not feeding steam generators via the AFW system during normal operation. The AFW pumps are not used in this situation due the potential for thermal shocking the feedwater nozzles and the feed rings.
RHR	750 & 751	RCS to RHR System Isolation	These values cannot be opened unless values 862A & B are closed (interlocked circuitry). Values 862A & B are opened with A.C. control power removed when RCS pressure is above 1,000 psig (Tech. Spec. 3.3.1.1.h).
RHR	753A, B	RHR Pump Discharge Check Valves	• With the plant at power, no flow path for the RHR system exists other than the miniflow recirculation line. The flow path will not introduce design flow through 753A and B. These valves pass design flow during cold shutdown while the RHR system is providing core cooling.
Auxiliary Coolant (CCW)	FCV-626 & 735	CCW from RCP Thermal Barrier Isolation Valve	Testing during normal operation would result in loss of cooling water flow to the thermal barrier of the RCP's.
		•	



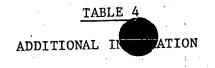




. **i**.

SYSTEM	VALVE	DESCRIPTION	REMARKS
Auxiliary Coolant (CCW)	716A & 716B	Inlet Isolation for CCW Flow to the RCP's	Testing during normal operation would isolate all CCW to all RCP's.
Auxiliary Coolant (CCW)	730	Outlet Isolation for CCW Flow to RCP Upper and Lower Lube Oil Coolers	Testing during normal operation would result in disruption of flow to the lube oil coolers.
Reactor Coolant	PCV-455C & PCV-456	Pressurizer Power Operated Relief Valves	These valves are not taken credit for in any accident analyses. Their design function is for system control. These valves are in the ISI program to provide "information only" testing to ensure operability.
Reactor Coolant	535 & 536	Block Valves for Pressuri- zer Power Operated Relief Valves	These valves are not taken credit for in any accident analyses. These are maintenance valves with non-Q operators. These valves are in the ISI program due to earlier commitments made in response to IE Inspection Report 82-27.
Main Steam	MS-V1-3A,B, C	Main Steam Isolation Valves	Cycling these valves during normal operation is not possible due to the resulting loss of steam flow and subsequent reactor trip.
	(Isolation)		A partial stroke of these valves during normal operation is not possible since these are stop-check valves and a downward move- ment of the disk would tend to close the valve.
		•	The valve operators are tested weekly to ensure binding does not exist.
Main Steam	MS-V1-3A,B, C (Check)	Main Steam Check Valves	No positive means of verifying disk position of these values short of disassembly exists. Performing this type of extensive maintenance during each cold shutdown is not practical. Also, since these values are non-isolatable, any steam leaks of
			appreciable size would require a plant shutdown to correct. Therefore, since disassembly on a frequent basis would increase the probability of such leaks, such maintenance is not considered a feasible alternative. Disk position verification at refueling intervals is the only practical test for these values.
			Incervars is the only practical for and





Page 4

\$

:

SYSTEM	VALVE	DESCRIPTION	REMARKS
Feedwater	FCV-479,489, 499	Main Feedwater Regulating Valve Bypass Valve	Cycling these valves during normal operation could result in a steam flow/feed flow mismatch and subsequent plant trip.
Feedwater	FW-V2-6A,6B, 6C	Main Feedwater Regulating Valve Block Valve	Same as for FCV-479, 489, and 499.
Post Accident Containment Vent	PCV-1716	Instrument Air to Contain- ment Isolation	This value closes only on a phase "A" containment isolation signal and can be opened only when the signal is overridden. Also, cycling this value during normal operation would isolate air to certain values in containment and would result in a potential plant trip.
• Safety Injection	890A, B	Containment Spray Pumps Discharge Check Valves	See Relief Request 8.
Safety Injection	891A, B	Containment Spray Headers Containment Isolation Valves	These values are normally aligned in the open position which is the primary safety-related position. In this condition, these values could be categorized as passive. The secondary safety- related position, closed, is necessary to ensure containment integrity. Should either value (891A or B) fail to close, two automatic values (890A, 880A, B, or 890B, 880C, D) could provide CV isolation. CV integrity is assured during the ILRT with 891A and 891B opened.
Safety Injection	875A, B, C	Accumulator Discharge Check Valves	These values cannot be cycled during normal operation due to the pressure differential that exists across the values with • either the SI or RHR pumps running. These values are cycled during cold shutdown when the RHR system is providing core cooling.
Safety Injection	875D, E, F	Accumulator Discharge Check Valves	See Relief Request 3.

ADDITIONAL IN TATION

TABLE 4

Page 5

5

SYSTEM	VALVE	DESCRIPTION	REMARKS
Safety Injection	845A, B	Spray Additive Tank to Containment Spray Pump Isolation	Cycling these values during normal operation would require closing values 892A, 892C, or 845C to preclude level reduction in the spray additive tank. Failure of 892A, 892C, or 845C in
			the closed position would isolate the sodium hydroxide datation flow path. This fact, coupled with the single failure proof design of the valves 845A and 845B, justifies a cold shutdown testing interval. Also per Tech. Spec. 4.5.2.4, valves 844A
			and 844B must be closed before orbit under the containment Closing valves 844A and 844B would render the containment spray system inoperable and can only be done at cold shutdown conditions.
Safety Injection	864A, B	RWST Discharge Isolation	Per Tech. Spec. 3.3.1.1.h, during conditions of operation with reactor coolant pressure in excess of 1,000 psig, the A.C. control power shall be removed from these valves with the valves in the open position. Cycling of these valves during normal
			in the open position. Cycling of these darge bar of operation would violate Tech. Spec. Same as for 864A, B.
Safety Injection	862A, B	RWST to RHR Pumps Isolation	Same as for 864A, B.
Safety Injection	865A, B, C	Accumulator Discharge Isolation	
Safety Injection	878A, B	SI Pump Discharge Header Cross Connect	Same as for 864A, B.
Safety Injection	873A, B, C, D, E, F	High Head SI to RCS Cold Legs Check Valves	• Same as for 879A, B, C. See Relief Request 4.
Safety Injection	874A, B	High Head SI to RCS Hot Legs Check Valves	These values cannot be full stroke exercised during normal operation due to the difference in pressure between the RCS (2235 psig) and the discharge head of the SI pumps (1500 psig).
		•	Injection into the RCS during cold shutdown is not desirable due to the possibility for low temperature overpressurization of the RCS.
			These valves pass design flow at refueling outages during the SI system flow test. See Relief Request 4.







4

٠.

SYSTEM	VALVE	DESCRIPTION	REMARKS
Safety Injection	863A, B	RHR Pumps Discharge to SI Pumps Suction Isolation	Per Tech. Spec. 3.3.1.1.h, during conditions of operation with reactor coolant pressure in excess of 1,000 psig, the A.C. control power shall be removed from these valves with the valves in the closed position. Cycling of these valves during normal operation would violate Tech. Spec.
Safety Injection	866A, B	High Head SI to RCS Hot Legs Isolation	Same as for 863A, B.
Safety Injection	869	High Head SI to RCS Hot Legs Containment Isolation	Testing during normal operation would momentarily take the hot legs SI flow path out of service. Failure of the valve in the closed position would isolate boric acid injection via the boron injection tank.
Safety, <i>†.</i> Injection	879A, B, C	SI Pumps Discharge Check . Valves	These values cannot be full stroke exercised during normal operation due to the difference in pressure between the RCS (2235 psig) and the discharge head of the SI pumps (1500 psig). Design flow cannot be achieved with the system aligned for miniflow recirculation.
			Injection into the RCS via the SI pumps during cold shutdown is not desirable due to the possibility for low temperature overpressurization of the RCS.
		•	These values pass design flow at refueling outages during the SI system flow test. See Relief Request 7.
Safety Injection	876A, B, C	RHR Pump Discharge to RCS Loop Cold Leg Check Valves	These values cannot be full stroke exercised during normal operation due to the difference in pressure between the RCS (2235 psig) and the discharge head of the RHR pumps (160 psig).
Safety Injection	870C, D	Spray Additive Tank Vacuum Breakers	See Relief Request 12.

bs

ADDITIONAL 1

TUBLE 4

MATION

Page 7

Ł

VALVE	DESCRIPTION	REMARKS
EV-H2A, EV-H2B, EV-1727, & EV-1728	Penetration Pressurization Air Supply and Bleed Off Valves For V12-10 & V12-11, V12-18 & V12-19, RMS-1 & RMS-2, and RMS-3 & RMS-4 Innerspaces, respectively.	position, during normal operation with air being supplied to the
Check valves on each branch line off four main headers		The isolation value seal water system is not taken credit for in the FSAR offsite dose calculations. Tech. Spep. 4.4.2.c requires operation of this system at refueling outage intervals. Operation of this system during normal or cold shutdown conditions that would stroke these check values is not practical.
	EV-H2A, EV-H2B, EV-1727, & EV-1728 Check valves on each branch line off four	EV-H2A, EV-H2B, EV-1727, & EV-1728 Check valves on each branch line