Revision 1

Byron Nuclear Power Station

Unit 1

INSERVICE TESTING

(ISI)

PROGRAM PLAN FOR

VALVES

Table of Contents

2.1 Byron Unit 1 Valve Inservice Inspection Program Plan.

The Inservice testing program for ASME Section XI Class 1, 2, & 3 valves meets the requirements of subsection IWV of Section XI, 1980 edition, winter, 1980 addenda of the ASME Code. Where code requirements are determined to be impractical, specific requests for relief are written, referenced in, and included with the tables. The tables list all code Class 1, 2 & 3 valves which have been assigned a specific code category as directed by Subsection IWV of Section XI. The tables are organized by system and further identified by code class and code category, using P & ID references.

Each valve, after installation and prior to service, will be tested as required by Subsection IWV-3100 Section XI of ASME. These tests will be conducted under conditions similar to those to be experienced during subsequent inservice tests.

Section 2.2

TABLES FOR THE INSERVICE VALVE

PROGRAM PLAN

(ISI)

Byron Unit 1

The following information is included in the summary tables.

A. SYSTEM

The system in which a valve is located is denoted by the abbreviated system identification.

B. P & ID

The P & ID column references the specific P & ID number and sheet number, which the valves are located on.

C. REVISION & DATE

The revision and date corresponds to the most current revision in use at the date the program was written.

D. PAGE

The pages are number sequentially and show the total number of tables.

E. VALVE NUMBER

The valve number references the unique Byron Station equipment piece number (EPN). This specific valve number identifies the unit and system.

F. COORD

The coordinates reference a specific location on a particular P & ID, via an X-Y coordinate system.

G. CLASS

The class refers to the ISI class assigned to the specific valve.

H. VALVE CATEGORY

The valve category identifies the valve category defined in subsection IWV of ASME Section XI, paragraph IWV-2200.

I. VALVE SIZE

The valve size lists the nominal pipe size of each valve in inches.

J. VALVE TYPE

The valve type categorizes the valve as to its valve design. The following abbreviations will be used to identify specific valve types:

Gate	GA
Globe	GL
Butterfly	BTF
Check	CK
Safety	SV
Angle Relief	RV
Diaphragm Seated	D
Plug	P

K. ACT TYPE

The actuator type identifies the valve actuator. The following abbreviations will be used to designate specific types of valve actuators:

Motor Operated	MO
Air Operated	AO
Hydraulic Operated	HO
Self Actuated	SA
Manual	M
Solenoid Operated	SO

L. NORMAL POSITION

Normal position identifies the normal operating position of a specific valve. O for open and C for closed.

M. STROKE DIRECT

The stroke direction identifies the direction the valve actuator moves a specific valve stem to place the valve disc in a position to perform its designed safety function. O for open, and C for closed. This identifies the direction the valve stem will move to be tested.

Note: In order to stroke a valve in the direction required for its safety function, it must first be stroked in the opposite direction to place the valve in a position to be tested. By virtue of this, such valves are stroke tested in both directions. Therefore, the program plan specifies only the direction in which valves must be stroked to be timed.

N. TEST METHOD

The test method column identifies specific tests which will be performed on specific valves to fulfill the requirements of Subsection IWV of Section XI. The tests and abbreviations used are as follows:

1. Seat Leakage Test (Lt)

   The seat leakage tests will meet the requirements of IWV-3420, for Category (A) valves. On these valves seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their function.

2. Full Stroke Test (St)

   Valve exercising tests of Category A and B valves will be performed in accordance with IWV-3410. The test will include full stroke testing to verify operability in the direction required to fulfill the required function.

3. Check Valve Exercise Test (Ct)

   The check valve disc will be exercised to the position required to fulfill its safety function in accordance with IWV-3520.

4. Relief Valve Setpoint Check (Rt)

   Relief valve setpoints will be verified in accordance with IWV-3510 of ASME Section XI.

5. Fail Safe Test (Ft)

   Valves with fail safe actuators will be tested to verify the valve operator moves the valve stem to the required fail safe position upon interruption of the motive force in accordance with IWV-3415.

6. Position Indication Check (It)

   Valves which are identified to require a PIT will be inspected in accordance with IWV-3300 of ASME Section XI.

7. Part-Stroke Test (Xt)

   If only limited operation is practical, during plant operation the valves shall be part-stroke (Xt) exercised during plant operation and full-stroke exercised during cold shutdowns, in accordance with IWV-3412 and IWV-3522.

O. MAX STROKE TIME

The maximum allowable stroke time is specified in seconds for power operated valves requiring a full stroke (St) test in order to meet the requirements of IWV-3413, where (N/A) is not applicable.

P. TEST MODE

Denotes the frequency and plant condition necessary to perform a given test. The following abbreviations are used:

Normal Operation OP

Tests designated OP will be done once every 3 months.

Cold Shutdown CS

In-service valve testing at cold shutdown is a valve testing program which commences within 2 hours after the plant reaches a cold shutdown condition but in no case later than 48 hours after cold shutdown is reached. Completion of cold shutdown valve testing is not a prerequisite to plant startup. Valve testings which are not completed during a cold shutdown shall be completed during subsequent cold shutdowns that may occur to meet the code specified testing frequency. In case of frequent cold shutdowns, valve testing need not be performed more often than once in a three-month interval for any valve with a test mode designation of cold shutdown. When plant conditions (system orientation) are aligned such that specific valves cannot be tested at the interval prescribed, the situation will be documented and tracked with the ISI Program.

In the event a valve must be declared inoperable as a result of cold shutdown testing, the applicable unit startup limitations will be as stated in the Technical Specifications, Limiting Condition for Operation.

Reactor Refueling RR

Tests with this designation will be conducted during reactor refueling outages only.

Q. RELIEF REQUEST

Relief Requests references a specific request for relief from Code Requirements. All Relief Requests are included immediately following the presentation tables. More Valve Relief Requests may be necessary for the Valve Inservice Inspection Program and will be identified during the performance of the Preservice Inspection.

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM AB

P & ID M-65-5 | REVISION - DATE 1 7/26/82 | PAGE 1 of 47

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1AB8467	C-5	3	C	2.0	CK	S.A.	C	O	N/A	Ct	OP		
0AB8473	B-5	3	C	2.0	CK	S.A.	C	O	N/A	Ct	OP		

SYSTEM AF

P & ID M-37 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1AF001A	D-2	3	C	6.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF001B	B-2	3	C	6.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF003A	D-5	3	C	6.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF003B	B-5	3	C	6.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF006A	E-3	3	B	6.0	GA	M.O.	C	O	30.0	St	OP		
										It	RR		
1AF006B	B-3	3	B	6.0	GA	M.O.	C	O	30.0	St	OP		
										It	RR		
1AF013A	C-8	2	B	4.0	GL	M.O.	O	C	30.0	St	OP		
										It	RR		
1AF013B	A-8	2	B	4.0	GL	M.O.	O	C	30.0	St	OP		
										It	RR		
1AF013C	E-8	2	B	4.0	GL	M.O.	O	C	30.0	St	OP		
										It	RR		
1AF013D	B-8	2	B	4.0	GL	M.O.	O	C	30.0	St	OP		
										It	RR		
1AF013E	D-8	2	B	4.0	GL	M.O.	O	C	30.0	St	OP		
										It	RR		
1AF013F	B-8	2	B	4.0	GL	M.O.	O	C	30.0	St	OP		
										It	RR		
1AF013G	F-8	2	B	4.0	GL	M.O.	O	C	30.0	St	OP		
										It	RR		
1AF013H	C-8	2	B	4.0	GL	M.O.	O	C	30.0	St	OP		
										It	RR		
1AF014A	C-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF014B	A-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	OP		

SYSTEM AF

P & ID M-37 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1AF014C	E-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF014D	B-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF014E	D-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF014F	B-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF014G	E-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF014H	C-8	2	C	4.0	CK	S.A.	C	O	N/A	Ct	OP		
1AF017A	F-3	3	B	6.0	GA	M.O.	C	O	15.0	St It	OP RR		
1AF017B	C-3	3	B	6.0	GA	M.O.	C	O	15.0	St It	OP RR		

SYSTEM CC

P & ID M-66-1 REVISION - DATE 1 7/26/82

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CC685	B-3	2	A	4.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR		
										Lt	RR	VR-1	
1CC9413A	E-2	2	A	6.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR		
										Lt	RR	VR-1	
1CC9413B	E-2	2	A	6.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR		
1CC9414	B-3	2	A	6.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR		
										Lt	RR	VR-1	
1CC9416	A-3	2	A	6.0	GA	M.O.	O	C	10.0	St	CS	VR-8	
										It	RR		
										Lt	RR	VR-1	
1CC9437A	E-1	2	A	3.0	GL	A.O.	C	C	N/A	Lt	RR		Passive
1CC9437B	B-2	2	A	3.0	GL	A.O.	O	C	(later)	St	OP		
										It	RR		
										Ft	OP		
										Lt	RR		
1CC9438	B-3	2	A	4.0	GA	M.O.	O	C	10.0	Lt	RR	VR-1	
										It	RR		
										St	CS	VR-8	
1CC9486	E-3	2	AC	6.0	CK	S.A.	O	C	N/A	Lt	RR	VR-1	
										Ct	CS	VR-8	
1CC9518	B-3	2	AC	0.75	CK	S.A.	O	C	N/A	Lt	RR	VR-1	
										Ct	CS	VR-8	
1CC9534	A-3	2	AC	0.75	CK	S.A.	O	C	N/A	Lt	RR	VR-1	
										Ct	CS	VR-8	

SYSTEM CC

P & ID M-66-2 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CC9412B	F-3	3	B	12.0	GA	M.O.	C	O	14.5	St It	OP RR		
1CC9412A	D-3	3	B	12.0	GA	M.O.	C	O	14.5	St It	OP RR		

SYSTEM CC

P & ID M-66-3 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CC9463A	C-2	3	C	12.0	CK	S.A.	C	O	N/A	Ct	OP		
1CC9463B	C-3	3	C	12.0	CK	S.A.	C	O	N/A	Ct	OP		
0CC9464	C-4	3	C	12.0	CK	S.A.	C	O	N/A	Ct	OP		
1CC9473A	E-5	3	B	16.0	GA	M.O.	C	O	(later)	St It	OP RR		
1CC9473B	D-5	3	B	16.0	GA	M.O.	C	O	(later)	St It	OP RR		

SYSTEM CS

P & ID M-61-4 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CS001A	B-3	2	B	14.0	GA	M.O.	O	C	30.0	St It	OP RR		
1CS001B	A-3	2	B	14.0	GA	M.O.	O	C	30.0	St It	OP RR		
1CS009A	B-4	2	B	16.0	GA	M.O.	C	O	19.5	St It	OP RR		
1CS009B	A-4	2	B	16.0	GA	M.O.	C	O	19.5	St It	OP RR		

SYSTEM CS

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CS007A	E-7	2	A	10.0	GA	M.O.	C	0	12.0	Lt St It	RR OP RR	VR-1	
1CS007B	C-7	2	A	10.0	GA	M.O.	C	0	12.0	Lt St It	RR OP RR	VR-1	
1CS008A	E-7	2	A	10.0	CK	S.A.	C	0	N/A	Ct Lt	OP RR	VR-1	
1CS008B	C-7	2	A	10.0	CK	S.A.	C	0	N/A	Ct Lt	OP RR	VR-1	
1CS010A	D-4	2	B	3.0	GL	A.O.	C	0	10.0	St It Ft	OP RR OP		
1CS010B	B-4	2	B	3.0	GL	A.O.	C	0	10.0	St It Ft	OP RR OP		
1CS011A	D-2	2	C	6.0	CK	S.A.	C	0	N/A	Ct	OP		
1CS011B	C-2	2	C	6.0	CK	S.A.	C	0	N/A	Ct	OP		
1CS019A	C-5	2	B	3.0	GA	M.O.	C	0	30.0	St It	OP RR		
1CS019B	B-5	2	B	3.0	GA	M.O.	C	0	30.0	St It	OP RR		
1CS020A	C-3	2	C	3.0	CK	S.A.	C	0	N/A	Ct	CS	VR-2	
1CS020B	B-2	2	C	3.0	CK	S.A.	C	0	N/A	Ct	CS	VR-2	
1CS003A	E-3	2	C	10.0	CK	S.A.	C	0	N/A	Ct	OP		
1CS003B	C-3	2	C	10.0	CK	S.A.	C	0	N/A	Ct	OP		

SYSTEM CV

P & ID M-64-1 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CV8355A	B-8	2	A	2.0	GL	M.O.	O	C	(later)	It Lt St	RR RR CS	 VR-9	
1CV8355B	B-4	2	A	2.0	GL	M.O.	O	C	(later)	It Lt St	RR RR CS	 VR-9	
1CV8368A	C-7	2	AC	2.0	CK	S.A.	O	C	N/A	Lt Ct-1	RR CS	 VR-9	
1CV8368B	C-4	2	AC	2.0	CK	S.A.	O	C	N/A	Lt Ct-1	RR CS	 VR-9	

SYSTEM CV

P & ID M-64-2 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CV8100	F-1	2	A	2.0	GL	M.O.	O	C	10.0	St	CS	VR-9	
										It	RR		
										Lt	RR	VR-1	
1CV8112	F-1	2	A	2.0	GL	M.O.	O	C	10.0	St	CS	VR-9	
										It	RR		
										Lt	RR	VR-1	
1CV8113	F-2	2	AC	.75	CK	S.A.	O	C	N/A	Lt	RR	VR-1	
										Ct	CS	VR-9	
1CV8355C	B-8	2	A	2.0	GL	M.O.	O	C	(later)	Lt	RR		
										St	CS	VR-9	
										It	RR		
1CV8355D	B-5	2	A	2.0	GL	M.O.	O	C	(later)	Lt	RR		
										St	CS	VR-9	
										It	RR		
1CV8368C	C-8	2	AC	2.0	CK	S.A.	O	C	N/A	Lt	RR		
										Ct	CS	VR-9	
1CV8368D	C-5	2	AC	2.0	CK	S.A.	O	C	N/A	Lt	RR		
										Ct	CS	VR-9	

SYSTEM CV | P & ID M-64-3 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CV8481A	C-4	2	C	4.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-6	
1CV8481B	B-4	2	C	4.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-6	
1CV8480A	C-4	2	C	2.0	CK	S.A.	C	O	N/A	Ct	OP		
1CV8480B	B-4	2	C	2.0	CK	S.A.	C	O	N/A	Ct	OP		
1CV8105	E-7	2	B	3.0	GA	M.O.	O	C	10.0	Lt St It	RR CS RR		Note 4
1CV8106	E-6	2	B	3.0	GA	M.O.	O	C	10.0	Lt St It	RR CS RR		Note 4
1CV8110	E-1	2	B	2.0	GL	M.O.	O	C	10.0	St It	OP RR		
1CV8111	D-1	2	B	2.0	GL	M.O.	O	C	10.0	St It	OP RR		
1CV8346	E-5	2	A	2.0	GL	M	C	C	N/A	Lt	RR		

SYSTEM CV | P & ID M-64-4 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CV112D	B-4	2	B	8.0	GA	M.O.	C	O	10.0	St It	OP RR		
1CV112E	A-4	2	B	8.0	GA	M.O.	C	O	10.0	St It	OP RR		
1CV8546	A-5	2	C	8.0	CK	S.A.	C	O	N/A	Ct	CS	VR-7	
1CV8804A	B-6	2	B	8.0	GA	M.O.	C	O	10.0	St It	OP RR		
1CV8104	B-1	2	B	2.0	GL	M.O.	C	O	10.0	St It	OP RR		
1CV8442	B-1	2	C	2.0	CK	S.A.	C	O	N/A	Ct	CS		Note 2
1CV112B	D-5	2	B	4.0	GA	M.O.	O	C	10.0	St It	OP RR		
1CV112C	D-5	2	B	4.0	GA	M.O.	O	C	10.0	St It	OP RR		

SYSTEM CV | P & ID M-64-5 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1CV8160	F-4	2	A	3.0	GL	A.O.	O	C	(later)	St	CS		Note 4
										It	RR		
										Ft	CS		Note 4
										Lt	RR	VR-1	
1CV8152	E-4	2	A	3.0	GL	A.O.	O	C	(later)	St	CS		Note 4
										It	RR		
										Ft	CS		Note 4
										Lt	RR	VR-1	
1CV8379A	E-7	2	C	3.0	CK	S.A.	C	O	N/A	Ct	OP		
1CV8379B	E-7	2	C	3.0	CK	S.A.	C	O	N/A	Ct	OP		

SYSTEM DO

P & ID M-50-1 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1DO003B	C-2	3	C	1.5	CK	S.A.	C	O	N/A	Ct	OP		
1DO003D	B-2	3	C	1.5	CK	S.A.	C	O	N/A	Ct	OP		
1DO003A	C-6	3	C	1.5	CK	S.A.	C	O	N/A	Ct	OP		
1DO003C	B-6	3	C	1.5	CK	S.A.	C	O	N/A	Ct	OP		

SYSTEM FC

P & ID M-63-1 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1FC009	C-6	2	A	4.0	P	M	C	C	N/A	Lt	RR	VR-1	Passive
1FC010	C-5	2	A	4.0	P	M	C	C	N/A	Lt	RR	VR-1	Passive
1FC011	B-8	2	A	3.0	P	M	C	C	N/A	Lt	RR	VR-1	Passive
1FC012	B-8	2	A	3.0	P	M	C	C	N/A	Lt	RR	VR-1	Passive

SYSTEM FP

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1FP010	E-6	2	A	4.0	GL	A.O.	O	C	12.0	St	OP		
										It	RR		
										Ft	OP		
										Lt	RR		
1FP011	E-7	2	A	4.0	GL	A.O.	O	C	12.0	St	OP		
										It	RR		
										Ft	CS		Note 3
										Lt	RR		

SYSTEM FW

P & ID M-36-1 REVISION - DATE 1 7/26/82

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1FW009A	D-5	2	B	16.0	GA	H.O.	O	C	5.0	St/Xt	CS/OP	VR-10	
										It	RR		
1FW035A	D-4	2	B	3.0	GL	A.O.	O	C	6.0	St	OP		
										It	RR		
										Ft	OP		
1FW037A	D-6	2	C	6.0	CK	S.A.	O	C	N/A	Ct	OP		
1FW040A	D-5	2	B	4.0	GA	A.O.	C	O	6.0	St/Xt	CS/OP	VR-10	
										It	RR		
										Ft	CS	VR-10	
1FW009B	A-5	2	B	16.0	GA	H.O.	O	C	5.0	St/Xt	CS/OP	VR-10	
										It	RR		
1FW035B	B-4	2	B	3.0	GL	A.O.	O	C	10.0	St	OP		
										It	RR		
										Ft	OP		
1FW040B	A-5	2	B	4.0	GA	A.O.	C	O	5.0	St/Xt	CS/OP	VR-10	
										It	RR		
										Ft	CS	VR-10	
1FW037B	A-6	2	C	6.0	CK	S.A.	O	C	N/A	Ct	OP		
1FW040C	E-5	2	B	4.0	GA	A.O.	C	C	6.0	St/Xt	CS/OP	VR-10	
										It	RR		
										Ft	CS	VR-10	
1FW009C	E-5	2	B	16.0	GA	H.O.	O	C	5.0	St/Xt	CS/OP	VR-10	
										It	RR		
1FW035C	F-4	2	B	3.0	GL	A.O.	O	C	10.0	St	OP		
										It	RR		
										Ft	OP		
1FW009D	B-5	2	B	16.0	GA	H.O.	O	C	5.0	St/Xt	CS/OP	VR-10	
										It	RR		
1FW035D	C-4	2	B	3.0	GL	A.O.	O	C	6.0	St	OP		
										It	RR		
										Ft	OP		
1FW040D	B-4	2	B	4.0	GA	A.O.	C	O	6.0	St/Xt	CS/OP	VR-10	
										It	RR		
										Ft	CS	VR-10	

SYSTEM FW | P & ID M-36-1 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1FW037C	F-6	2	C	6.0	CK	S.A.	O	C	N/A	Ct	OP		
1FW037D	C-6	2	C	6.0	CK	S.A.	O	C	N/A	Ct	OP		
1FW043A	D-5	2	B	3.0	GL	A.O.	C	O	(later)	St/Xt Ft It	CS/OP CS RR	VR-10 VR-10	
1FW043B	A-5	2	B	3.0	GL	A.O.	C	O	(later)	St/Xt Ft It	CS/OP CS RR	VR-10 VR-10	
1FW043C	F-5	2	B	3.0	GL	A.O.	C	O	(later)	St/Xt Ft It	CS/OP CS RR	VR-10 VR-10	
1FW043D	C-5	2	B	3.0	GL	A.O.	C	O	(later)	St/Xt Ft It	CS/OP CS RR	VR-10 VR-10	
1FW038A	D-5	2	C	6.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-10	
1FW038B	B-5	2	C	6.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-10	
1FW038C	F-5	2	C	6.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-10	
1FW038D	C-5	2	C	6.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-10	
1FW510A	D-1	2	B	6.0	GA	A.O.	C	O	(later)	St Ft It	OP OP RR		
1FW520A	B-2	2	B	6.0	GA	A.O.	C	O	(later)	St Ft It	OP OP RR		
1FW530A	E-2	2	B	6.0	GA	A.O.	C	O	(later)	St Ft It	OP OP RR		
1FW540A	C-2	2	B	6.0	GA	A.O.	C	O	(later)	St Ft It	OP OP RR		

SYSTEM LA

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1IA066	E-7	2	A	3.0	GL	A.O.	O	C	35.0	Lt	RR	VR-1	
										St	CS	VR-11	
										Ft	CS	VR-11	Note 3
										It	RR		
1IA065	E-6	2	A	3.0	GL	A.O.	O	C	35.0	Lt	RR	VR-1	
										St	CS	VR-11	
										Ft	CS	VR-11	Note 3
										It	RR		
1IA091	F-7	2	A	0.75	CK	S.A.	O	C	N/A	Lt	RR	VR-1	

SYSTEM MS

P & ID M-35-2 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1MS001A	C-4	2	A	30.25	GA	H.O.	O	C	5.0	St/Xt It Ft	CS/OP RR CS/OP		Note 1 Note 1
1MS001C	E-4	2	A	32.75	GA	H.O.	O	C	5.0	St/Xt It Ft	CS RR CS		Note 1 Note 1
1MS013A	C-4	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		
1MS013C	F-4	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		
1MS014A	F-3	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		
1MS014C	F-3	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		
1MS015A	F-3	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		
1MS015C	F-3	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		
1MS016A	F-3	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		
1MS016C	F-3	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		
1MS017A	F-2	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		
1MS017C	F-2	2	C	6.0X10.0	RV	S.A.	C	O	N/A	Rt	RR		

SYSTEM OG

P & ID M-47-2 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1OG057A	E-6	2	A	3.0	BTF	M.O.	C	0	10.0	Lt St It	RR OP RR	VR-1	
1OG079	E-6	2	A	3.0	BTF	M.O.	C	0	10.0	Lt St It	RR OP RR	VR-1	
1OG080	E-5	2	A	3.0	BTF	M.O.	C	0	10.0	Lt St It	RR OP RR	VR-1	
1OG081	D-5	2	A	3.0	BTF	M.O.	C	0	10.0	Lt St It	RR OP RR	VR-1	
1OG082	E-6	2	A	3.0	BTF	M.O.	C	0	10.0	Lt St It	RR OP RR	VR-1	
1OG083	D-6	2	A	3.0	BTF	M.O.	C	0	10.0	Lt St It	RR OP RR	VR-1	
1OG084	E-4	2	A	3.0	BTF	M.O.	C	0	10.0	Lt St It	RR OP RR	VR-1	
1OG085	D-4	2	A	3.0	BTF	M.O.	C	0	10.0	Lt St It	RR OP RR	VR-1	

SYSTEM PR

P & ID M-78-10 REVISION - DATE 1 4/30/81

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1PR001A	F-7	2	A	1.0	GL	A.O.	O	C	(later)	Lt	RR	VR-1	
										Ft	OP		
										St	OP		
										It	RR		
1PR001B	F-8	2	A	1.0	GL	A.O.	O	C	(later)	Lt	RR	VR-1	
										Ft	OP		
										St	OP		
										It	RR		
1PR066	E-2	2	A	1.0	GL	A.O.	O	C	(later)	Lt	RR	VR-1	
										Ft	OP		
										It	RR		
										St	OP		
1PR032	E-1	2	A	1.0	CK	S.A.	O	C	N/A	Lt	RR	VR-1	
										Ct	OP		

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1PS9354A	D-6	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1PS9354B	D-6	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1PS9355A	D-6	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1PS9355B	D-6	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1PS9357A	C-6	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1PS9357B	C-6	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1PS9356A	C-6	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1PS9356B	C-6	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive

SYSTEM PS

P & ID M-68-7 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1PS228A	E-7	2	A	0.50	GL	S.O.	O	C	N/A	Lt St Ft It	RR OP OP RR	VR-1	
1PS229A	E-6	2	A	0.50	GL	S.O.	O	C	N/A	Lt St Ft It	RR OP OP RR	VR-1	
1PS230A	D-7	2	A	0.50	GL	S.O.	O	C	N/A	Lt St Ft It	RR OP OP RR	VR-1	
1PS231A	D-8	2	AC	0.50	CK	S.A.	C	O	N/A	Ct Lt	OP RR	VR-1	
1PS228B	C-7	2	A	0.50	GL	S.O.	O	C	N/A	Lt St Ft It	RR OP OP RR	VR-1	
1PS229B	C-6	2	A	0.50	GL	S.O.	O	C	N/A	Lt St Ft It	RR OP OP RR	VR-1	
1PS230B	B-7	2	A	0.50	GL	S.O.	O	C	N/A	Lt St Ft It	RR OP OP RR	VR-1	
1PS231B	B-8	2	AC	0.50	CK	S.A.	C	O	N/A	Ct Lt	OP RR	VR-1	

SYSTEM RC

P & ID M-60-1 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RC014A	E-5	1	A	1.0	GL	S.O.	C	O	N/A	St	OP		
										Ft	OP		
										It	RR		
1RC014B	E-5	1	A	1.0	GL	S.O.	C	O	N/A	St	OP		
										Ft	OP		
										It	RR		
1RC014C	E-5	1	A	1.0	GL	S.O.	C	O	N/A	St	OP		
										Ft	OP		
										It	RR		
1RC014D	E-5	1	A	1.0	GL	S.O.	C	O	N/A	St	OP		
										Ft	OP		
										It	RR		

SYSTEM RE

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RE9159A	D-3	2	A	.75	D	A.O.	O	C	10.0	St	OP		
										It	RR		
										Ft	CS		Note 3
										Lt	RR	VR-1	
1RE9159B	D-2	2	A	.75	D	A.O.	C	C	10.0	Lt	RR	VR-1	Passive
1RE9160A	D-3	2	A	1.0	D	A.O.	O	C	10.0	St	OP		
										It	RR		
										Ft	CS		Note 3
										Lt	RR	VR-1	
1RE9160B	D-2	2	A	1.0	D	A.O.	O	C	10.0	St	OP		
										It	RR		
										Ft	OP		
										Lt	RR	VR-1	
1RE9157	C-2	2	A	1.0	D	A.O.	O	C	10.0	St	OP		
										It	RR		
										Ft	OP		
										Lt	RR	VR-1	
1RE9170	B-2	2	A	3.0	D	A.O.	O	C	10.0	St	OP		
										It	RR		
										Ft	OP		
										Lt	RR	VR-1	
1RE1003	B-3	2	A	3.0	D	A.O.	C	C	10.0	Lt	RR	VR-1	Passive

SYSTEM RF

P & ID M-48-6 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RF026	D-5	2	A	2.0	P	A.O.	O	C	60.0	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	CS		Note 3
1RF027	D-4	2	A	2.0	P	A.O.	O	C	60.0	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		

SYSTEM RH

P & ID M-62-1 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RH8701A	E-2	1	A	12.0	GA	M.O.	C	O	120.0	Lt St It	RR OP RR		
1RH8701B	E-1	1	A	12.0	GA	M.O.	C	O	120.0	Lt St It	RR OP RR		
1RH8702A	E-2	1	A	12.0	GA	M.O.	C	O	120.0	Lt St It	RR OP RR		
1RH8702B	E-1	1	A	12.0	GA	M.O.	C	O	120.0	Lt St It	RR OP RR		
1RH8716A	D-7	2	B	8.0	GA	M.O.	O	C	10.0	St It	OP RR		
1RH8716B	C-7	2	B	8.0	GA	M.O.	O	C	10.0	St It	OP RR		
1RH8730A	E-3	2	C	8.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-12	
1RH8730B	B-3	2	C	8.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-12	

SYSTEM RY

P & ID M-60-5 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RY8010A	D-6	1	C	6.0	RV	S.A.	C	O	N/A	Rt	RR		
1RY8010B	D-5	1	C	6.0	RV	S.A.	C	O	N/A	Rt	RR		
1RY8010C	D-4	1	C	6.0	RV	S.A.	C	O	N/A	Rt	RR		
1RY456	D-8	1	A	3.0	GL	A.O.	C	C	N/A	St	OP		Passive
1RY455A	C-8	1	A	3.0	GL	A.O.	C	C	N/A	St	OP		Passive

SYSTEM RY

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1RY8026	F-3	2	A	.375	GL	A.O.	O	C	10.0	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	CS		Note 3
1RY8025	F-2	2	A	.375	GL	A.O.	C	C	10.0	St	OP		
										Lt	RR	VR-1	Passive
										It	RR		
										Ft	OP		
1RY8028	E-2	2	A	3.0	D	A.O.	O	C	10.0	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1RY8046	E-3	2	AC	3.0	CK	S.A.	O	C	N/A	Ct	OP		
										Lt	RR	VR-1	
1RY8047	F-3	2	AC	.75	CK	S.A.	O	C	N/A	Lt	RR	VR-1	
										Ct	OP		
1RY8033	E-2	2	A	.75	D	A.O.	O	C	10.0	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		

SYSTEM SA

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SA033	C-7	2	A	1.5	GL	A.O.	O	C	4.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1SA032	C-6	2	A	1.5	GL	A.O.	O	C	4.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		

SYSTEM SD | P & ID M-48-5 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SD002A	E-8	2	A	2.0	GL	A.O.	O	C	7.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1SD002B	E-7	2	A	2.0	GL	A.O.	O	C	7.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1SD002C	E-7	2	A	2.0	GL	A.O.	O	C	7.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1SD002D	E-6	2	A	2.0	GL	A.O.	O	C	7.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1SD002E	E-5	2	A	2.0	GL	A.O.	O	C	7.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1SD002F	E-4	2	A	2.0	GL	A.O.	O	C	7.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1SD002G	E-3	2	A	2.0	GL	A.O.	O	C	7.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1SD002H	E-3	2	A	2.0	GL	A.O.	O	C	7.5	Lt	RR	VR-1	
										St	OP		
										It	RR		
										Ft	OP		
1SD005A	D-8	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1SD005B	D-7	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1SD005C	D-5	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1SD005D	D-4	2	A	.375	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive

SYSTEM SI

P & ID M-61-1 REVISION - DATE 1 7/26/82

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8804B	B-4	2	B	8.0	GA	M.O.	C	O	10.0	St It	OP RR		
1SI8806	B-3	2	B	8.0	GA	M.O.	O	C	10.0	St It	OP RR		
1SI8807A	C-3	2	B	6.0	GA	M.O.	C	O	10.0	St It	OP RR		
1SI8807B	C-3	2	B	6.0	GA	M.O.	C	O	10.0	St It	OP RR		
1SI8919A	D-5	2	C	2.0	CK	S.A.	C	O	N/A	Ct	OP		
1SI8919B	C-5	2	C	2.0	CK	S.A.	C	O	N/A	Ct	OP		
1SI8922A	C-5	2	C	4.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-13	
1SI8922B	B-5	2	C	4.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-13	
1SI8923A	C-4	2	B	6.0	GA	M.O.	O	C	10.0	St It	OP RR		
1SI8923B	B-4	2	B	6.0	GA	M.O.	O	C	10.0	St It	OP RR		
1SI8926	B-3	2	C	8.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-13	
1SI8924	D-3	2	B	6.0	GA	M.O.	O	C	10.0	St It	OP RR		
1SI8813	E-5	2	B	2.0	GL	M.O.	O	C	(Later)	St It	OP RR		
1SI8814	D-5	2	B	1.5	GL	M.O.	O	C	(Later)	St It	OP RR		
1SI8920	B-5	2	B	1.5	GL	M.O.	O	C	(Later)	St It	OP RR		

SYSTEM SI

P & ID M-61-2 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8801A	D-5	2	A	4.0	GA	M.O.	C	0	10.0	St It Lt	OP RR RR		
1SI8801B	D-5	2	A	4.0	GA	M.O.	C	0	10.0	St It Lt	OP RR RR		
1SI8900A	E-8	1	C	1.5	CK	S.A.	C	0	N/A	Ct	CS	VR-3	
1SI8900B	E-8	1	C	1.5	CK	S.A.	C	0	N/A	Ct	CS	VR-3	
1SI8900C	D-8	1	C	1.5	CK	S.A.	C	0	N/A	Ct	CS	VR-3	
1SI8900D	C-8	1	C	1.5	CK	S.A.	C	0	N/A	Ct	CS	VR-3	
1SI8815	D-6	1	AC	3.0	CK	S.A.	C	0	N/A	Ct/Xt Lt	CS/OP RR	VR-3	

SYSTEM SI | P & ID M-61-3 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8802A	E-3	2	A	4.0	GA	M.O.	C	O	10.0	Lt St It	RR OP RR		
1SI8802B	D-3	2	A	4.0	GA	M.O.	C	O	10.0	Lt St It	RR OP RR		
1SI8840	B-4	2	B	12.0	GA	M.O.	C	O	14.5	St It	OP RR		
1SI8888	E-3	2	A	.75	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1SI8905A	E-5	1	AC	2.0	CK	S.A.	C	O	N/A	Ct/Xt Lt	CS/OP RR	VR-3	
1SI8905B	D-7	1	AC	2.0	CK	S.A.	C	O	N/A	Ct/Xt Lt	CS/OP RR	VR-3	
1SI8905C	D-7	1	AC	2.0	CK	S.A.	C	O	N/A	Ct/Xt Lt	CS/OP RR	VR-3	
1SI8905D	E-4	1	AC	2.0	CK	S.A.	C	O	N/A	Ct/Xt Lt	CS/OP RR	VR-3	
1SI8835	C-4	2	A	4.0	GA	M.O.	O	C	10.0	Lt St It	RR OP RR		
1SI8949A	F-8	1	AC	6.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	VR-3	
1SI8949B	D-8	1	AC	6.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	VR-3	
1SI8949C	C-8	1	AC	6.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	VR-3	
1SI8949D	E-8	1	AC	6.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	VR-3	

SYSTEM SI | P & ID M-61-3 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8819A	A-5	1	AC	2.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	 VR-3	
1SI8819B	A-7	1	AC	2.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	 VR-3	
1SI8819C	A-6	1	AC	2.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	 VR-3	
1SI8819D	A-5	1	AC	2.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	 VR-3	
1SI8841A	E-5	1	AC	8.0	CK	S.A.	C	O	N/A	Lt Ct/Xt	RR CS/OP	 VR-4	
1SI8841B	C-7	1	AC	8.0	CK	S.A.	C	O	N/A	Lt Ct/Xt	RR CS/OP	 VR-4	
1SI8821A	D-3	2	B	4.0	GA	M.O.	O	C	10.0	St It	OP RR		
1SI8821B	D-3	2	B	4.0	GA	M.O.	O	C	10.0	St It	OP RR		

SYSTEM SI

P & ID M-61-4 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8809A	E-4	2	B	8.0	GA	M.O.	O	C	10.0	St It	OP RR		
1SI8809B	D-4	2	B	8.0	GA	M.O.	O	C	10.0	St It	OP RR		
1SI8811A	B-5	2	B	24.0	GA	M.O.	C	O	29.4	St It	OP RR		
1SI8811B	A-5	2	B	24.0	GA	M.O.	C	O	29.4	St It	OP RR		
1SI8812A	C-4	2	B	12.0	GA	M.O.	O	C	14.5	St It	OP RR		
1SI8812B	B-4	2	B	12.0	GA	M.O.	O	C	14.5	St It	OP RR		
1SI8958A	C-4	2	C	12.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-4	
1SI8958B	B-4	2	C	12.0	CK	S.A.	C	O	N/A	Ct/Xt	CS/OP	VR-4	
1SI8818A	F-7	1	AC	6.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR	VR-4	
1SI8818B	D-7	1	AC	6.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR	VR-4	
1SI8818C	D-7	1	AC	6.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR	VR-4	
1SI8818D	E-7	1	AC	6.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR	VR-4	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM SI

P & ID M-61-5 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8808A	C-7	1	B	10.0	GA	M.O.	O	C	12.0	St It	OP RR		
1SI8808B	C-4	1	B	10.0	GA	M.O.	O	C	12.0	St It	OP RR		
1SI8948A	B-8	2	AC	10.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	VR-5	
1SI8948B	B-5	2	AC	10.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	VR-5	
1SI8956A	B-7	2	AC	10.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR	VR-5	
1SI8956B	B-3	2	AC	10.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR	VR-5	

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VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SI8808C	C-7	1	B	10.0	GA	M.O.	C	C	12.0	St It	OP RR		
1SI8808D	C-5	1	B	10.0	GA	M.O.	O	C	12.0	St It	OP RR		
1SI8880	F-3	2	A	1.0	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1SI8956C	B-7	2	AC	10.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	 VR-5	
1SI8956D	B-4	2	AC	10.0	CK	S.A.	C	O	N/A	Lt Ct	RR CS	 VR-5	
1SI8948C	B-8	2	AC	10.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR	VR-5	
1SI8948D	B-5	2	AC	10.0	CK	S.A.	C	O	N/A	Ct Lt	CS RR	VR-5	
1SI8871	A-3	2	A	.75	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1SI8964	D-3	2	A	.75	GL	A.O.	C	C	N/A	Lt	RR	VR-1	Passive
1SI8968	F-4	2	AC	1.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive

SYSTEM SX | P & ID M-42-3 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SX112A	E-5	3	B	12.0	BTF	A.O.	O	C	(later)	St	OP		
										It	RR		
										Ft	OP		
1SX114A	E-3	3	B	12.0	BTF	A.O.	O	C	(later)	St	OP		
										It	RR		
										Ft	OP		
1SX112B	C-5	3	B	12.0	BTF	A.O.	O	C	(later)	St	OP		
										It	RR		
										Ft	OP		
1SX114B	C-5	3	B	12.0	BTF	A.O.	O	C	(later)	St	OP		
										It	RR		
										Ft	OP		
1SX101A	E-3	3	B	1.5	GL	S.O.	C	O	N/A	St	OP		
										It	RR		
										Ft	OP		
1SX173	C-3	3	B	6.0	GA	A.O.	C	O	(later)	St	OP		
										It	RR		
										Ft	OP		
1SX178	A-3	3	B	6.0	GA	A.O.	C	O	(later)	St	OP		
										It	RR		
										Ft	OP		
1SX169A	F-8	3	B	10.0	BTF	A.O.	C	O	(later)	St	OP		
										It	RR		
										Ft	OP		
1SX169B	D-8	3	B	10.0	BTF	A.O.	C	O	(later)	St	OP		
										It	RR		
										Ft	OP		

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM SX

P & ID M-42-1 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SX002A	F-6	3	C	36.0	CK	S.A.	C	O	N/A	Ct	OP		
1SX002B	C-6	3	C	36.0	CK	S.A.	C	O	N/A	Ct	OP		

SYSTEM SX

P & ID M-42-5 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1SX016A	E-8	2	B	16.0	BTF	M.O.	O	C	19.5	St It	OP RR		
1SX027A	C-8	2	B	16.0	BTF	M.O.	O	C	19.5	St It	OP RR		
1SX016B	E-1	2	B	16.0	BTF	M.O.	O	C	19.5	St It	OP RR		
1SX027B	C-1	2	B	16.0	BTF	M.O.	O	C	19.5	St It	OP RR		

SYSTEM VQ | P & ID M-105-1 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1VQ001A	E-5	2	A	48.0	BTF	H.O.	O	C	5.0	Lt	RR	VR-1	
										St	OP		
										It	RR		
1VQ001B	E-6	2	A	48.0	BTF	H.O.	O	C	5.0	Lt	RR	VR-1	
										St	OP		
										It	RR		
1VQ002A	E-4	2	A	48.0	BTF	H.O.	O	C	5.0	Lt	RR	VR-1	
										St	OP		
										It	RR		
1VQ002B	E-3	2	A	48.0	BTF	H.O.	O	C	5.0	Lt	RR	VR-1	
										St	OP		
										It	RR		
1VQ003	C-4	2	A	8.0	BTF	A.O.	O	C	5.0	Lt	RR	VR-1	
										Ft	OP		
										St	OP		
										It	RR		
1VQ004A	D-5	2	A	8.0	BTF	A.O.	O	C	5.0	Lt	RR	VR-1	
										Ft	CS		Note 3
										St	OP		
										It	RR		
1VQ004B	D-6	2	A	8.0	BTF	A.O.	O	C	5.0	Lt	RR	VR-1	
										Ft	OP		
										St	OP		
										It	RR		
1VQ005A	E-4	2	A	8.0	BTF	A.O.	O	C	5.0	Lt	RR	VR-1	
										Ft	CS		Note 3
										St	OP		
										It	RR		
1VQ005B	E-4	2	A	8.0	BTF	A.O.	O	C	5.0	Lt	RR	VR-1	
										Ft	OP		
										St	OP		
										It	RR		
1VQ005C	E-4	2	A	8.0	BTF	A.O.	O	C	5.0	Lt	RR	VR-1	
										Ft	OP		
										St	OP		
										It	RR		

SYSTEM VQ

P & ID M-105-3 REVISION - DATE 1 7/26/82

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX. STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1VQ016	C-7	2	A	.50	GL	M	C	O	N/A	Lt	RR	VR-1	
1VQ017	C-7	2	A	.50	GL	M	C	O	N/A	Lt	RR	VR-1	
1VQ018	C-5	2	A	.50	GL	M	C	O	N/A	Lt	RR	VR-1	
1VQ019	C-5	2	A	.50	GL	M	C	O	N/A	Lt	RR	VR-1	

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM WM

P & ID M-49-1 | REVISION - DATE 1 7/26/82 |

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1WM190	D-6	2	A	2.0	GL	M	C	C	N/A	Lt	RR	VR-1	Passive
1WM191	C-7	2	A	2.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive

COMMONWEALTH EDISON

INSERVICE TESTING PROGRAM
ISI CLASS 1, 2 and 3 VALVES
BYRON NUCLEAR POWER STATION

UNIT 1

SYSTEM WO

P & ID M-118-5 REVISION - DATE 1 7/26/82

VALVE NUMBER	COORD	CLASS	VALVE CATEGORY	VALVE SIZE (IN.)	VALVE TYPE	ACT. TYPE	NORMAL POSITION	STROKE DIRECT.	MAX.STROKE TIME (SEC.)	TEST METHOD	TEST MODE	RELIEF REQUEST	REMARKS
1WO006A	E-5	2	A	10.0	GA	M.O.	C	C	50	Lt	RR	VR-1	Passive
1WO006B	B-4	2	A	10.0	GA	M.O.	C	C	50	Lt	RR	VR-1	Passive
1WO007A	E-6	2	A	10.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive
1WO020A	D-5	2	A	10.0	GA	M.O.	C	C	50	Lt	RR	VR-1	Passive
1WO020B	B-4	2	A	10.0	GA	M.O.	C	C	50	Lt	RR	VR-1	Passive
1WO007B	B-4	2	A	10.0	CK	S.A.	C	C	N/A	Lt	RR	VR-1	Passive
1WO056A	D-6	2	A	10.0	GA	M.O.	C	C	N/A	Lt	RR	VR-1	Passive
1WO056B	B-3	2	A	10.0	GA	M.O.	C	C	N/A	Lt	RR	VR-1	Passive

Section 2.3

Relief Requests for the Inservice

Valve Program Plan

Relief Request No. VR-1

1. Valve Number:

All primary containment isolation valves are listed in this program as Category A:

	VALVE #		VALVE #		VALVE #
1)	1CC685	45)	1PS9354A	89)	1VQ002A
2)	1CC9413A	46)	1PS9354B	90)	1VQ002B
3)	1CC9414	47)	1PS9355A	91)	1VQ003
4)	1CC9416	48)	1PS9355B	92)	1VQ004A
5)	1CC9438	49)	1PS9357A	93)	1VQ004B
6)	1CC9486	50)	1PS9357B	94)	1VQ005A
7)	1CC9518	51)	1PS9356A	95)	1VQ005B
8)	1CC9534	52)	1PS9356B	96)	1VQ005C
9)	1CS007A	53)	1RE9159A	97)	1VQ016
10)	1CS007B	54)	1RE9159B	98)	1VQ017
11)	1CS008A	55)	1RE9160A	99)	1VQ018
12)	1CS008B	56)	1RE9160B	100)	1VQ019
13)	1CV8100	57)	1RE9157	101)	1WM190
14)	1CV8112	58)	1RE9170	102)	1WM191
15)	1CV8113	59)	1RE1003	103)	1WO006A
16)	1CV8160	60)	1RF026	104)	1WO006B
17)	1CV8152	61)	1RF027	105)	1WO007A
18)	1FC009	62)	1RY8026	106)	1WO007B
19)	1FC010	63)	1RY8025	107)	1WO020A
20)	1FC011	64)	1RY8028	108)	1WO020B
21)	1FC012	65)	1RY8046	109)	1WO056A
22)	1IA066	66)	1RY8047	110)	1WO056B
23)	1IA065	67)	1RY8033		
24)	1IA091	68)	1SA033		
25)	1OG057A	69)	1SA032		
26)	1OG079	70)	1SD002A		
27)	1OG080	71)	1SD002B		
28)	1OG081	72)	1SD002C		
29)	1OG082	73)	1SD002D		
30)	1OG083	74)	1SD002E		
31)	1OG084	75)	1SD002F		
32)	1OG085	76)	1SD002G		
33)	1PR001A	77)	1SD002H		
34)	1PR001B	78)	1SD005A		
35)	1PR066	79)	1SD005B		
36)	1PR032	80)	1SD005C		
37)	1PS228A	81)	1SD005D		
38)	1PS228B	82)	1SI8888		
39)	1PS229A	83)	1SI8880		
40)	1PS229B	84)	1SI8871		
41)	1PS230A	85)	1SI8964		
42)	1PS230B	86)	1SI8968		
43)	1PS231A	87)	1VQ001A		
44)	1PS231B	88)	1VQ001B		

2. Number of Items: 110.

3. ASME Code Category: A.

4. ASME Codes, Section XI Requirements:

Seat Leakage Measurement per 1WV-3420.

5. Basis For Relief:

It would be impractical to perform separate tests to both Section XI and Appendix J.

6. Alternate Testing:

Primary containment isolation valves whose functional differential pressure does not exceed the primary containment accident pressure will be seat leak tested in accordance with the Appendix J requirements of 10 CFR 50.

7. Justification:

At this functional differential pressure, Section XI testing requirements are essentially equivalent to those of Appendix J.

1. Valve Number: 1CS020A
   1CS020B

2. Number of Items: 2

3. ASME Code Category: C

4. ASME Code, Section XI Requirements:

   Exercise for operability (Ct) of check valves every 3 months, per IWV 3521.

5. Basis for relief:

   These check valves in the spray additive system cannot be stroked without introducing NAOH into the CS system.

6. Alternate Testing:

   Operability of these two valves will be verified at a frequency of one valve each year. Operability will be verified by either disassembly of the valve to check for free movement of the moving parts or by a special full flow flushing procedure during cold shutdown.

7. Justification:

   Stroke exercising of these check valves is impractical during plant operation. Per IWV-3522 they shall be full-stroke exercised during cold shutdown.

1. Valve Number: 1SI8905A-D
   1SI8949A-D
   1SI8819A-D
   1SI8900A-D
   1SI8815

2. Number of Items: 17

3. ASME Code Category: AC & C

4. ASME Code, Section XI Requirements:

   Exercise for operability (Ct) of check valves every 3 months, per IWV-3521.

5. Basis for relief:

   These check valves cannot be full stroke tested during unit operation as the shutoff head of the SI and Centrifugal charging pumps are lower than reactor coolant system pressure.

6. Alternate Testing:

   These valves will be full stroke tested during cold shutdown providing the reactor vessel head is removed.

7. Justification:

   Full stroke testing of these check valves will be demonstrated by total pump discharge flow during cold shutdown providing the reactor vessel head is removed. Performance of this test with the reactor coolant system depressurized but intact could lead to an inadvertent overpressurization of the system. The alternative method of protecting against overpressurization by partial draining of the reactor coolant system to provide a surge volume is not considered a safe practice due to concerns of maintaining adequate water level above the reactor core.

1. Valve Number: 1SI8958A-B
   1SI8818A-D
   1SI8841A-B

2. Number of Items: 8

3. ASME Code Category: C & AC

4. ASME Code, Section XI Requirements:

   Exercise for operability (Ct) of check valves every 3 months, per IWV-3521.

5. Basis for relief:

   These check valves cannot be tested during unit operation as the shutoff head of the pumps are lower than reactor coolant system pressure.

6. Alternate Testing:

   These valves will be full stroke tested during cold shutdown providing the reactor vessel head is removed.

7. Justification:

   Full stroke exercising of all the branch run check valves can only be demonstrated by total pump discharge during cold shutdown providing the reactor vessel head is removed. This condition is required to establish suction from the RWST and provide system flow conditions similar to design injection flow. Performance of this testing with the reactor coolant system depressurized but intact would not provide adequate surge volume for influx from the RWST to allow the RHR injection system to reach these design flows. The alternative method of providing a surge volume by partial draining of the reactor coolant system is not considered a safe practice due to concerns of maintaining adequate water level above the reactor core.

1. Valve Number: 1SI8948A-D
   1SI8956A-D

2. Number of Items: 8

3. ASME Code Category: AC

4. ASME Code, Section XI Requirements:

   Exercise for operability (Ct) of check valves every 3 months, per IWV-3521.

5. Basis for relief:

   The accumulator check valves cannot be tested during unit operation due to the pressure differential between the accumulators (600 psig) and the reactor coolant system (2235 psig).

6. Alternate Testing:

   These valves will be partial stroke tested during cold shutdown, providing the reactor vessel head is removed.

7. Justification:

   These valves cannot be full stroke tested except by a rapid depressurization of the reactor coolant system as would occur during the design basis cold leg double guillatine break.

1. Valve Number: 1CV8481A, B

2. Number of Items: 2

3. ASME Code Category: C

4. ASME Code, Section XI Requirements:

Exercise for operability (Ct) of check valves every 3 months, per IWV-3521.

5. Basis for Relief:

Full stroke exercising of the charging pump discharge check valves cannot be demonstrated during unit operation as the reactor coolant system pressure prevents the pumps from reaching full flow injection conditions.

6. Alternate Testing:

These valves will be partial stroke tested by establishing proper pump discharge flow during operation. Full stroke exercising will be done at cold shutdown providing the reactor vessel head is removed.

7. Justification:

Per 1WV-3522, full stroke exercising of these check valves will be demonstrated during cold shutdown providing the reactor vessel head is removed. Performance of this test with the reactor coolant system intact could lead to an inadvertent overpressurization of the system. The alternative method of protecting against overpressurization by partial draining of the reactor coolant system to provide a surge volume is not considered a safe practice due to concerns of maintaining adequate water level above the reactor core.

1. Valve Number: 1CV8546

2. Number of Items: 1

3. ASME Code Category: C

4. ASME Code, Section XI Requirements:

Exercise for operability (Ct) of check valves every 3 months, per 1WV-3521.

5. Basis for Relief:

Full stroke exercising of the charging pump suction check valve from the RWST cannot be demonstrated during unit operation as the reactor coolant system pressure prevents the pumps from reaching full injection flow condition.

6. Alternate Testing:

This valve will be partial stroke tested by verifying charging flow is maintained when the charging pump suction flowpath is transferred from the Volume Control Tank to the RWST during the quarterly valve exercise test.

7. Justification:

Per 1WV-3522, full stroke exercising of this check valve will be demonstrated during cold shutdown providing that the reactor vessel head is removed. Performance of this test with the reactor coolant system intact could lead to an inadvertant overpressurization of the system. The alternative method of protecting against overpressurization by parital draining of the reactor coolant system to provide a surge volume is not considered a safe practice due to concerns of maintaining adequate level above the reactor core.

1. Valve Number:

1CC685	1CC9438
1CC9413A, B	1CC9486
1CC9414	1CC9518
1CC9416	1CC9534

2. Number of Items: 9

3. ASME Code Category: A & AC

4. ASME Code, Section XI Requirements:

Exercise for operability (Ct) of check valves every 3 months per 1WV-3521.

Exercise for operability (St) of Category A and B valves every 3 months, per 1WV-3411.

5. Basis for Relief:

Component cooling water flow to the reactor coolant pumps is required at all times while the pumps are in operation. Failure of one of these valves in a closed position during an exercise test would result in a loss of cooling flow to the pumps and eventual pump damage and/or trip.

6. Alternate Testing:

These valves will be exercise tested during cold shutdown providing all reactor coolant pumps are not in operation. This testing will be each refueling outage as is maximum.

7. Justification:

Per 1WV-3522 and 1WV-3412 exemption is taken to the quarterly exercise test of these valves since it is impractical to test these valves during normal operation as pump damage and/or a reactor trip would result.

1. Valve Number: 1CV8355A, B 1CV8355C, D
1CV8368A, B 1CV8368C, D
1CV8100 1CV8113
1CV8112

2. Number of Items: 11

3. ASME Code Category: A & AC

4. ASME Code, Section XI Requirements:

Exercise for operability (Ct) of check valves every 3 months per 1WV-3521.

Exercise for operability (St) of Category A & B valves every 3 months per 1WV-3411.

5. Basis for Relief:

These valves cannot be tested during unit operation as sealing water flow to the reactor coolant pumps is required at all times while the pumps are in operation. Failure of one of these valves in a closed position during an exercise test would result in loss of seal water flow, seal damage, and an eventual unit trip.

6. Alternate Testing:

These valves will be exercise tested during cold shutdown providing all reactor coolant pumps are not in operation. This testing period will be each refueling outage as a maximum.

7. Justification:

Per 1WV-3522 and 1WV-3412 exemption is taken to the quarterly exercise test of these valves since it is impractical to test these valves during unit operation as seal damage, seal water loss, and eventual unit trip would occur.

1. Valve Number: 1FW009A, B, C, D
   1FW040A, B, C, D
   1FW043A, B, C, D
   1FW038A, B, C, D

2. Number of Items: 16

3. ASME Code Category: B & C

4. ASME Code, Section XI Requirements:

   Exercise for operability (Ct) of check valves every 3 months, per 1WV-3521.

   Exercise for operability (St & Ft) of category A & B valves every 3 months per 1WV-3411.

5. Basis for Relief:

   These check and isolation valves cannot be tested during unit operation as main feedwater would be terminated causing a reactor trip. These valves main function is to provide water flow as the normal heat removal for the steam generators.

6. Alternate Testing:

   To avoid any transient, these valves will not be full stroke tested during unit operation or hot shutdown conditions. These valves can only be tested at cold shutdown whenever the feedwater and condensate systems are not in operation. Although, partial stroke testing will be done during operation.

7. Justification:

   In cold shutdown the steam generators are placed in the "wet layup" condition with the secondary side essentially filled with feedwater. Stroke testing in this condition with the feedwater or condensate system running could lead to an inadvertant overfill in the main steam piping. The potential of overpressurizing the secondary side of the steam generators would then exist. This testing period will be each refueling outage as a maximum.

1. Valve Number: 1IA066
   1IA065

2. Number of Items: 2

3. ASME Code Category: A

4. ASME Code, Section XI Requirements:

   Exercise for operability (St and Ft) of category A and B valves every 3 months per IWV-3411.

5. Basis for Relief:

   Stroke testing of these valves during plant operation would isolate the air operated instruments and valves inside the containment building.

6. Alternate Testing:

   These valves will be exercised during cold shutdown providing that all necessary equipment required for cold shutdown operations would not be affected.

   This testing period will be each refueling outage as a maximum.

7. Justification:

   Stroke exercising of these valves would be impractical as instrumentation would not function properly and valves would stroke to their failure position, possibly causing a reactor trip.

1. Valve Number: 1RH8730A, B

2. Number of Items: 2

3. ASME Code Category: C

4. ASME Code, Section XI Requirements

Exercise for operability (Ct) of check valves every 3 months, per 1WV-3521.

5. Basis for Relief:

Full stroke exercising of the residual heat removal pump discharge check valves cannot be demonstrated during unit operation as the reactor coolant system pressure prevents the pumps from reaching full flow injection conditions.

6. Alternate Testing:

These valves will be partial stroke tested by establishing proper pump discharge flow during periodic pump testing and as required during cold shutdown. They will be full stoke tested at cold shutdown providing that the reactor vessel head is removed.

7. Justification:

Per 1WV-2522, full stroke exercising of these check valves will be demonstrated during cold shutdown providing the reactor vessel head is removed. Performance of this test with the Reactor Coolant System depressurized but intact could lead to an inadvertant overpressurization of the system. The alternative method of protecting against overpressurization by partial draining of the reactor coolant system to provide a surge volume is not considered a safe practice due to concerns of maintaining adequate water level above the reactor core.

1. Valve Number: 1SI8922A, B
1SI8926

2. Number of Items: 3

3. ASME Code Category: C

4. ASME Code, Section XI Requirements:

Exercise for operability (Ct) of check valves every 3 months, per 1WV-3521.

5. Basis for Relief:

Full stroke exercising of the Safety Injection Pumps suction and discharge check valves cannot be demonstrated during unit operation as the reactor coolant system pressure prevents the pumps from reaching full flow injection condition.

6. Alternate Testing:

These valves will be partial stroke tested by establishing proper pump discharge flow during periodic pump testing. Full stroke exercising will be done at cold shutdown providing the reactor vessel head is removed.

7. Justification:

Per 1WV-2522, full stroke exercising of these check valves will be demonstrated during cold shutdown providing the reactor vessel head is removed. Performance of this test with the reactor coolant system depressurized but intact could lead to an inadvertent overpressurization of the system. The alternative method of protecting against overpressurization by partial draining of the reactor coolant system to provide a surge volume is not considered a safe practice due to concerns of maintaining adequate water level above the reactor core.

Section 2.4

NOTES FOR THE INSERVICE

VALVE PROGRAM PLAN

NOTE 1

Closure of the Main Steam isolation valves during unit operation would result in reactor trip and safety injection actuation. To avoid this transient, these valves will be partially stroked every three months. Full stroke testing will be done during cold shutdown, per IWV-3412.

NOTE 2

The testing of this check valve during normal operation would introduce boric acid into the CV, SI, and RHR Systems. The operability of this valve will be verified during cold shutdown.

NOTE 3

The fail safe actuation test for these valves cannot be demonstrated as they are located inside containment where their source of actuation cannot be reached during unit operation. Per IWV-3415, these valves will be stroked during cold shutdown.

NOTE 4

Closure of these letdown and makeup valves during normal unit operation would result in loss of flow which would result in a reactor coolant inventory transient and a subsequent reactor trip. These valves will be full stroke exercised during cold shutdown as required by IWV-3412.