



Commonwealth Edison

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September 11, 1980

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Zion Station Units 1 and 2
Additional Information for Inservice Valve
Test Program
NRC Docket Nos. 50-295 and 50-304

References (a): June 28, 1980 letter from W. F. Naughton
to H. R. Denton

(b): August 8, 1980 letter from S. A. Varga
to D. L. Peoples

Dear Mr. Denton:

In Reference (a), Commonwealth Edison Company submitted a license amendment request to incorporate the inservice inspection requirements and the pump and valve inservice testing requirements of 10 CFR 50.55a for Zion Station. In Reference (b), the NRC Staff approved the Zion Station Inservice Inspection (ISI) program and provided relief where appropriate. However, the NRC Staff indicated that the inservice testing (IST) program for pumps and valves was still under review and would be approved in a separate license amendment.

During the review of the Zion Station ISI program submittal, Reference (a), the NRC Staff identified the need for changes to the IST program. These changes were communicated on June 18, 1980 to Zion Station via a telecon from Mr. V. Nerses of your staff. Based on this telecon, Commonwealth Edison has revised the Zion Unit 1 and Unit 2 inservice test programs for valves. Attachments 1 and 2 to this letter contain the Zion Unit 1 and Zion Unit 2 Inservice Valve Test Programs with pages 59 through 62, 69 through 77, 79 and 83 of the Reference (a) submittal for each unit revised. Specific areas of revision are discussed below.

On page 60, in the Exercise column for Valve MOV-VC8100 quarterly (Q) testing was changed to cold shutdown with no reactor coolant pumps running (C1). Note 29 which was added to the Remarks column for this valve is also included on page 83 as the reference for the relief request.

On page 61, Note 15 was determined to be inappropriate for Valves MOV-RH8701 and MOV-RH8702 and therefore, deleted from the Remarks column. In its place, Note 28, which is included on page 83, is referenced.

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On page 71, Note 9 was determined to be inappropriate for Valve PR0029 and therefore, deleted from the Remarks column.

In addition, a wholesale change of valve classification for containment isolation supplied with isolation valve seal water (ISVW) has been made. These valves are identified by a "Note 9" in the Remarks column. The valve classification has been changed from Category B to Category A. This change to Category A requires that these valves be tested for seat leakage. A relief request is thereby necessitated and is reflected by a change from "No" to "Yes" in the Relief Request column for each of these valves and in a revision to Note 9 on page 79.

In effect, the changes enumerated above do not change the type or method of testing of containment isolation valves. However, these changes do properly categorize the valves and allow the NRC Staff to address their review of the Zion Station IST program in a manner similar to other operating stations.

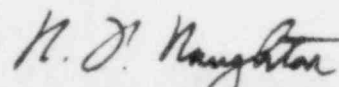
For the convenience of the NRC Staff in its review of this program, the Zion Unit 1 and Unit 2 IST program including the technical specification change from the original license amendment request of May 27, 1977 has been consolidated in Attachments 1, 2, and 3 to this letter. Thus, this submittal contains the information necessary for meeting the pump and valve inservice testing requirements of 10 CFR 50.55a for Zion Station.

The program changes of Attachments 1 and 2 and the technical specification change of Attachment 3 have been reviewed and approved by Commonwealth Edison Onsite and Offsite Review.

Please address any questions that you might have concerning this matter to this office.

One (1) signed original and thirty-nine (39) copies of this transmittal are provided for your use.

Very truly yours,



W. F. Naughton
Nuclear Licensing Administrator
Pressurized Water Reactors

attachments (3)

cc: Resident Office - Zion

NRC Docket No. 50-295

ATTACHMENT 1

Zion Unit 1

Inservice Valve Test Program

ZION UNIT #1
INSERVICE VALVE TEST PROGRAM

The following table includes all of the valves required to be exercised and leak tested in accordance with ASME Section XI, 1974 edition up to and including Summer 1975 Addenda, Subsections IWV. Relief from some of the requirements of Section XI are requested as indicated in the Relief Request column with explanations given in the Remarks. The alternative tests are indicated in the Test columns and also explained in the Remarks.

Below listed are the symbols used to indicate valve type, valve actuator type, exercise test frequency, and leakage test frequency.

Valve Type:

G - Gate
DG - Double Disk Gate
Gb - Globe
D - Diaphragm
R - Angle Relief
C - Swing Disk Check
B - Butterfly
N - Needle

Actuator Type:

AO - Air
MO - Motor
HO - Hydraulic
M - Manual
S - Self-Actuating

Exercise Test Frequency:

Q - Quarterly
C - Cold Shutdown
C1 - Cold Shutdown with no reactor coolant pumps operating.
C2 - Cold Shutdown with the reactor vessel head removed.
C3 - Cold Shutdown with feedwater and condensate system not operating.
R - Refueling Outage
I - Frequency Defined by IWV-3510

Zion Unit #1
Service Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Main Steam

Drawing Number: M-20

POOR ORIGINAL

Valve Number	Code Class	Drawing Location	Valve Category				Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D				E	Exercise	Stroke Time (sec.)		
MS0001	2	E-5	X					HO	Q/C	5	--	NO	Note 1	
MS0002	2	D-5	X				AGb	HO	Q/C	5	--	NO	Note 1	
MS0003	2	C-5	X				AGb	FO	Q/C	5	--	NO	Note 1	
MS0004	2	A-5	X				AGb	HO	Q/C	5	--	NO	Note 1	
MS0014	2	E-7			X		R	S	I	--	--	NO		
MS0015	2	E-7			X		R	S	I	--	--	NO		
MS0016	2	E-6			X		R	S	I	--	--	NO		
MS0017	2	E-6			X		R	S	I	--	--	NO		
MS0018	2	E-6			X		R	S	I	--	--	NO		
MS0019	2	D-7			X		R	S	I	--	--	NO		
MS0020	2	D-7			X		R	S	I	--	--	NO		
MS0021	2	D-6			X		R	S	I	--	--	NO		
MS0022	2	D-6			X		R	S	I	--	--	NO		
MS0023	2	D-6			X		R	S	I	--	--	NO		
MS0024	2	B-7			X		R	S	I	--	--	NO		
MS0025	2	B-7			X		R	S	I	--	--	NO		
MS0026	2	B-6			X		R	S	I	--	--	NO		
MS0027	2	B-6			X		R	S	I	--	--	NO		
MS0028	2	B-5			X		R	S	I	--	--	NO		
MS0029	2	A-7			X		R	S	I	--	--	NO		
MS0030	2	A-6			X		R	S	I	--	--	NO		
MS0031	2	A-6			X		R	S	I	--	--	NO		
MS0032	2	A-6			X		R	S	I	--	--	NO		
MS0033	2	A-6			X		R	S	I	--	--	NO		
MS0005	3	F-9	X	X	X	X	G	MO	Q	30	--	NO		
MS0006	3	F-9	X	X	X	X	G	MO	Q	30	--	NO		
MS0011	3	C-8	X	X	X	X	G	MO	Q	30	--	NO		
MS0057	3	E-5					G	MO	Q	--	--	NO	Note 2	
MS0008	3	F-9					C	S		--	--	NO	Note 2	
MS0009	3	D-9					C	S		--	--	NO	Note 2	

System: Feedwater

Zion Unit #1
 Inservice Test Program
 A.S.M.E. Code Class 1, 2 and 3 Valves

Drawing Number: M-22

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-FW0016	2	F-3	X					16	G	MO	C3	80	--	NO	Note 3
MOV-FW0017	2	D-3	X					16	G	MO	C3	80	--	NO	Note 3
MOV-FW0018	2	B-3	X					16	G	MO	C3	90	--	NO	Note 3
MOV-FW0019	2	A-3	X					16	G	MO	C3	80	--	NO	Note 3
FW0066	2	F-2			X			3	C	S	Q	--	--	NO	Note 4
FW0067	2	D-2			X			3	C	S	Q	--	--	NO	Note 4
FW0068	2	C-2			X			3	C	S	Q	--	--	NO	Note 4
FW0069	2	A-2			X			3	C	S	Q	--	--	NO	Note 4
FW0031	3	E-10			X			4	C	S	Q	--	--	NO	Note 4
FW0032	3	E-9			X			4	C	S	Q	--	--	NO	Note 4
FW0033	3	E-8			X			4	C	S	Q	--	--	NO	Note 4
FW0034	3	E-10				X		6	Gb	M	-	--	--	NO	Locked Open
FW0035	3	E-9				X		4	Gb	M	-	--	--	NO	Locked Closed
FW0036	3	E-8				X		4	Gb	M	-	--	--	NO	Locked Open
FW0037	3	E-9				X		4	G	M	-	--	--	NO	Locked Closed
FW0038	3	E-9				X		4	G	M	-	--	--	NO	Locked Open
FW0039	3	D-10				X		1½	Gb	M	-	--	--	NO	Locked Open
FW0040	3	D-9				X		1½	Gb	M	-	--	--	NO	Locked Open
FW0041	3	D-8				X		1½	Gb	M	-	--	--	NO	Locked Open
FW0042	3	D-9				X		4	Gb	M	-	--	--	NO	Locked Open

POOR ORIGINAL

System: Service Water

Zion Unit #1
Service Test Program

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A.S.M.E. Code Class 1, 2 and 3 Valves

Drawing Number: M-32-1

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SW0001	3	B-7			X			24	C	S	0	--	--	NO	Note 5
SW0004	3	B-6			X			24	C	S	0	--	--	NO	Note 5
SW0007	3	B-5			X			24	C	S	0	--	--	NO	Note 5
NOV-SW0005	3	B-6	X					14	B	MO	0	60	--	NO	
NOV-SW0006	3	D-6	X					14	B	MO	0	60	--	NO	

POOR ORIGINAL

Zion Unit #1
Service Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Service Water
Drawing Number: M-32-2

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-SW0001	3	D-6						20	G	MO	Q	100	--	NO	
MOV-SW0002	3	D-5	X	X	X	X	X	20	G	MO	Q	100	--	NO	
MOV-SW0007	3	A-3	X	X	X	X	X	10	Gb	MO	Q	150	--	NO	
MOV-SW0008	3	A-3	X	X	X	X	X	10	Gb	MO	Q	150	--	NO	
MOV-SW0009	3	B-3	X	X	X	X	X	10	Gb	MO	Q	150	--	NO	
MOV-SW0010	3	B-3	X	X	X	X	X	10	Gb	MO	Q	150	--	NO	
MOV-SW0011	3	C-3						10	Gb	MO	Q	150	--	NO	
MOV-SW0012	3	D-3			X	X	X	6	C	S	Q	--	--	NO	Note 6
MOV-SW0013	3	E-3			X	X	X	6	C	S	Q	--	--	NO	Note 6
MOV-SW0014	3	F-3			X	X	X	6	C	S	Q	--	--	NO	Note 5
MOV-SW0015	3	B-4						24	B	MO	Q	60	--	NO	
MOV-SW0016	3	C-5	X	X	X	X	X	8	G	MO	Q	40	--	NO	
MOV-SW0017	3	C-5	X	X	X	X	X	8	G	MO	Q	40	--	NO	
MOV-SW0018	3	C-4	X	X	X	X	X	8	G	MO	Q	40	--	NO	
MOV-SW0019	3	C-5	X	X	X	X	X	8	G	MO	Q	40	--	NO	
MOV-SW0020	3	B-4	X	X	X	X	X	24	B	MO	Q	60	--	NO	
MOV-SW0021	3	D-5	X	X	X	X	X	12	B	MO	Q	60	--	NO	
MOV-SW0022	3	D-5	X	X	X	X	X	12	B	MO	Q	60	--	NO	
MOV-SW0023	3	C-5	X	X	X	X	X	8	G	M	Q	--	--	NO	Locked Open
MOV-SW0024	3	A-4						20	B	M	Q	--	--	NO	Locked Open

POOR ORIGINAL

Zion Unit #1
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Service Water
Drawing Number: M-34

Valve Number	Code Class	Drawing Location	Valve Category				Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D				E	Exercise	Stroke Time (sec.)		
SAOV-SW0020	3	E-3		X			6	B	AO	Q	30	--	NO	
SAOV-SWJ021	3	E-8		X			6	B	AO	Q	30	--	NO	

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
LCV-IW01	NA	C-1	X					1	G	AO	C	60	--	YES	Note 27
LCV-IW02	NA	B-1	X					1	G	AO	C	60	--	YES	Note 27
CV-IW03	NA	C-1	X					1/2	G	AO	C	60	--	YES	Note 27
IW0001	NA	C-1			X			1	C	S	C	--	--	YES	Note 10
IW0003	NA	C-1			X			1	C	S	C	--	--	YES	Note 10
CV-IW08	NA	B-5	X					3/4	G	AO	Q	60	--	NO	
CV-IW09	NA	B-5	X					3/4	G	AO	Q	60	--	NO	
CV-IW10	NA	B-6	X					3/4	G	AO	Q	60	--	NO	
CV-IW11	NA	B-6	X					3/4	G	AO	Q	60	--	NO	
CV-IW12	NA	B-3	X					1/2	G	AO	Q	60	--	NO	
CV-IW13	NA	B-3	X					1/2	G	AO	Q	60	--	NO	
CV-IW14	NA	B-7	X					1/2	G	AO	Q	60	--	NO	
CV-IW15	NA	B-7	X					1/2	G	AO	Q	60	--	NO	
CV-IW16	NA	B-3	X					3/4	G	AO	Q	60	--	NO	
CV-IW17	NA	B-3	X					3/4	G	AO	Q	60	--	NO	
IW0073	NA	C-7			X			3/8	C	S	C	--	--	YES	Note 10
IW0074	NA	C-7			X			3/8	C	S	C	--	--	YES	Note 10
IW0075	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0076	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0077	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0078	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0079	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0181	NA	D-5			X			3/8	C	S	C	--	--	YES	Note 10
IW0182	NA	D-5			X			3/8	C	S	C	--	--	YES	Note 10
IW0183	NA	D-5			X			3/8	C	S	C	--	--	YES	Note 10
IW0184	NA	D-6			X			3/8	C	S	C	--	--	YES	Note 10
IW0185	NA	D-6			X			3/8	C	S	C	--	--	YES	Note 10
IW0198	NA	C-4			X			1/2	C	S	C	--	--	YES	Note 10
IW0058	NA	B-4			X			1/2	C	S	C	--	--	YES	Note 10
IW0059	NA	B-4			X			1/2	C	S	C	--	--	YES	Note 10

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
IW0060	NA	B-4			X			1/2	C	S	C	--	--	YES	Note 10
IW0061	NA	B-4			X			1/2	C	S	C	--	--	YES	Note 10
IW0062	NA	B-5			X			1/2	C	S	C	--	--	YES	Note 10
IW0063	NA	B-6			X			1/2	C	S	C	--	--	YES	Note 10
IW0064	NA	B-5			X			1/2	C	S	C	--	--	YES	Note 10
IW0065	NA	B-5			X			1/2	C	S	C	--	--	YES	Note 10
IW0066	NA	B-6			X			1/2	C	S	C	--	--	YES	Note 10
IW0067	NA	C-3			X			1/2	C	S	C	--	--	YES	Note 10
IW0068	NA	C-3			X			1/2	C	S	C	--	--	YES	Note 10
IW0069	NA	C-3			X			1/2	C	S	C	--	--	YES	Note 10
IW0070	NA	C-4			X			1/2	C	S	C	--	--	YES	Note 10
IW0072	NA	C-4			X			1/2	C	S	C	--	--	YES	Note 10
IW0080	NA	D-3			X			1/2	C	S	C	--	--	YES	Note 10
IW0081	NA	E-5			X			1/2	C	S	C	--	--	YES	Note 10
IW0082	NA	D-6			X			1/2	C	S	C	--	--	YES	Note 10
IW0083	NA	D-6			X			1/2	C	S	C	--	--	YES	Note 10
IW0084	NA	D-4			X			1/2	C	S	C	--	--	YES	Note 10
IW0160	NA	B-2			X			1	R	S	C	--	--	YES	Note 10
IW0162	NA	C-1			X			3/4	C	S	C	--	--	YES	Note 10
IW0090	NA	F-3			X			1/2	C	S	C	--	--	YES	Note 10
IW0095	NA	E-5			X			1/2	C	S	C	--	--	YES	Note 10
IW0186	NA	E-4			X			3/8	C	S	C	--	--	YES	Note 10

A.S.M.E. Code Class 1, 2 and 3 Valves

Drawing Number: M-44

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-CS0002	2	B-4	X					10	G	MO	Q	50	R	NO	Note 7
MOV-CS0003	2	C-3		X				10	GG	MO	Q	50	--	NO	
MOV-CS0004	2	D-4	X					10	GG	MO	Q	50	R	NO	Note 7
MOV-CS0005	2	D-3		X				10	GG	MO	Q	50	--	NO	
MOV-CS0006	2	F-4	X					10	GG	MO	Q	50	R	NO	Note 7
MOV-CS0007	2	F-3		X				10	GG	MO	Q	50	--	NO	
MOV-CS0008	3	C-4		X				3	GG	MO	Q	15	--	NO	
MOV-CS0009	3	E-4		X				3	GG	MO	Q	15	--	NO	
MOV-CS0010	3	F-4		X				3	GG	MO	Q	15	--	NO	
- CS0002	2	B-8					X	14	GG	M	--	--	--	NO	Locked Open
CS0003	2	B-8			X			10	CC	S	Q	--	--	NO	Note 4
CS0004	2	B-8				X		10	GG	M	--	--	--	NO	Locked Open
CS0005	2	B-4			X			10	CC	S	Q	--	--	NO	Note 4
CS0006	2	D-8				X		14	GG	M	--	--	--	NO	Locked Open
CS0007	2	D-8			X			10	CC	S	Q	--	--	NO	Note 4
CS0008	2	D-8				X		10	GG	M	--	--	--	NO	Locked Open
CS0009	2	D-5			X			10	CC	S	Q	--	--	NO	Note 4
CS0010	2	F-8				X		14	GG	M	--	--	--	NO	Locked Open
CS0011	2	F-8			X			10	CC	S	Q	--	--	NO	Note 4
CS0012	2	F-8				X		10	GG	M	--	--	--	NO	Locked Open
CS0013	2	D-4			X			10	CC	S	Q	--	--	NO	Note 4
CS0014	3	A-4					X	3	GG	M	--	--	--	NO	Locked Open
CS0015	3	D-5				X		3	Gb	M	--	--	--	NO	Locked Open
CS0016	2	C-8			X			3	CC	S	T	--	--	YES	Note 8
CS0017	2	C-8				X		3	GG	M	--	--	--	NO	Locked Open
CS0018	2	C-9			X			6	CC	S	Q	--	--	NO	Note 4
CS0019	3	A-4					X	3	GG	M	--	--	--	NO	Locked Open
CS0020	3	E-5					X	3	Gb	M	--	--	--	NO	Locked Open
CS0021	2	E-8			X			3	CC	S	T	--	--	YES	Note 8
CS0022	2	E-8					X	3	GG	M	--	--	--	NO	Locked Open

POOR ORIGINAL

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
CS0023	2	D-4			X			6	C	S	Q	--	--	NO	Note 4
CS0024	3	A-4					X	3	G	M	--	--	--	NO	Locked Open
CS0025	3	F-5					X	3	Gb	M	--	--	--	NO	Locked Open
CS0026	2	F-8			X			3	C	S	T	--	--	YES	Note 8
CS0027	2	F-8					X	3	G	M	--	--	--	NO	Locked Open
CS0028	2	E-9			X			6	C	S	Q	--	--	NO	Note 4
CS0029	2	C-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0030	2	C-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0031	2	E-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0032	2	E-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0033	2	F-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0034	2	F-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0037	2	B-4	X				X	6	G	M	--	--	R	NO	Locked Closed
CS0038	2	B-4	X				X	1	G	M	--	--	R	NO	Locked Closed, Note 7
CS0039	2	C-4	X				X	1/2	Gb	M	--	--	R	NO	Locked Closed, Note 7
CS0040	2	C-4	X				X	6	G	M	--	--	R	NO	Locked Closed, Note 7
CS0041	2	D-4	X				X	1	G	M	--	--	R	NO	Locked Closed, Note 7
CS0042	2	D-4	X				X	1/2	Gb	M	--	--	R	NO	Locked Closed, Note 7
CS0043	2	E-4	X				X	6	G	M	--	--	R	NO	Locked Closed, Note 7
CS0044	2	E-4	X				X	1	G	M	--	--	R	NO	Locked Closed, Note 7
CS0045	2	E-4	X				X	1	G	M	--	--	R	NO	Locked Closed, Note 7
CS0049	3	C-5	X				X	1/2	Gb	M	--	--	R	NO	Locked Closed, Note 7
CS0050	3	E-5					X	3	Gb	M	--	--	--	NO	Locked Closed
CS0051	3	F-5					X	3	Gb	M	--	--	--	NO	Locked Closed

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FCV-SS02	2	E-7	X					3/8	G	AO	Q	60	--	NO	
FCV-SS03	2	D-7	X					3/8	G	AO	Q	60	--	NO	
FCV-SS04	2	B-7	X					3/8	G	AO	Q	60	--	NO	
FCV-SS05	2	A-7	X					3/8	G	AO	Q	60	--	NO	
FCV-BD17	2	B-6	X					2 1/2	G	AO	Q	60	--	NO	
AOV-BD0001	2	F-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0002	2	E-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0003	2	D-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0004	2	D-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0005	2	C-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0006	2	C-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0007	2	B-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0008	2	A-8	X					2	G	AO	Q	60	--	NO	

Drawing Number: M-47

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FCV-WD17A	I	B-5	X					G	AO	Q	60	--	YES	Note 9	
FCV-WD17B	I	B-5	X					G	AO	Q	60	--	YES	Note 9	

Drawing Number: M-53

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
RC8010A	I	A-7			X			6	R	S	I	--	--	NO	
RC8010B	I	A-7			X			6	R	S	I	--	--	NO	
RC8010C	I	A-8			X			6	R	S	I	--	--	NO	
RC8025	I	A-1	X					3/8	Gb	AO	Q	60	--	YES	Note 9
RC8026	I	A-2	X					3/8	Gb	AO	Q	60	--	YES	Note 9
RC8026	I	A-1	X					3	D	AO	Q	60	--	YES	Note 9
RC8029	I	A-2	X					3	D	AO	Q	60	--	YES	Note 9
RC8033	I	A-2		X				3/4	D	AO	Q	60	--	NO	

Drawing Number: M-54

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
AOV-VC8152	2	A-6	X					Gb	AO	Q	60	--	YES	Note 9	
AOV-VC8153	2	A-6	X					Gb	AO	Q	60	--	YES	Note 9	
VC8369A	2	F-1	X					N	M	C1	--	--	YES	Notes 11 & 9	
VC8369B	2	F-3	X					N	M	C1	--	--	YES	Notes 11 & 9	
VC8369C	2	F-5	X					N	M	C1	--	--	YES	Notes 11 & 9	
VC8369D	2	F-7	X					N	M	C1	--	--	YES	Notes 11 & 9	
VC8372A	2	F-1	X					Gb	M	C1	--	--	YES	Notes 11 & 9	
VC8372B	2	F-3	X					Gb	M	C1	--	--	YES	Notes 11 & 9	
VC8372C	2	F-5	X					Gb	M	C1	--	--	YES	Notes 11 & 9	
VC8372D	2	F-7	X					Gb	M	C1	--	--	YES	Notes 11 & 9	

Drawing Number: M-55

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
OV-LCV-VC112B	2	D-6		X				4	G	MO	Q	10	--	NO	
OV-LCV-VC112C	2	D-6		X				4	G	MO	Q	10	--	NO	
OV-LCV-VC112D	2	F-7		X				8	G	MO	Q	10	--	NO	
OV-LCV-VC112E	2	F-7		X				8	G	MO	Q	10	--	NO	
MOV-VC8100	2	C-2	X					4	DG	MO	CI	10	--	YES	Note 9 & 29
MOV-VC8105	2	A-2	X					3	G	MO	Q	10	--	YES	Note 9
MOV-VC8106	2	A-2	X					3	G	MO	Q	10	--	YES	Note 9
MOV-VC8110	2	D-4		X				2	G	MO	Q	10	--	NO	
MOV-VC8111	2	D-4		X				2	G	MO	Q	10	--	NO	
VC8124	2	F-6			X			3/4	R	S	I	--	--	NO	
VC8471A	2	F-6				X		6	G	M	--	--	--	NO	Locked Open
VC8471B	2	G-6				X		6	G	M	--	--	--	NO	Locked Open
VC8480A	2	D-1	X					2	Gb	M	--	--	--	YES	Notes 9 & 12
VC8480B	2	E-1	X					2	Gb	M	--	--	--	YES	Notes 9 & 12
VC8481A	2	F-2			X			4	C	S	Q/C2	--	--	NO	Note 13
VC8481B	2	G-2			X			4	C	S	Q/C2	--	--	NO	Note 13
VC8546	2	F-6			X			8	C	S	Q/C2	--	--	NO	Note 14

Drawing Number: M-62

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-RH8700A	2	B-7	X					14	G	MO	Q	120	--	NO	
MOV-RH8700B	2	D-7	X					14	G	MO	Q	120	--	NO	
MOV-RH8701	1	B-9	X					14	G	MO	C	120	--	NO	NOTE 28
MOV-RH8702	1	B-10	X					14	G	MO	C	120	--	NO	NOTE 28
MOV-RH8703	2	F-4	X					12	G	MO	Q	120	--	NO	
RH8708	2	A-8			X			3	R	S	I	--	--	NO	
RH8709	2	F-3			X			3/4	R	S	I	--	--	NO	
MOV-RH8716A	2	B-2	X					8	G	MO	Q	10	--	NO	
MOV-RH8716B	2	C-2	X					8	G	MO	Q	10	--	NO	
MOV-RH8716C	2	C-2	X					8	G	MO	Q	10	--	NO	
RH8724A	2	B-5				X		10	G	M	--	--	--	NO	Locked Open
RH8724B	2	D-5				X		10	G	M	--	--	--	NO	Locked Open
RH8728A	2	B-6				X		10	G	M	--	--	--	NO	Locked Open
RH8728B	2	D-6				X		10	G	M	--	--	--	NO	Locked Open
RH8730A	2	B-6			X			10	C	S	Q/C	--	--	NO	Note 15
PH8730B	2	D-6			X			10	C	S	Q/C	--	--	NO	Note 15
RH8736A	1	F-4			X			8	C	S	C	--	--	YES	Note 19
RH8736B	1	F-4			X			8	C	S	C	--	--	YES	Note 19
RH8949A	1	F-5			X			8	C	S	C	--	--	YES	Note 19
RH8949B	1	F-5			X			8	C	S	C	--	--	YES	Note 19
MOV-RH9000	2	F-3	X					12	G	MO	Q	15	--	NO	
MOV-SI8804A	2	B-3	X					8	G	MO	Q	10	--	NO	
MOV-CS0049	2	B-2	X					8	G	MO	Q	40	--	NO	
MOV-CS0050	2	E-2	X					8	G	MO	Q	40	--	NO	

Zion Unit #1
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Spent Fuel Cooling

Drawing Number: M-63

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Leakage (sec.)	Leakage		
SF0010	I	B-3	X					D	M	--	--	--	YES	Notes 12 & 9	
OSP0011	I	F-6	X					D	M	--	--	--	YES	Notes 12 & 9	
SF8767	I	F-6	X					D	M	--	--	--	YES	Notes 12 & 9	
SF8787	I	B-3	X					D	M	--	--	--	YES	Notes 12 & 9	

Drawing Number: M-64

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SI8900A	1	A-1			X			1½	C	S	C2	--	--	YES	Note 17
SI8900B	1	B-1			X			1½	C	S	C2	--	--	YES	Note 17
SI8900C	1	B-1			X			1½	C	S	C2	--	--	YES	Note 17
SI8900D	1	C-1			X			1½	C	S	C2	--	--	YES	Note 17
MOV-SI8800A	2	A-2		X				1½	Gb	MO	Q	10	--	NO	
MOV-SI8800B	2	B-2		X				1½	Gb	MO	Q	10	--	NO	
MOV-SI8800C	2	B-2		X				1½	Gb	MO	Q	10	--	NO	
MOV-SI8800D	2	C-2		X				1½	Gb	MO	Q	10	--	NO	
MOV-SI8801A	2	A-3		X				4	G	MO	Q	10	--	NO	
MOV-SI8801B	2	B-3		X				4	G	MO	Q	10	--	NO	
MOV-SI8802	2	E-4		X				4	G	MO	Q	10	--	NO	
MOV-SI8803A	2	C-6		X				4	G	MO	Q	10	--	NO	
MOV-SI8803B	2	C-6		X				4	G	MO	Q	10	--	NO	
MOV-SI8804B	2	F-7		X				8	G	MO	Q	10	--	NO	
MOV-SI8806	2	E-8		X				8	G	MO	Q	10	--	NO	
MOV-SI8807A	2	E-7		X				4	G	MO	Q	10	--	NO	
MOV-SI8807B	2	D-7		X				4	G	MO	Q	10	--	NO	
SI8810A	2	A-2					X	1½	Gb	M	--	--	--	NO	Locked Throttled
SI8810B	2	E-2					X	1½	Gb	M	--	--	--	NO	Locked Throttled
SI8810C	2	B-2					X	1½	Gb	M	--	--	--	NO	Locked Throttled
SI8810D	2	C-2					X	1½	Gb	M	--	--	--	NO	Locked Throttled
MOV-SI8813	2	B-9		X				2	Gb	MO	Q	10	--	NO	
MOV-SI8814	2	C-9		X				2	Gb	MO	Q	10	--	NO	
SI8852	2	A-4			X			3/4	R	S	I	--	--	NO	
SI8853	2	E-5			X			3/4	R	S	I	--	--	NO	
SI8858	2	D-7			X			3/4	R	S	I	--	--	NO	
SI8870A	2	A-5		X				1	Gb	AO	Q	10	--	NO	
SI8870B	2	A-5		X				1	Gb	AO	Q	10	--	NO	
SI8883	2	B-5		X				1	Gb	AO	Q	10	--	NO	
SI8905A	1	E-3			X			4	C	S	C2	--	--	VPS	Note 16

Drawing Number: M-64

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SI8905B	1	D-3			X			4	C	S	C2	--	--	YES	Note 16
SI8919A	2	E-5			X			3/4	C	S	Q	--	--	NO	Note 4
SI8919B	2	F-5			X			3/4	C	S	Q	--	--	NO	Note 4
SI8920A	2	E-5				X		3/4	Gb	M	--	--	--	NO	Locked Open
SI8920B	2	F-5				X		3/4	Gb	M	--	--	--	NO	Locked Open
SI8921A	2	E-5				X		4	G	M	--	--	--	NO	Locked Open
SI8921B	2	F-5				X		4	G	M	--	--	--	NO	Locked Open
SI8922A	2	E-5			X			4	C	S	C2	--	--	YES	Note 16
SI8922B	2	F-5			X			4	C	S	C2	--	--	YES	Note 16
MOV-SI8923A	2	E-1	X					6	G	MO	Q	10	--	NO	
MOV-SI8923B	2	E-7	X					6	G	MO	Q	10	--	NO	
SI8925	2	B-6				X		1	Gb	M	--	--	--	NO	Locked Closed
SI8926	2	E-7			X			8	C	S	Q/C2	--	--	NO	Note 18
SI8949C	1	F-2			X			8	C	S	C2	--	--	YES	Note 16
SI8949D	1	F-2			X			8	C	S	C2	--	--	YES	Note 16
SI9004C	1	F-3			X			2	C	S	C2	--	--	YES	Note 16
SI9004D	1	F-3			X			2	C	S	C2	--	--	YES	Note 16
MOV-SI9010A	2	E-4	X					4	G	MO	Q	10	--	NO	
MOV-SI9010B	2	E-4	X					4	G	MO	Q	10	--	NO	
MOV-SI9011A	2	E-4	X					4	G	MO	Q	10	--	NO	
MOV-SI9011B	2	F-4	X					4	G	MO	Q	10	--	NO	
SI9012A	1	F-1			X			2	C	S	C2	--	--	YES	Note 16
SI9012B	1	F-1			X			2	C	S	C2	--	--	YES	Note 16
SI9012C	1	E-1			X			2	C	S	C2	--	--	YES	Note 16
SI9012D	1	E-1			X			2	C	S	C2	--	--	YES	Note 16
SI9013A	2	F-2				X		2	Gb	M	--	--	--	NO	Locked Throttled
SI9013B	2	F-2				X		2	Gb	M	--	--	--	NO	Locked Throttled
SI9013C	2	E-2				X		2	Gb	M	--	--	--	NO	Locked Throttled
SI9013D	2	E-2				X		2	Gb	M	--	--	--	NO	Locked Throttled

Drawing Number: M-65

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-SI8808A	2	B-2		X				10	G	MO	Q	12	--	NO	
MOV-SI8808B	2	B-6		X				10	G	MO	Q	12	--	NO	
MOV-SI8808C	2	B-7		X				10	G	MO	Q	12	--	NO	
MOV-SI8808D	2	B-4		X				10	G	MO	Q	12	--	NO	
MOV-SI8809A	2	D-3		X				10	G	MO	Q	12	--	NO	
MOV-SI8809B	2	E-3		X				10	G	MO	Q	12	--	NO	
MOV-SI8811A	2	F-3		X				18	G	MO	Q	22	--	YES	Note 26
MOV-SI8811B	2	F-3		X				18	G	MO	Q	22	--	YES	Note 26
MOV-SI8812A	2	D-8		X				12	G	MO	Q	15	--	NO	
MOV-SI8812B	2	D-9		X				12	G	MO	Q	15	--	NO	
SI8855A	2	A-3			X			1	R	S	I	--	--	NO	
SI8855B	2	A-6			X			1	R	S	I	--	--	NO	
SI8855C	2	A-8			X			1	R	S	I	--	--	NO	
SI8855D	2	A-5			X			1	R	S	I	--	--	NO	
SI8856A	2	D-3			X			2	R	S	I	--	--	NO	
SI8856B	2	D-3			X			2	R	S	I	--	--	NO	
SI8880	2	A-9		X				1	Gb	AO	Q	60	--	NO	
SI8948A	1	C-2			X			10	C	S	C2	--	--	YES	Note 20
SI8948B	1	C-2			X			10	C	S	C2	--	--	YES	Note 20
SI8948C	1	C-2			X			10	C	S	C2	--	--	YES	Note 20
SI8948D	1	C-2			X			10	C	S	C2	--	--	YES	Note 20
SI8956A	1	B-2			X			10	C	S	C2	--	--	YES	Note 20
SI8956B	1	B-6			X			10	C	S	C2	--	--	YES	Note 20
SI8956C	1	B-7			X			10	C	S	C2	--	--	YES	Note 20
SI8956D	1	B-4			X			10	C	S	C2	--	--	YES	Note 20
SI8957A	2	D-2			X			10	C	S	C	--	--	YES	Note 19
SI8957B	2	E-2			X			10	C	S	C	--	--	YES	Note 19
SI8958	2	E-8			X			12	C	S	C	--	--	YES	Note 19
SI9001A	1	D-1			X			8	C	S	C	--	--	YES	Note 19

Drawing Number: M-65

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SI9001B	1	D-1			X			8	C	S	C	--	--	YES	Note 19
SI9001C	1	E-1			X			8	C	S	C	--	--	YES	Note 19
SI9001D	1	E-1			X			8	C	S	C	--	--	YES	Note 19
SI9002A	1	D-2			X			8	C	S	C	--	--	YES	Note 19
SI9002B	1	D-2			X			8	C	S	C	--	--	YES	Note 19
SI9002C	1	E-2			X			8	C	S	C	--	--	YES	Note 19
SI9002D	1	E-2			X			8	C	S	C	--	--	YES	Note 19

System: Component Cooling

Zion Unit #1
Inservice Test Program

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Drawing Number: M-66

A.S.M.E. Code Class 1, 2 and 3 Valves

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
CC9463A	3	D-5			X			12	C	S	O	--	--	NO	Note 5
CC9463B	3	D-5			X			12	C	S	O	--	--	NO	Note 5
OCC9464	3	D-6			X			12	C	S	O	--	--	NO	Note 5
CC9456A	3	D-3					X	4	G	M	--	--	--	NO	Note 5
CC9456B	3	U-3					X	4	G	M	--	--	--	NO	Locked Open
CC9423	3	C-3			X			3	R	S	I	--	--	NO	Locked Open

Zion Unit #1
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Demineralized Water
Drawing Number: M-69

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
DW0030	I	D-6	X					Gb	M	--	--	--	YES	Notes 12 & 9	
DW0038	I	D-6	X					Gb	M	--	--	--	YES	Notes 12 & 9	

Drawing Number: M-70

A.S.M.E. Code Class 1, 2 and 3 Valves

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (Sec.)	Leakage		
FCV-VF01A	I	F-6	X					2	G	AO	Q	60	--	YES	Note 9
FCV-VF01B	I	F-5	X					2	G	AO	Q	60	--	YES	Note 9
FCV-VN01A	I	F-6	X					2	G	AO	Q	60	--	YES	Note 9
FCV-VN01B	I	F-5	X					2	G	AO	Q	60	--	YES	Note 9
PR0007	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0008	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0009	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0011	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0012	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0013	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0015	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0016	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0017	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0019	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0020	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0021	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0029	NA	E-7			X			1	C	S	Q	--	R		Notes 22
PR0030	I	E-6	X					1	Gb	M	C	--	R		Notes 23 & 24
FCV-PR19A	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR19B	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR20A	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR20B	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR21A	I	C-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR21B	I	C-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR22A	I	C-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR22B	I	C-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR23A	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR23B	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR24A	I	E-6	X					1	G	AO	Q	60	--	YES	Note 9
FCV-PR24B	I	E-6	X					1	G	AO	Q	60	--	YES	Note 9

Zion Unit #1
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Service Air
Drawing Number: M-71

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FCV-SA01A	I	A-4	X					G	AO	Q	60	--	YES	Note 9	
FCV-SA01B	I	A-4	X					G	AO	Q	60	--	YES	Note 9	

Zion Unit #1
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Instrument Air
Drawing Number: M-72-A

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FCV-IA01A	I	F-7		X				G	AO	C	60	--	NO	Note 25	
FCV-IA01B	I	F-7		X			1 1/2	G	AO	C	60	--	NO		

Drawing Number: M-74-1

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SS9354A	2	A-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9354B	2	A-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9355A	2	B-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9355B	2	B-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9356A	2	C-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9356B	2	C-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9357A	2	C-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9357B	2	C-4	X					Gb	AO	Q	60	--	YES	Note 9	

Drawing Number: M-84

Valve Number	Code Class	Drawing Location	Valve Category				Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D				E	Exercise	Stroke Time (sec.)		
FCV-RV111	I	C-6	X					AO	Q	60	--		YES	Note 9
FCV-RV112	I	C-6	X					AO	Q	60	--		YES	Note 9
FCV-RV113	I	B-6	X					AO	Q	60	--		YES	Note 9
FCV-RV114	I	B-6	X					AO	Q	60	--		YES	Note 9

Zion Unit #1
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Waste Drain
Drawing Number: M-87

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (Sec.)	Leakage		
DT9157	I	D-6	X					1	G	AO	Q	60	R	NO	Note 9
DT9159A	I	D-6	X				3/4	G	AO	Q	Q	60	--	YES	Note 9
DT9159B	I	D-6	X				3/4	G	AO	Q	Q	60	--	YFS	Note 9
DT9160A	I	D-6	X				1	G	AO	Q	Q	60	--	YES	Note 9
DT9160B	I	D-6	X				1	G	AO	Q	Q	60	--	YES	Note 9
DT9179	I	C-6	X				3	G	AO	Q	Q	60	--	YES	Note 9
DT-LCV1003	I	C-6	X				3	G	AO	Q	Q	60	--	YES	Note 9

Zion Unit #1
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Containment Purge

Drawing Number: M-536

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
RV0001	I	D-1	X					42	AO	Q	7	R	NO		
RV0002	I	D-1	X					42	AO	Q	7	R	NO		
RV0003	I	D-8	X					42	AO	Q	7	R	NO		
RV0004	I	D-8	X					42	AO	Q	7	R	NO		
RV0005	I	F-1	X					10	AO	Q	7	--	YES	Note 9	
RV0006	I	F-1	X					10	AO	Q	7	--	YES	Note 9	

NOTES

- 1) Closure of the mainsteam 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.
- 2) Full stroke exercising of this check valve will be demonstrated by establishing steam flow to the auxiliary feedwater pump turbine. Acceptable pump operation will demonstrate acceptable check valve opening.
- 3) Closure of the main feedwater isolation valves during unit operation would result in a reactor trip. These valves provide water as the normal heat removal for the steam generators. To avoid any transient, these valves will not be 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. In cold shutdown the steam generators are placed in the "wet lay-up" conditions with the secondary side essentially filled with feedwater. Stroke testing in this condition with the feedwater or condensate systems in operation would introduce an overflow of the steam generators filling 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.
- 4) Acceptable full stroke exercising of this check valve will be demonstrated by establishing proper pump discharge flow during periodic pump testing.
- 5) These check valves are passively open during normal operation and their required position to perform their safety function is to be open. The service water and component cooling system are continuously operated and monitored regarding their ability to provide adequate cooling. Upon system start up after a system shutdown the check valve is verified as opening by verification of proper system operation.
- 6) Same as Note 5. Additionally, the periodic test of the diesel generators demonstrates proper flow through these check valves by verification of proper engine fluids temperatures.
- 7) These valves will be leak tested in accordance with 10CFR50, Appendix J.

- 8) Check valves in the spray additive system cannot be exercised without introducing NaOH contaminants into the spray system. Operability of these three 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.
- 9) These valves function as containment isolation valves. Relief is requested from performing seat leakage testing required by IWV-3420. As an alternative these valves are tested in accordance with 10 CFR 50 Appendix J as required by Tech. Spec. 4.10. Additionally these valves are supplied by an Isolation Valve Seal Water System, which is functionally tested as part of this program and Tech. Spec. 4.9.1. These alternative tests will adequately ensure that the containment isolation valve perform their intended function as described in the FSAR.
- 10) These IVSW check valves can only be tested by observing flow through downstream tell-tale drain or by disassembly of the valve to verify proper disk freedom of movement. This testing would render the system unable to perform its safety function. These valves will be tested during cold shutdown.
- 11) Manually operated valves in the reactor coolant pump seal infection lines remain in a normally open condition during unit operation. Manually operated needle valves are adjusted to regulate seal injection flow to maintain correct pressure differentials at the pump seals. The seal injection system remains in operation following any postulated accident contributing to the safety injection flow to the reactor coolant system while maintaining and protecting the pump seals. Should it be required during a protracted accident these valves may be closed and provided with isolation valve seal water.

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

Relief is taken from measuring stroke time on manual valves.

- 12) These manual valves are maintained passively closed during unit operation and are not required to function, other than provide containment isolation, to safely shutdown the reactor or mitigate the consequences of an accident. Exception is taken to the performance of exercising tests as required by IWV-3410.

- 13) 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 injection flow conditions. Partial stroke exercising of these check valves will be demonstrated by establishing proper pump discharge flow during periodic pump testing.

Full stroke exercising of this check valve 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.

- 14) Full stroke exercising of the charging pump suction check valve cannot be demonstrated during unit operation as the reactor coolant system pressure prevents the pumps from reaching full injection flow conditions. Partial stroke exercising of this check valve will be demonstrated by verifying charging flow is maintained when the charging pump suction path is transferred from the Volume Control Tank to the Refueling Water Storage Tank during the quarterly valve exercise test.

Full stroke exercising of this check valve 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.

- 15) These check valves cannot be full stroke tested during unit operation as the shut off head of the pumps are lower than reactor coolant system pressure.

Partial stroke exercising of these check valves will be demonstrated by establishing proper pump discharge flow during periodic pump testing.

Full stroke exercising of this check valve can only be demonstrated 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.

16) These check valves cannot be tested during unit operation as the shutoff head of the pumps are lower than reactor coolant system pressure. Full stroke testing of all the branch run 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.

17) These check valves cannot be tested during unit operation as the injection of cold, highly borated water would result in a change in reactor core reactivity and undue thermal cycling of the injection nozzles.

Full stroke exercising of all the branch run 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 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.

18) These check valves cannot be full stroke tested during unit operation as the shut off head of the pumps are lower than reactor coolant system pressure.

Partial stroke exercising of these check valves will be demonstrated by establishing proper pump discharge flow during periodic pump testing.

Full stroke exercising of this check valve 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.

19) These check valves cannot be tested during unit operation as the shutoff head of the pumps are lower than reactor coolant system pressure. (Con't)

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.

- 20) 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). 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 guillotine break. These valves will be partial stroke tested during cold shutdown.
- 21) Component cooling water flow to the reactor coolant pumps is required at all times the pumps are in operation. Failure of one of these valves in a closed position during exercise test would result in a loss of the cooling flow to the pumps. Exemption is taken to the quarterly exercise test. The 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.
- 22) This check valve is in the containment air particulate and gas monitor return line. The containment monitor is in continuous operation during unit operation and is also required for containment sampling in the event of an accident since it is passively open and required to stay open. The continued proper operation of the system serves to demonstrate proper check valve operation.
- 23) This manual valve is in the containment air particulate and gas monitor return line. Quarterly closing of this valve during operation would render the system unable to perform its sampling function. Full stroke testing will be performed during cold shutdown. Relief is taken from measuring stroke time on manual valves.

- 24) The requirement for the containment air particulate and gas monitor return line isolation is one valve. The leak test can only be performed using both the check valve (PR0029) and the relief valve in series as one containment isolation boundary.
- 25) Closure of these valves during normal unit operation would result in a loss of letdown flow resulting in a reactor in a reactor coolant inventory transient and a subsequent reactor trip. These valves will be full stroke exercised during cold shutdown as required by ASME Section XI, IWV-3410(b)(1).
- 26) These valves are located in a closed valve containment assembly which is designed as an extension of the containment boundary. These valves are inaccessible during plant operation. The valves can be made accessible during plant shutdown by disassembly of the valve containment assembly. This requires approximately 100 man-hours per valve in a radiation field up to 50 mr per hour. Verification that the valve position indication switches have changed in relation to valve position can be made by observing that no significant change in valve stroke time has occurred. Due to the burden in manpower and radiation exposure to perform the direct observation, relief is taken from the requirements of IWV-3000.
- 27) These valves can only be full stroke tested by rendering their control systems inoperable. These valves will be full stroke tested during cold shutdown.
- 28) The RHR Suction valves from the reactor coolant system cannot be stroke tested during power operation. These valves are interlocked with reactor coolant system and are prohibited from opening above 425 psig. Opening these valves would cause a depressurization of the reactor coolant system and overpressurization of the RHR System. These valves will be full stroke tested during cold shutdown.
- 29) This motor operated valve in the reactor coolant pump seal injection return line must remain in a normally open condition during unit operation in order to maintain proper pump seal flow.

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

NRC Docket No. 50-304

ATTACHMENT 2

Zion Unit 2

Inservice Valve Test Program

ZION UNIT #2
INSERVICE VALVE TEST PROGRAM

The following table includes all of the valves required to be exercise and leak tested in accordance with ASME Section XI, 1974 edition up to and including Summer 1975 Addenda, Subsections IWV. Relief from some of the requirement of Section XI are requested as indicated in the Relief Request column with explanations given in the Remarks. The alternative tests are indicated in the Test columns and also explained in the Remarks.

Below listed are the symbols used to indicate valve type, valve actuator type, exercise test frequency, and leakage test frequency.

Valve Type:

G - Gate
DG - Double Disk Gate
Gb - Globe
D - Diaphragm
R - Angle Relief
C - Swing Disk Check
B - Butterfly
N - Needle

Actuator Type:

AO - Air
MO - Motor
HO - Hydraulic
M - Manual
S - Self-Actuating

Exercise Test Frequency:

Q - Quarterly
C - Cold Shutdown
C1 - Cold Shutdown with no reactor coolant pumps operating.
C2 - Cold Shutdown with the reactor vessel head removed.
C3 - Cold Shutdown with feedwater and condensate system not operating.
R - Refueling Outage
I - Frequency Defined by IWV-3510

Drawing Number: M-500

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
HOV-MS0001	2	E-5	X					34	AGb	HO	Q/C	5	--	NO	Note 1
HOV-MS0002	2	D-5	X					34	AGb	HO	Q/C	5	--	NO	Note 1
HOV-MS0003	2	C-5	X					34	AGb	HO	Q/C	5	--	NO	Note 1
HOV-MS0004	2	A-5	X					34	AGb	HO	Q/C	5	--	NO	Note 1
MS0014	2	E-7			X			6	R	S	I	--	--	NO	
MS0015	2	E-7			X			6	R	S	I	--	--	NO	
MS0016	2	E-6			X			6	R	S	I	--	--	NO	
MS0017	2	E-6			X			6	R	S	I	--	--	NO	
MS0018	2	E-6			X			6	R	S	I	--	--	NO	
MS0019	2	D-7			X			6	R	S	I	--	--	NO	
MS0020	2	D-7			X			6	R	S	I	--	--	NO	
MS0021	2	D-6			X			6	R	S	I	--	--	NO	
MS0022	2	D-6			X			6	R	S	I	--	--	NO	
MS0023	2	D-6			X			6	R	S	I	--	--	NO	
MS0024	2	B-7			X			6	R	S	I	--	--	NO	
MS0025	2	B-7			X			6	R	S	I	--	--	NO	
MS0026	2	B-6			X			6	R	S	I	--	--	NO	
MS0027	2	B-6			X			6	R	S	I	--	--	NO	
MS0028	2	B-6			X			6	R	S	I	--	--	NO	
MS0029	2	A-7			X			6	R	S	I	--	--	NO	
MS0030	2	A-7			X			6	R	S	I	--	--	NO	
MS0031	2	A-6			X			6	R	S	I	--	--	NO	
MS0032	2	A-6			X			6	R	S	I	--	--	NO	
MS0033	2	A-6			X			6	R	S	I	--	--	NO	
MOV-MS0005	2	F-9	X					6	G	MO	Q	30	--	NO	
MOV-MS0006	2	F-9	X					6	G	MO	Q	30	--	NO	
MOV-MS0011	3	C-8	X					6	G	MO	Q	30	--	NO	
FCV-MS57	3	F-5	X					4	G	AO	Q	--	--	NO	
MS0006	3	F-9			X			6	C	S	Q	--	--	NO	Note 2
MS0007	3	D-9			X			6	C	S	Q	--	--	NO	Note 2

A.S.M.E. Code Class 1, 2 and 3 Valves

Drawing Number: M-502

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FW00016	2	F-3	X					16	G	MO	C3	80	--	NO	Note 3
FW00017	2	D-3	X					16	G	MO	C3	80	--	NO	Note 3
FW00018	2	B-3	X					16	G	MO	C3	80	--	NO	Note 3
FW00019	2	A-3	X					16	G	MO	C3	80	--	NO	Note 3
FW00016	2	F-2			X			3	C	S	Q	--	--	NO	Note 4
FW00067	2	D-2			X			3	C	S	Q	--	--	NO	Note 4
FW00068	2	C-2			X			3	C	S	Q	--	--	NO	Note 4
FW00069	2	A-2			X			3	C	S	Q	--	--	NO	Note 4
FW00031	3	E-10			X			4	C	S	Q	--	--	NO	Note 4
FW00032	3	E-9			X			4	C	S	Q	--	--	NO	Note 4
FW00033	3	E-8			X			4	C	S	Q	--	--	NO	Note 4
FW00034	3	E-10					X	6	Gb	M	--	--	--	NO	Locked Open
FW00035	3	E-9					X	4	Gb	M	--	--	--	NO	Locked Closed
FW00036	3	E-8					X	4	Gb	M	--	--	--	NO	Locked Open
FW00037	3	E-9					X	4	G	M	--	--	--	NO	Locked Closed
FW00038	3	E-8					X	4	G	M	--	--	--	NO	Locked Open
FW00039	3	D-10					X	1½	Gb	M	--	--	--	NO	Locked Open
FW00040	3	D-9					X	1½	Gb	M	--	--	--	NO	Locked Open
FW00041	3	D-3					X	1½	Gb	M	--	--	--	NO	Locked Open
FW00042	3	D-9					X	4	Gb	M	--	--	--	NO	Locked Open

POOR ORIGINAL

Zion Unit #2
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Service Water

Drawing Number: M-32-1

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SW0001	3	B-7			X			24	S	Q	--	--		Note 5	
SW0004	3	B-6			X			24	S	Q	--	--		Note 5	
SW0007	3	B-5			X			24	S	Q	--	--		Note 5	
OMOV-SW0005	3	E-6		X			14	MO	MO	Q	60	--			
OMOV-SW0006	3	D-6		X			14	MO	MO	Q	60	--			

System: Service Water

Zion Unit #2
 Inservice Test Program
 A.S.M.E. Code Class 1, 2 and 3 Valves

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Drawing Number: M-32-2

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-SW0001	3	D-6		X				20	G	MO	Q	100	--	NO	
MOV-SW0002	3	D-5		X				20	G	MO	Q	100	--	NO	
MOV-SW0007	3	A-3		X				10	Gb	MO	Q	150	--	NO	
MOV-SW0008	3	A-3		X				10	Gb	MO	Q	150	--	NO	
MOV-SW0009	3	B-3		X				10	Gb	MO	Q	150	--	NO	
MOV-SW0010	3	B-3		X				10	Gb	MO	Q	150	--	NO	
MOV-SW0011	3	C-3		X				10	Gb	MO	Q	150	--	NO	
SW0010	3	D-3			X			6	C	S	Q	--	--	NO	Note 6
SW0011	3	E-3			X			6	C	S	Q	--	--	NO	Note 6
OSW0012	3	F-3			X			6	C	S	Q	--	--	NO	Note 6
MOV-0100	3	B-4		X				24	B	MO	Q	60	--	NO	
MOV-0101	3	C-5		X				8	G	MO	Q	40	--	NO	
MOV-0102	3	C-5		X				8	G	MO	Q	40	--	NO	
MOV-0103	3	C-4		X				8	G	MO	Q	40	--	NO	
MOV-0104	3	C-5		X				8	G	MO	Q	40	--	NO	
MOV-0105	3	C-4		X				8	G	MO	Q	40	--	NO	
MOV-0115	3	B-4		X				24	B	MO	Q	60	--	NO	
OMOV-SW0007	3	D-5		X				12	B	MO	Q	60	--	NO	
OMOV-SW0008	3	D-5		X				12	B	MO	Q	60	--	NO	
SW0179	3	C-5					X	8	G	M	-	--	--	NO	Locked Open
SW0767	3	A-4					X	20	B	M	-	--	--	NO	Locked Open

Zion Unit #2
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

System: Service Water
Drawing Number: M-34

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
OAOV-SW0020	3	E-3			X			6	B	AO	Q	30	--	NO	
OAOV-SW0021	3	E-8			X			6	B	AO	Q	30	--	NO	

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
LCV-IW01	NA	C-1	X					1	G	AO	C	60	--	YES	Note 27
LCV-IW02	NA	B-1	X					1	G	AO	C	60	--	YES	Note 27
PCV-IW03	NA	C-1	X					1/2	G	AO	C	60	--	YES	Note 27
IW0001	NA	C-1			X			1	C	S	C	--	--	YES	Note 10
IW0003	NA	C-1			X			1	C	S	C	--	--	YES	Note 10
FCV-IW08	NA	B-5	X					3/4	G	AO	Q	60	--	NO	
FCV-IW09	NA	B-5	X					3/4	G	AO	Q	60	--	NO	
FCV-IW10	NA	B-6	X					3/4	G	AO	Q	60	--	NO	
FCV-IW11	NA	B-6	X					3/4	G	AO	Q	60	--	NO	
FCV-IW12	NA	B-3	X					1/2	G	AO	Q	60	--	NO	
FCV-IW13	NA	B-3	X					1/2	G	AO	Q	60	--	NO	
FCV-IW14	NA	B-7	X					1/2	G	AO	Q	60	--	NO	
FCV-IW15	NA	B-7	X					1/2	G	AO	Q	60	--	NO	
FCV-IW16	NA	B-3	X					3/4	G	AO	Q	60	--	NO	
FCV-IW17	NA	B-3	X					3/4	G	AO	Q	60	--	NO	
IW0073	NA	C-7			X			3/8	C	S	C	--	--	YES	Note 10
IW0074	NA	C-7			X			3/8	C	S	C	--	--	YES	Note 10
IW0075	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0076	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0077	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0078	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0079	NA	D-3			X			3/8	C	S	C	--	--	YES	Note 10
IW0181	NA	D-5			X			3/8	C	S	C	--	--	YES	Note 10
IW0182	NA	D-5			X			3/8	C	S	C	--	--	YES	Note 10
IW0183	NA	D-5			X			3/8	C	S	C	--	--	YES	Note 10
IW0184	NA	D-6			X			3/8	C	S	C	--	--	YES	Note 10
IW0185	NA	D-6			X			3/8	C	S	C	--	--	YES	Note 10
IW0198	NA	C-4			X			1/2	C	S	C	--	--	YES	Note 10
IW0058	NA	B-4			X			1/2	C	S	C	--	--	YES	Note 10
IW0059	NA	B-4			X			1/2	C	S	C	--	--	YES	Note 10

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
IW0060	NA	B-4		X			1/2	C	S	C	--	--	YES	Note 10	
IW0061	NA	B-4		X			1/2	C	S	C	--	--	YES	Note 10	
IW0062	NA	B-5		X			1/2	C	S	C	--	--	YES	Note 10	
IW0063	NA	B-6		X			1/2	C	S	C	--	--	YES	Note 10	
IW0064	NA	B-5		X			1/2	C	S	C	--	--	YES	Note 10	
IW0065	NA	B-5		X			1/2	C	S	C	--	--	YES	Note 10	
IW0066	NA	B-6		X			1/2	C	S	C	--	--	YES	Note 10	
IW0067	NA	C-3		X			1/2	C	S	C	--	--	YES	Note 10	
IW0068	NA	C-3		X			1/2	C	S	C	--	--	YES	Note 10	
IW0069	NA	C-3		X			1/2	C	S	C	--	--	YES	Note 10	
IW0070	NA	C-4		X			1/2	C	S	C	--	--	YES	Note 10	
IW0072	NA	C-4		X			1/2	C	S	C	--	--	YES	Note 10	
IW0080	NA	D-3		X			1/2	C	S	C	--	--	YES	Note 10	
IW0081	NA	E-5		X			1/2	C	S	C	--	--	YES	Note 10	
IW0082	NA	D-6		X			1/2	C	S	C	--	--	YES	Note 10	
IW0083	NA	D-6		X			1/2	C	S	C	--	--	YES	Note 10	
IW0084	NA	D-4		X			1/2	C	S	C	--	--	YES	Note 10	
IW0160	NA	B-2		X			1	R	S	C	--	--	YES	Note 10	
IW0162	NA	C-1		X			3/4	C	S	C	--	--	YES	Note 10	
IW0090	NA	F-3		X			1/2	C	S	C	--	--	YES	Note 10	
IW0095	NA	E-5		X			1/2	C	S	C	--	--	YES	Note 10	
IW0186	NA	E-4		X			3/8	C	S	C	--	--	YES	Note 10	

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-CS0002	2	B-4	X					10	G	MO	Q	50	R	NO	Note 7
MOV-CS0003	2	C-3		X				10	G	MO	Q	50	--	NO	
MOV-CS0004	2	D-4	X					10	G	MO	Q	50	R	NO	Note 7
MOV-CS0005	2	D-3		X				10	G	MO	Q	50	--	NO	
MOV-CS0006	2	F-4	X					10	G	MO	Q	50	R	NO	Note 7
MOV-CS0007	2	F-3		X				10	G	MO	Q	50	--	NO	
MOV-CS0008	3	C-4		X				3	G	MO	Q	15	--	NO	
MOV-CS0009	3	E-4		X				3	G	MO	Q	15	--	NO	
MOV-CS0010	3	F-4		X				3	G	MO	Q	15	--	NO	
- CSC002	2	B-8					X	14	G	M	--	--	--	NO	Locked Open
CS0003	2	B-8			X			10	C	S	Q	--	--	NO	Note 4
CS0004	2	B-8				X		10	G	M	--	--	--	NO	Locked Open
CS0005	2	B-4			X			10	C	S	Q	--	--	NO	Note 4
CS0006	2	D-8				X		14	G	M	--	--	--	NO	Locked Open
CS0007	2	D-8			X			10	C	S	Q	--	--	NO	Note 4
CS0008	2	D-8				X		10	G	M	--	--	--	NO	Locked Open
CS0009	2	D-5			X			10	C	S	Q	--	--	NO	Note 4
CS0010	2	F-8				X		14	G	M	--	--	--	NO	Locked Open
CS0011	2	F-8			X			10	C	S	Q	--	--	NO	Note 4
CS0012	2	F-8				X		10	G	M	--	--	--	NO	Locked Open
CS0013	2	D-4			X			10	C	S	Q	--	--	NO	Note 4
CS0014	3	A-4				X		3	G	M	--	--	--	NO	Locked Open
CS0015	3	D-5				X		3	Gb	M	--	--	--	NO	Locked Open
CS0016	2	C-8			X			3	C	S	T	--	--	YES	Note 8
CS0017	2	C-8				X		3	G	M	--	--	--	NO	Locked Open
CS0018	2	C-9			X			6	C	S	Q	--	--	NO	Note 4
CS0019	3	A-4				X		3	G	M	--	--	--	NO	Locked Open
CS0020	3	E-5				X		3	Gb	M	--	--	--	NO	Locked Open
CS0021	2	E-8			X			3	C	S	T	--	--	YES	Note 8
CS0022	2	E-8				X		3	G	M	--	--	--	NO	Locked Open

Drawing Number: M-514

A.S.M.E. Code Class 1, 2 and 3 Valves

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
CS0023	2	D-4			X			6	C	S	O	--	--	NO	Note 4
CS0024	3	A-4					X	3	G	M	--	--	--	NO	Locked Open
CS0025	3	F-5					X	3	Gb	M	--	--	--	NO	Locked Open
CS0026	2	F-8			X			3	C	S	F	--	--	YES	Note 8
CS0027	2	F-8					X	3	G	M	--	--	--	NO	Locked Open
CS0028	2	E-9			X			6	C	S	O	--	--	NO	Note 4
CS0029	2	C-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0030	2	C-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0031	2	E-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0032	2	E-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0033	2	F-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0034	2	F-9					X	1	Gb	M	--	--	--	NO	Locked Closed
CS0037	2	B-4	X				X	6	G	M	--	--	R	NO	Locked Closed, Note 7
CS0038	2	B-4	X				X	1	G	M	--	--	R	NO	Locked Closed, Note 7
CS0039	2	C-4	X				X	1/2	Gb	M	--	--	R	NO	Locked Closed, Note 7
CS0040	2	C-4	X				X	6	G	M	--	--	R	NO	Locked Closed, Note 7
CS0041	2	D-4	X				X	1	G	M	--	--	R	NO	Locked Closed, Note 7
CS0042	2	D-4	X				X	1/2	Gb	M	--	--	R	NO	Locked Closed, Note 7
CS0043	2	E-4	X				X	6	G	M	--	--	R	NO	Locked Closed, Note 7
CS0044	2	E-4	X				X	1	G	M	--	--	R	NO	Locked Closed, Note 7
CS0045	2	E-4	X				X	1/2	Gb	M	--	--	R	NO	Locked Closed, Note 7
CS0049	3	C-5					X	3	Gb	M	--	--	--	NO	Locked Closed
CS0050	3	E-5					X	3	Gb	M	--	--	--	NO	Locked Closed
CS0051	3	F-5					X	3	Gb	M	--	--	--	NO	Locked Closed

Drawing Number: M-45-1

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (Sec.)	Leakage		
FCV-SS02	2	E-7	X					3/8	G	AO	Q	60	--	NO	
FCV-SS03	2	D-7	X					3/8	G	AO	Q	60	--	NO	
FCV-SS04	2	B-7	X					3/8	G	AO	Q	60	--	NO	
FCV-SS05	2	A-7	X					3/8	G	AO	Q	60	--	NO	
FCV-BD17	2	B-6	X					2 1/2	G	AO	Q	60	--	NO	
AOV-BD0001	2	F-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0002	2	E-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0003	2	D-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0004	2	D-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0005	2	C-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0006	2	C-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0007	2	B-8	X					2	G	AO	Q	60	--	NO	
AOV-BD0008	2	A-8	X					2	G	AO	Q	60	--	NO	

Drawing Number: M-47

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FCV-WD17A	I	B-5	X						AO	Q	60	--	YES	Note 9	
FCV-WD17B	I	B-5	X						AO	Q	60	--	YES	Note 9	

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
RC8010A	1	A-7			X			6	R	S	I	--	--	NO	
RC8010B	1	A-7			X			6	R	S	I	--	--	NO	
RC8010C	1	A-8			X			6	R	S	I	--	--	NO	
RC8025	I	A-1	X					3/8	Gb	AO	Q	60	--	YES	Note 9
RC8026	I	A-2	X					3/8	Gb	AO	Q	60	--	YES	Note 9
RC8028	I	A-1	X					3	D	AO	Q	60	--	YES	Note 9
RC8029	I	A-2	X					3	D	AO	Q	60	--	YES	Note 9
RC8033	I	A-2		X				3/4	D	AO	Q	60	--	NO	

Drawing Number: M-517

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
AOV-VC8152	2	A-6	X						AO	0	60	--	YES	Note 9	
AOV-VC8153	2	A-6	X						AO	0	60	--	YES	Note 9	
VC8369A	2	F-1	X						M	C1	--	--	YES	Notes 11 & 9	
VC8369B	2	F-3	X						M	C1	--	--	YES	Notes 11 & 9	
VC8369C	2	F-5	X						M	C1	--	--	YES	Notes 11 & 9	
VC8369D	2	F-7	X						M	C1	--	--	YES	Notes 11 & 9	
VC8372A	2	F-1	X						M	C1	--	--	YES	Notes 11 & 9	
VC8372B	2	F-3	X						M	C1	--	--	YES	Notes 11 & 9	
VC8372C	2	F-5	X						M	C1	--	--	YES	Notes 11 & 9	
VC8372D	2	F-7	X						M	C1	--	--	YES	Notes 11 & 9	

Drawing Number: M-518

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-LCV-VC112B	2	D-5		X				4	G	MO	Q	10	--	NO	
MOV-LCV-VC112C	2	D-6		X				4	G	MO	Q	10	--	NO	
MOV-LCV-VC112D	2	F-7		X				8	G	MO	Q	10	--	NO	
MOV-LCV-VC112E	2	F-7		X				8	G	MO	Q	10	--	NO	
MOV-VC8100	2	C-2	X					4	DG	MO	Cl	10	--	YES	Note 9 & 29
MOV-VC8105	2	A-2	X					3	G	MO	Q	10	--	YES	Note 9
MOV-VC8106	2	A-2	X					3	G	MO	Q	10	--	YES	Note 9
MOV-VC8110	2	D-4		X				2	G	MO	Q	10	--	NO	
MOV-VC8111	2	D-4		X				2	G	MO	Q	10	--	NO	
VC8124	2	F-6			X			3/4	R	S	I	--	--	NO	
VC8471A	2	F-6				X		6	G	M	--	--	--	NO	Locked Open
VC8471B	2	G-6				X		6	G	M	--	--	--	NO	Locked Open
VC8480A	2	D-1	X					2	Gb	M	--	--	--	YES	Notes 9 & 12
VC8480B	2	E-1	X					2	Gb	M	--	--	--	YES	Notes 9 & 12
VC8481A	2	F-2			X			4	C	S	Q/C2	--	--	NO	Note 13
VC8481B	2	G-2			X			4	C	S	Q/C2	--	--	NO	Note 13
VC8546	2	F-6			X			8	C	S	Q/C2	--	--	NO	Note 14

Drawing Number: M-520

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-RH8700A	2	B-7	X					14	G	MO	Q	120	--	NO	
MOV-RH8700B	2	F-7	X					14	G	MO	Q	120	--	NO	
MOV-RH8701	1	B-9	X					14	G	MO	C	120	--	NO	NOTE 28
MOV-RH8702	1	B-10	X					14	G	MO	C	120	--	NO	NOTE 28
MOV-RH8703	2	F-4	X					12	G	MO	Q	120	--	NO	
RH8708	2	A-8			X			3	R	S	I	--	--	NO	
RH8709	2	F-3			X			3/4	R	S	I	--	--	NO	
MOV-RH8716A	2	B-2	X					8	G	MO	Q	10	--	NO	
MOV-RH8716B	2	C-2	X					8	G	MO	Q	10	--	NO	
MOV-RH8716C	2	C-2	X					8	G	MO	Q	10	--	NO	
RH8724A	2	B-5				X		10	G	M	--	--	--	NO	Locked Open
RH8724B	2	D-5				X		10	G	M	--	--	--	NO	Locked Open
RH8728A	2	B-6				X		10	G	M	--	--	--	NO	Locked Open
RH8728B	2	D-6				X		10	G	M	--	--	--	NO	Locked Open
RH8730A	2	B-6			X			10	C	S	Q/C	--	--	NO	Note 15
RH8730B	2	D-6			X			10	C	S	Q/C	--	--	NO	Note 15
RH8736A	1	F-4			X			8	C	S	C	--	--	YES	Note 19
RH8736B	1	F-4			X			8	C	S	C	--	--	YES	Note 19
RH8949A	1	F-5			X			8	C	S	C	--	--	YES	Note 19
RH8949B	1	F-5			X			8	C	S	C	--	--	YES	Note 19
MOV-RE9000	2	F-3	X					12	G	MO	Q	15	--	NO	
MOV-SI8804A	2	B-3	X					8	G	MO	Q	10	--	NO	
MOV-CS0049	2	B-2	X					8	G	MO	Q	40	--	NO	
MOV-CS0050	2	E-2	X					8	G	MO	Q	40	--	NO	

Drawing Number: M-63

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SF0010	I	B-3	X					D	M	--	--	--	YES	Notes 12 & 9	
OSF0011	I	F-6	X					D	M	--	--	--	YES	Notes 12 & 9	
OSF0012	I	F-6	X					D	M	--	--	--	YES	Notes 12 & 9	
SF8767	I	F-6	X					D	M	--	--	--	YES	Notes 12 & 9	
SF8787	I	B-3	X					D	M	--	--	--	YES	Notes 12 & 9	

Drawing Number: M-521

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SI8900A	1	A-1			X			1½	C	S	C2	--	--	YES	Note 17
SI8900B	1	B-1			X			1½	C	S	C2	--	--	YES	Note 17
SI8900C	1	B-1			X			1½	C	S	C2	--	--	YES	Note 17
SI8900D	1	C-1			X			1½	C	S	C2	--	--	YES	Note 17
MOV-SI8800A	2	A-2		X				1½	Gb	MO	Q	10	--	NO	
MOV-SI8800B	2	B-2		X				1½	Gb	MO	Q	10	--	NO	
MOV-SI8800C	2	B-2		X				1½	Gb	MO	Q	10	--	NO	
MOV-SI8800D	2	C-2		X				1½	Gb	MO	Q	10	--	NO	
MOV-SI8801A	2	A-3		X				4	G	MO	Q	10	--	NO	
MOV-SI8801B	2	B-3		X				4	G	MO	Q	10	--	NO	
MOV-SI8802	2	E-4		X				4	G	MO	Q	10	--	NO	
MOV-SI8803A	2	C-6		X				4	G	MO	Q	10	--	NO	
MOV-SI8803B	2	C-6		X				4	G	MO	Q	10	--	NO	
MOV-SI8804B	2	F-7		X				8	G	MO	Q	10	--	NO	
MOV-SI8806	2	E-8		X				8	G	MO	Q	10	--	NO	
MOV-SI8807A	2	E-7		X				4	G	MO	Q	10	--	NO	
MOV-SI8807B	2	D-7		X				4	G	MO	Q	10	--	NO	
SI8810A	2	A-2					X	1½	Gb	M	--	--	--	NO	Locked Throttled
SI8810B	2	B-2					X	1½	Gb	M	--	--	--	NO	Locked Throttled
SI8810C	2	B-2					X	1½	Gb	M	--	--	--	NO	Locked Throttled
SI8810D	2	C-2					X	1½	Gb	M	--	--	--	NO	Locked Throttled
MOV-SI8813	2	B-9		X				2	Gb	MO	Q	10	--	NO	
MOV-SI8814	2	C-9		X				2	Gb	MO	Q	10	--	NO	
SI8852	2	A-4			X			3/4	R	S	I	--	--	NO	
SI8853	2	E-5			X			3/4	R	S	I	--	--	NO	
SI8858	2	D-7			X			3/4	R	S	I	--	--	NO	
SI8870A	2	A-5		X				1	Gb	AO	Q	10	--	NO	
SI8870B	2	A-5		X				1	Gb	AO	Q	10	--	NO	
SI8883	2	B-5		X				1	Gb	AO	Q	10	--	NO	
SI8905A	1	E-3			X			4	C	S	C2	--	--	YES	

Drawing Number: M-521

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SI8905B	1	D-3			X			4	C	S	C2	--	--	YES	Note 16
SI8919A	2	E-5			X			3/4	C	S	Q	--	--	NO	Note 4
SI8919B	2	F-5			X			3/4	C	S	Q	--	--	NO	Note 4
SI8920A	2	E-5				X		3/4	Gb	M	--	--	--	NO	Locked Open
SI8920B	2	F-5				X		3/4	Gb	M	--	--	--	NO	Locked Open
SI8921A	2	E-5				X		4	G	M	--	--	--	NO	Locked Open
SI8921B	2	F-5				X		4	G	M	--	--	--	NO	Locked Open
SI8922A	2	E-5			X			4	C	S	C2	--	--	YES	Note 16
SI8922B	2	F-5			X			4	C	S	C2	--	--	YES	Note 16
MOV-SI8923A	2	E-1	X					6	G	MO	Q	10	--	NO	
MOV-SI8923B	2	E-7	X					6	G	MO	Q	10	--	NO	
SI8925	2	B-6				X		1	Gb	M	--	--	--	NO	Locked Closed
SI8926	2	E-7			X			8	C	S	Q/C2	--	--	NO	Note 18
SI8949C	1	F-2			X			8	C	S	C2	--	--	YES	Note 16
SI8949D	1	F-2			X			8	C	S	C2	--	--	YES	Note 16
SI9004C	1	F-3			X			2	C	S	C2	--	--	YES	Note 16
SI9004D	1	F-3			X			2	C	S	C2	--	--	YES	Note 16
MOV-SI9010A	2	E-4	X					4	G	MO	Q	10	--	NO	
MOV-SI9010B	2	E-4	X					4	G	MO	Q	10	--	NO	
MOV-SI9011A	2	E-4	X					4	G	MO	Q	10	--	NO	
MOV-SI9011B	2	F-4	X					4	G	MO	Q	10	--	NO	
SI9012A	1	F-1			X			2	C	S	C2	--	--	YES	Note 16
SI9012B	1	F-1			X			2	C	S	C2	--	--	YES	Note 16
SI9012C	1	E-1			X			2	C	S	C2	--	--	YES	Note 16
SI9012D	1	E-1			X			2	C	S	C2	--	--	YES	Note 16
SI9013A	2	F-2				X		2	Gb	M	--	--	--	NO	Locked Throttled
SI9013B	2	F-2				X		2	Gb	M	--	--	--	NO	Locked Throttled
SI9013C	2	E-2				X		2	Gb	M	--	--	--	NO	Locked Throttled
SI9013D	2	E-2				X		2	Gb	M	--	--	--	NO	Locked Throttled

Drawing Number: M-521

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SI9003A	2	D-3					X	2	Gb	M	--	--	--	NO	Locked Open
SI9003B	2	E-3					X	2	Gb	M	--	--	--	NO	Locked Open
SI9003C	2	F-3					X	2	Gb	M	--	--	--	NO	Locked Open
SI9003D	2	F-3					X	2	Gb	M	--	--	--	NO	Locked Open
SI9030	2	E-4			X			1/4	R	S	I	--	--	NO	
SI9031	2	F-4			X			3/4	R	S	I	--	--	NO	
SI9032	2	B-2			X			3	C	S	C2	--	--	YES	Note 17

Drawing Number: M-522

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-SI8808A	2	B-2	X					10	G	MO	Q	12	--	NO	
MOV-SI8808B	2	B-6	X					10	G	MO	Q	12	--	NO	
MOV-SI8808C	2	B-7	X					10	G	MO	Q	12	--	NO	
MOV-SI8808D	2	B-4	X					10	G	MO	Q	12	--	NO	
MOV-SI8809A	2	D-3	X					10	G	MO	Q	12	--	NO	
MOV-SI8809B	2	E-3	X					10	G	MO	Q	12	--	NO	
MOV-SI8811A	2	F-3	X					18	G	MO	Q	22	--	YES	Note 26
MOV-SI8811B	2	F-3	X					18	G	MO	Q	22	--	YES	Note 26
MOV-SI8812A	2	D-8	X					12	G	MO	Q	15	--	NO	
MOV-SI8812B	2	D-9	X					12	G	MO	Q	15	--	NO	
SI8855A	2	A-3			X			1	R	S	I	--	--	NO	
SI8855B	2	A-6			X			1	R	S	I	--	--	NO	
SI8855C	2	A-8			X			1	R	S	I	--	--	NO	
SI8855D	2	A-5			X			1	R	S	I	--	--	NO	
SI8856A	2	D-3			X			2	R	S	I	--	--	NO	
SI8856B	2	D-3			X			2	R	S	I	--	--	NO	
SI8880	2	A-9	X					1	G ^b	AO	Q	60	--	NO	
SI8948A	1	C-2		X				10	C	S	C2	--	--	YES	Note 20
SI8948B	1	C-2		X				10	C	S	C2	--	--	YES	Note 20
SI8948C	1	C-2		X				10	C	S	C2	--	--	YES	Note 20
SI8948D	1	C-2		X				10	C	S	C2	--	--	YES	Note 20
SI8956A	1	B-2		X				10	C	S	C2	--	--	YES	Note 20
SI8956B	1	B-6		X				10	C	S	C2	--	--	YES	Note 20
SI8956C	1	B-7		X				10	C	S	C2	--	--	YES	Note 20
SI8956D	1	B-4		X				10	C	S	C2	--	--	YES	Note 20
SI8957A	2	D-2		X				10	C	S	C	--	--	YES	Note 19
SI8957B	2	E-2		X				10	C	S	C	--	--	YES	Note 19
SI8958	2	E-8		X				12	C	S	C	--	--	YES	Note 19
SI9001A	1	D-1		X				8	C	S	C	--	--	YES	Note 19

System: Safety Injection

tion Unit #2

Inservice Test Program

A.S.M.E. Code Class 1, 2 and 3 Valves

Drawing Number: M-522

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SI9001B	1	D-1			X			8	C	S	C	--	--	YES	Note 19
SI9001C	1	E-1			X			8	C	S	C	--	--	YES	Note 19
SI9001D	1	E-1			X			8	C	S	C	--	--	YES	Note 19
SI9002A	1	D-2			X			8	C	S	C	--	--	YES	Note 19
SI9002B	1	D-2			X			8	C	S	C	--	--	YES	Note 19
SI9002C	1	E-2			X			8	C	S	C	--	--	YES	Note 19
SI9002D	1	E-2			X			8	C	S	C	--	--	YES	Note 19

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
CC9463A	3	D-5			X			12	C	S	O			NO	Note 5
CC9463B	3	D-5			X			12	C	S	O			NO	Note 5
OCC9464	3	D-6			X			12	C	S	O			NO	Note 5
CC9456A	3	D-3					X	4	G	M				NO	Locked Open
CC9456B	3	D-3					X	4	G	M				NO	Locked Open
CC9423	3	C-3			X			3	R	S	I			NO	

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
MOV-CC9413A	3	A-4		X				6	DG	MO	C1	10	--	YES	Note 21
MOV-CC9413B	3	A-4		X				6	DG	MO	C1	10	--	YES	Note 21
MOV-CC9414	3	G-4	X					6	DG	MO	C1	10	--	YES	Notes 21 & 9
CC9437	3	E-4		X				3	Gb	AO	Q	60	--	NO	
MOV-CC9438	3	F-4	X					3	G	MO	C1	10	--	YES	Notes 21 & 9
MOV-CC685	3	F-4	X					3	G	MO	C1	10	--	YES	Notes 21 & 9
CC9500	3	E-3			X			3	C	S	Q	--	--	NO	Note 5

Drawing Number: M-69

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
DW0030	I	D-6	X					Gb	M	--	--	--	YES	Notes 12 & 9	
DW0038	I	D-6	X					Gb	M	--	--	--	YES	Notes 12 & 9	

Drawing Number: M-70

A.S.M.E. Code Class 1, 2 and 3 Valves

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FCV-VF01A	I	F-6	X					2	G	AO	Q	60	--	YES	Note 9
FCV-VF01B	I	F-5	X					2	G	AO	Q	60	--	YES	Note 9
FCV-VN01A	I	F-6	X					2	G	AO	Q	60	--	YES	Note 9
FCV-VN01B	I	F-5	X					2	G	AO	Q	60	--	YES	Note 9
PR0007	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0008	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0009	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0011	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0012	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0013	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0015	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0016	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0017	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0019	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0020	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0021	I	B-6	X					1/2	Gb	M	--	--	--	YES	Notes 12 & 9
PR0029	NA	E-7	X		X			1	C	S	Q	--	R		Notes 12 & 9
PR0030	I	E-6	X					1	Gb	M	C	--	R		Notes 22
FCV-PR19A	I	D-6	X					1/2	G	AO	Q	60	--	YES	Notes 23 & 24
FCV-PR19B	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR20A	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR20B	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR21A	I	C-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR21B	I	C-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR22A	I	C-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR22B	I	C-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR23A	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR23B	I	D-6	X					1/2	G	AO	Q	60	--	YES	Note 9
FCV-PR24A	I	E-6	X					1	G	AO	Q	60	--	YES	Note 9
FCV-PR24B	I	E-6	X					1	G	AO	Q	60	--	YES	Note 9

Drawing Number: M-71

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FCV-SA01A	I	A-4	X					1½	G	AO	Q	60	--	YES	Note 9
FCV-SA01B	I	A-4	X					1½	G	AO	Q	60	--	YES	Note 9

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FCV-IA01A	I	F-7			X			G	AO	C	60	--		NO	
FCV-IA01B	I	F-7			X			G	AO	C	60	--		NO	Note 25

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
SS9354A	2	A-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9354B	2	A-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9355A	2	B-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9355B	2	B-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9356A	2	C-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9356B	2	C-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9357A	2	C-4	X					Gb	AO	Q	60	--	YES	Note 9	
SS9357B	2	C-4	X					Gb	AO	Q	60	--	YES	Note 9	

Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
FCV-RV111	I	C-6	X					2	G	AO	Q	60	--	YES	Note 9
FCV-RV112	I	C-6	X					2	G	AO	Q	60	--	YES	Note 9
FCV-RV113	I	B-6	X					2	G	AO	Q	60	--	YES	Note 9
FCV-RV114	I	B-6	X					2	G	AO	Q	60	--	YES	Note 9

Zion Unit #2
Inservice Test Program
A.S.M.E. Code Class 1, 2 and 3 Valves

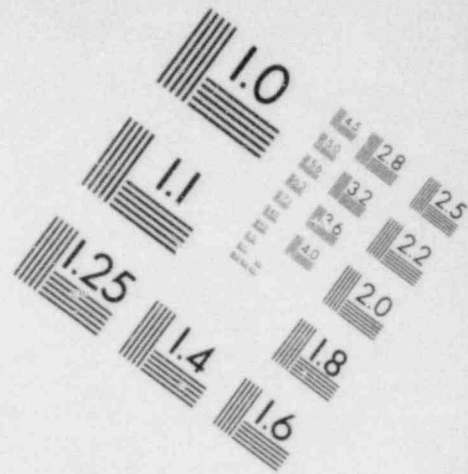
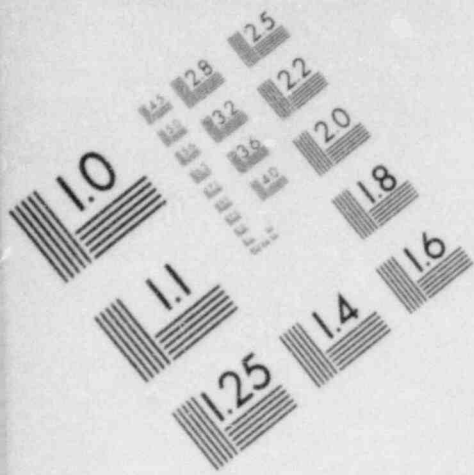
System: Waste Drain
Drawing Number: M-87

Valve Number	Code Class	Drawing Location	Valve Category				Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D				E	Exercise	Stroke Time (sec.)		
DT9157	I	D-6	X					AO	Q	60	R	NO	Note 9	
DT9159A	I	D-6	X				3/4	AO	Q	60	--	YES	Note 9	
DT9159B	I	D-6	X				3/4	AO	Q	60	--	YES	Note 9	
DT9160A	I	D-6	X				1	AO	Q	60	--	YES	Note 9	
DT9160B	I	D-6	X				1	AO	Q	60	--	YES	Note 9	
DT9170	I	C-6	X				3	AO	Q	60	--	YES	Note 9	
DT-LCV1003	I	C-6	X				3	AO	Q	60	--	YES	Note 9	

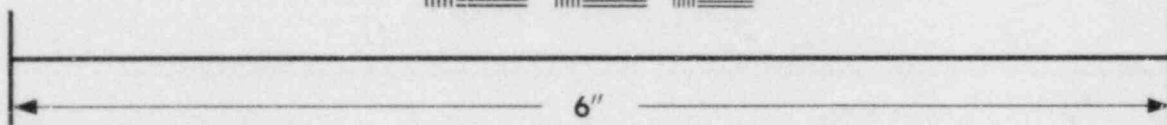
Valve Number	Code Class	Drawing Location	Valve Category					Size (Inches)	Valve Type	Actuator	Test			Relief Request	Remarks
			A	B	C	D	E				Exercise	Stroke Time (sec.)	Leakage		
RV0001	I	D-1	X					42	B	AO	Q	7	R	NO	
RV0002	I	D-1	X					42	B	AO	Q	7	R	NO	
RV0003	I	D-8	X					42	B	AO	Q	7	R	NO	
RV0004	I	D-8	X					42	B	AO	Q	7	R	NO	
RV0005	I	F-1	X					10	G	AO	Q	7	--	YES	Note 9
RV0006	I	F-1	X					10	G	AO	Q	7	--	YES	Note 9

NOTES

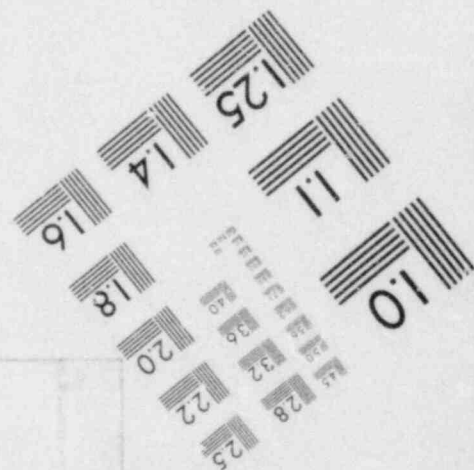
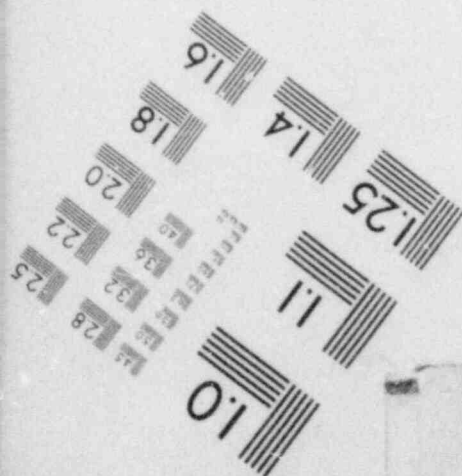
- 1) Closure of the mainsteam isolation valves during unit operation would result in reactor trip and safety injection actuation. To avoid this transient, these valves will be partially stroked every three months. Full stroke testing will be done during cold shutdown.
- 2) Full stroke exercising of this check valve will be demonstrated by establishing steam flow to the auxiliary feedwater pump turbine. Acceptable pump operation will demonstrate acceptable check valve opening.
- 3) Closure of the main feedwater isolation valves during unit operation would result in a reactor trip. These valves provide water as the normal heat removal for the steam generators. To avoid any transient, these valves will not be 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. In cold shutdown the steam generators are placed in the "wet lay-up" conditions with the secondary side essentially filled with feedwater. Stroke testing in this condition with the feedwater or condensate systems in operation would introduce an overflow of the steam generators filling 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.
- 4) Acceptable full stroke exercising of this check valve will be demonstrated by establishing proper pump discharge flow during periodic pump testing.
- 5) These check valves are passively open during normal operation and their required position to perform their safety function is to be open. The service water and component cooling system are continuously operated and monitored regarding their ability to provide adequate cooling. Upon system start up after a system shutdown the check valve is verified as opening by verification of proper system operation.
- 6) Same as Note 5. Additionally, the periodic test of the diesel generators demonstrates proper flow through these check valves by verification of proper engine fluids temperatures.
- 7) These valves will be leak tested in accordance with 10CFR50, Appendix J.

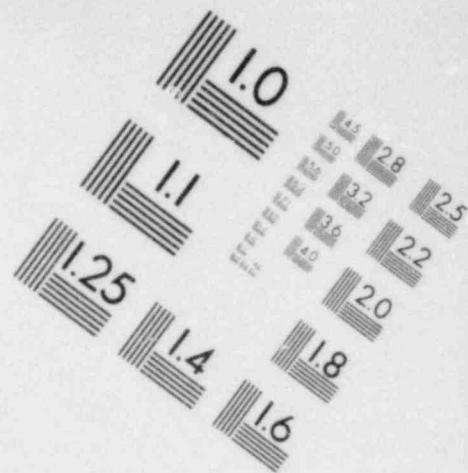
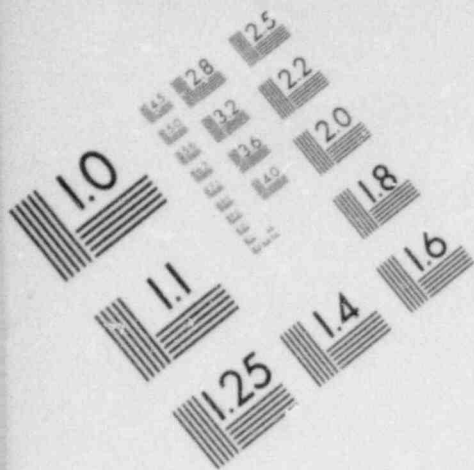


**IMAGE EVALUATION
TEST TARGET (MT-3)**

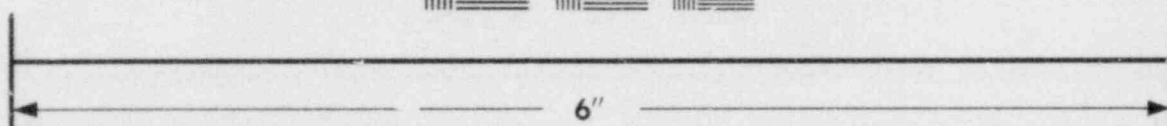


MICROCOPY RESOLUTION TEST CHART

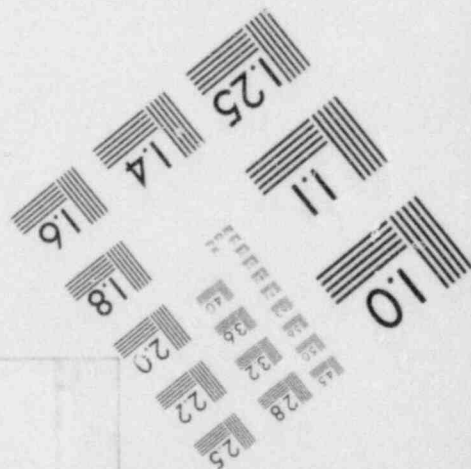
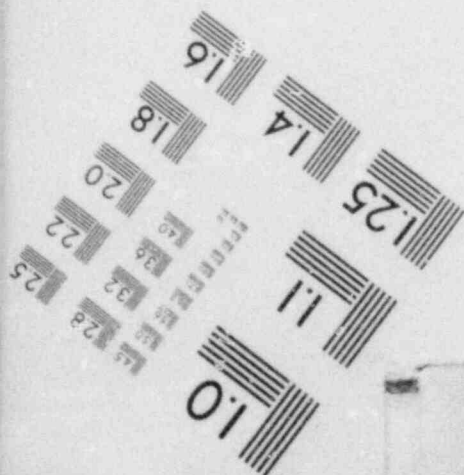




**IMAGE EVALUATION
TEST TARGET (MT-3)**



MICROCOPY RESOLUTION TEST CHART



- 8) Check valves in the spray additive system cannot be exercised without introducing NaOH contaminants into the spray system. Operability of these three 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.
- 9) These valves function as containment isolation valves. Relief is requested from performing seat leakage testing required by IWV-3420. As an alternative these valves are tested in accordance with 10 CFR 50 Appendix J as required by Tech. Spec. 4.10. Additionally these valves are supplied by an Isolation Valve Seal Water System, which is functionally tested as part of this program and Tech. Spec. 4.9.1. These alternative tests will adequately ensure that the containment isolation valve perform their intended function as described in the FSAR.
- 10) These IVSW check valves can only be tested by observing flow through downstream tell-tale drain or by disassembly of the valve to verify proper disk freedom of movement. This testing would render the system unable to perform its safety function. These valves will be tested during cold shutdown.
- 11) Manually operated valves in the reactor coolant pump seal injection lines remain in a normally open condition during unit operation. Manually operated needle valves are adjusted to regulate seal injection flow to maintain correct pressure differentials at the pump seals. The seal injection system remains in operation following any postulated accident contributing to the safety injection flow to the reactor coolant system while maintaining and protecting the pump seals. Should it be required during a protracted accident these valves may be closed and provided with isolation valve seal water.

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

Relief is taken from measuring stroke time on manual valves.

- 12) These manual valves are maintained passively closed during unit operation and are not required to function, other than provide containment isolation, to safely shutdown the reactor or mitigate the consequences of an accident. Exception is taken to the performance of exercising tests as required by IWV-3410.

POOR ORIGINAL

- 13) 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 injection flow conditions. Partial stroke exercising of these check valves will be demonstrated by establishing proper pump discharge flow during periodic pump testing.

Full stroke exercising of this check valve 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.

- 14) Full stroke exercising of the charging pump suction check valve cannot be demonstrated during unit operation as the reactor coolant system pressure prevents the pumps from reaching full injection flow conditions. Partial stroke exercising of this check valve will be demonstrated by verifying charging flow is maintained when the charging pump suction path is transferred from the Volume Control Tank to the Refueling Water Storage Tank during the quarterly valve exercise test.

Full stroke exercising of this check valve 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.

- 15) These check valves cannot be full stroke tested during unit operation as the shut off head of the pumps are lower than reactor coolant system pressure.

Partial stroke exercising of these check valves will be demonstrated by establishing proper pump discharge flow during periodic pump testing.

Full stroke exercising of this check valve can only be demonstrated 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 protecting against overpressurization 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.

16) These check valves cannot be tested during unit operation as the shutoff head of the pumps are lower than reactor coolant system pressure. Full stroke testing of all the branch run 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.

17) These check valves cannot be tested during unit operation as the injection of cold, highly borated water would result in a change in reactor core reactivity and undue thermal cycling of the injection nozzles.

Full stroke exercising of all the branch run 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 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.

18) These check valves cannot be full stroke tested during unit operation as the shut off head of the pumps are lower than reactor coolant system pressure.

Partial stroke exercising of these check valves will be demonstrated by establishing proper pump discharge flow during periodic pump testing.

Full stroke exercising of this check valve 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.

19) These check valves cannot be tested during unit operation as the shutoff head of the pumps are lower than reactor coolant system pressure. (Con't)

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.

- 20) 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). 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 guillotine break. These valves will be partial stroke tested during cold shutdown.
- 21) Component cooling water flow to the reactor coolant pumps is required at all times the pumps are in operation. Failure of one of these valves in a closed position during exercise test would result in a loss of the cooling flow to the pumps. Exemption is taken to the quarterly exercise test. The 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.
- 22) This check valve is in the containment air particulate and gas monitor return line. The containment monitor is in continuous operation during unit operation and is also required for containment sampling in the event of an accident since it is passively open and required to stay open. The continued proper operation of the system serves to demonstrate proper check valve operation.
- 23) This manual valve is in the containment air particulate and gas monitor return line. Quarterly closing of this valve during operation would render the system unable to perform its sampling function. Full stroke testing will be performed during cold shutdown. Relief is taken from measuring stroke time on manual valves.

- 24) The requirement for the containment air particulate and gas monitor return line isolation is one valve. The leak test can only be performed using both the check valve (PR0029) and the relief valve in series as one containment isolation boundary.
- 25) Closure of these valves during normal unit operation would result in a loss of letdown flow resulting in a reactor in a reactor coolant inventory transient and a subsequent reactor trip. These valves will be full stroke exercised during cold shutdown as required by ASME Section XI, IWV-3410(b)(1).
- 26) These valves are located in a closed valve containment assembly which is designed as an extension of the containment boundary. These valves are inaccessible during plant operation. The valves can be made accessible during plant shutdown by disassembly of the valve containment assembly. This requires approximately 100 man-hours per valve in a radiation field up to 50 mr per hour. Verification that the valve position indication switches have changed in relation to valve position can be made by observing that no significant change in valve stroke time has occurred. Due to the burden in manpower and radiation exposure to perform the direct observation, relief is taken from the requirements of IWV-3000.
- 27) These valves can only be full stroke tested by rendering their control systems inoperable. These valves will be full stroke tested during cold shutdown.
- 28) The RHR Suction valves from the reactor coolant system cannot be stroke tested during power operation. These valves are interlocked with reactor coolant system and are prohibited from opening above 425 psig. Opening these valves would cause a depressurization of the reactor coolant system and overpressurization of the RHR System. These valves will be full stroke tested during cold shutdown.
- 29) This motor operated valve in the reactor coolant pump seal injection return line must remain in a normally open condition during unit operation in order to maintain proper pump seal flow.

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

NRC Docket Nos. 50-295
50-304

ATTACHMENT 3

Technical Specification Changes
for
Zion Station

The following page has been modified:

103

6662A

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENT

3.3.4

4.3.4.C.1

2. Inservice testing of ASME Code Class 1, Class 2, and Class 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10CFR50, Section 50.55a(g), except where specific written relief has been granted by the NRC pursuant to 10CFR50, Section 50.55a(g)(6)(i).