REVISION 2 CHANGES .

Section	Pages
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7911060 418

INSERVICE INSPECTION PROGRAM

Record of Changes

Change Number	Date Entered	INITIALS		
		PORC	Pl Supt	MOO
1	6/25/79	6/23/79	w/p.1 to WFC	D.E. Moody 6/25/79
2	10/18/79		w/c	D.E. Moody 10/22/79

Change Number	Date Entered	INITIALS		
		PORC	Pl Supt	MOO

POOR ORIGINAL

ABSTRACT

The Ten-year program presented within this document was written to comply with the requirements of revisions to 10 CFR 50.55 a(g) published in the Federal Register, September 1, 1978, concerning inservice examinations, tests, evaluations, and repairs of safety related components. This Inservice Inspection Program complies with the surveillance requirements of Technical Specifications section 4.6.E.

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INSERVICE INSPECTION PROGRAM

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CODE BASIS AND ACCEPTANCE CRITERIA

A) The nondestructive inspections listed under Sections I and II shall be performed per the requirements of the 1974 edition of ASME, Section XI, up to and including the 1975 Summer Addenda except piping examinations (Categories B-F, B-J, C-F, & C-G) shall be per the requirements of ASME Section XI, 1974 edition, 1976 Summer Addenda, Appendix III.

B) Recording levels shall be at 50% of the reference level.

C) The acceptance criteri.. for the nondestructive examinations shall be per the same Code required for the performance of the examinations as named in part A above.

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TECHNICAL SPECIFICATIONS

In compliance with 10 CFR 50.55 a(g)(5) Vermont Yankee submitted a revision to its Technical Specifications on January 30, 1979. Presently, Vermont Yankee bases the Inservice Inspection Program on its current technical specifications and the edition of ASME Section XI, described under "Code Basis and Acceptance Criteria".

Commencing January 30, 1980, the updated Technical Specifications are to be implemented. The effective edition of the code is the edition and addenda published in 10 CFR 50.55 a(b). The code applicable to the updated Technical Specifications will be ASME Section XI, 1974, Summer 1975 addenda.

In accordance with 10 CFR 50.55 a(g) and Vermont Yankee letter to NRC dated April 29, 1977, the three - three and one-third year inspection periods of the first interval for Inservice Inspection commence as follows:

Period 1	November 30, 1972
Period 2	November 30, 1977
Period 3	January 30, 1980

The Inservice Test Program (Pump and Valve Operability) commences July 30, 1979. (Refer to Relief Request G-2).

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CLASSIFICATION OF NUCLEAR SYSTEMS AND COMPONENTS

The guidelines for Safety Classification at Vermont Yankee are defined in Yankee Atomic Electric Company document; Operational Quality Assurance Manual (YOQAP-1-A), Appendix E, issued August 15, 1977.

This classification is summarized in the accompanying tables. Flow diagrams of Safety Related Systems are provided following the Safety Class tables.

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TABLE 1

SAFETY CLASS 1 COMPONENTS

* Reactor Pressure Vessel

* Reactor Vessel Support Skirt

* Recirculation System Piping

* Recirculation System Pumps and Valves

* Main Steam Piping (to and including outermost containment isolation valve)

* Main Steam Safety Relief Valves

* Feedwater Piping (to and including outermost containment isolation valve)

* Standby Liquid Control Piping Inside Containment (to and including outermost isolation valve)

* RHR Piping and Valves Inside Containment (to and including outermost isolation valve)

* Core Spray Piping and Valves Inside Containment (to and including outermost isolation valve)

* Control Rod Drive Return Piping (to and including outermost isolation valve)

* HPCI Steam Piping and Valves Inside Containment (to and including outermost isolation valve)

* RCIC Steam Piping and Valves Inside Containment (to and including outermost isolation valve)

* Reactor Water Cleanup Piping and Valves Inside Containment (to and including outermost isolation valve)

* Reactor Vessel Internals

* Reactor Vessel Stabilizers

Note: Vessel Internals and Stabilizers are addressed as S.C. - 2 in YOQAP-1-A. However, for ISI purposes VY classifies them as S.C. - 1 in accordance with ASME Section XI.

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TABLE 2

SAFETY CLASS 2 COMPONENTS

** CRD Scram Discharge Volume

** Scram Piping

** Standby Liquid Control Pumps and Explosives Valves

** Standby Liquid Control Piping (outside containment)

** Primary Containment Piping and Valves (to and including outermost isolation valve)

** Reactor Building Ventilation Isolation Valves

** Standby Gas Treatment Filters and Fans

** Containment Air Dilution Pressurization System Compressors, Piping and Valves

** CAD Vent System Piping and Valves

** CAD Sampling System Piping and Valves

** RHR Piping, Pumps and Valves (outside containment)

** RHR Heat Exchangers (shell side)

** Core Spray Piping, Pumps and Valves (outside containment)

** HPCI Steam Supply and Exhaust Piping and Valves (outside containment)

** HPCI Pump-Turbine

** HPCI Injection Piping and Valves

** RCIC Steam Supply and Exhaust Piping and Valves (outside containment)

** RCIC Pump-Turbine

** RCIC Injection Piping and Valves

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TAPLE 3

SAFETY CLASS 3 COMPONENTS

*** Main Steam Safety Relief Valve Discharge Piping

*** Service Water Pumps

*** Service Water Piping and Valves to Supply Water to RHR Service Water Pumps and Diesel Coolers

*** RHR Service Water Pumps

*** RHR Heat Exchanger (tube side)

*** Fuel Pool Cooling Pumps, Valves, Heat Exchangers and Piping

*** Advanced Off-Gas Charcoal Absorber Tanks and Associated Piping and Valves

*** Diesel Generator Air Start System

*** Fuel Oil System

*** Diesel Coolers and Associated Piping and Valves (service water side)

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SYSTEM FLOW DIAGRAMS FOR SAFETY RELATED SYSTEMS

The following drawings are provided with the ISI program submittal for NRC review only: (NOT included in In-house copies)

G-191159 Sht. 1	Service Water System
G-191159 Sht. 5	Service Water System
G-191160 Sht. 1	Service & Instrument Air
G-191160 Sht. 2	Service & Instrument Air
G-191162	Miscellaneous Systems
G-191167	Nuclear Boiler
G-191168	Core Spray System
G-191169 Sht. 1	HPCI System
G-191169 Sht. 2	HPCI System
G-191170	Control Rod Drive Hydraulic System
G-191171	Standby Liquid Control
G-191172	Residual Heat Removal System
G-191173	Fuel Pool Cooling and Cleanup System
G-191174 Sht. 1	RCIC System
G-191174 Sht. 2	RCIC System
G-191175	Primary Containment - Atmospheric Control
G-191176	Condensate & Demin. Water Transfer
G-191177 Sht. 1	Radwaste System
G-191178 Sht. 1	Reactor Water Cleanup System
G-191238	HVAC - Reactor Bldg.
G-191267	Nuclear Boiler Vessel Instrumentation
VY-E-75-002	Containment Air Dilution System

1277 217

NUMBER: G-1

CODE PARAGRAPH: IWA-2232

BASIS: As described in the NRC Safety Evaluation associated with Ammendment No. 45, dated June 20, 1978, our present need is primarily for the identification of service induced flaws. Procedures written to the summer 1976 Code meet this objective.

ALTERNATE: ASME Section XI, 1974 edition, 1976 summer addenda, Appendix III, will be used for all piping examinations. Recording levels will be at 50% of the reference level.

1277 218

RELIEF REQUEST BASIS

Number G-2

Number: G-2 - Effective July 30, 1979 to January 29, 1980

Code Paragraphs:

IWP-3100	IWV-3200
IWP-3200	IWV-3300
IWP-3300	IWV-3400
IWP-3400	IWV-3500
IWP-3500	IWV-3600
IWP-6000	IWV-6000

Basis: For the reasons discussed in a Vermont Yankee letter (D. E. Vandenburgh) to the NRC (Office of Nuclear Reactor Regulation) dated April 25, 1979, and two telephone conversations between the VY staff and the NRC staff on June 11 and 14, Vermont Yankee requests temporary relief from the ASME Section XI Paragraphs specified above.

ASME Section XI specifies many procedural, programmatic, and record-keeping requirements necessary for full compliance with the Pump and Valve Testing Program. In order to prepare our procedural framework for fulfilling all of the programmatic requirements of ASME XI, it requires a change to more than 50 station operating procedures and training of appropriate plant personnel. Our present procedures do provide sufficient administrative controls, extensive testing instructions and adequate requirements for data recording and recordkeeping as evidenced by a 7-year history of a successful surveillance and maintenance program.

The Pump and Valve Testing portion of the Inservice Inspection Program incorporates, as a minimum, all presently required Technical Specification referenced operability tests. In addition, all other valves and pumps specified are, and will continue to be, tested (with minor exceptions) in accordance with the ISI Program. Of the approximately 1200 valves specified in the Program, 27 small relief valves and 2 level control valves will not be tested in full compliance with the Program until January 30, 1980.

Alternate: Due to the extensive procedural modifications and training required to implement a quality ASME Section XI Program and due to the fact that our present program is essentially the same as the one proposed in our April 30, 1979 submittal, we will continue to perform the operability testing of pumps and valves as detailed in our present procedures until January 29, 1980. Commencing January 30, 1980, all tests performed will be in full compliance with our Inservice Inspection Program. This Relief Request will be voided at that time.

1277 219

SAFETY CLASS 1 COMPONENTS

In compliance with Section XI, Sub-section IWB, safety class 1 components are to be inspected as addressed in IWB-2600. Those components meeting the exemption criteria of IWB-1220 are to be examined under the requirements of Category B-P in Table IWB-2500. These components are addressed in the "Hydro" Section of this program.

Relief Request Bases to IWB are found in back portion of this section.

Note: Drawings identified as "5920" drawings are not included in this book. They are maintained on site in the Main Print File.

1277 220

INSPECTION SUMMARY

Item No.	Category	No. in Category	Number and % Required 1st Interval: Periods 1 & 2 -each (Tech. Spec.)	Number and % Required 1st Interval: Period 3 (ASME Sum. 75)	Subsequent Intervals	Comments
Reactor Vessel						
B1.1	B-A	7	0	0	0	See Relief Request No. B-1
B1.2	B-B	Top: 6-Meridian 1-Circum. 2-Longit. Bottom: 12 welds	3% of ea. weld 1.5% of weld 3% of ea. weld 0	3 1/3% of ea. weld 1 2/3% of weld 3 1/3% of ea. weld 0	10% of weld 5% of weld 10% of weld 0	See Relief Request No. B-2
B1.3	B-C	1 Head 1 Vessel	25% of ea. weld	33 1/3% of ea. weld	100% of ea. weld	
B1.4	B-D	30	7 & 8	10	29	See Relief Request No. B-3
B1.5	B-E	89	B-E-1 (0) B-E-2 (9)	8	23	
B1.6	B-F	21	5 & 6	7	21	
B1.7 or B1.8	B-G-1	64 studs 64 nuts	16 studs 16 nuts	22 studs 22 nuts	64 studs 64 nuts	
B1.9	B-G-1	64	16	22	64	
B1.10	B-G-1	64	16	22	64	

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Item No.	Category	No. in Category	Number and % Required 1st Interval: Periods 1 & 2 -each (Tech. Spec.)	Number and % Required 1st Interval: Period 3 (ASME Sum. 75)	Subsequent Intervals	Comments
Reactor Vessel						
B1.11	B-G-2	32	8	11	32	
B1.12	B-H	5	0	2	4	See Relief Request No. B-8 *
B1.13	B-I-1	8	2	2	6	
B1.14	B-I-1	6	2	2	6	
B1.15	B-N-1	N/A	1st Refuel	As accessible	Refuels every 3 years	
B1.16	B-N-2	N/A	0	As accessible	As accessible	
B1.17	B-N-3	--	--	--	--	
B1.18	B-O	20	0	1	2	
B1.19	B-P					See hydrostatic pressure test
Piping (See Relief Request No. G-1)						
B4.1	B-F	9	2 & 3	3	9	See Relief Request No. B-7 *
B4.2 B4.3 B4.4	B-G-1	0	--	--	--	
B4.5	B-J	483	51 & 52	40	121	Instrument lines previously * excluded by ISI-121 are currently under Item B4.11
B4.6	B-J	8		1	2	
B4.7	B-J	16		1	4	See Relief Request No. B-7 *

1277 222

Item No.	Category	No. in Category	Number and % Required 1st Interval Periods 1 & 2 -each (Tech. Spec.)	Number and % Required 1st Interval Period 3 (ASME Sum. 75)	Subsequent Intervals	Comments	
B4.9	B-K-1	37	5	3	10	See RRB B4	*
B4.10	B-K-2	119	30 & 30	40	119	Snubbers require periodic visual examination and operability testing in accordance with Tech Spec. section 4.6.1	* *
B4.11	B-P	See Comment	22	As required	All	Consist of Instruments Lines or S.C-1 lines under 1.75 inch I.D. for water and under 3.5 inches for steam.	
B4.12	B-G-2	164 bolts 180 nuts	41 bolts 45 nuts	55 bolts 60 nuts	164 bolts 180 nuts		
Pumps							
B5.1	B-G-1	32	8	11	32	Bolts are examined in place. Surface examinations shall be performed if and when pump bolts are removed.	
B5.4	B-K-1	12	2	1	3	See RRB B4	*
B5.5	B-K-2	8	2	3	8	See comment B4.10	*

1277 223

Item No.	Category	No. in Category	Number and % Required 1st Interval: Periods 1 & 2 -each (Tech. Spec.)	Number and % Required 1st Interval: Period 3 (ASME Sum. 75)	Subsequent Intervals	Comments
B5.6	B-L-1	0	0	0	0	Pump casting are cast, there aer no casting seam welds. **
B5.7	B-L-2	1	0	0	0	2 pumps performing similar functions. See Relief Request No. B-6
B5.8	B-P	0	0	0	0	
B5.9	B-G-2	0	0	0	0	
	Valves					
	B-G-1	0	0	0	0	
B6.4	B-K-1	0	0	0	0	
B6.5	B-K-2	0	0	0	0	
B6.6	B-M-1	0	0	0	0	
B6.7	B-M-2	17	0 & 2	17 end of 10 yrs.	17	See Relief Request No. B-5 Grouped by similar function.
B6.8	B-P	0	0	0	0	
B6.9	B-G-2	716	179 & 218	239	716	

1277.224

APPLICATION OF CODE EXEMPTIONS

Safety Class 1 Components exempted from examination according to Section XI, Sub-Sub article IWB-1220 are as follows:

System or Component	Exemption Criteria
1. Reactor Instrument Lines	IWB - 1220 (b)(3)
2. Reactor Drain Line (N15)	IWB - 1220 (b)(1)
3. Cleanup Water Line CUW - 18	IWB - 1220 (b)(1)
4. Nozzle N10 Instrument	IWB - 1220 (b)(1)
5. Steam Drain Lines	IWB - 1220 (b)(1)
6. Nozzle N7 Instrument	IWB - 1220 (b)(1)
7. Recirc. Drain Lines	IWB - 1220 (b)(1)

Notes: Liquid filled lines below 2" schedule 80 and steam filled below 4" schedule 80 meet the exemption criteria of IWB - 1220 (b)(1).

All components falling under the exemption criteria of IWB-1200 are examined under the System Pressure Tests of IWB-5000. Refer to the "Hydro" Section of this program.

ITEM NO: B1.2 CATEGORY: B-B

Component:		Size		Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Closure Head Welds	Meridian													
	B1	7'-1 9/16"	arc length	A-533-65 GRB	RV-1		H-22	Vol	X	X	X	X	X	X
	B2	"	"	"	"		"	"	X	X	X	X	X	X
	B3	"	"	"	"		"	"	X	X	X	X	X	X
	B4	"	"	"	"		"	"	X	X	X	X	X	X
	B5	"	"	"	"		"	"	X	X	X	X	X	X
	B6	"	"	"	"		"	"	X	X	X	X	X	X
Circumferential Weld	AB	16'-1 3/4"	arc length	"	"		"	"	X	X	X	X	X	X
Longitudinal	D1	"	"	"	"		"	"	X	X	X	X	X	X
Vessel Welds	D2	16'-1 3/4"	arc length	A-533-65 GRB	RV-1		H-22	Vol	X	X	X	X	X	X

1277 226

ITEM NO: B1.3 CATEGORY: B-C

Component:		Size		Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circumferential Welds														
Head Flange	BC	51'-10½"	arc length	A-533-65 GRB	RV-1		H-22	Vol	X	X	X	X	X	X
Vessel Flange	CD			A-533-65 GRB	RV-1		H-22	Vol	X	X	X	X	X	X

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ITEM NO: B1.4 CATEGORY: B-D 5920

Component:	Nozzle Size	Vessel Mat'l	Nozzle Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Nozzle to Vessel Welds													
N1A	36" x 28"	A-533-65 GRB	A-508 CLII	RV-1		238	Vol	X			X		
N1B	36" x 28"	"	"	"		"	"	X			X		
N2A	12"	"	"	"		656	"	X			X		
N2B	12"	"	"	"		"	"	X			X		
N2C	"	"	"	"		"	"		X			X	
N2D	"	"	"	"		"	"		X			X	
N2E	"	"	"	"		"	"			X			X
N2F	"	"	"	"		"	"			X			X
N2G	"	"	"	"		"	"		X		X		
N2H	"	"	"	"		"	"			X	X		
N2J	"	"	"	"		"	"			X		X	
N2K	"	"	"	"		"	"			X			X
N3A	18"	A-533-65	"	"		239	"		X			X	
N3B	"	"	"	"		"	"		X			X	
N3C	"	"	"	"		"	"			X			X
N3D	"		"	"		"	"			X			X
N4A	10"	"	"	"		241	"	X			X		
N4B	10"	"	"	"		"	"	X			X		
N4C	"	"	"	"		"	"	X			X		
N4D	10"	A-533-65	A-508 CLII	RV-1		241	Vol	X			X		

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ITEM NO: B1.4 CATEGORY: B-D

Component:	Nozzle Size	Vessel Mat'l	Cal. Standard			5920 Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Nozzle to Vessel Welds													
N5A	10"	A-533-65	A-508 CLII	RV-1		624	Vol.		X			X	
N5B	"	"	"	"		"	"		X			X	
N6A	6"	"	"	"		243	"			X			X
N6B	6"	A-533-65	A-508 CLII	RV-1		243	Vol.			X			X
N7	4"	A-533-65 GR.B	"	"		244	Vol.			X		X	
N8A	4"	"	"	"		245	Vol.			X		X	
N8B	4"	"	"	"		"	"			X		X	
N9	3"	"	"	"		246	Vol.		X				X
N10	2"	A-533-65 GR.B	A-508 CL II	RV-1		358	Vol.			X			X
N15	See RRB No. B-3												

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ITEM NO: B1.5 CATEGORY: B-E

Component:	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
			1	2	3	1	2	3
Control Rod Drive Penetrations & Control Rod Housing Pressure Boundary Welds								
02-19	H-25	VIS				X		
02-23	"	"						X
02-27	"	"	X					
06-11	"	"				X		
06-15	"	"						
06-19	"	"						
06-23	"	"		X				
06-27	"	"						
06-31	"	"						
06-35	"	"					X	
10-07	"	"	X					
10-11	I-25	"						
10-15	"	"						
10-19	"	"		X				
10-23	"	"						
10-27	"	"						X
10-31	"	"						
10-35	"	"	X					
10-39	I-25	VIS				X		

1277.230

ITEM NO: B1.5 CATEGORY: B-E

Component:	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
			1	2	3	1	2	3
CRD Penetrations								
14-07	I-25	VIS						
14-11	"	"			X			
14-15	"	"						
14-19	"	"						
14-23	"	"	X					
14-27	"	"						
14-31	"	"			X			
14-35	"	"						
14-39	"	"		X				
18-03	"	"			X			
18-07	"	"						
18-11	"	"					X	
18-15	"	"						
18-19	"	"		X				
18-23	"	"						
18-27	"	"						X
18-31	"	"				X		
18-35	"	"						X
18-39	"	"						
18-43	I-25	VIS				X		

1277 231

ITEM NO: B1.5 CATEGORY: B-E

Component:	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
			1	2	3	1	2	3
CRD Penetrations								
	I-25	VIS						
	"	"						
22-03	"	"						
22-07	"	"					X	
22-11	"	"						
22-15	"	"	X					
22-19	"	"						
22-23	"	"			X			
22-27	"	"						
22-31	"	"		X				
22-35	"	"						
22-39	"	"					X	
22-43	"	"						
26-03	"	"				X		
26-07	"	"		X				
26-11	"	"						X
26-15	"	"						
26-19	"	"				X		
26-23	"	"						
26-27	I-25	VIS					X	

1277 232

ITEM NO: B1.5 CATEGORY: B-E

Component:	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
			1	2	3	1	2	3
CRD Penetrations								
26-31	I-25	VIS						
26-35	"	"						X
26-39	"	"			X			
26-43	"	"	X					
30-07	"	"	X					
30-11	"	"						
30-15	"	"					X	
30-19	"	"						
30-23	"	"			X			
30-27	"	"						
30-31	"	"	X					
30-35	"	"						
30-39	"	"						
34-07	"	"						
34-11	"	"		X				
34-15	"	"						
34-19	"	"			X			
34-23	"	"						
34-27	"	"					X	
34-31	I-25	VIS						

ITEM NO: B1.5 CATEGORY: B-E

Component:	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
			1	2	3	1	2	3
CRD Penetrations								
34-35	I-25	VIS		X				
34-39	"	"						X
38-11	"	"						
38-15	"	"						
38-19	"	"	X					
38-23	"	"						
38-27	"	"				X		
38-31	"	"						
38-35	"	"		X				
42-19	"	"					X	
42-23	"	"						
42-27	I-25	VIS			X			

1277 234

ITEM NO: B1.6 CATEGORY: B-F

Component:	Nozzle Size	Nozzle Mat'l	Safe-end Mat'l	Nozzle Cal. Standard	Safe-End Cal. Standard	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Nozzle to Safe-end Welds													
N1A-SE	28"	A-508 CLII	SA-240 TP 304		VY-35	5920-483	Vol & Sur	X			X		
N1B-SE	"	"	"		"	"	"	X			X		
N2A-SE	12"	"	A-336 F8	RV-4	VY-30		"			X			X
N2B-SE	"	"	"	"	"		"			X			X
N2C-SE	"	"	"	"	"		"		X			X	
N2D-SE	"	"	"	"	"		"		X			X	
N2E-SE	"	"	"	"						X			X
N2F-SE	"	"	"	"	"		"			X			X
N2G-SE	"	"	"	"	"		"		X			X	
N2H-SE	"	"	"	"	"		"			X			X
N2J-SE	"	"	"	"	"		"			X			X
N2K-SE	"	"	"	"	"		"			X			X
N5A-SE	10"	"	B-168		VY-14		"				X		
N5B-SE	"	"	"		"		"				X		
N6A-SE	6"	"	A-336 F8	Radiograph			"		X			X	
N6B-SE	"	"	"	Radiograph			"		X			X	
N7 -SE	4"	"	"	Radiograph			"		X			X	
N8A-SE	"	"					"	X			X		
N8B-SE	"	"					"				X		
N9 -SE	3"	A-508 CLII	A-336 F8				Vol & Sur	X			X		

1277 235

ITEM NO: B1.6 CATEGORY: B-F

Component:	Nozzle Size	Nozzle Mat'l	Safe-end Mat'l	Nozzle Cal. Standard	Safe End Cal. Standard	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Nozzle to Safe-end Welds													
N10-SE	2"	A-508 CLII	A-336 F8				Vol & Sur	X				X	

1277 236

ITEM NO: B1.8 CATEGORY: B-G-1

Component:		Stud Size	Nut Size	Stud Mat'l	Cal. Standard	Nut 5920 Drawing No.	Stud 5920 Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Bolting >2" Diam.														
Vessel Closure Studs & Nuts	1	5 1/16"	dia. 8" dia.	A-540 GRB	RPB-2	485	484	Vol & Sur.	X				X	
	2	"	"	"	"	"	"	"	X				X	
	3	"	"	"	"	"	"	"	X			X		
	4	"	"	"	"	"	"	"				X		
	5	"	"	"	"	"	"	"				X		
	6	"	"	"	"	"	"	"			X			X
	7	"	"	"	"	"	"	"			X			X
	8	"	"	"	"	"	"	"			X			X
	9	"	"	"	"	"	"	"			X			X
	10	"	"	"	"	"	"	"			X		X	
	11	"	"	"	"	"	"	"			X		X	
	12	"	"	"	"	"	"	"		X			X	
	13	"	"	"	"	"	"	"		X			X	
	14	"	"	"	"	"	"	"	X			X		
	15	"	"	"	"	"	"	"	X			X		
	16	"	"	"	"	"	"	"	X			X		
	17	"	"	"	"	"	"	"	X			X		
	18	"	"	"	"	"	"	"	X			X		
	19	"	"	"	"	"	"	"	X			X		
	20	5 1/16"	8"	A-540 GRB	RPB-2	485	484	Vol & Sur		X				X

1777 237

ITEM NO: B1.8 CATEGORY: B-G-1

Component:		Stud Size	Nut Size	Stud Mat'l	Cal. Standard	Nut 5920 Drawing No.	Stud 5920 Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Bolting >2" Diam.														
Vessel Closure Studs & Nuts	21	5 1/16" dia	8" dia	A-540 GRB	RPB-2	485	484	Vol & Sur		X				X
	22	"	"	"	"	"	"	"		X				X
	23	"	"	"	"	"	"	"				X		
	24	"	"	"	"	"	"	"				X		
	25	"	"	"	"	"	"	"				X		
	26	"	"	"	"	"	"	"				X		
	27	"	"	"	"	"	"	"			X		X	
	28	"	"	"	"	"	"	"			X		X	
	29	"	"	"	"	"	"	"			X		X	
	30	"	"	"	"	"	"	"			X		X	
	31	"	"	"	"	"	"	"			X		X	
	32	"	"	"	"	"	"	"			X			X
	33	"	"	"	"	"	"	"			X			X
	34	"	"	"	"	"	"	"			X			X
	35	"	"	"	"	"	"	"			X			X
	36	"	"	"	"	"	"	"		X				X
	37	"	"	"	"	"	"	"		X				X
	38	"	"	"	"	"	"	"		X			X	
	39	"	"	"	"	"	"	"		X			X	
	40	5 1/16 dia.	8" dia.	A-540 GRB	RPB-2	485	484	Vol & Sur	X				X	

1277 238

ITEM NO: B1.8 CATEGORY: B-G-1

Component:		Stud Size	Nut Size	Stud Mat'l	Cal. Standard	Nut 5920 Drawing No.	Stud 5920 Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Bolting >2" Diam.														
Vessel Closure Studs & Nuts	41	5 1/16" dia	8" dia	A-540 GRB	RPB-2	485	484	Vol & Sur	X				X	
	42	"	"	"	"	"	"	"	X				X	
	43	"	"	"	"	"	"	"			X			X
	44	"	"	"	"	"	"	"			X			X
	45	"	"	"	"	"	"	"			X			X
	46	"	"	"	"	"	"	"			X			X
	47	"	"	"	"	"	"	"				X		
	48	"	"	"	"	"	"	"				X		
	49	"	"	"	"	"	"	"				X		
	50	"	"	"	"	"	"	"		X			X	
	51	"	"	"	"	"	"	"		X			X	
	52	"	"	"	"	"	"	"		X			X	
	53	"	"	"	"	"	"	"		X		X		
	54	"	"	"	"	"	"	"	X			X		
	55	"	"	"	"	"	"	"	X			X		
	56	"	"	"	"	"	"	"	X			X		
	57	"	"	"	"	"	"	"	X			X		
	58	"	"	"	"	"	"	"		X		X		
	59	"	"	"	"	"	"	"		X				X
	60	5 1/16" dia.	8" dia.	A-540 GRB	RPB-2	485	484	Vol & Sur		X				X

1277 239

ITEM NO: B1.8 CATEGORY: B-G-1

Component:		Stud Size	Nut Size	Stud Mat'l	Cal. Standard	Nut 5920 Drawing No.	Stud 5920 Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Bolting >2" Diam.														
Vessel Closure Studs & Nuts	61	5 1/16"dia	8" dia.	A-540 GRB	RPB-2	485	484	Vol & Sur			X			X
	62	"	"	"	"	"	"	"			X		X	
	63	"	"	"	"	"	"	"			X		X	
	64	5 1/16" dia	8" dia	A-540 GRB	RPB-2	485	484	Vol & Sur			X		X	

1277 240

ITEM NO: P1.9 CATEGORY: B-G-1

Component:			Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Ligaments between Threaded 5 1/16" diam. stud holes													
1			A533-65 GRB	RV-1		H-21	Vol	X				X	
2			"	"		"	"	X				X	
3			"	"		"	"	X			X		
4			"	"		"	"				X		
5			"	"		"	"				X		
6			"	"		"	"			X			X
7			"	"		"	"			X			X
8			"	"		"	"			X			X
9			"	"		"	"			X			X
10			"	"		"	"			X		X	
11			"	"		"	"			X		X	
12			"	"		"	"		X			X	
13			"	"		"	"		X			X	
14			"	"		"	"	X			X		
15			"	"		"	"	X			X		
16			"	"		"	"	X			X		
17			"	"		"	"	X			X		
18			"	"		"	"	X			X		
19			A-533-65 GRB	RV-1		H-21	Vol	X			X		

1277 241

ITEM NO: B1.9 CATEGORY: B-G-1

Component:			Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Ligaments between threaded 5 1/16" diam. stud holes (Con't)													
20			A533-65 GRB	RV-1		H-21	Vol		X				X
21			"	"		"	"		X				X
22			"	"		"	"		X				X
23			"	"		"	"				X		
24			"	"		"	"				X		
25			"	"		"	"				X		
26			"	"		"	"				X		
27			"	"		"	"			X		X	
28			"	"		"	"			X		X	
29			"	"		"	"			X		X	
30			"	"		"	"			X		X	
31			"	"		"	"			X		X	
32			"	"		"	"			X			X
33			"	"		"	"			X			X
34			"	"		"	"			X			X
35			"	"		"	"			X			X
36			"	"		"	"		X				X
37			"	"		"	"		X				X
38			A533-65 GRB	RV-1		H-21	Vol		X			X	

1277 242

ITEM NO: B1.9 CATEGORY: B-G-1

Component:			Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Ligaments between threaded 5 1/16" diam. stud holes (Con't)													
39			A533-65 GRB	RV-1		H-21	Vol		X			X	
40			"	"		"	"	X				X	
41			"	"		"	"	X				X	
42			"	"		"	"	X				X	
43			"	"			"			X			X
44			"	"			"			X			X
45			"	"		"	"			X			X
46			"	"		"	"			X			X
47			"	"		"	"				X		
48			"	"		"	"				X		
49			"	"		"	"				X		
50			"	"		"	"		X			X	
51			"	"		"	"		X			X	
52			"	"		"	"		X			X	
53			"	"		"	"		X		X		
54			"	"		"	"	X			X		
55			"	"		"	"	X			X		
56			"	"		"	"	X			X		
57			A-533-65 GRB	RV-1		H-21	Vol	X			X		

1277 243

ITEM NO: B1.9 CATEGORY: B-G-1

Component:			Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Ligaments between threaded 5 1/16" diam. stud holes (Con't)													
58			A533-65 GRB	RV-1		H-21	Vol		X		X		
59			"	"		"	"		X				X
60			"	"		"	"		X				X
61			"	"		"	"			X			X
62			"	"		"	"			X		X	
63			"	"		"	"			X		X	
64			A533-65 ~~GRB~~	RV-1		H-21	Vol			x		x	

ITEM NO: B1.10 CATEGORY: B-G-1

Component:		Stud Size	Mat'l				Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Closure washers & Bushings														
(Vessel Head Studs)														
	1	5 1/16"		A540				VIS	X				X	
	2	"		"				"	X				X	
	3	"		"				"	X			X		
	4	"		"				"				X		
	5	"		"				"				X		
	6	"		"				"			X			X
	7	"		"				"			X			X
	8	"		"				"			X			X
	9	"		"				"			X			X
	10	"		"				"			X		X	
	11	"		"				"			X		X	
		"		"				"						
	12	"		"				"		X			X	
	13	"		"				"		X			X	
	14	"		"				"	X			X		
	15	"		"				"	X			X		
	16	"		"				"	X			X		
	17	"		"				"	X			X		
	18	5 1/16"		A540				VIS	X			X		

1277 245

ITEM NO: B1.10 CATEGORY: B-G-1

Component:		Stud Si.		Mat'l			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Closure Washers and Bushings (Con't)														
	19	5 1/16"		A540				VIS	X			X		
	20	"		"				"		X				X
	21	"		"				"		X				X
	22	"		"				"		X				X
	23	"		"				"				X		
	24	"		"				"				X		
	25	"		"				"				X		
	26	"		"				"				X		
	27	"		"				"			X		X	
	28	"		"				"			X		X	
	29	"		"				"			X		X	
	30	"		"				"			X		X	
	31	"		"				"			X		X	
	32	"		"				"			X			X
	33	"		"				"			X			X
	34	"		"				"			X			X
	35	"		"				"			X			X
	36	"		"				"		X				X
	37	5 1/16"		A540				VIS		X				X

1277 246

ITEM NO: B1.10 CATEGORY: B-G-1

Component:		Stud Size		Mat'l			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Closure Washers and Bushings (Con't)														
	38	5 1/16"		A540				VIS		X			X	
	39	"		"				"		X			X	
	40	"		"				"	X				X	
	41	"		"				"	X				X	
	42	"		"				"	X				X	
	43	"		"				"			X			X
	44	"		"				"			X			X
	45	"		"				"			X			X
	46	"		"				"			X			X
	47	"		"				"				X		
	48	"		"				"				X		
	49	"		"				"				X		
	50	"		"				"		X			X	
	51	"		"				"		X			X	
	52	"		"				"		X			X	
	53	"		"				"		X		X		
	54	"		"				"	X			X		
	55	"		"				"	X			X		
	56	"		"				"	X			X		
	57	5 1/16"		A540				VIS	X			X		

1277 247

ITEM NO: B1.10 CATEGORY: B-G-1

Component:		Stud Size		Mat'l			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Closure Washers and Bushings (Con't)														
	58	5 1/16"		A540				VIS		X		X		
	59	"		"				"		X				X
	60	"		"				"		X				X
	61	"		"				"			X			X
	62	"		"				"			X		X	
	63	"		"				"			X		X	
	64	5 1/16"		A540				VIS			X		X	

1277.248

ITEM NO: B1.11 CATEGORY: B-G-2

Component:	Size	Number of Bolts	Location	5920 Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
						1	2	3	1	2	3
Pressure-Retaining Bolting <2"											
N6A	3/8"	12	Head Spray Nozzle	107	VIS	X			X		
N6B	3/8"	12	Blank Flange On Head	107	VIS			X			X
N7	1/4"	8	Vessel Head Vent	107	VIS		X			X	

1277 249

ITEM NO: B1.12 CATEGORY: B-H

Component:	Location	Material	Thickness			5920 Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
INTEGRALLY WELDED VESSEL SUPPORTS													
Vessel Support Skirt	Full Perimeter					548	Vol*			*	*	*	*
Vessel Stabilizer Brackets													
A	0°	A-533-CL.I GR.B	3 1/2"			257	Vol *			X			X
B	90°	A-533-CL.I GR.B	3 1/2"			257	Vol *				X		
C	180°	A-533-CL.I GR.B	3 1/2"			257	Vol *			X		X	
D	270°	A-533-CL.I GR.B	3 1/2"			257	Vol *				X		
*	See Relief Request No. B-10												

1277 250

ITEM NO: B1.13 CATEGORY: B-I-1

Component:	Mat'l	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
				1	2	3	1	2	3
Closure Head Cladding 6"X6" Plates									
0° Top	SS	H-23	Vis & Sur	X			X		
90° Top	"	"	"		X			X	
120° Top	"	"	"			X			X
0° Bottom	"	"	"			X			X
90° Bottom	"	"	"	X			X		
120° Bottom	SS	H-23	Vis & Sur		X			X	

1277 251

ITEM NO: B1.14 CATEGORY: B-I-1

Component:	Mat'l					Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Vessel Cladding													
0° Top			SS			H-24	VIS			X			X
90° Top			"			"	"		X			X	
120° Top			"			"	"	X			X		
0° Bottom			"			"	"		X			X	
90° Bottom			"			"	"			X			X
120° Bottom			SS			H-24	VIS	X			X		

1277 252

ITEM NO: B1.15 CATEGORY: B-N-1

Component:	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
			1	2	3	1	2	3
Interior Surface and Internal Components of Reactor Vessel								
Core Spray Sparger Headers								
From Nozzle N5A 90°		VIS	X					
From Nozzle N5B 270°		VIS	X					
Header Brackets & Welds								
From Nozzle N5A 30°		VIS	X					
150°		VIS	X					
From Nozzle N5B 210°		VIS	X					
330°		VIS	X					

1277 253

ITEM NO: B1.18 CATEGORY: B-O

Component:	Thickness	Stub Material	Housing Material		Cal. Standard	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
CONTROL ROD DRIVE HOUSINGS													
02-19	.564"	SS TP304				H-25 H-26	Vol						
02-23	.564	"				"	Vol						
02-27	.564	"				"	Vol						X
06-11	.564	"				"	Vol						
06-35	.564	"				"	Vol						
10-07	.564	"				"	Vol						
10-39	.564	"				"	Vol						
18-03	.564	"				"	Vol			X			
18-43	.564	"				"	Vol						
22-03	.564	"				"	Vol						
22-43	.564	"				"	Vol						
26-03	.564	"				"	Vol						
26-43	.564	"				"	Vol						
34-07	.564	"				"	Vol						
34-39	.564	"				"	Vol						X
38-11	.564	"				"	Vol						
38-35	.564	"				"	Vol						
42	.564	"				"	Vol						
42-23	.564	"				"	Vol						
42-27	.564	"				H-25 H-26	Vol						

ITEM NO: B4.1 CATEGORY: B-F

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Safe-end to Piping Welds & Safe-end in Branch Piping Welds														
Line	Weld #													
RHR-33	8	20"	80	A351 CF8M A106 GRB	- VY-27		H-4	Vol & Surf.		X			X	
RHR-29	10	24"	80	A351 CF8M A106 GRB	- VY-28		H-5	"		X			X	
RHR-28	13	24"	80	A358 304 A106 GRB	VY-34 VY-28		H-6	"	X			X		
CS-3B	F3A	8"	100 80	A376TP304 A106GRB	VY-7 VY-19		H-11	"			X			X
CS-4B	MF6A	10"	0.495" 0.500"	A403TP316L A168 INCO.	VY-14		"	"			X			X
CS-3A	F3A	8"	100 80	A376TP304 A106GRB	VY-7 VY-19		H-12	"			X			X
CS-4A	MF6A	10"	0.495" 0.500"	A403TP316L A168 INCO.	VY-14		"	"				X		
CRD-2	E	2 1/2"	80	A376TP304 A106GRB	Socket weld		H-9	"		X			X	
RHR-18-2	F4A	4"	80	A376TP304 A106GRB	VY-22 VY-6		H-10	Vol & Surf.	X			X		

1277 255

ITEM NO: B.4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
CIRCUMFERENTIAL WELD JOINTS														
Nozzles														
MAIN STEAM	N3A-SW	18"	80	A106GRB	VY-26		H-14	Vol		X				
	N3B-SW	"	"	"	VY-26		H-15	"		X				
	N3C-SW	"	"	"	VY-26		H-16	"		X				
	N3D-SW	"	"	"	VY-26		H-17	"		X				
FEED WATER	N4A-SW	10"	80	A106GRB	VY-29		H-7	Vol				X		
	N4B-SW	"	"	"	VY-29		H-7	"					X	
	N4C-SW	"	"	"	VY-29		H-8	"						X
	N4D-SW	"	"	"	VY-29		H-8	"						X
CIRCUMFERENTIAL WELDS	C7	4"	80	A451CPF8M	VY-17/18									
RECIRC LOOP "A" BYPASS	C7B	4"	80	A451 CPF 8M	VY-17/18		H-2	Vol			X			
	C7C	"	"	"	VY-17/18		H-2	"			X			
	C7D	"	"	"	VY-17/18		H-2	"					X	
	C7E	"	"	"	VY-17/18		H-2	"					X	
	C10	"	"	A451CPF8M to valve	VY-17/18		H-2	"					X	
	C10A	"	"	Valve to A451CPF8M	VY-17/18		H-2	"						
	C10B	"	"	A451CPF8M	VY-17/18		H-2	"						
	C10C	"	"	"	VY-17/18		H-2	"						
	C11	"	"	A451CPF8M to valve	VY-17/18		H-2	"						
Loop "B" Bypass	C60	4"	80	A451CPF8M	VY-17/18		H-3	Vol				X		
	C60A	4"	80	A451CPF8M	VY-17/18		H-3	Vol				X		

1277 256

ITEM NO: B.4.5 CATEGORY: B-J

Component:		Size	Thick or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
CIRCUMFERENTIAL WELDS (CONTINUED)														
LOOP "B" BYPASS	C60B	4"	80	A451CPF8M	VY-17/18		H-3	Vol				X		
	C60C	"	"	A451CPF8M to valve	VY-17/18		H-3	"				X		
	C60D	"	"	Valve to A451CPF8M	VY-17/18		H-3	"						
	C60E	"	"	A451CPF8M to Valve	VY-17/18		H-3	"						
	C62	"	"	A451CPF8M	VY-17/18		H-3	"						
	C62A	"	"	A451CPF8M	VY-17/18		H-3	"						
	* C62B	4"	80	A451CPF8M	VY-17/18		H-3	Vol						
	* C62C	4"	80	A451CPF8M	VY-17/18		H-3	Vol						
RECIRC. RING HEADER AND INLETS	14	28"	1.8-2.5"	358TP304	VY-36		H-1	Vol						X
	16	12"	80	"	VY-9		H-1	"						X
	16A	22"	1.1"	"	VY-33		H-1	"	X					
	16B	22"	1.1"	"	VY-33		H-1	"	X					
	16C	28"	1.8-2.5"	"	VY-36		H-1	"						
	18	12"	80	"	VY-9		H-1	"						
	18A	12"	"	"	VY-9		H-1	"						
	19	12"	"	"	VY-9		H-1	"						
	20	12"	"	"	VY-9		H-1	"		X				
	21	12"	"	"	VY-9		H-1	"		X				
	21A	12"	"	"	VY-9		H-1	"		X				
	22	12"	80	358TP[illegible]	VY-9		H-1	Vol		X				

1277 257

ITEM NO: B.4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
CIRCUMFERENTIAL WELDS (CONTINUED)														
RECIRC. RING HEADER AND INLETS	23	12"	80	358TP304	VY-9		H-1	Vol						
	23B	22"	1.1	"	VY-33		"	"						
	24	12"	80	"	VY-9		"	"						
	24A	"	"	"	VY-9		"	"			X			
	25	"	"	"	VY-9		"	"			X			
	28	"	"	"	VY-9		"	"			X			
	28A	"	"	"	VY-9		"	"			X			
	29	"	"	"	VY-9		"	"					X	
	30	"	"	"	VY-9		"	"					X	
	30B	22"	1.1	"	VY-33		"	"						
	31	12"	80	"	VY-9		"	"						
	31A	"	"	"	VY-9		"	"		X				
	32	"	"	"	VY-9		"	"		X				
	33	"	"	"	VY-9		"	"		X				
	34	"	"	"	VY-9		"	"		X				
	34A	"	"	"	VY-9		"	"		X				
	35	"	"	"	VY-9		"	"		X				
	36	"	"	"	VY-9		"	"		X				
	36A	22"	1.1	"	VY-33		"	"	X					
	*36B	22"	1.1	A358TP304	VY-33		H-1	Vol	X					

1277 258

ITEM NO: B.4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
CIRCUMFERENTIAL WELDS (CONTINUED)													
RECIRC. RING HEADER AND INLETS													
36C	28"	1.8-2.5	358TP304	VY-36		H-1	Vol						
38	"	"	"	VY-36		"	"						
40	12"	80	"	VY-9		"	"			X			
40A	"	"	"	VY-9		"	"			X			
41	"	"	"	VY-9		"	"						X
42	"	"	"	VY-9		"	"						X
43	'	"	"	VY-9		"	"						X
43A	"	"	"	VY-9		"	"						X
44	"	"	"	VY-9		"	"						
45	"	"	"	VY-9		"	"						
46	22"	1.1	358TP304 to Valve	VY-33		"	"	X					
47	"	"	Valve to 358TP304	VY-33		"	"	X					
48	"	"	358TP304 to Valve	VY-33		"	"	X					
49	"	"	Valve to 353TP304	VY-33		"	"	X					
50	12"	80	358TP304	VY-9		"	"						
51	"	"	"	VY-9		"	"						
51A	"	"	"	VY-9		"	"						
52	"	"	"	VY-9		"	"			X			
53	12"	80	358TP304	VY-9		H-1	Vol			X			

1277 259

ITEM NO: B.4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
CIRCUMFERENTIAL WELDS (CONTINUED)													
RECIRC. RING HEADERS AND INLETS													
54	12"	80	358TP304	VY-9		H-1	Vol						
54A	"	"	"	VY-9		"	"						
55	12"	80	358TP304	VY-9		H-1	Vol						
LONGITUDINAL SEAM WELDS													
RECIRC. HEADER & INLETS													
*14	28"	1.138	A358TP304	VY-35		H-1	Vol						X
16	12"	80	"	VY-9		"	"						X
16A	22"	1.1	"	VY-33		"	"	X					
16B	"	"	"	VY-33		"	"	X					
18	12"	80	"	VY-9		"	"						
18A	"	"	"	VY-9		"	"						
19	"	"	"	VY-9		"	"						
20	"	"	"	VY-9		"	"						
21	"	"	"	VY-9		"	"						
21A	"	"	"	VY-9		"	"						
22	"	"	"	VY-9		"	"						
23	"	"	"	VY-9		"	"						
*23B	12"	80	A358TP304	VY-9		H-1	Vol						

ITEM NO: B.4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
LONGITUDINAL SEAM WELDS (CONTINUED)													
RING HEADER AND INLETS													
*24	12"	80	A358TP304	VY-9		H-1	Vol						
24A	"	"	"	VY-9		"	"			X			
25	"	"	"	VY-9		"	"			X			
28	"	"	"	VY-9		"	"			X			
28A	"	"	"	VY-9		"	"			X			
29	"	"	"	VY-9		"	"					X	
30	"	"	"	VY-9		"	"					X	
30B	22"	1.1	"	VY-33		"	"						
31	12"	80	"	VY-9		"	"						
31A	"	"	"	VY-9		"	"						
32	"	"	"	VY-9		"	"						
33	"	"	"	VY-9		"	"						
34	"	"	"	VY-9		"	"						
34A	"	"	"	VY-9		"	"						
35	"	"	"	VY-9		"	"						
36	"	"	"	VY-9		"	"						
36A	22"	1.1	"	VY-33		"	"	X					
36B	22"	1.1	"	VY-33		"	"	X					
*38	28"	1.138	A358TP304	VY-35		H-1	Vol						

1277.261

ITEM NO: B.4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
LONGITUDINAL SEAM WELDS (CONTINUED)													
RING HEADER AND INLETS													
* 40	12"	80	A358TP304	VY-9		H-1	Vol			X			
40A	"	"	"	VY-9		"	"			X			
41	"	"	"	VY-9		"	"						X
42	"	"	"	VY-9		"	"						X
43	"	"	"	VY-9		"	"						X
43A	"	"	"	VY-9		"	"						X
44	"	"	"	VY-9		"	"						
45	"	"	"	VY-9		"	"						
46	22"	1.1	"	VY-33		"	"						
47	"	"	"	VY-33		"	"						
48	"	"	"	VY-33		"	"	X					
49	"	"	"	VY-33		"	"						
50	12"	80	"	VY-9		"	"						
51	"	"	"	VY-9		"	"						
51A	"	"	"	VY-9		"	"						
52	"	"	"	VY-9		"	"			X			
53	"	"	"	VY-9		"	"			X			
54	"	"	"	VY-9		"	"						
* 54A	12"	80	A358TP304	VY-9		H-1	Vol						

1277.262

ITEM NO: B.4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
LONGITUDINAL SEAM WELDS (CONTINUED)													
RING HEADER AND INLETS													
*55	12"	80	A358TP304	VY-9		H-1	Vol						
CIRC. WELDS													
RECIRC. LOOP "A" *1	28"	1.138	A358TP304	VY-35		H-2	Vol						
1A	"	"	"	VY-35		"	"	X					
*2	"	"	"	VY-35		"	"	X					
3	"	"	358TP304 to Valve	VY-35		"	"	X					
4	"	"	Valve to 358TP304	VY-35		"	"	X					
5	"	"	358TP304	VY-35		"	"	X					
5A	"	"	"	VY-35		"	"	X					
*5B	"	"	"	VY-35		"	"	X					
6	"	"	"	VY-35		"	"	X					
8	"	"	358TP304 to Valve	VY-35		"	"	X					
9	"	"	Valve to 358TP304	VY-35		"	"	X					
9A	"	"	358TP304	VY-35		"	"					X	
9B	"	"	"	VY-35		"	"					X	
15	"	"	"	VY-35		"	"					X	
15A	"	"	"	VY-35		"	"						
15B	"	"	"	VY-35		"	"						
15C	28"	1.138	358TP304	VY-35		H-2	Vol						

1277 263

ITEM NO: B.4.5 CATEGORY: B-J

Component:		Size	Thick or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
CIRC. WELDS (CONTINUED)														
RECIRC LOOP "B"														
	17	28"	1.138	358TP304	VY-35		H-3	Vol						
	17A	"	"	"	VY-35		"	"	X					
	17B	"	"	"	VY-35		"	"	X					
	26	"	"	"	VY-35		"	"						
	26A	"	"	"	VY-35		"	"	X					
	27	"	"	"	VY-35		"	"	X					
	56	"	"	358TP304 to Valve	VY-35		"	"						
	57	"	"	Valve to 358TP304	VY-35		"	"	X					
	57B	"	"	358TP304	VY-35		"	"	X					
	58	"	"	"	VY-35		"	"	X					
	59	"	"	"	VY-35		"	"				X		
	61	"	"	358TP304 to Valve	VY-35		"	"				X		
	64	"	"	358TP304	VY-35		"	"				X		
	65A	"	"	358TP304 to Valve	VY-35		"	"						
	66	28"	1.138	Valve to 358TP304	VY-35		H-3	Vol						
LONGITUDINAL SEAM WELDS														
RECIRC. LOOP "A" (Continued)	*6	28"	1.138	A358TP304	VY-35		H-2	Vol	X					

1277 264

ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Longitudinal Seam Welds														
Recirc. Loop A (cont'd)														
	*8	28"	1.138	A358TP304	VY-35		H-2	Vol.	X					
	9	"	"	"	VY-35		"	"	X					
	9A	"	"	"	VY-35		"	"					X	
	9B	"	"	"	VY-35		"	"					X	
	15A	"	"	"	VY-35		"	"					X	
	15B	"	"	"	VY-35		"	"						
	15C	"	"	"	VY-35		"	"						
Recirc. Loop B	*17	28"	1.138	A358TP304	VY-35		H-3	Vol.						
	17A	"	"	"	VY-35		"	"	X					
	17B	"	"	"	VY-35		"	"	X					
	26	"	"	"	VY-35		"	"						
	26A	"	"	"	VY-35		"	"	X					
	27	"	"	"	VY-35		"	"	X					
	56	"	"	"	VY-35		"	"	X					
	57	"	"	"	VY-35		"	"	X					
	57B	"	"	"	VY-35		"	"						
	*58	28"	1.138	A358TP304	VY-35		H-3	Vol.	X					

ITEM NO: B4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Longitudinal seam Welds (cont'd)													
Recirc. Loop B *59	28"	1.138	A358TP304	VY-35		H-3	Vol.				X		
61	"	"	"	VY-35		"	"				X		
64	"	"	"	VY-35		"	"				X		
65A	"	"	"	VY-35		"	"						
*66	"	"	A358TP304	VY-35		"	"						
Circ. Welds (cont.) MAIN STEAM MS-7A A3	18"	80	A106GRB	VY-26		H-14	Vol.			X			
A4	"	"	"	VY-26		"	"			X			
A4A	"	"	"	VY-26		"	"			X			
A5	"	"	"	VY-26		"	"					X	
A5A	"	"	"	VY-26		"	"					X	
A5C	6"	160	A106GRB	VY-38		H-14	Vol.					X	
A5D	"	"	"	VY-38		"	"					X	
A5F	"	"	"	VY-38		"	"						
A5G	"	"	"	VY-38		"	"						
A5I	"	"	"	VY-38		"	"						
A5J	"	"	"	VY-38		"	"						
A5K	18"	80	A106GRB	VY-26		H-14	Vol.						
A6	"	"	"	VY-26		"	"						
A6A	18"	80	A106GRB	VY-26		H-14	Vol.						

ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circ. Welds (cont'd)														
MS - 7A (cont'd)														
	A6B	18"	80	A106GRB	VY-26		H-14	Vol.						
	A7	"	"	"	VY-26		"	"						
	A7A	"	"	"	VY-26		"	"						
	A7B	"	"	"	VY-26		"	"		X				
	A7C	"	"	"	VY-26		"	"		X				
	A7D	"	"	"	VY-26		"	"		X				
	A8	"	"	"	VY-26		"	"		X				
	A9	"	"	"	VY-26		"	"						
	A9A	"	"	"	VY-26		"	"						
	A10	"	"	"	VY-26		"	"						
	A11	"	"	"	VY-26		"	"						
MS - 7B	B3	18"	80	A106GRB	VY-26		H-15	Vol.			X			
	B4	18"	80	A-106-B	VY-26		H-15	Vol.			X			
	B4A	"	"	"	VY-26		"	"			X			
	B4B	"	"	"	VY-26		"	"						X
	B4C	"	"	"	VY-26		"	"						X
	B5	"	"	"	VY-26		"	"						X
	B5A	"	"	"	VY-26		"	"						X
	B5C	6"	160	A-106-B	VY-38		H-15	Vol.						

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ITEM NO: B4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Circ. [illegible]s (cont'd)													
MS - 7B (cont'd)													
B5D	6"	160	A-106-B	VY-38		H-15	Vol.						
B5F	6"	160	A-106-B	VY-38		H-15	Vol.						
B5G	6"	160	A106GRB	VY-38		H-15	Vol.						
B5H	18"	80	A106GRB	VY-26		H-15	Vol.						
B6	"	"	"	VY-26		"	"						
B6A	"	"	"	VY-26		"	"						
B6B	"	"	"	VY-26		"	"						
B6C	"	"	"	VY-26		"	"						
B6D	"	"	"	VY-26		"	"				X		
B7	"	"	"	VY-26		"	"				X		
B7A	"	"	"	VY-26		"	"				X		
B7B	"	"	"	VY-26		"	"		X				
B7C	"	"	"	VY-26		"	"		X				
B7D	"	"	"	VY-26		"	"		X				
B8	"	"	"	VY-26		"	"		X				
B9	"	"	"	VY-26		"	"						
B9A	"	"	"	VY-26		"	"						
B10	"	"	"	VY-26		"	"						
B11	18"	80	A106GRB	VY-26		H-15	Vol.						

1277 268

ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circ. Welds (cont'd)														
Lines MS - 7C	C3	18"	80	A106GRB	VY-26		H-16	Vol.					X	
	C4	"	"	"	VY-26		"	"					X	
	C4A	"	"	"	VY-26		"	"					X	
	C4C	"	"	"	VY-26		"	"						
	C5	"	"	"	VY-26		"	"		X				
	C5A	"	"	"	VY-26		"	"		X				
	C5C	6"	160	A106GRB	VY-38		H-16	Vol.						
	C5D	6"	160	A106GRB	VY-38		H-16	Vol.						
	C5F	6"	160	A106GRB	VY-38		H-16	Vol.						
	C5G	6"	160	A106GRB	VY-38		H-16	Vol.						
	C5I	6"	160	A106GRB	VY-38		H-16	Vol.						
	C5J	6"	160	A106GRB	VY-38		H-16	Vol.						
	C5K	18"	80	A106GRB	VY-26		H-16	Vol.				X		
	C6	"	"	"	VY-26		"	"				X		
	C6A	"	"	"	VY-26		"	"				X		
	C6B	"	"	"	VY-26		"	"				X		
	C6C	"	"	"	VY-26		"	"						
	C6D	"	"	"	VY-26		"	"						
	C7	"	"	"	VY-26		"	"						
	C7A	18"	80	A106GRB	VY-26		H-16	Vol.						

1277 269

ITEM NO: B4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Circ. Welds (cont'd)													
MS - 7C (cont'd)													
C7B	18"	80	A106GRB	VY-26		H-16	Vol.		X				
C7C	"	"	"	VY-26		"	"		X				
C7D	"	"	"	VY-26		"	"		X				
C8	"	"	"	VY-26		"	"		X				
C9	"	"	"	VY-26		"	"						
C9A	"	"	"	VY-26		"	"						
C10	"	"	"	VY-26		"	"						
C11	"	"	"	VY-26		"	"						
MS - 7D D3	18"	80	A106GRB	VY-26		H-17	Vol.					X	
D4	"	"	"	VY-26		"	"					X	
D5	"	"	"	VY-26		"	"		X				
D5A	"	"	"	VY-26		"	"		X				
D5C	6"	160	A106GRB	VY-38		H-17	Vol.					X	
D5D	"	"	"	VY-38		"	"					X	
D5F	"	"	"	VY-38		"	"						
D5G	"	"	"	VY-38		"	"						
D5I	"	"	"	VY-38		"	"						
D5J	"	"	"	VY-38		"	"						
D5K	18"	80	A106GRB	VY-26		H-17	Vol.						

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ITEM NO: B4-5 CATEGORY: F-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circ. Welds (cont'd)														
MS - 7D (cont'd)														
	D6	18"	80	A106GRB	VY-26		H-17	Vol.						
	D6A	"	"	"	VY-26		"	"						X
	D6B	"	"	"	VY-26		"	"						X
	D7	"	"	"	VY-26		"	"						X
	D7A	"	"	"	VY-26		"	"						X
	D7B	"	"	"	VY-26		"	"		X				
	D7C	"	"	"	VY-26		"	"		X				
	D7D	"	"	"	VY-26		"	"		X				
	D8	"	"	"	VY-26		"	"		X				
	D9	"	"	"	VY-26		"	"						
	D9A	"	"	"	VY-26		"	"						
	D10	"	"	"	VY-26		"	"						
	D11	"	"	"	VY-26		"	"						
FDW - 16	F7	16"	120	A106GRB	VY-25		H-7	Vol.						
	F8	"	"	"	VY-25		"	"						
	F8A	"	"	"	VY-25		"	"						X
	F9	"	"	"	VY-25		"	"						X
	F10	"	"	"	VY-25		"	"						X
FDW - 19	F2	16"	80	A106GRB	VY-24		H-7	Vol.						X

1977 271

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ITEM NO: B4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Circ. Welds (cont'd)													
FDW - 19 (cont'd)													
F2A	16"	80	A106GRB	VY-24		H-7	Vol.						
F2B	"	"	"	VY-24		"	"		X				
F2C	"	"	"	VY-24		"	"		X				
F2D	"	"	"	VY-24		"	"						
F3	16"	120 Machined to 80 on one side.	A106GRB	VY-24 VY-25		H-7	Vol.						
F3A	16"	120 Machined to 80 on one side.	A106GRB	VY-25 VY-24		H-7	Vol.		X				
F3B	16"	120 Machined to 80 on one side.	A106GRB	VY-24 VY-25		H-7	Vol.		X				
F3C	16"	120	A106GRB	VY-25		H-7	Vol.		X				
F4	10"	120	A106GRB	VY-23		H-7	Vol.		X				
F4A	10"	120	A106GRB	VY-23		H-7	Vol.						
F5	"	"	"	VY-23		"	"						
F5A	"	"	"	VY-23		"	"						
F6	"	"	"	VY-23		"	"						
F6-SA	"	"	"	VY-23		"	"						
F6A-SA	"	"	"	VY-23		"	"				X		
F6A-SB	"	"	"	VY-23		"	"				X		
F6A	"	"	"	VY-23		"	"				X		
F7	"	"	"	VY-23		"	"		X				
FDW - 21 F1	10"	120	A106GRB	VY-23		H-7	Vol.		X				

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ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circ. Welds (cont.)														
FDW - 21 (cont.)	F2-S\	10"	120	A106GRB	VY-23		H-7	Vol.						
	F2	10"	120	A106GRB	VY-23		H-7	Vol.						
	F2A-SB	"	"	"	VY-23		"	"					X	
	F2A-SA	"	"	"	VY-23		"	"					X	
	F2A	"	"	"	VY-23		"	"					X	
	F3	"	"	"	VY-23		"	"		X				
FDW - 17	F4	16"	120	A106GRB	VY-25		H-8	Vol.						
	F4A	"	"	"	VY-25		"	"						
	F5A	"	"	"	VY-25		"	"						
	F6	"	"	"	VY-25		"	"				X		
	F7	"	"	"	VY-25		"					X		
FDW - 18	F2	16"	120	A106GRB	VY-25		H-8	Vol.				X		
	F2A	16"	80	A106GRB	VY-24		H-8	Vol.						
	F2B	"	"	"	VY-24		"	"						
	F2C	"	"	"	VY-24		"	"		X				
	F2D	"	"	"	VY-24		"	"		X				
	F2E	"	"	"	VY-24		"	"						
	F3	"	"	"	VY-24		"	"						
	F3A	16"	120	A106GRB	VY-25		H-8	Vol.		X				
	F3B	16"	120	A106GRB	VY-25		H-8	Vol.		X				

1277.273 I-54

ITEM NO: B4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Circ. Welds (cont'd)													
FDW - 18 (cont'd)													
F4	10"	120	A106GRB	VY-23		H-8	Vol.		X				
F5	"	"	"	VY-23		"	"						
F5-SA	"	"	"	VY-23		"	"						
F5A	"	"	"	VY-23		"	"						X
F5A-SA	"	"	"	VY-23		"	"						X
F5A-SB	"	"	"	VY-23		"	"						X
F6	10"	80	A106GRB	VY-29		H-8	Vol.		X				
FDW - 20 F1	10"	120	A106GRB	VY-23		H-8	Vol.		X				
F1A	"	"	"	VY-23		"	"						
F1B	"	"	"	VY-23		"	"						
F2	"	"	"	VY-23		"	"			X			
F2A	"	"	"	VY-23		"	"			X			
F3	"	"	"	VY-23		"	"						
F3-SA	"	"	"	VY-23		"	"			X			
F3A	"	"	"	VY-23		"	"						X
F3A-SA	"	"	"	VY-23		"	"						X
F3A-SB	"	"	"	VY-23		"	"						X
F4	10"	80	A106GRB	VY-29		H-8	Vol.		X				

1777 274

ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circ. Welds (cont'd)														
RHR Piping "A"	1	20"	1.095	A358TP304	VY-32		H-4	Vol.						
RHR - 32	2	20"	1.095	A358TP304	VY-32		H-4	Vol.	X					
	*4	20"	1.095	A358TP304	VY-32		H-4	Vol.	X					
	5	20"	1.095	A358TP304 to valve	VY-32		H-4	Vol.	X					
	6	20"	1.095	Valve to A358TP304	VY-32		H-4	Vol.	X					
	7	20"	1.095	A358TP304 to Valve	VY-32		H-4	Vol.	X					
RHR - 33	9	20"	80	A106GRB	VY-27		H-4	Vol.						
	10	"	"	"	VY-27		"	"			X			
	11	"	"	"	VY-27		"	"			X			
	12	"	"	"	VY-27		"	"			X			
	13	"	"	"	VY-27		"	"						
	14	"	"	"	VY-27		"	"						
	15	"	"	"	VY-27		"	"						
	16	"	"	"	VY-27		"	"						
	17	"	"	"	VY-27		"	"					X	
	18	"	"	"	VY-27		"	"					X	
	19	"	"	"	VY-27		"	"					X	
RHR Piping "B" Line RHR - 31														
	1	24"	1.312	358TP304	VY-34		H-5	Vol.						
	2	24"	1.312	358TP304	VY-34		H-5	Vol.						

1277 275

ITEM NO: B4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Circ. Welds (cont'd)													
RHR - 31 (cont'd)													
3	24"	1.312	358TP304	VY-34		H-5	Vol.	X					
4	24"	1.312	358TP304	VY-34		H-5	Vol.	X					
5	24"	1.312	358TP 304 to valve	VY-34		H-5	Vol.	X					
6	24"	1.312	Valve to 358 TP304	VY-34		H-5	Vol.	X					
7	24"	1.312	358TP304	VY-34		H-5	Vol.	X					
8	24"	1.312	358TP304	VY-34		H-5	Vol.	X					
9	24"	1.312	358TP304 to valve	VY-34		H-5	Vol.	X					
RHR - 29 * 11	24"	80	A106GRB	VY-28		H-5	Vol.						
12	24"	80	A106GRB	VY-28		H-5	Vol.						
13	"	"	"	VY-28		"	"						
14	"	"	"	VY-28		"	"				X		
15	"	"	"	VY-28		"	"				X		
16	"	"	"	VY-28		"	"				X		
RHR Piping Line "C"													
RHR - 30 1	24"	1.312	A358TP304	VY-34		H-6	Vol.			X			
2	"	"	"	VY-34		"	"			X			
3	"	"	"	VY-34		"	"			X			
4	"	"	"	VY-34		"	"						
5	"	"	"	VY-34		"	"						
6	24"	1.312	A358 TP304	VY-34		H-6	Vol.						

1077 276

Rev 2
I - 57

ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circ. Welds (cont'd)														
RHR - 30 (cont'd)	7	24"	1.312	Valve to 358TP304	VY-34		H-6	Vol.						
	8	24"	1.312	A358TP304	VY-34		H-6	Vol.						
	9	"	"	"	VY-34		"	"						
	10	"	"	"	VY-34		"	"						
	*11	"	"	A358TP304 to valve	VY-34		"	"						
RHR - 28	12	24"	1.312	Valve to A358TP304	VY-34		H-6	Vol.						
	*14	24"	80	A106GRB	VY-28		H-6	Vol.						
	15	24"	80	A106GRB	VY-28		H-6	Vol.						
	16	"	"	"	VY-28		"	"						
	17	"	"	"	VY-28		"	"			X			
	18	"	"	"	VY-28		"	"			X			
	19	"	"	"	VY-28		"	"			X			
	20	"	"	"	VY-28		"	"						
	21	"	"	"	VY-28		"	"						
	22	"	"	"	VY-28		"	"						
Longitudinal Seam Welds														
RHR Piping Line "A"	1	20"	1.095	358TP304	VY-32		H-4	Vol.						
	2	20"	1.095	"	VY-32		H-4	Vol.	X					
	4	20"	1.095	358TP304	VY-32		H-4	Vol.	X					

1277 277

Rev 2
I - 58

ITEM NO: B4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Longitudinal Seam Welds													
RHR Piping Line "A" (cont'd)													
*5	20"	1.095	358TP304	VY-32		H-4	Vol.	X					
6	20"	1.095	"	VY-32		H-4	Vol.	X					
*7	20"	1.095	"	VY-32		H-4	Vol.	X					
RHR Piping Line "B"													
1	24"	1.312	"	VY-34		H-5	Vol.						
2	"	"	"	VY-34		"	"						
3	"	"	"	VY-34		"	"	X					
4	"	"	"	VY-34		"	"	X					
5	"	"	"	VY-34		"	"	X					
6	"	"	"	VY-34		"	"	X					
7	"	"	"	VY-34		"	"	X					
8	"	"	"	VY-34		"	"	X					
9	"	"	"	VY-34		"	"	X					
RHR Piping Line "C"													
RHR - 30 1	24"	1.312	358TP304	VY-34		H-6	Vol.			X			
2	"	"	"	VY-34		"	"			X			
3	"	"	"	VY-34		"	"			X			
4	"	"	"	VY-34		"	"						
5	"	"	"	VY-34		"	"						
6	"	"	"	VY-34		"	"						
7	"	"	"	VY-34		"	"						
8	24"	1.312	358TP304	VY-34		H-6	Vol.						

1277 278

ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Longitudinal Seam Welds														
RHR - 30 (cont'd)														
	9	24"	1.312	358TP304	VY-34		H-6	Vol.						
	10	"	"	"	VY-34		"	"						
	11	"	"	"	VY-34		"	"						
RHR - 28	12	24"	1.312	358TP304	VY-34		H-6	Vol.						
Circ. Welds														
Core Spray Piping "A" Side														
CS - 3B	F3	8"	80	A106GRB	VY-19		H-11	Vol.						
CS - 4B	F1	8"	100	A376TP304	VY-7		H-11	Vol.	X					
	F1A	"	"	"	VY-7		"	"	X					
	F2	"	"	"	VY-7		"	"	X					
	F3	"	"	"	VY-7		"	"	X					
	F3A	"	"	"	VY-7		"	"	X					
	F3B	"	"	"	VY-7		"	"	X					
	F4	"	"	"	VY-7		"	"	X					
	MF5	8"	.594	A312-316L	VY-20		H-11	Vol.	**					
	MF5A	"	"	"	VY-20		"	"	**					
	MF5B	"	"	"	VY-20		"	"	**	X				
	MF5C	"	"	"	VY-20		"	"	**	X				
	MF5D	"	"	"	VY-20		"	"	**	X				
	MF6	8"	.594	A312-316L	VY-20		H-11	Vol.	**	X				

** Original line inspected in Period 1 for credit.

1277 279

ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Core Spray "B" Side														
CS - 3A	F3	8"	80	Valve to A-106-B	VY-19		H-12	Vol.						
CS - 4A	F1	8"	100	A376-304	VY-7		H-12	Vol.						
	F1A	8"	100	A376-304	VY-7		H-12	Vol.	X					
	F2	8"	100	A376-304 to valve	VY-7		H-12	Vol.	X					
	F3	8"	100	Valve to A376-304	VY-7		H-12	Vol.	X					
	F3A	8"	100	A376-304	VY-7		H-12	Vol.	X					
	F3B	8"	100	A376-304	VY-7		H-12	Vol.	X					
	F4	8"	100	A376-304 to valve	VY-7		H-12	Vol.	X					
	MF5	8"	.594	Valve to A312-316L	VY-20		H-12	Vol.	**			X		
	MF5A	8"	.594	A312-316L	VY-20		H-12	Vol.				X		
	*MF5B	"	"	"	VY-20		"	"	**	X		X		
	MF5C	"	"	"	VY-20		"	"	**	X		X		
	MF5D	"	"	"	VY-20		"	"	**	X				
	*MF6	"	"	"	VY-20		"	"	**	X				
CRD Return Piping														
CRD - 3	3F2A	2 1/2"	80	A312-316L			H-9	Vol.	X					
	3F2B	3"	80	A312-316L			H-9	Vol.	X					
	3F3A	3"	80	A312-316L			H-9	Vol.						
	C	2 1/2"	80	A312-316L			H-9	Vol.						
	D	2 1/2"	80	A312-316L			H-9	Vol.						

** Original line inspected for credit in Period 1.

1277 280

ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circ. Welds (cont'd)														
CRD - 2	F	≤ 1/2"	160	A106GRB			H-9	Vol.						
	G	"	"	"			"	"						
	1	"	"	"			"	"		X				
	2	"	"	"			"	"		X				
	3	"	"	"		"	"	"						
	4	"	"	"			"	"						
	5	"	"	"			"	"		X				
	6	"	"	"			"	"		X				
	7	"	"	"			"	"						
	8	"	"	"			"	"						
	9	"	"	"			"	"				X		
	10	"	"	"			"	"				X		
	11	"	"	"			"	"				X		
	12	"	"	"			"	"						
	13	"	"	"			"	"						
	14	"	"	"			"	"						
	15	"	"	"			"	"						
	16	"	"	"			"	"						
HPCI MS - 4A	F1	10"	80	A106GRB	VY-29		H-20	Vol.						
	F1A	10"	80	A106GRB	VY-29		H-20	Vol.		X				

1977 281

ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circ. Welds (cont'd)														
MS - 4A (cont'd)														
	F1B	10"	80	A106GRB	VY-29		H-20	Vol.		X				
	F1C	"	"	"	VY-29		"	"					X	
	F2	"	"	"	VY-29		"	"					X	
	F2A	"	"	"	VY-29		"	"					X	
	F3	"	"	"	VY-29		"	"					X	
	F3A	"	"	"	VY-29		"	"		X				
	F3B	"	"	"	VY-29		"	"		X				
	F3C	"	"	"	VY-29		"	"						
	F3D	"	"	"	VY-29		"	"						
	F4	10"	80	A106GRB to Valve	VY-29		H-20	Vol.						X
	F5	10"	80	Valve to A106GRB	VY-29		H-20	Vol.						X
	F5A	10"	80	A106GRB	VY-29		H-20	Vol.						X
	F6	"	"	"	VY-29		"	"						X
	F6A	"	"	"	VY-29		"	"				X		
	F6B	"	"	"	VY-29		"	"				X		
	F6C	"	"	"	VY-29		"	"				X		
	F7	10"	80	A106GRB	VY-29		H-20	Vol.				X		
Rx Cleanup Demin. Piping														
CUW-1	F1	4"	80	A312-304	VY-5		H-13	Vol.						
CUW - 18	F1	4"	120	A312-304	VY-37		H-13	Vol.						

1977 282

ITEM NO: B4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Circ. Welds (cont'd)													
CUW - 18 (cont'd)													
F1A	4"	120	A312-304	VY-37		H-13	Vol.						
F1B	"	"	"	VY-37		"	"						
F2	"	"	"	VY-37		"	"						
F3	"	"	"	VY-37		"	"						
F3A	4"	120 machine to 80	A312-304	VY-5		H-13	Vol.			X			
F3B	4"	80	A312-304	VY-5		H-13	Vol.			X			
F3C	4"	80	A312-304	VY-5		H-13	Vol.			X			
*F4	4"	80	A312-304 to A376-304	VY-5 VY-22		H-13	Vol.					X	
F4A	4"	80	A376-304	VY-22		H-13	Vol.					X	
F4C	4"	80	A376-304	VY-22		H-13	Vol.					X	
F5	4"	80	A312-304 to A376-304	VY-5 VY-22		H-13	Vo..					X	
F5A	4"	80	A312-304	VY-5		H-13	Vol.			X			
F5B	4"	80	A312-304	VY-5		H-13	Vol.			X			
*F6	4"	80	A312-304	VY-5		H-13	Vol.						
F6A	"	"	"	V.-5		"	"						
*F6A1	"	"	"	VY-5		"	'						
F6B	"	"	"	VY-5		"	"						
F6C	"	"	"	VY-5		"	"						X
F6D	"	"	"	VY-5		"	"						X
F6E	"	"	"	VY-5		"	"						X
F6F	4"	80	A312-304	VY-5		H-13	Vol.						X
*F6G	4"	80	A312-304	VY-5		H-13	Vol.						

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ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
CUW - 18 (cont'd) Main Steam Attachment MS-5A	F7	4"	80	A312-304	VY-5		H-13	Vol.						
	* F1	3"	160	A106GRB	VY-4		H-19	Vol.						
	F1A	3"	160	A106GRB	VY-4		H-19	Vol.			X			
	F1B	"	"	"	VY-4		"	"			X			
	* F1C	"	"	"	VY-4		"	"			X			
	F1D	"	"	"	VY-4		"	"						
	F1E	"	"	"	VY-4		"	"						
	F2	"	"	"	VY-4		"	"						
	F3	"	"	"	VY-4		"	"						
	F3A	"	"	"	VY-4		"	"						
	F3B	"	"	"	VY-4		"	"						
	F4	"	"	"	VY-4		"	"					X	
	F4A	"	"	"	VY-4		"	"					X	
	F5	"	"	"	VY-4		"	"					X	
	F5A	"	"	"	VY-4		"	"				X		
	F5B	"	"	"	VY-4		"	"				X		
	F5C	"	"	"	VY-4		"	"				X		
	F6	"	"	"	VY-4		"	"				X		
	F7	3"	160	A106GRB	VY-4		H-19	Vol.						
Head Spray Piping RHR-18-1	F1	4"	80	A106GRB	VY-6		H-10	Vol.						
	F1A	4"	80	A106GRB	VY-6		H-10	Vol.						

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ITEM NO: B4.5 CATEGORY: B-J

Component:		Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Circ. Welds (cont'd)														
RHR-18-1 (cont'd)	F2	4"	80	A106GRB	VY-6		H-10	Vol.						
	F2A	4"	80	A106GRB	VY-6		H-10	Vol.			X			
	F2B	"	"	"	VY-6		"	"			X			
	F2C	"	"	"	VY-6		"	"			X			
	F3	"	"	"	VY-6		"	"						X
RHR-18-2	F4	"	"	"	VY-6		"	"						X
	F5	4"	80	A376TP304	VY-22		H-10	Vol.						X
RHR - 19	F1	4"	80	A376TP304	VY-22		H-10	Vol.					X	
	F1A	"	"	"	VY-22		"	"					X	
	F1B	"	"	"	VY-22		"	"					X	
	F2	"	"	"	VY-22		"	"						
	* F2A	"	"	"	VY-22		"	"						
	F2B	"	"	"	VY-22		"	"						
	F3	"	"	"	VY-22		"	"						
	F3A	"	"	"	VY-22		"	"						
	F3B	"	"	"	VY-22		"	"						
	F3C	"	"	"	VY-22		"	"						
	F3D	"	"	"	VY-22		"	"						
	F3E	"	"	"	VY-22		"	"						
	F3F	4"	80	A376TP304	VY-22		H-10	Vol.						

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ITEM NO: B4.5 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Circ. Welds (cont'd)													
RHR - 19													
F3G	4"	80	A376TP304	VY-22		H-10	Vol.						
F4	"	"	"	VY-22		"	"						
F4A	"	"	"	VY-22		"	"						
F5	"	"	"	VY-22		"							
F5A	"	"	"	VY-22		"	"						
F6	"	"	"	VY-22		"	"	X					
F6A	"	"	"	VY-22		"	"						
F7	"	"	"	VY-22		"	"	X					
F7A	"	"	"	VY-22		"	"						
F8	"	"	"	VY-22		"	"	X					
F8A	"	"	"	VY-22		"	"						X
F9	"	"	"	VY-22		"	"						X
*F9A	4"	80	A376TP304	Radiograph		H-10	Vol.						X
*F9B	6"	80	A376TP304	Radiograph		H-10	Vol.						

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ITEM NO: B4.6 CATEGORY: B-J

Component:	Size	Thick. or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Branch Pipe Connections exceeding 6" diameter													
Recirc. ring headers and inlets													
Sweepolets													
*20A	22"	1.1"	358TP304	VY-33		H-1	Vol	X					
23A	"	"	"	VY-33		"	"	X					
30A	"	"	"	VY-33		"	"	X					
33A	"	"	"	VY-33		"	"			X			
42A	"	"	"	VY-33		"	"	X					X
45A	"	"	"	VY-33		"	"	X					
50A	"	"	"	VY-33		"	"				X		
*53A	22"	1.1"	358TP304	VY-33		H-1	Vol	X					

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ITEM NO: 4.7 CATEGORY: B-J

Component:	Size	Thick or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Branch pipe connections 6" in diameter and smaller													
Reactor Recirc. Bypass Loop A Weldolets													
C7A	4"	80	A451CP8M			H-2	SUR			X			
C12	4"	80	"			H-2	SUR						
Reac. Recirc. Bypass Loop B Weldolets C60A1	4"	80	"			H-3	SUR						
C65	4"	80	"			H-3	SUR				X		
MS-7A Sweepolets A5B *	18" x 6"	80 x 160	A106GRB			H-14	SUR						
A5E	18" x 6"	80 x 160	"			H-14	SUR						
A5H	18" x 6"	80 x 160	"			H-14	SUR						
MS-7B Sweepolets B5B	18" x 6"	80 x 160	"			H-15	SUR					X	
B5E	18" x 6"	80 x 160	"			H-15	SUR						
MS-7C Sweepolets C5B	18" x 6"	80 x 160	"			H-16	SUR						
C5E	18" x 6"	80 x 160	"			H-16	SUR						
C5H	18" x 6"	80 x 160	"			H-16	SUR						
MS-7D Sweepolets D5B	18" x 6"	80 x 160	"			H-17	SUR						
D5E	18" x 6"	80 x 160	"			H-17	SUR						X
D5H *	18" x 6"	80 x 160	A106GRB			H-17	SUR						

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ITEM NO: B4.7 CATEGORY: B-J

Component:	Size	Thick or Sch. No.	Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Branch pipe connections 6" in diameter and smaller													
RHR piping Line A													
RHR-32 3	20" x 4"	1.095	A358TP304			H-4	SUR						

ITEM NO: B4.9 CATEGORY: B-K-1

Component:		Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Integrally Welded Supports														
Recirc. Ring Header and Inlets														
	RR-37	Spring	,100	7,000			H-1	Vol.**						
	RR-44	Spring	8,500	7,400			H-1	Vol.**				X		
	RR-48	Rigid	N/A	N/A			H-1	Vol.**	X					
	RR-49	Spring	11,500	11,250			H-1	Vol.**						
	RR-52	Spring	8,500	7,406			H-1	Vol.**	X					
	RR-59	Spring	8,100	7,006			H-1	Vol.**						
Recirc. Loop "A"														
	RR-10	Spring	8	2			H-2	Vol.**						
	RR-11	Spring	8	2			H-2	Vol.**				X		
*	RR-24	Snubber	8	3			H-2	Vol.**	X					
	RR-27	Rigid	N/A	N/A			H-2	Vol.**		X				
*	RR-34	Snubber	2 31/32	2 9/32			H-2	Vol.**					X	
*	RR-35	Snubber	2 31/32	2 9/32			H-2	Vol.**						
Recirc. Loop "B"														
*	RR-62	Snubber	2 31/32	2 9/32			H-3	Vol.**						X
*	RR-63	Snubber	2 31/32	2 9/32			H-3	Vol.**						
	RR-70	Rigid	N/A	N/A			H-3	Vol.**			X			
*	RR-73	Snubber	3	3			H-3	Vol.**	X					
	RR-86	Spring	8	2			H-3	Vol.**						
	RR-87	Spring	8	2			H-3	Vol.**				X		

ITEM NO: B4.9 CATEGORY: B-K-1

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Integrally Welded Supports													
Feedwater Piping Line "A"													
FW-4	Spring	2,831	3,206			H-7	Vol.**		X				
FW-10	Rigid	N/A	N/A			H-7	Vol.**					X	
FW-11	Rigid	N/A	N/A			H-7	Vol.**	X					
Feedwater Piping Line "B"													
FW-14	Spring	2,836	3,211			H-8	Vol.**						
FW-21	Rigid	N/A	N/A			H-8	Vol.**						
FW-22	Rigid	N/A	N/A			H-8	Vol.**	X					
Core Spray "A"													
CS-1	Spring	2,208	2,575			H-11	Vol.**			X			
Core Spray "B"													
CS-2	Spring	2,208	2,575			H-12	Vol.**			X			
RHR "A"													
RHR-1	Spring	16,121	17,006			H-4	Vol.**		X				
RHR-2	Spring	15,021	14,356			H-4	Vol.**						
RHR "B"													
RHR-5	Spring	22,721	22,900			H-5	Vol.**					X	
RHR-6	Spring	16,021	16,200			H-5	Vol.**		X				

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ITEM NO: B4.9 CATEGORY: B-K-1

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Integrally Welded Supports													
RHR "C"													
RHR-7	Spring	26,571	27,800			H-6	Vol.**						X
RHR-8	Spring	16,021	17,349			H-6	Vol.**						
Head Spray													
RHR-9	Rigid	N/A	N/A			H-10	Vol.**		X				
RHR-11	Rigid	N/A	N/A			H-10	Vol.**						X
RHR-12	Rigid	N/A	N/A			H-10	Vol.**	X					
RHR-14	Rigid	N/A	N/A			H-10	Vol.**						
Reactor Clean-up													
CU-3	Rigid												X

** See Relief Request No. B-5

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ITEM NO: B4.10 CATEGORY: B-K-2

Component:	Hanger Type	Hot (lbs) Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Non-Integrally Welded Support Components Recirc. Ring Header and Inlets													
RR-36	Rigid	N/A	N/A			H-1	VIS		X			X	
RR-38	Rigid	N/A	N/A			H-1	VIS			X			X
RR-39	Rigid	N/A	N/A			H-1	VIS			X			X
RR-40	Rigid	N/A	N/A			H-1	VIS				X		
RR-41	Rigid	N/A	N/A			H-1	VIS	X				X	
RR-42	Rigid	N/A	N/A			H-1	VIS			X		X	
RR-43	Rigid	N/A	N/A			H-1	VIS				X		
RR-45	Rigid	N/A	N/A			H-1	VIS			X			X
RR-46	Rigid	N/A	N/A			H-1	VIS				X		
RR-47	Rigid	N/A	N/A			H-1	VIS			X			X
RR-50	Rigid	N/A	N/A			H-1	VIS	X				X	
RR-51	Rigid	N/A	N/A			H-1	VIS			X			X
RR-53	Rigid	N/A	N/A			H-1	VIS				X		
RR-54	Rigid	N/A	N/A			H-1	VIS			X			X
RR-55	Rigid	N/A	N/A			H-1	VIS	X			X		
RR-56	Rigid	N/A	N/A			H-1	VIS		X			X	
RR-57	Rigid	N/A	N/A			H-1	VIS			X			X
RR-58	Rigid	N/A	N/A			H-1	VIS	X			X		

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ITEM NO: B4.10 CATEGORY: B-K-2

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Non-integrally Welded Support Components													
Recirc. Ring Header and Inlets													
RR-60	Rigid	N/A	N/A			H-1	VIS				X		
RR-61	Rigid	N/A	N/A			H-1	VIS		X			X	
Recirc. Loop "A"													
RR-1	Rigid	N/A	N/A			H-2	VIS		X			X	
* RR-2	Snubber	3 31/32	2 27/32			H-2	VIS			X			X
* RR-3	Snubber	3 31/32	2 27/32			H-2	VIS				X		
RR-4	Rigid	N/A	N/A			H-2	VIS	X			X		
RR-5	Sway Brace	N/A	N/A			H-2	VIS			X			X
RR-6	Sway Brace	N/A	N/A			H-2	VIS	X				X	
RR-7	Spring	12,400	10,450			H-2	VIS		X			X	
RR-8	Spring	12,400	10,450			H-2	VIS		X			X	
RR-9	Rigid	N/A	N/A			H-2	VIS				X		
RR-22	Spring	7.5	2.5			H-2	VIS		X			X	
RR-23	Spring	7.5	2.5			H-2	VIS			X			X
RR-25	Spring	7.5	2.5			H-2	VIS				X		
RR-26	Spring	8	3			H-2	VIS			X			X
RR-28	Rigid	N/A	N/A			H-2	VIS	X			X		
RR-29	Spring	13,300	11,305			H-2	VIS		X			X	

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ITEM NO: B4.10 CATEGORY: B-K-2

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Non-integrally Welded Support Components													
Recirc. Loop "A"													
RR-30	Spring	13,300	11,305			H-2	VIS		X			X	
RR-31	Sway Brace	N/A	N/A			H-2	VIS			X			X
RR-32	Sway Brace	N/A	N/A			H-2	VIS	X			X		
RR-33	Rigid	N/A	N/A			H-2	VIS			X			X
Recirc. Loop "B"													
RR-64	Rigid	N/A	N/A			H-3	VIS				X		
RR-65	Spring	13,300	11,305			H-3	VIS		X			X	
RR-66	Spring	13,300	11,305			H-3	VIS			X			X
RR-67	Sway Brace	N/A	N/A			H-3	VIS	X				X	
RR-68	Sway Brace	N/A	N/A			H-3	VIS				X		
RR-69	Rigid	N/A	N/A			H-3	VIS				X		
RR-71	Spring	7.5	2.5			H-3	VIS			X			X
RR-72	Spring	7.5	2.5			H-3	VIS	X				X	
RR-74	Spring	7.5	2.5			H-3	VIS		X			X	
RR-75	Spring	7.5	2.5			H-3	VIS			X			X
RR-88	Rigid	N/A	N/A			H-3	VIS			X			X
RR-89	Spring	12,400	10,450			H-3	VIS		X			X	
RR-90	Spring	12,400	10,450			H-3	VIS				X		
RR-91	Sway Brace	N/A	N/A			H-3	VIS	X				X	

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ITEM NO: B-4.10 CATEGORY: B-K-2

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Non-integrally Welded Support Components													
Recirc Loop"B"													
RR-92	Sway Brace	N/A	N/A			H-3	VIS				X		
RR-93	Rigid	N/A	N/A			H-3	VIS		X			X	
RR-94	Rigid	N/A	N/A			H-3	VIS				X		
Main Steam Line "A"													
MS-1	Spring	3.5	6.5			H-14	VIS	X			X		
MS-2	Spring	3.5	6.5			H-14	VIS			X			X
* MS-3	Snubber	3 3/16	2 1/16			H-14	VIS		X			X	
MS-4	Spring	9,140	9,640			H-14	VIS			X			X
MS-5	Spring	4.0	6.0			H-14	VIS	X			X		
* MS-6	Snubber	3 9/16	2.5			H-14	VIS				X		
MS-7	Rigid	N/A	N/A			H-14	VIS			X			X
Main Steam Line "B"													
MS-12	Spring	3.5	6.0			H-15	VIS	X			X		
MS-13	Spring	3.5	6.0			H-15	VIS			X			X
MS-14	Spring	4.0	6.0			H-15	VIS		X			X	
* MS-15	Snubber	3 1/8	2 1/8			H-15	VIS			X			X
MS-16	Rigid	N/A	N/A			H-15	VIS			X			X
Main Steam LIne "C"													
MS-21	Spring w/ shr. blks	3.5	6.5			H-16	VIS	X				X	

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ITEM NO: B-4.10 CATEGORY: B-K-2

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Non-integrally Welded Support Components													
Main Steam Line "C"													
MS-22	Spring w/ Shr. Blks	3.5	6.5			H-16	VIS	X			X		
MS-23	Spring	* *	* *			H-16	VIS			X			X
* MS-24	Snubber	3 1/8	2 1/8			H-16	VIS				X		
MS-25	Rigid	N/A	N/A			H-16	IS	X			X		
Main Steam Line "D"													
MS-30	Spring w/ Shr. Blks	3.5	6.5			H-17	VIS			X			X
MS-31	"	3.5	6.5			H-17	VIS			X			X
* MS-32	Snubber	3 [illegible]6	2 1/16			H-17	VIS		X			X	
MS-33	Spring	[illegible]	9,640			H-17	VIS	X			X		
MS-34	Spring	3.5	6.5			H-17	VIS		X			X	
* MS-35	Snubber	3 9/16	2 1/2			H-17	VIS				X		
MS-36	Shear Blocks	N/A	N/A			H-17	VIS	X			X		
Feedwater "A"													
FW-1	Spring w/ Shr. Blks	2,485	2,876			H-7	VIS			X			X
FW-2	"	2,485	2,876			H-7	VIS		X			X	
* FW-3	Snubber	4 3/16	2 9/16			H-7	VIS				X		
FW-5	Rigid w/ Shr. Blks	N/A	N/A			H-7	VIS			X			X
FW-6	Spring	2,902	3577			H-7	VIS		X			X	
FW-7	Spring w/ Shr. Blks	2,457	2,832			H-7	VIS			X			X

* * Obscured reading

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ITEM NO: B-4.10 CATEGORY: B-K-2

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Non-integrally welded support components													
Feedwater "A"													
FW-8	Spring w/ Shr. Blks.	2,457	2,832			H-7	VIS			X			X
FW-9	Spring	4,877	5,957			H-7	VIS	X			X		
Feedwater "B"													
FW-12	Spring w/ Shr. Blks	2,457	2,851			H-8	VIS			X			X
FW-13	"	2,457	2,851			H-8	VIS	X			X		
* FW-15	Snubber	4 3/16	2 9/16			H-8	VIS				X		
FW-16	Spring w/ Shr. Blks	N/A	N/A			H-8	VIS			X			X
FW-17	Spring	2902	3577			H-8	VIS	X			X		
FW-18	Spring w/ Shr. Blks	2,457	2,832			H-8	VIS		X			X	
FW-19	"	2,457	2,832			H-8	VIS		X			X	
FW-20	Spring	4,877	5,957			H-8	VIS			X			X
RHR Line "A"													
* RHR-3	Snubber	2 11/16	2 5/16			H-4	VIS					X	
* RHR-4	Snubber	2 9/16	2 7/16			H-4	VIS					X	
Head Spray													
RHR-10	Rigid	N/A	N/A			H-10	VIS		X			X	
RHR-13	Rigid	N/A	N/A			H-10	VIS	X			X		
Reactor Clean-up													
* CU-1	Snubber	2 5/8	2 5/8			H-13	VIS				X		

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ITEM NO: B-4.10 CATEGORY: B-K-2

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Non-integrally Welded Support components													
Reactor Clean-up													
* CU-2	Snubber	2 5/8	3 5/8			H-13	VIS			X			X
CU-4	Spring	535	612			H-13	VIS	X			X		
CU-5	Spring	360	420			H-13	VIS		X			X	
CU-6	Rigid	N/A	N/A			H-13	VIS			X			X
CU-7	Rigid	N/A	N/A			H-13	VIS			X			X
CU-8	Rigid	N/A	N/A			H-13	VIS		X			X	
CU-9	Rigid	N/A	N/A			H-13	VIS	X			X		
HPCI													
HPCI-1	Spring	3347	2972			H-20	VIS	X				X	
HPCI-2	Rigid	N/A	N/A			H-20	VIS		X			X	
HPCI-3	Spring	3027	2877			H-20	VIS			X			X
HPCI-4	Rigid	N/A	N/A			H-20	VIS		X			X	
RCIC													
RCIC-1	Spring	230	259			H-19	VIS			X			X
RCIC-2	Spring	312	336			H-19	VIS		X			X	
CRD Return Piping													
CRD-1	Rigid	N/A	N/A			H-9	VIS			X			X
CRD-2	Rigid	N/A	N/A			H-9	VIS	X			X		
CRD-3	Rigid	N/A	N/A			H-9	VIS	X				X	

1277 299

Rev. 2
I - 78.a

ITEM NO: B-4.10 CATEGORY: B-K-2

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Non-integrally Welded Support components													
CRD Return Piping													
CRD-4	Rigid	N/A	N/A			H-9	VIS			X			X
CRD-5	Spring	225	265			H-9	VIS		X			X	

1977 300

I - 78.b

ITEM NO: B4.12 CATEGORY: R-G-2

Component:	Size	Number of Bolts	Number of Nuts			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Pressure-Retaining Bolting <2" Diam.													
Recirc. System Flange A	1 1/8"	8	16			H-1	VIS	X			X		
B	"	8	16			H-2	"		X			X	
Head Spray Flange A	1 1/4"	8	8			H-10	"	X				X	
B	"	8	8			"	"				X		
Main Steam Inlet Flange RV-A	1 3/8"	12	12			H-14	"			X			X
SV-A	"	"	"			"	"			X			X
Blank A	"	"	"			"	"			X			X
Inlet Flanges RV-B	"	"	"			H-15	"		X			X	
Blank B	"	"	"			"	"				X		
RV-C	"	"	"			H-16	"			X			X
Blank C-1	"	"	"			"	"				X		
Blank C-2	"	"	"			"	"			X			X
RV-D	"	"	"			H-17	"		X			X	
SV-D	"	"	"			"	"		X			X	
Blank D	1 3/8"	12	12			H-17	VIS				X		

1277 301

ITEM NO: B5.1 CATEGORY: B-G-1

Component:		Size		Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Pressure-Retaining Bolts & Studs, In Place														
P1-18-1A	1	2 1/2"		A-193GR7	RPB-1 RPB-4			Vol.			X	X		
	2	"		"	"			"	X			X		
	3	"		"	"			"				X		
	4	"		"	"			"	X			X		
	5	"		"	"			"			X	X		
	6	"		"	"			"	X			X		
	7	"		"	"			"					X	
	8	"		"	"			"	X			X		
	9	"		"	"			"			X		X	
	10	"		"	"			"	X			X		
	11	"		"	"			"					X	
	12	"		"	"			"	X			X		
	13	"		"	"			"			X			X
	14	"		"	"			"	X			X		
	15	"		"	"			"						X
	16	"		"	"			"	X			X		
P-18-1B Recirc. Loop "B"														
	1	"		"	"			"		X			X	
	2	2 1/2"		A-193GR7	RPB-1 RPB-4			Vol.			X			X

1277 302

ITEM NO: B5.1 CATEGORY: B-G-1

Component:		Size		Mat'l	Cal. Standard		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Pressure Retaining Bolts & Studs, in Place														
P1-18-1B Recirc Loop "B" (Con't)														
	3	2½"		A-193GR7	RPB-1 RPB-4			Vol.		X			X	
	4	"		"	"			"			X			X
	5	"		"	"			"		X			X	
	6	"		"	"			"			X			X
	7	"		"	"			"		X			X	
	8	"		"	"			"			X			X
	9	"		"	"			"		X			X	
	10	"		"	"			"			X			X
	11	"		"	"			"		X			X	
	12	"		"	"			"			X			X
	13	"		"	"			"		X			X	
	14	"		"	"			"			X			X
	15	"		"	"			"		X			X	
	16	2½"		A-193GR7	RPB-1 RPB-4			Vol.						X

1277 303

ITEM NO: B5.4 CATEGORY: B-K-1

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Integrally Welded Supports													
Recirc. Loop "A" P-18-1A													
RR-12	Snubber	2 7/8	2 5/16			H-2	Vol.*	X					
RR-13	Snubber	3	2 1/4			H-2	Vol.*	X					
RR-14	Snubber					H-2	Vol.*						
RR-15	Spring	7.7	2.4			H-2	Vol.*			X			
RR-16	Spring	7.7	2.4			H-2	Vol.*						
RR-17	Spring	7.7	2.4			H-2	Vol.*						
Recirc. Loop "B" P-18-1B													
RR-80	Snubber	2 7/8	2 5/16			H-3	Vol.*					X	
RR-81	Snubber	2 15/16	2 7/16			H-3	Vol.*						
RR-82	Snubber	3	2 1/4			H-3	Vol.*						
RR-83	Spring	7.5	2.5			H-3	Vol.*				X		
RR-84	Spring	7.5	2.5			H-3	Vol.*						
RR-85	Spring	7.5	2.5			H-3	Vol.*						X
	* See Relief Request No. B-5												

1277 304

ITEM NO: B5.5 CATEGORY: B-K-2

Component:	Hanger Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Non-integrally Welded Support Components													
Recirc. Loop "A" P-18-1A													
RR-18	Rigid	N/A	N/A			H-2	VIS			X			X
RR-19	Snubber	2 5/16	3			H-2	VIS	X			X		
RR-20	Snubber	2 27/32	2 29/32			H-2	VIS			X			X
RR-21	Snubber	2 5/16	"			H-2	VIS			X			X
Recirc. Loop "B" P-18-1B													
RR-76		2 5/16	3			H-3	VIS		X			X	
RR-77		3 1/16	2 1/16			H-3	VIS		X			X	
RR-78		2 5/16	3			H-3	VIS				X		
RR-79	Rigid	N/A	N/A			H-3	VIS	X			X		

ITEM NO: B5.7 CATEGORY: B-L-2

Component:	Wall Thickness	Mat'l	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
					1	2	3	1	2	3
Pump Casings										
Recirc. Loop "A" P-18-1A	2 3/8"	A-351 GR. CF8M	H-2	Vis	*	*	*	*	*	*
Recirc. Loop "B" P-18-1B perform similar functions per IWB - 2500			H-3							

* See Relief Request No. RRB B-8

ITEM NO: B6.7 CATEGORY: B-M-2

Component:		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
				1	2	3	1	2	3
Valve Bodies									
group 1	V2-43A	H-2	Vis						
	V2-43B	H-3	Vis						
	V2-53A	H-2	Vis						
	V2-53B	H-3	Vis						
group 2	V2-65A	H-1	Vis						
	V2-65B	H-1	Vis						
group 3	V2-27A	H-7	Vis		-				
	V2-28A	H-7	Vis		-				
	V2-28B	H-8	Vis		-				
	V2-96A	H-8	Vis		X				
group 4	V2-29A	H-7	Vis						
	V2-29B	H-8	Vis						
group 5	V23-15	H-20	Vis						
	V23-16	H-20	Vis						
group 6	V14-12A	H-11	Vis						
	V14-12B	H-12	Vis						
group 7	V14-13A	H-11	Vis						
	V14-13B	H-12	Vis						
group 8	V14-14A	H-11	Vis						
	V14-14B	H-12	Vis						

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ITEM NO: B6.7 CATEGORY: B-M-2

Component:		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
				1	2	3	1	2	3
Valve Bodies (cont'd)									
group 9	V2-80A	H-14	Vis						
	V2-80B	H-15	Vis						
	V2-80C	H-16	Vis						
	V2-80D	H-17	Vis						
	V2-86A	H-14	Vis						
	V2-86B	H-15	Vis						
	V2-86C	H-16	Vis						
	V2-86D	H-17	Vis						
group 10	SV2-70A	H-14	Vis						
	SV2-70B	H-15	Vis						
group 11	RV2-71A	H-14	Vis						
	RV2-71B	H-15	Vis						
	RV2-71C	H-16	Vis						
	RV2-71D	H-17	Vis						
group 12	V10-17	H-4	Vis						
group 13	V10-18	H-4	Vis						
group 14	V10-25A	H-6	Vis						
	V10-25B	H-5	Vis						
group 15	V10-46A	H-6	Vis		X				
	V10-46B	H-5	Vis		-				

1277 308

ITEM NO: B6.7 CATEGORY: B-M-2

Component:		Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
				1	2	3	1	2	3
Valve Bodies (cont'd)									
group 16	V10-81A	H-6	Vis						
	V10-81B	H-5	Vis						
	V10-88	H-4	Vis						
group 17	V10-27A	H-6	Vis						
	V10-27B	H-5	Vis						

1277 309

ITEM NO: B6.9 CATEGORY: B-G-2

Component:	No./Bolt Size	Body Type	Mat'l		Size Rating/lbs.	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
								1	2	3	1	2	3
Pressure-Retaining Bolting													
V2-43A	24/<2"	Cast	SS		28"/	H-2	Vis			X			X
Recirc. Loop "A" V2-53A	24/<2"	Cast	SS		28"/	H-2	Vis		X			X	
V2-54A	10/<2"	Cast	SS		4"/	H-2	Vis			X		X	
Recirc. Loop "B" V2-43B	24/<2"	Cast	SS		28"/	H-3	Vis		X			X	
V2-53B	24/<2"	Cast	SS		28"/	H-3	Vis	X			X		
V2-54B	10/<2"	Cast	SS		4"/	H-3	Vis			X		X	
Recirc. Ring Header V2-65A	24/<2"	Cast	SS		22"/	H-1	Vis	X			X		
V2-65B	24/<2"	Cast	SS		22"/	H-1	Vis		X			X	
Feedwater Line "A" V2-27A	8/<2"	Cast	CS		16"/900	H-7	Vis		X			X	
V2-28A	8/<2"	Cast	CS		16"/900	H-7	Vis	X			X		
V2-29A	6/<2"	Cast	CS		16"/900	H-7	Vis			X			X
Feedwater Line "B" V2-28B	8/<2"	Cast	CS		16"/900	H-8	Vis	X			X		
V2-29B	6/<2"	Cast	CS		16"/900	H-8	Vis	X			X		
V2-96A	8/<2"	Cast	Cs		16"/900	H-8	Vis			X			X
CRD V3-110	16/<2"	Cast	CS		2 1/2"/1500	H-9	Vis		X			X	
V3-113	16/<2"	Cast	CS		2 1/2"/1500	H-9	Vis		X			X	
V3-114	4/<2"	Cast	SS		2 1/2"/1500	H-9	Vis			X			X
Head Spray V10-29	4/<2"	Cast	SS		4"/1500	H-10	Vis	X			X		
V10-32	2/<2"	Cast	CS		4"/900	H-10	Vis		X				
V10-33	2/<2"	Cast	CS		4"/900	H-10	Vis				X	X	

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ITEM NO: B6.9 CATEGORY: B-G-2

Component:	No./Bolt Size	Body Type	Mat'l	Size Rating/lbs	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
							1	2	3	1	2	3
Pressure Retaining Bolting (cont'd)												
RCIC V13-15	2/<2"	Cast	CS	3"/900	H-19	Vis	X			X		
V13-16	2/<2"	Cast	CS	3"/900	H-19	Vis				X		
Rx Cleanup Demineralizer V12-15	4/<2"	Cast	SS	4"/1500	H-13	Vis	X			X		
V12-18	4/<2"	Cast	SS	4"/1500	H-13	Vis			X			X
V12-46	4/<2"	Cast	SS	4"/1500	H-13	Vis	X			X		
HPCI V23-15	2/<2"	Cast	CS	10"/900	H-20	Vis				X		
V23-16	2/<2"	Cast	CS	10"/900	H-20	Vis				X		
Core Spray "A" V14-12B	2/<2"	Cast	CS	8"/900	H-11	Vis				X		
V14-13B	16/<2"	Cast	SS	8"/600	H-11	Vis	X			X		
V14-14B	4/<2"	Cast	SS	8"/900	H-11	Vis			X			X
Core Spray "B" V14-12A	2/<2"	Cast	CS	8"/900	H-12	Vis			X			X
V14-13A	16/<2"	Cast	SS	8"/600	H-12	Vis		X			X	
V14-14A	4/<2"	Cast	SS	8"/900	H-12	Vis		X			X	
RHR "A" V10-17	4/<2"	Cast	CS	20"/900	H-4	Vis				X		
V10-18	24/<2"	Cast	SS	20"/	H-4	Vis			X			X
V10-88	24/<2"	Cast	SS	20"/	H-4	Vis	X			X		
RHR "B" V10-25B	2/<2"	Cast	CS	24"/	H-5	Vis				X		
V10-46B	24/<2"	Cast	SS	24"/700	H-5	Vis		X			X	
V10-81B	24/<2"	Cast	SS	24"/	H-5	Vis			X			

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ITEM NO: B6.9 CATEGORY: B-G-2

Component:	No./Bolt Size	Body Type	Mat'l	Size Rating/lbs	Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
							1	2	3	1	2	3
Pressure Retaining Bolting (cont'd)												
RHR "B" (cont'd) V10-27B	16/<2"	Cast	CS	24"/	H-5	Vis			X			
RHR "C" V10-27A	16/<2"	Cast	CS	24"/	H-6	Vis			X			
V10-25A	2/<2"	Cast	CS	24"/	H-6	Vis				X		
V10-46A	24/<2"	Cast	SS	24"/700	H-6	Vis	X			X		
V10-81A	24/<2"	Cast	SS	24"/	H-6	Vis		X			X	
MS - "A" V2-80A	18/<2"	Cast	CS	18"/	H-14	Vis	X			X		
V2-86A	18/<2"	Cast	CS	18"/	H-14	Vis			X			X
MS - "B" V2-80B	18/<2"	Cast	CS	18"/	H-15	Vis		X			X	
V2-86B	18/<2"	Cast	CS	18"/	H-15	Vis			X			X
MS - "C" V2-80C	18/<2"	Cast	CS	18"/	H-16	Vis		X			X	
V2-86C	18/<2"	Cast	CS	18"/	H-16	Vis			X			X
MS - "D" V2-80D	18/<2"	Cast	CS	18"/	H-17	Vis	X			X		
V2-86D	18/<2"	Cast	CS	18"/	H-17	Vis			X			X
Safety and Relief Valves												
MS - "A" SV2-70A	12/<2"	Cast	CS	6"/1500	H-14	Vis			X			X
RV2-71A	12/<2"	Cast	CS	6" x 10"/ 1500	H-14	Vis			X			X
MS - "B" RV2-71B	12/<2"	Cast	CS	6" x 10"/ 1500	H-15	Vis				X		
MS - "C" RV2-71C	12/<2"	Cast	CS	6" x 10"/ 1500	H-16	Vis			X			X
MS - "D" RV2-71D	12/<2"	Cast	CS	6" x 10"/ 1500	H-17	Vis				X		
SV2-70B	12/<2"	Cast	CS	6"/1500	H-17	Vis				X		

1777 312

LEGEND

The symbols below are used on the following piping drawings:


Spring hanger or support


Integrally welded Spring hanger or support


Rigid hanger, support or restraint


Integrally welded Rigid hanger, support or restraint


Sway Brace

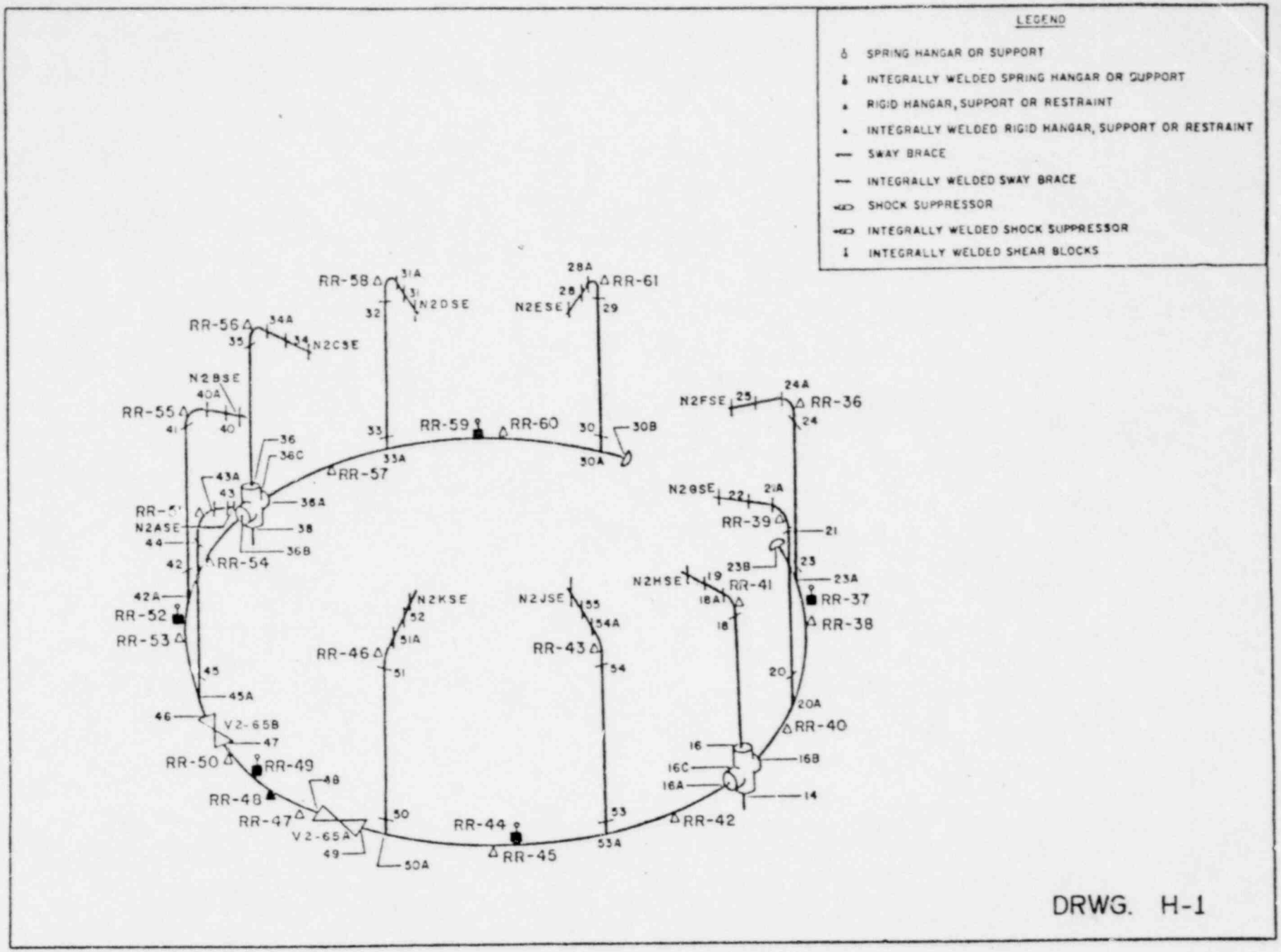

Integrally welded Sway Brace


Shock Suppressor


Integrally welded Shock Suppressor


Integrally welded Shear Blocks

1277 313



RECIRC RING HEADER & INLETS

REF EBASCO DWG. 5920-FS-I33

1277 314

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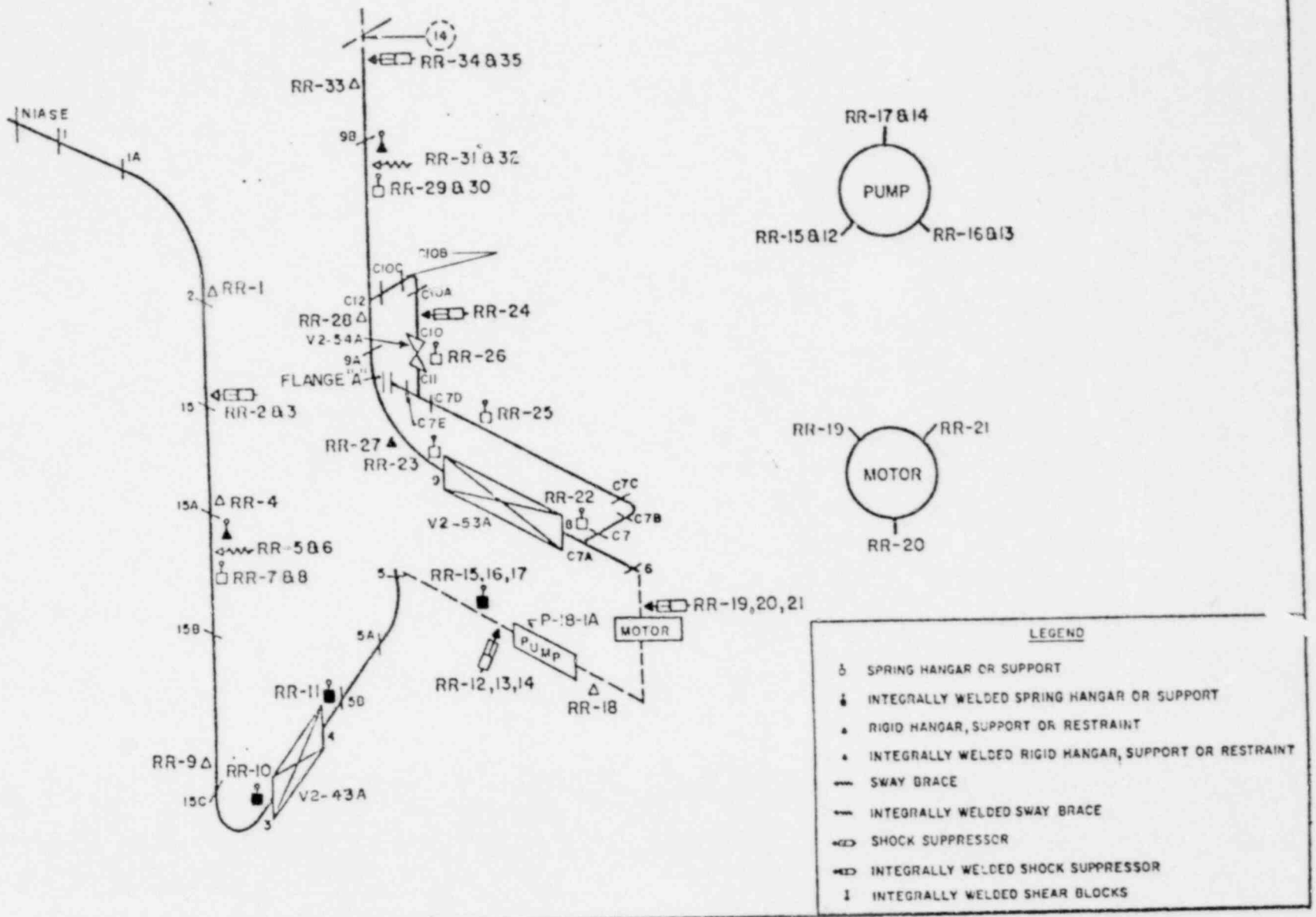

RECIRC LOOP "A"

REF EBASCO DWG. 5920-FS-133

DRWG. H-2

1277 315

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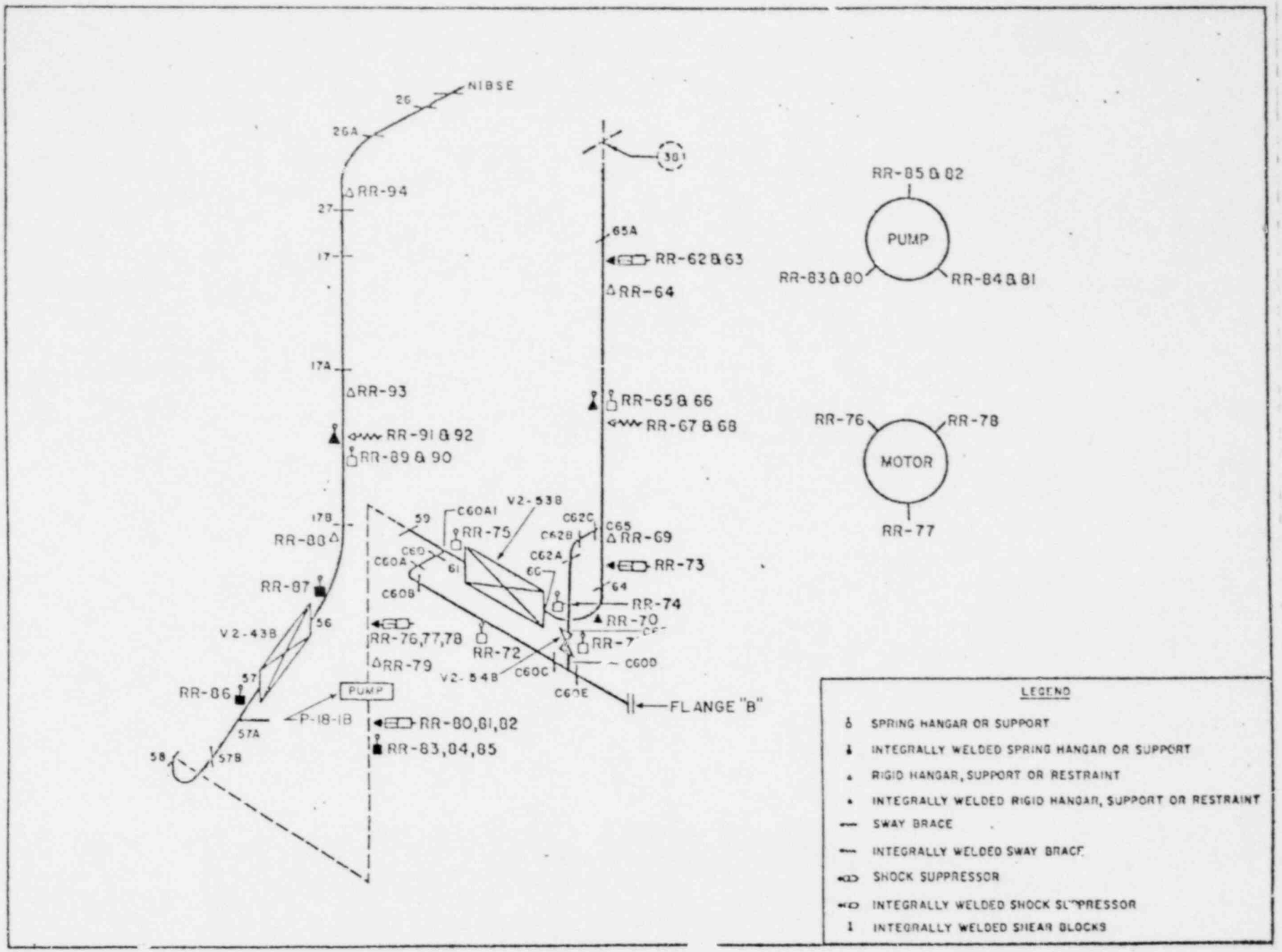

RECIRC LOOP "B"

REF. EBASCO DWG 5920-FS-133

DRWG. H-3

1277 316

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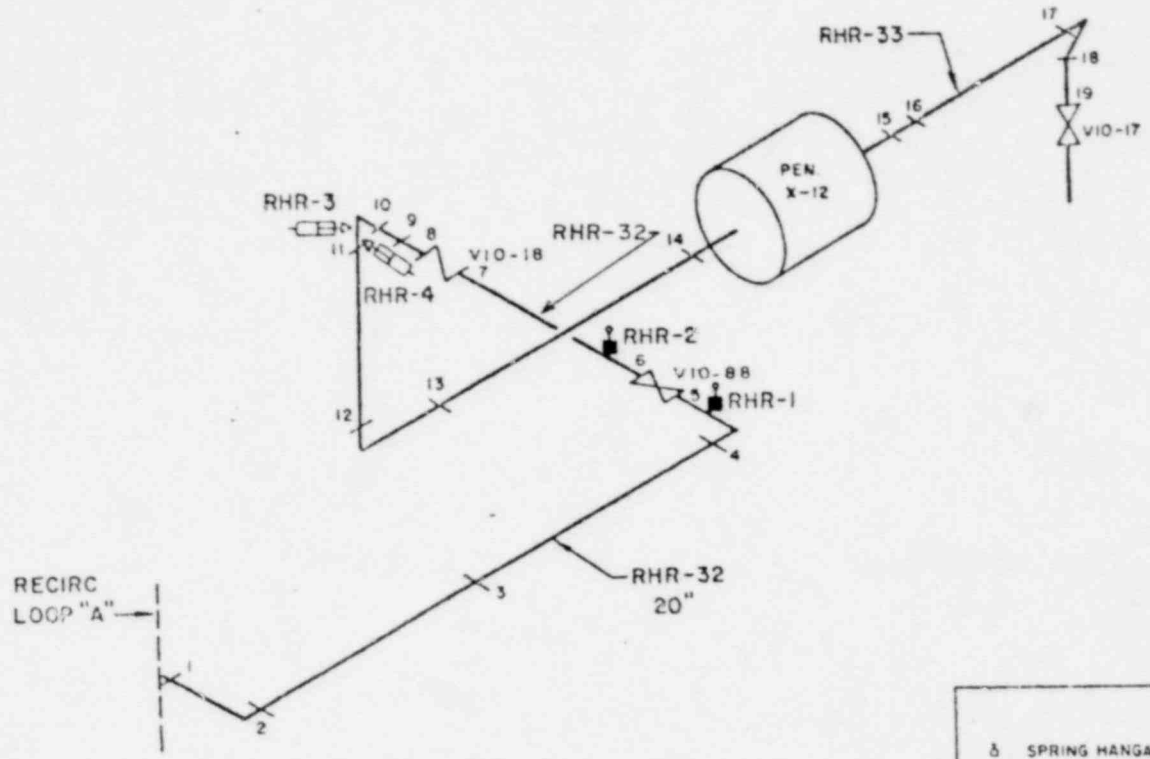

LEGEND

- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

RHR PIPING LINE "A"

REF. EBASCO DWG. 5920-FS-I438

DRWG. H-4

1277 317

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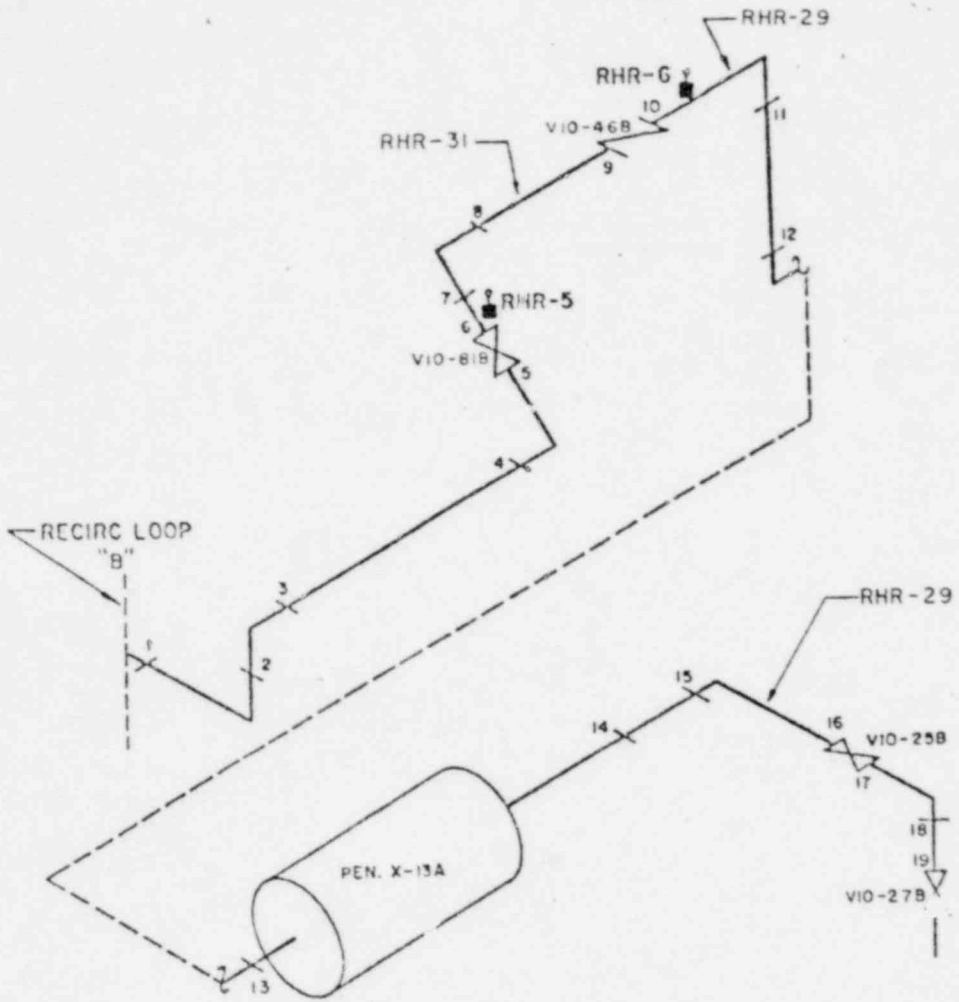


LEGEND

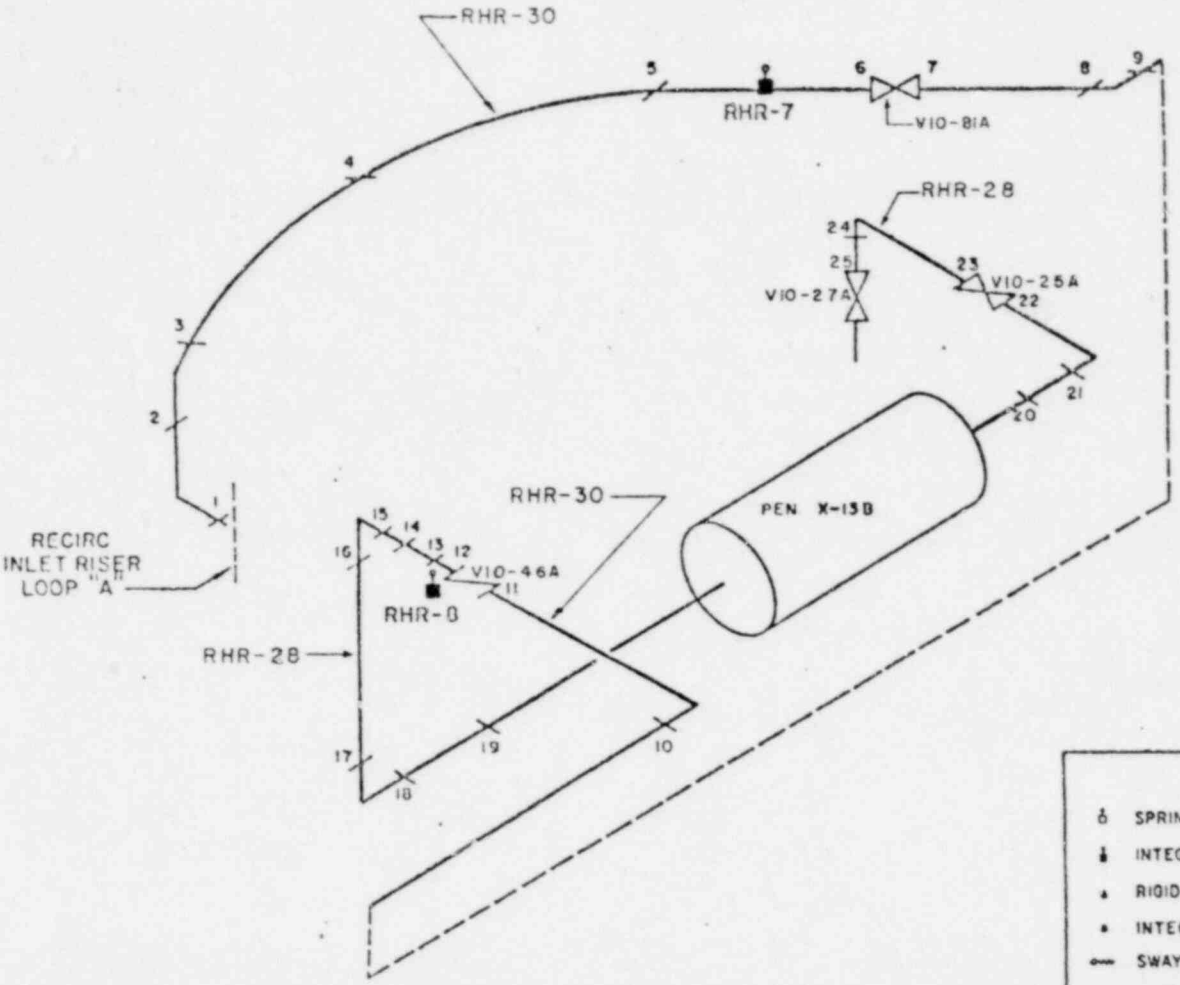
- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

RHR PIPING LINE "B"

REF. BECHTEL DWG. 5922-ES-143B

DRWG. H-5

1277 318 I-96



LEGEND

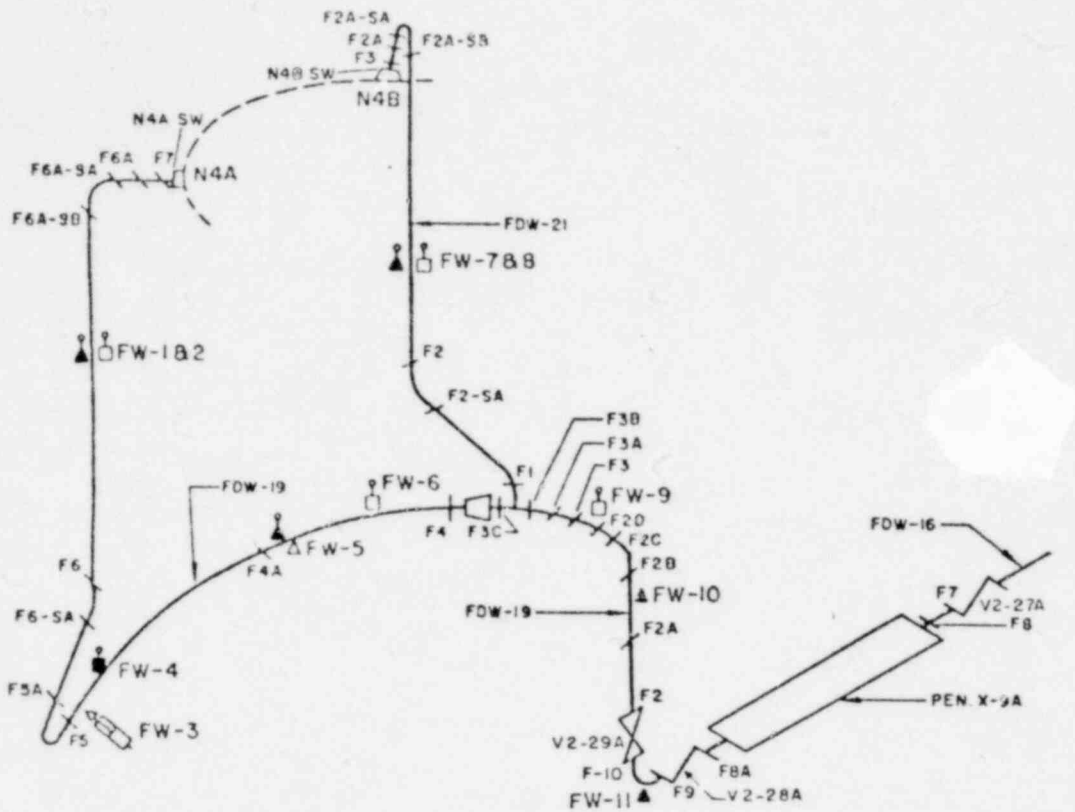
- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

RHR PIPING LINE "C"

REF EBASCO DWG. 5920-FS-1438

DRWG. H-6

1277 319 I-97



LEGEND

- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

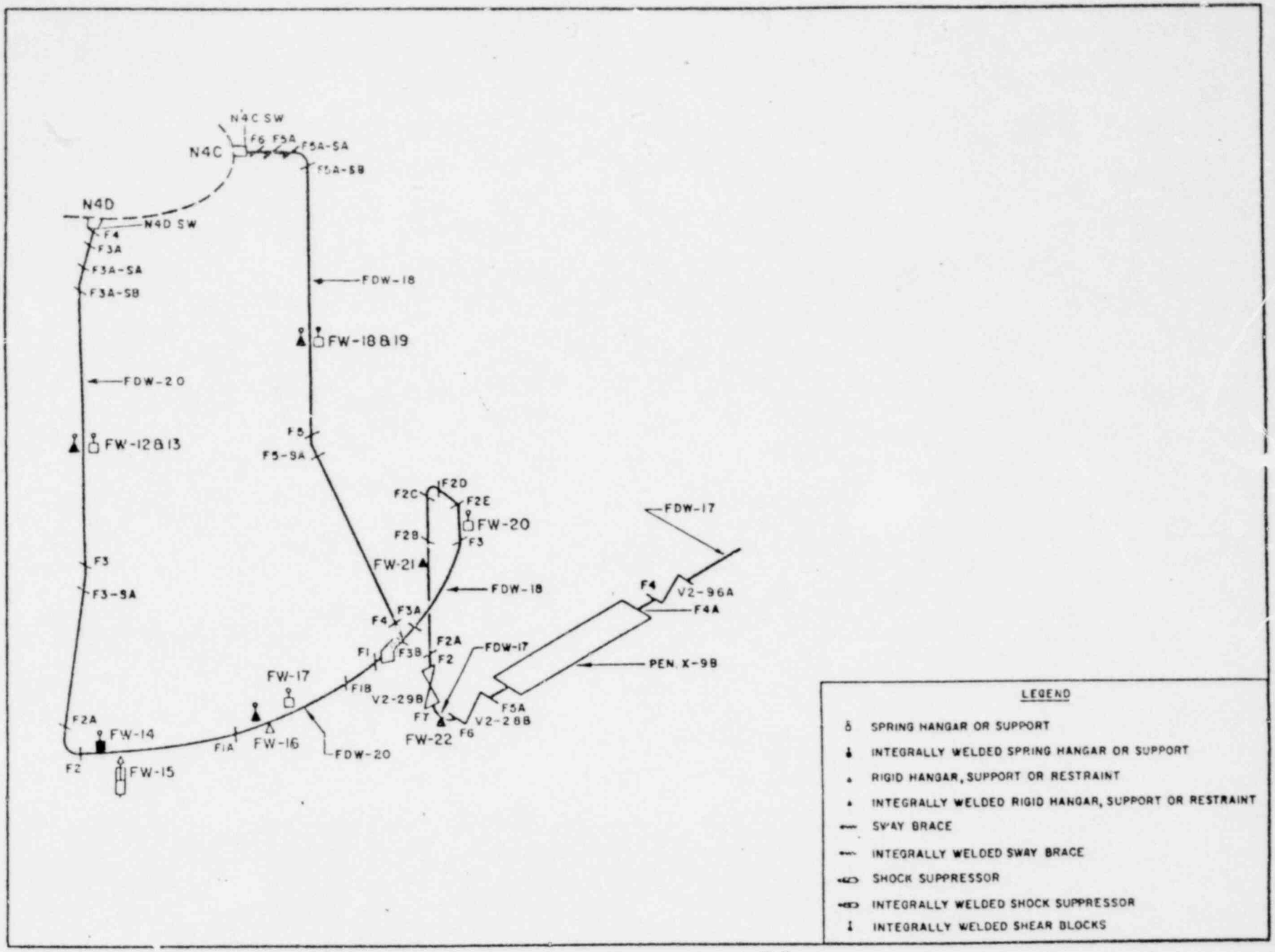
FEEDWATER PIPING LINE "A"

REF EBASCO DWG 5920-FS-I26

DRWG. H-7

1177 320

I-98



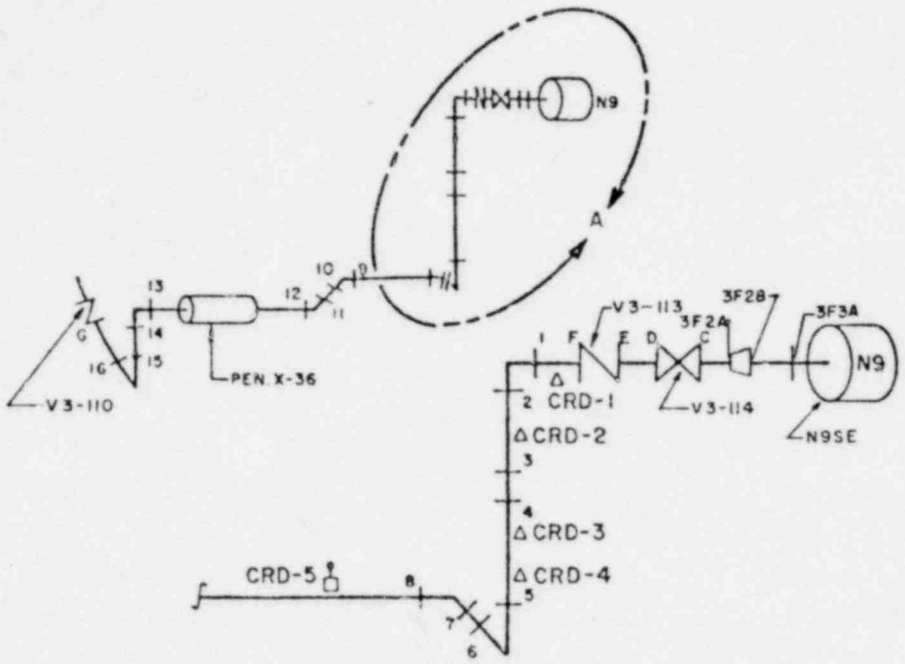
FEEDWATER PIPING LINE "B"

REF. EBASCO DWG. 5920-FS-I26

DRWG. H-8

1977 321

66 - I - 99



SECTION A

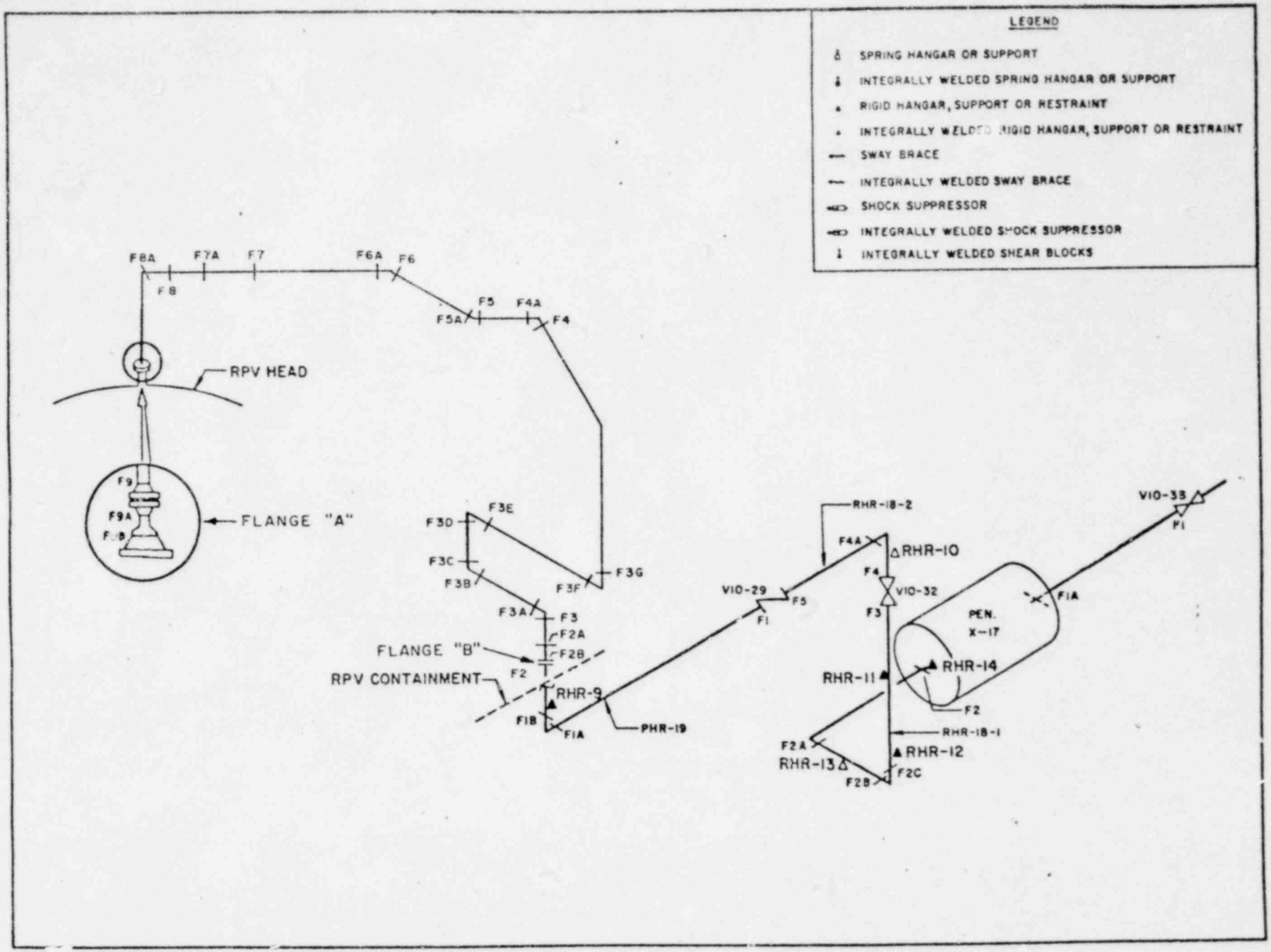
LEGEND

- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

CRD RETURN PIPING

DRWG. H-9

1277 322

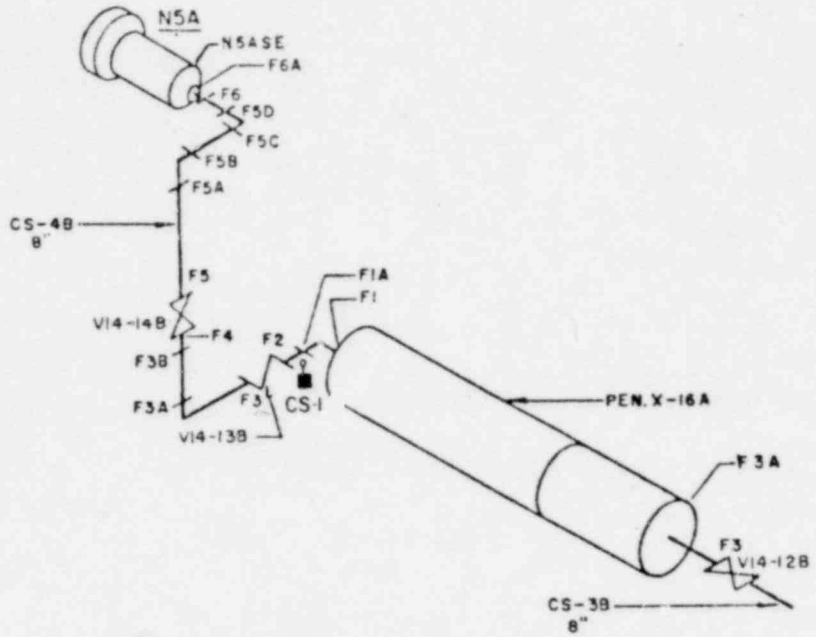


HEAD SPRAY PIPING

REF. EBASCO DWG. 5920-FS-I438

DRWG. H-10

1277 323



LEGEND

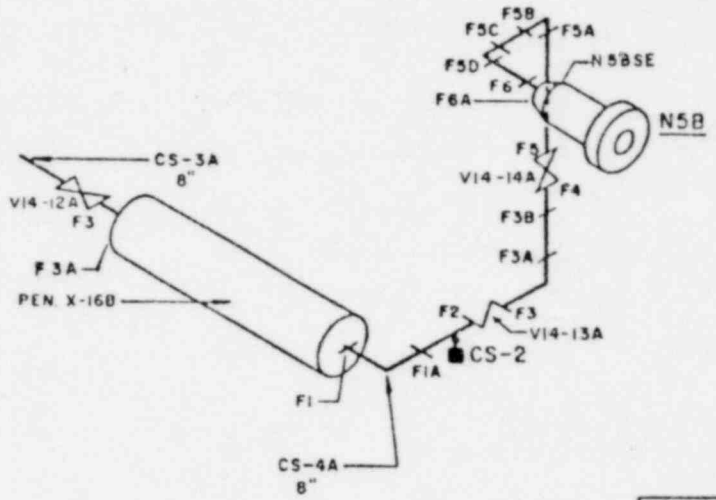
- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

CORE SPRAY "A" SIDE

REF. EBASCO DWG. 5920-FS-I49

DRWG. H-11

1277 324



LEGEND

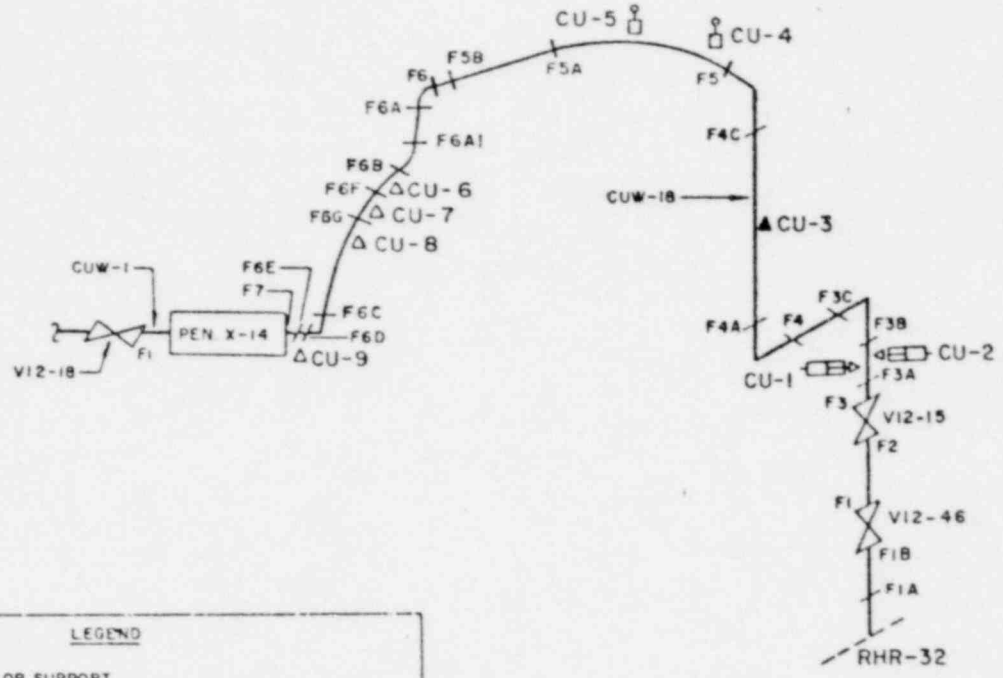
- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

CORE SPRAY "B" SIDE

REF. EBASCO DWG. 5920-FS-I49

DRWG. H-12

1277 325



LEGEND

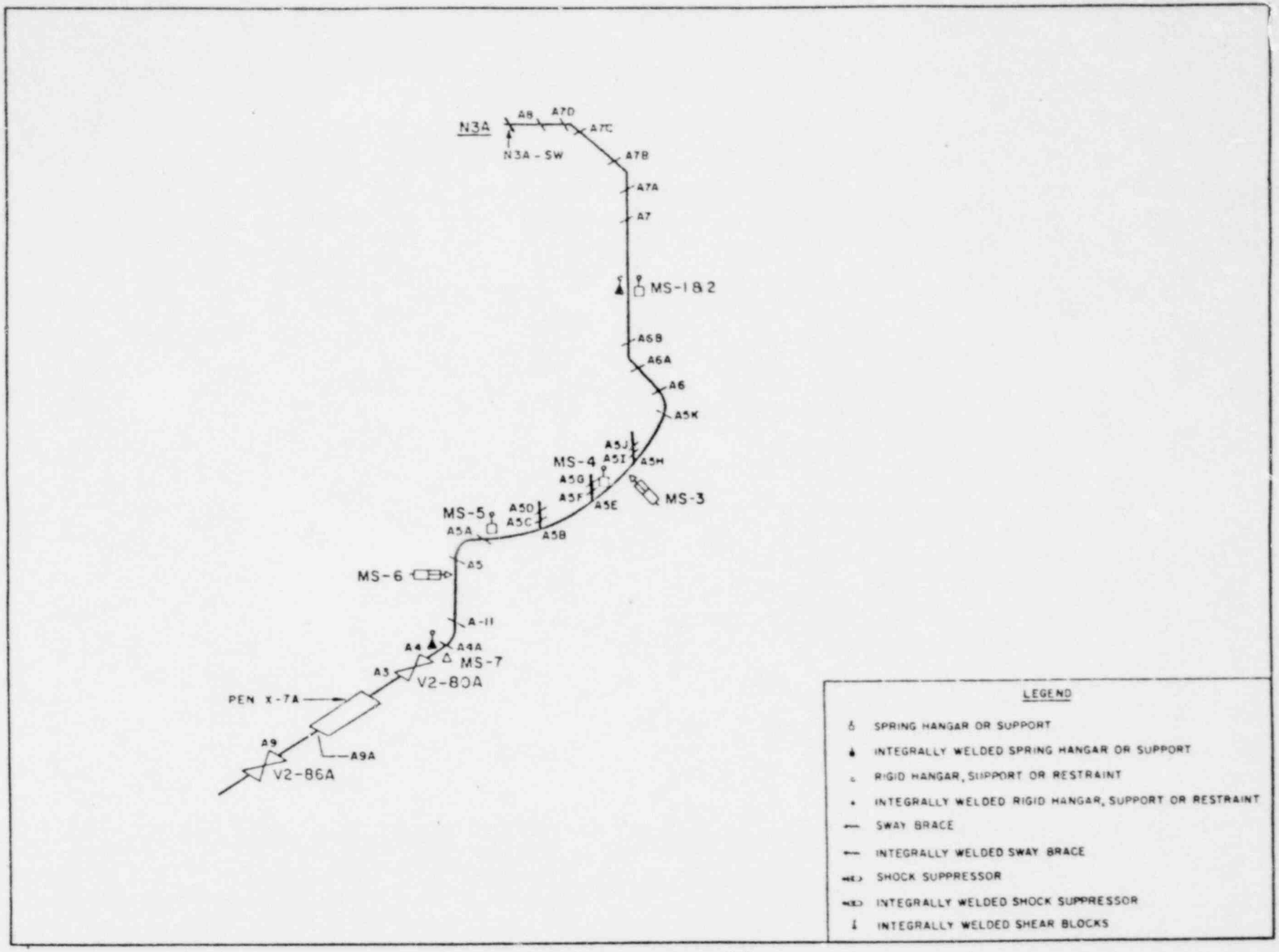
- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

REACTOR CLEANUP DEMINERALIZER PIPING

REF EBASCO DWG. 5920-FS-I45

DRWG. H-13

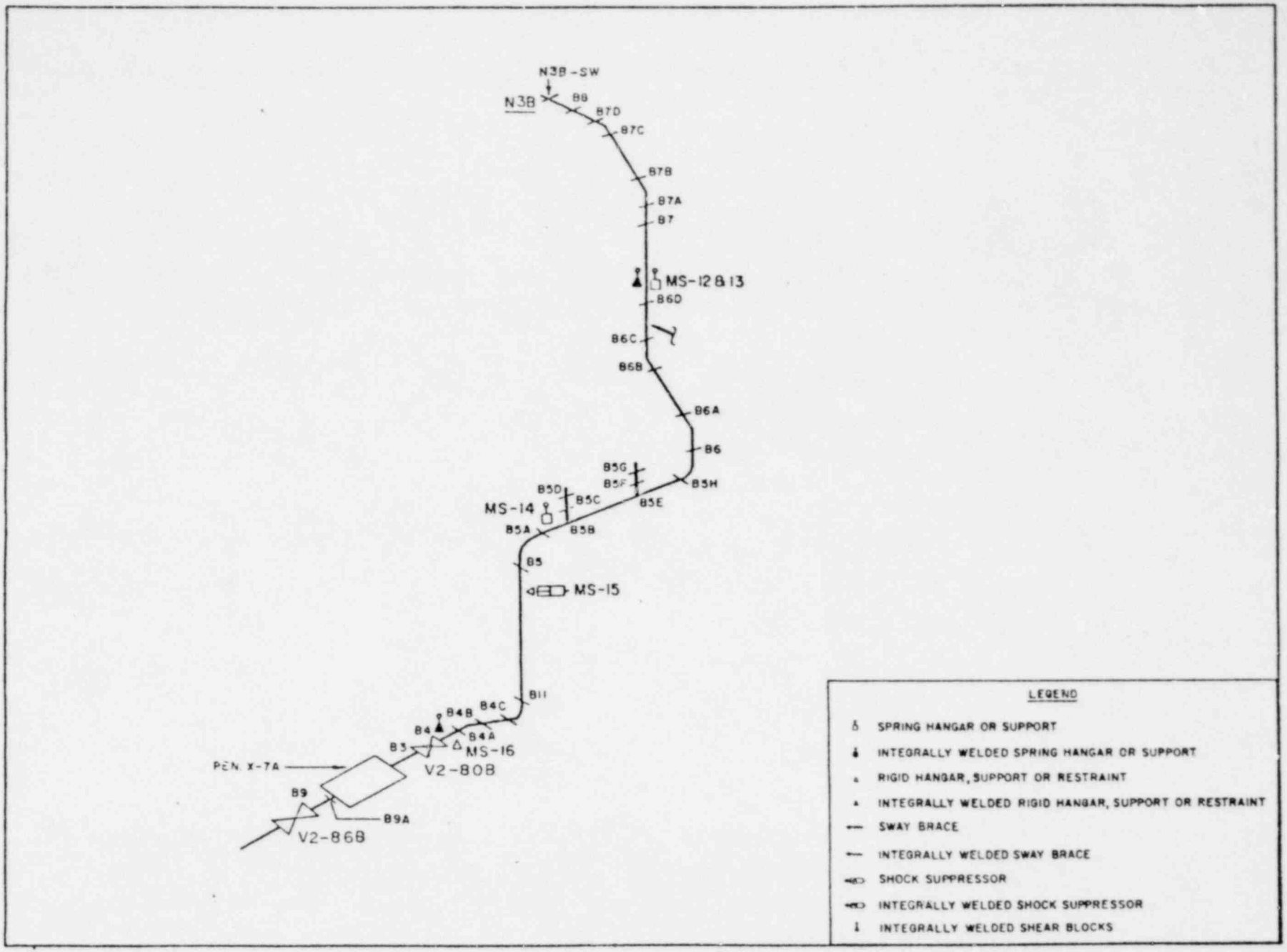
177 326 I - 104



MAIN STEAM LINE "A"

REF. EBASCO DWG. 5920-FS-I3

DRWG. H-14

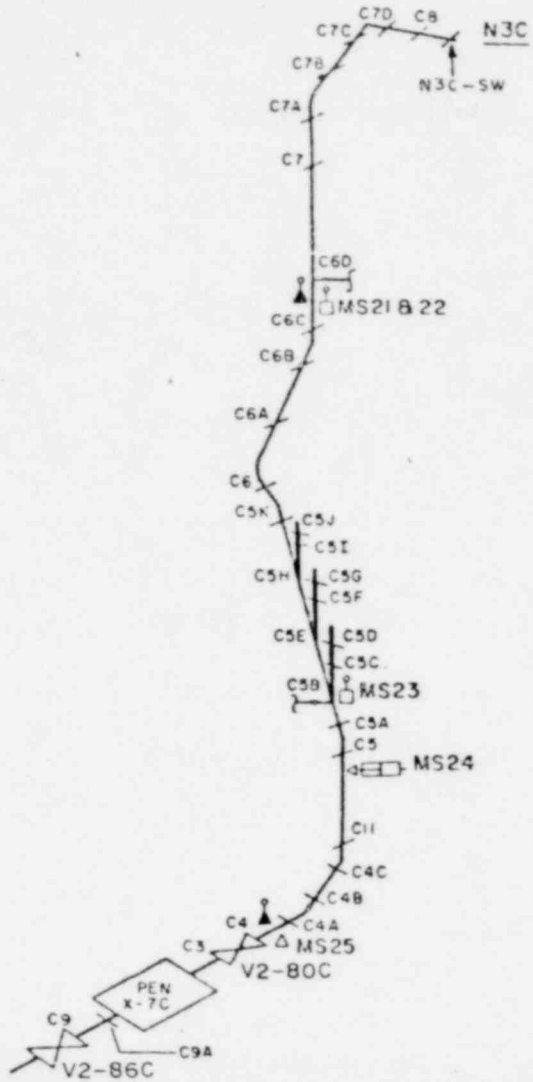


MAIN STEAM LINE "B"

REF EBASCO DWG. 5920-FS-I3

DRWG. H-15

1077 328



LEGEND

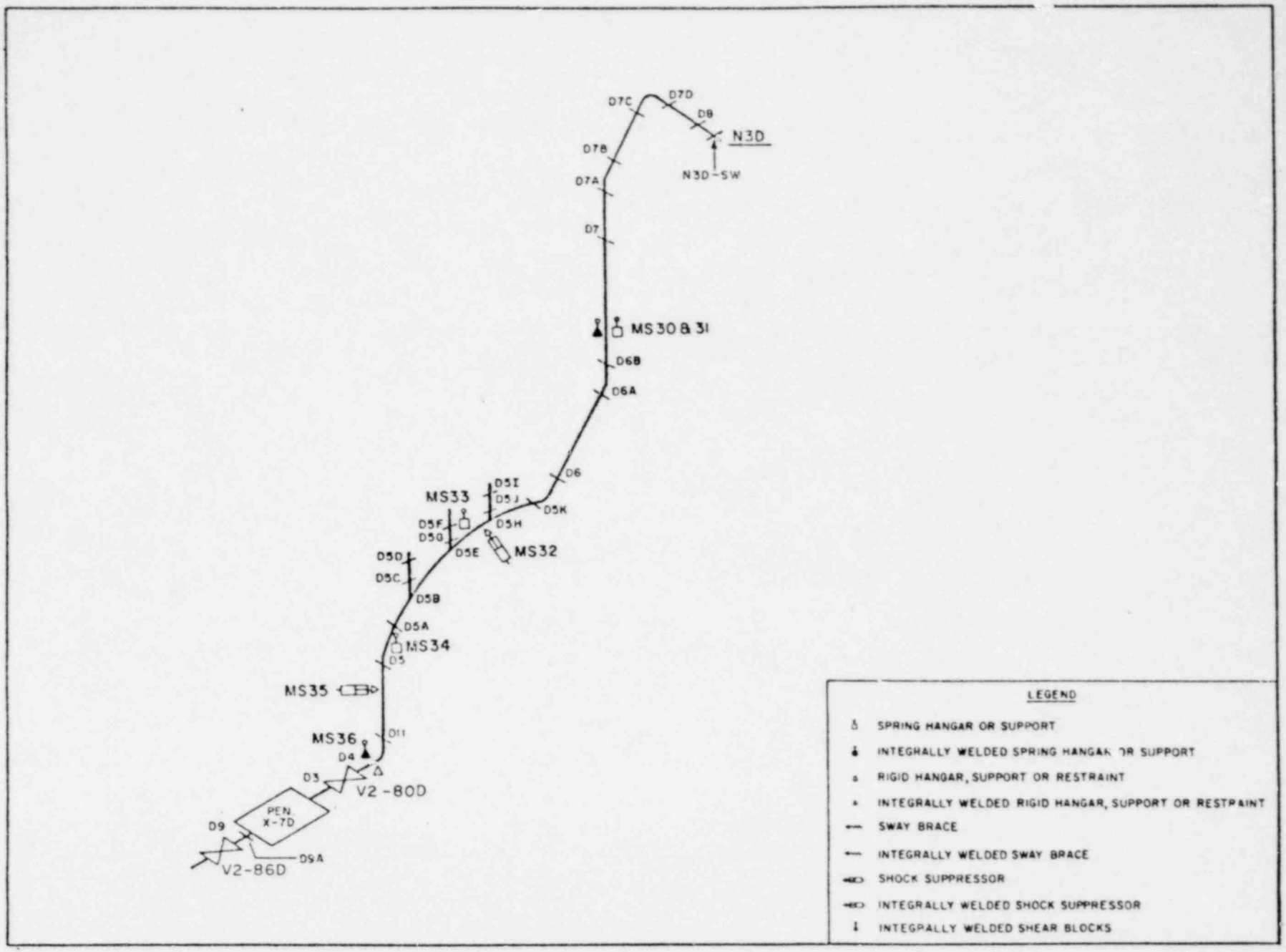
- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

MAIN STEAM LINE "C"

REF EBASCO DWG. 5920-FS-13

DRWG. H-16

1277 329

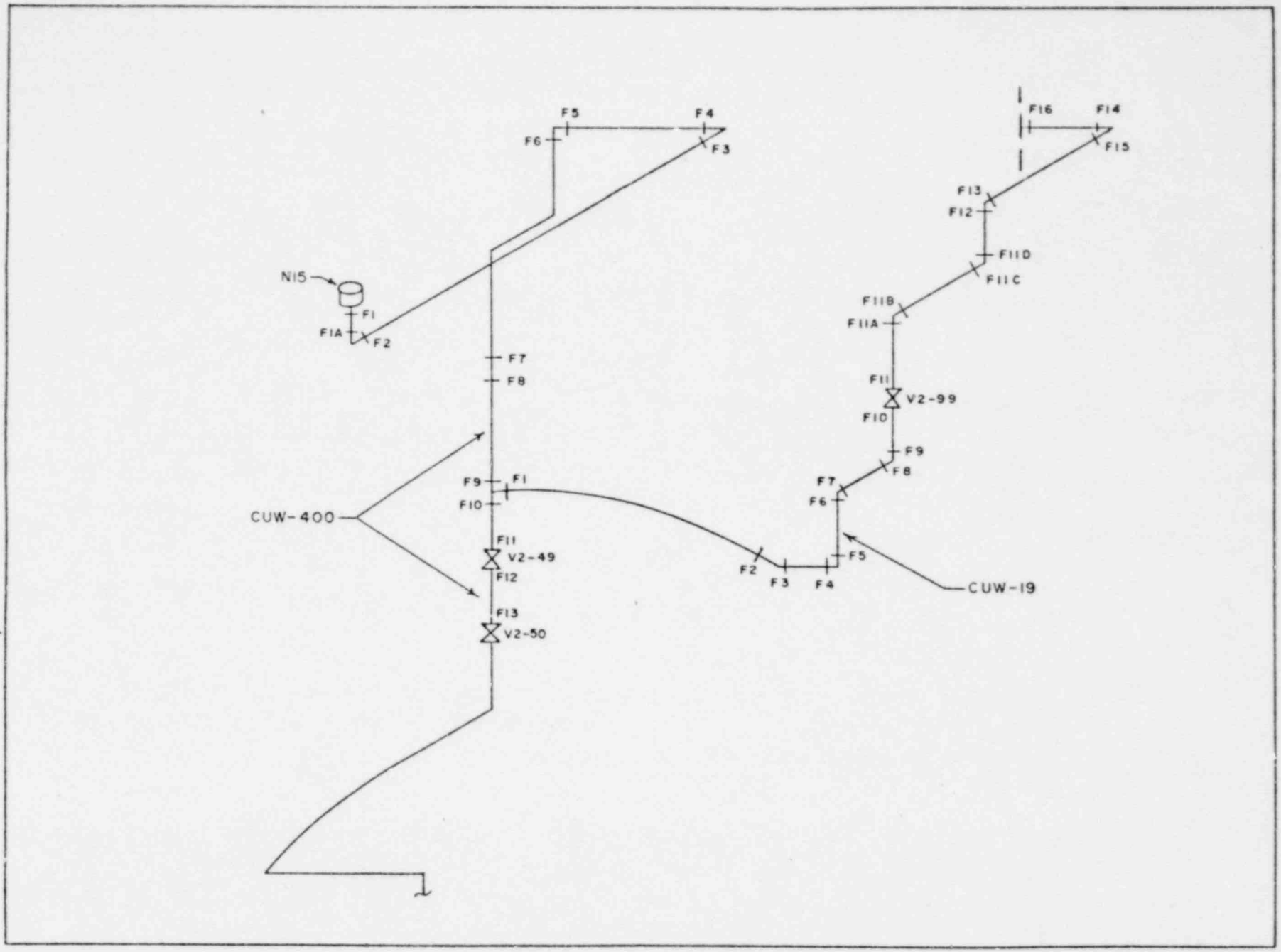


MAIN STEAM LINE "D"

REF EBASCO DWG. 5920-FS-I3

DRWG. H-17

1077 330

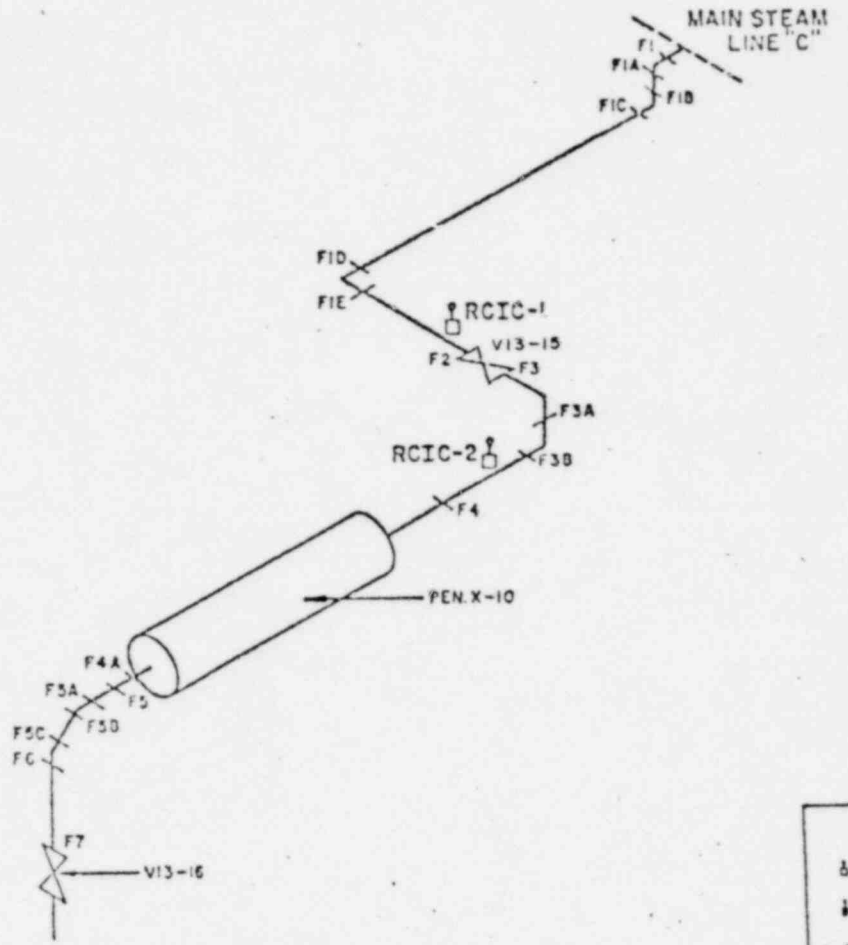


REACTOR DRAIN LINE CUW-400 & CUW-19

DRWG. H-18

REF. EBASCO DWG. 5920-FS-145

1277 331



LEGEND

- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

RCIC

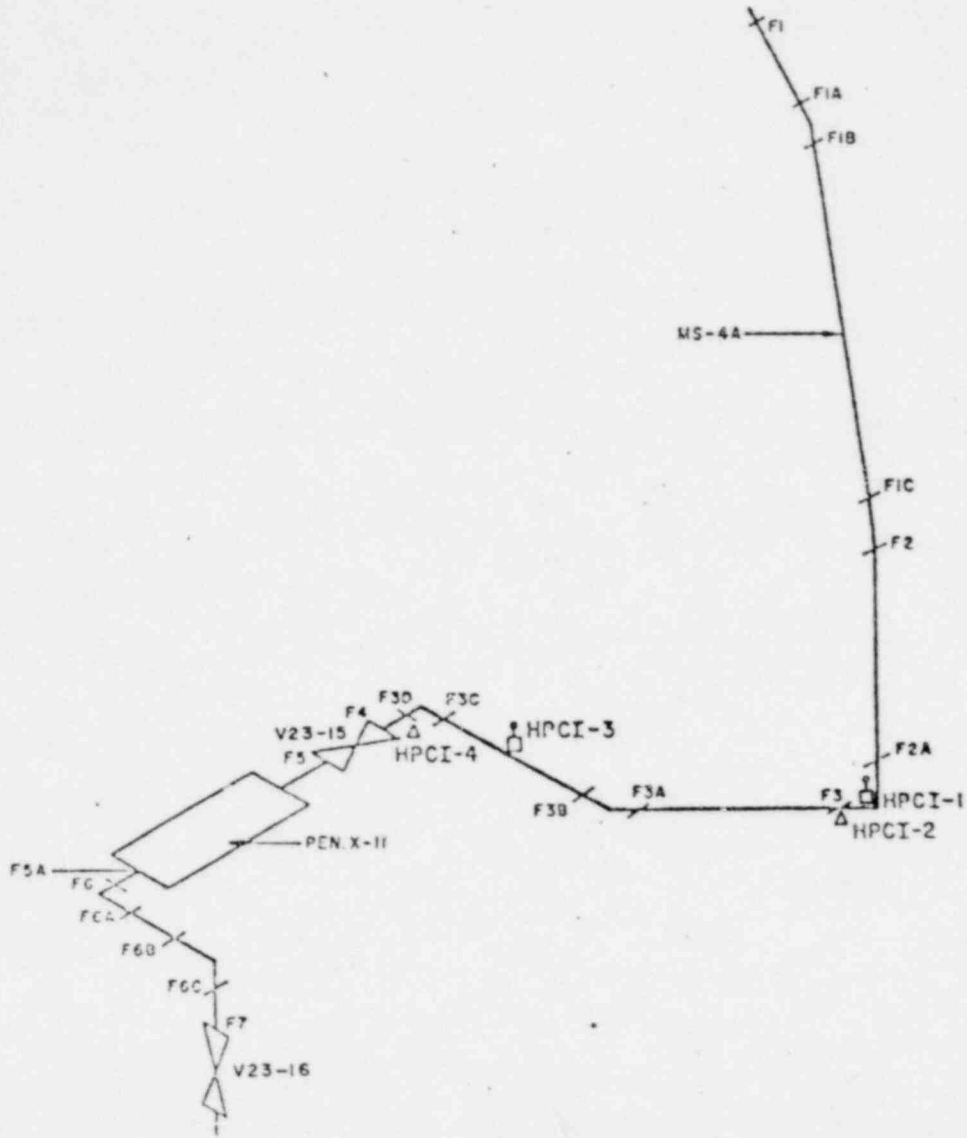
MAIN STEAM ATTACHMENT

REF. EBASCO DWG. 5020-FS-140

DRWG. H-19

1277 332

I - 110



LEGEND

- SPRING HANGAR OR SUPPORT
- INTEGRALLY WELDED SPRING HANGAR OR SUPPORT
- RIGID HANGAR, SUPPORT OR RESTRAINT
- INTEGRALLY WELDED RIGID HANGAR, SUPPORT OR RESTRAINT
- SWAY BRACE
- INTEGRALLY WELDED SWAY BRACE
- SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHOCK SUPPRESSOR
- INTEGRALLY WELDED SHEAR BLOCKS

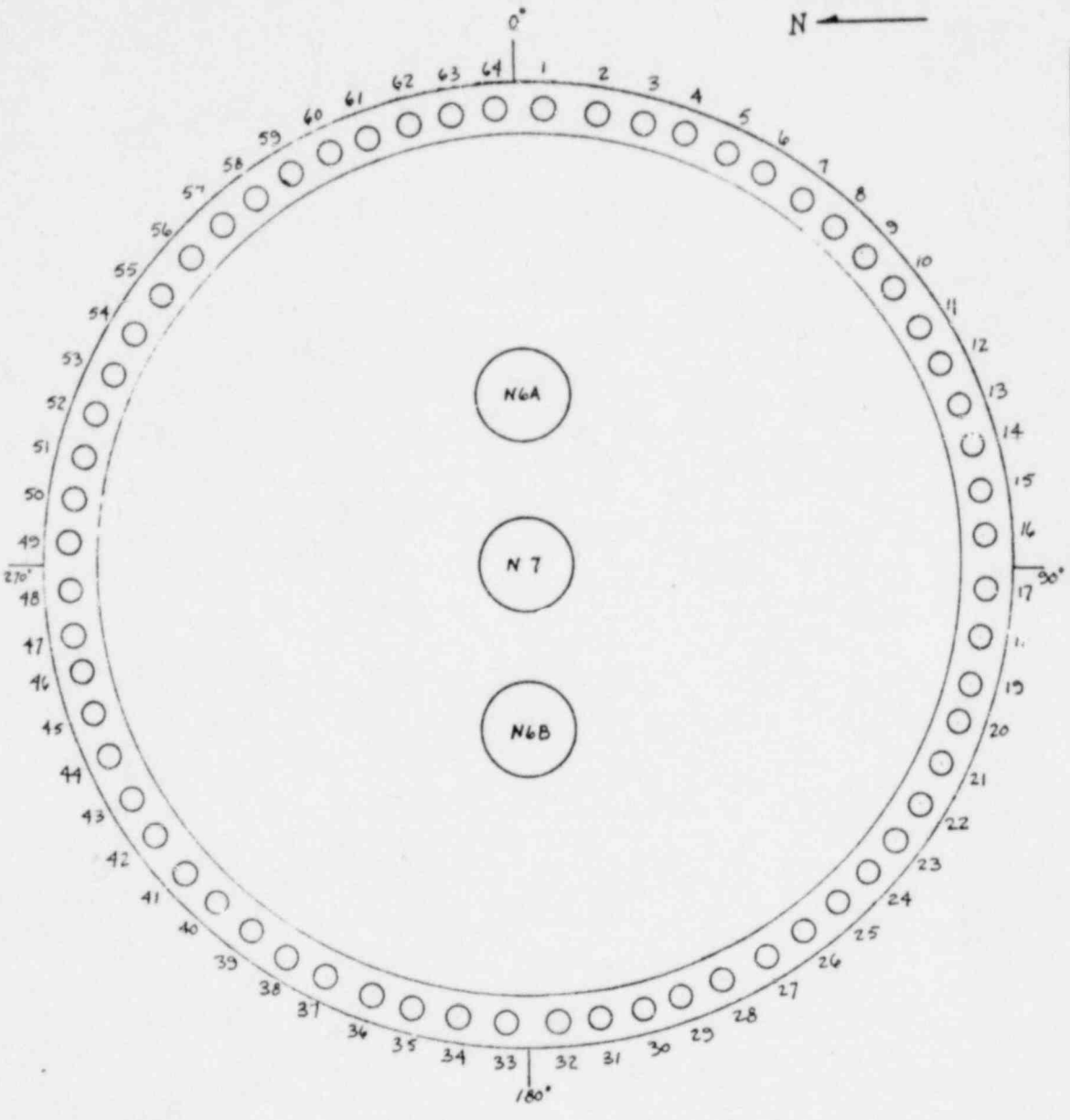
HIGH PRESSURE COOLANT INJECTION PIPING

REF. EBASCO DWG. 5920-FS-157

DRWG. H-20

1277 333

I - 111

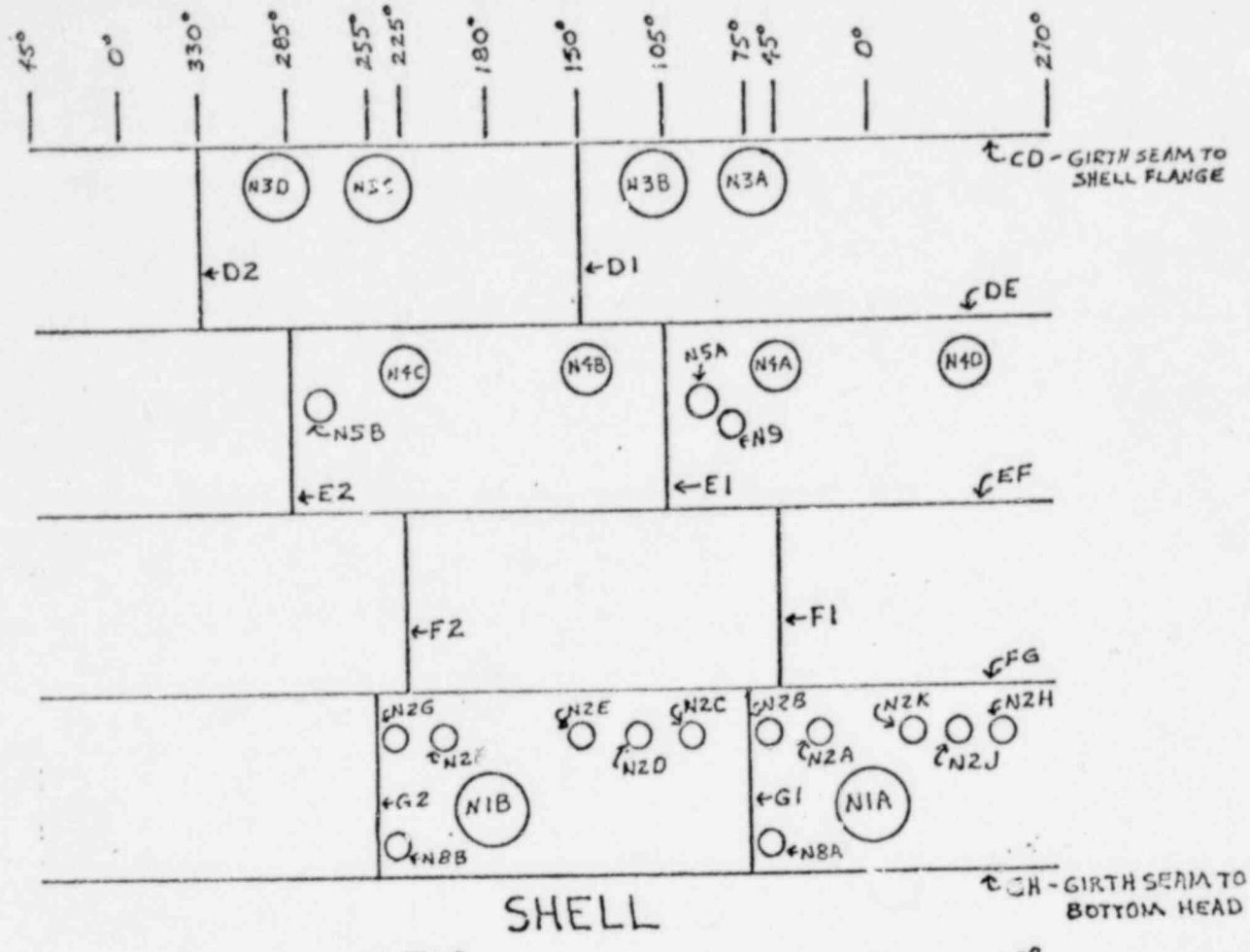


VESSEL HEAD CLOSURE
STUD LOCATIONS

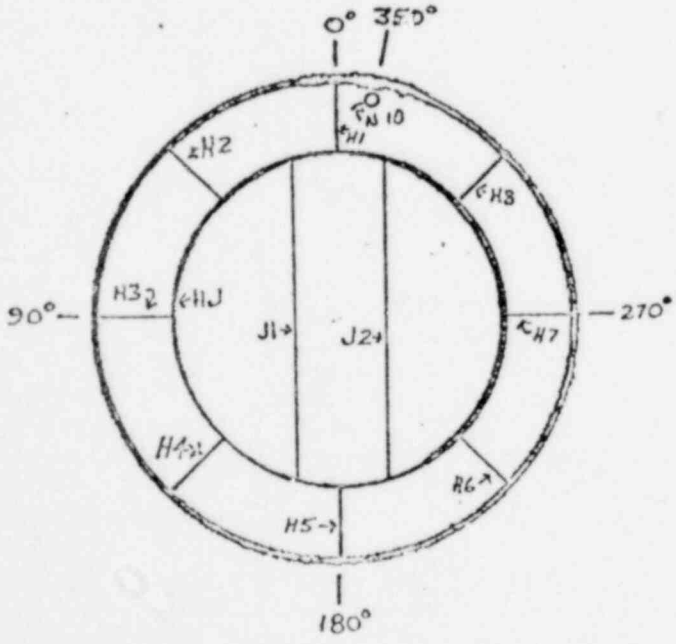
DRWG. H-21

1277 334

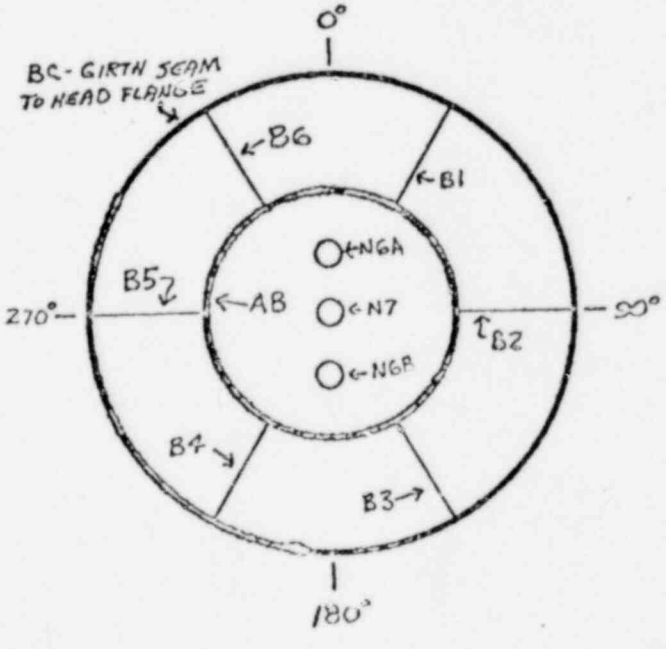
NOZZLE & SEAM LOCATIONS



SHELL



BOTTOM HEAD

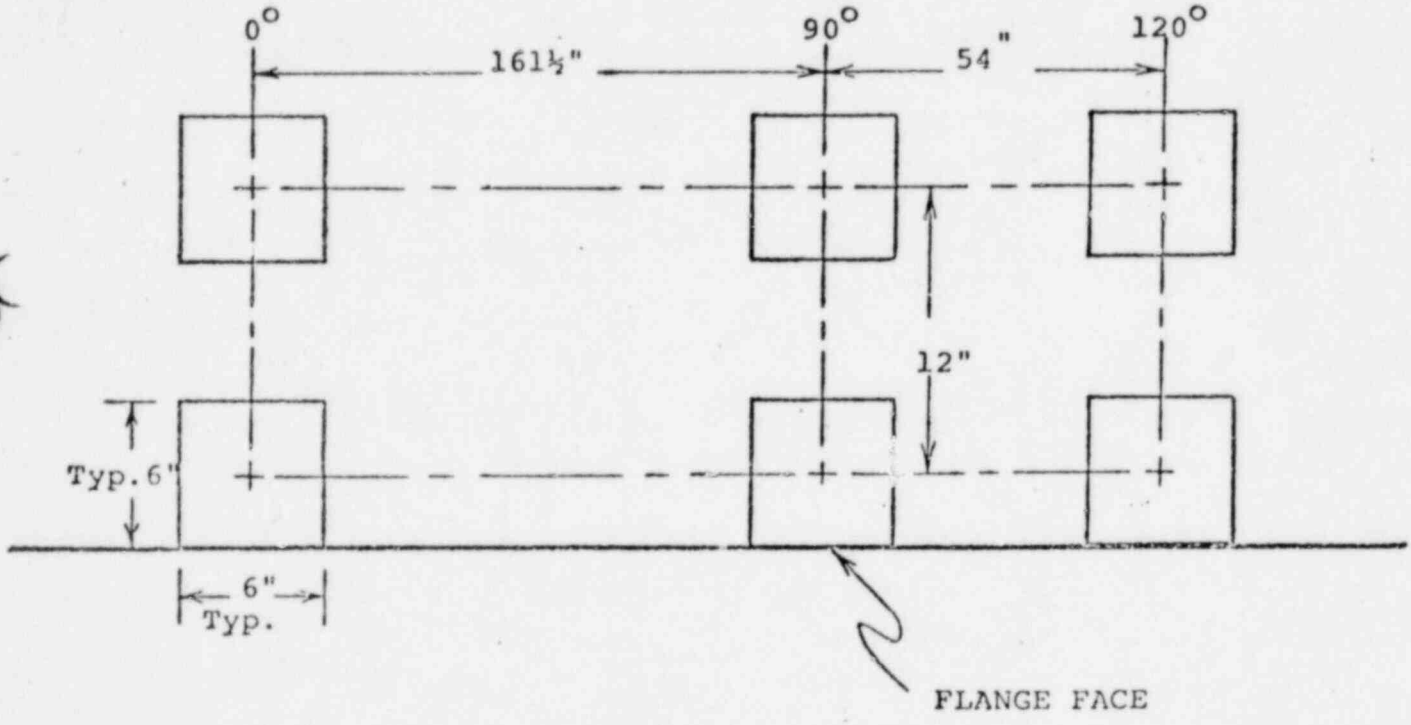


TOP HEAD

CB&I Reference Drawing No. R-1, Rev. 0

POOR ORIGINAL

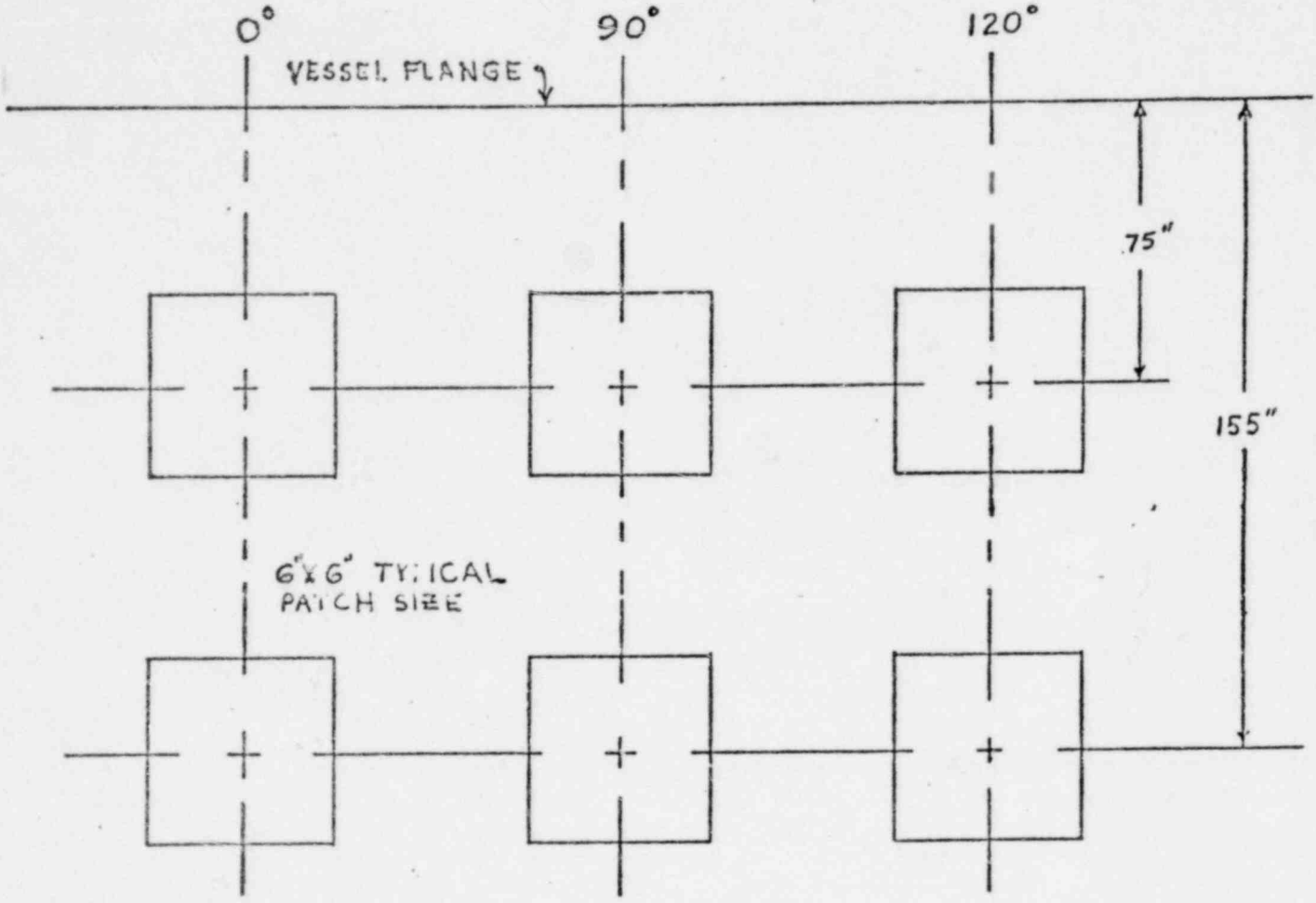
Location of Vessel Head Cladding Patches Liquid Penetrant Tested



DRWG. H-23

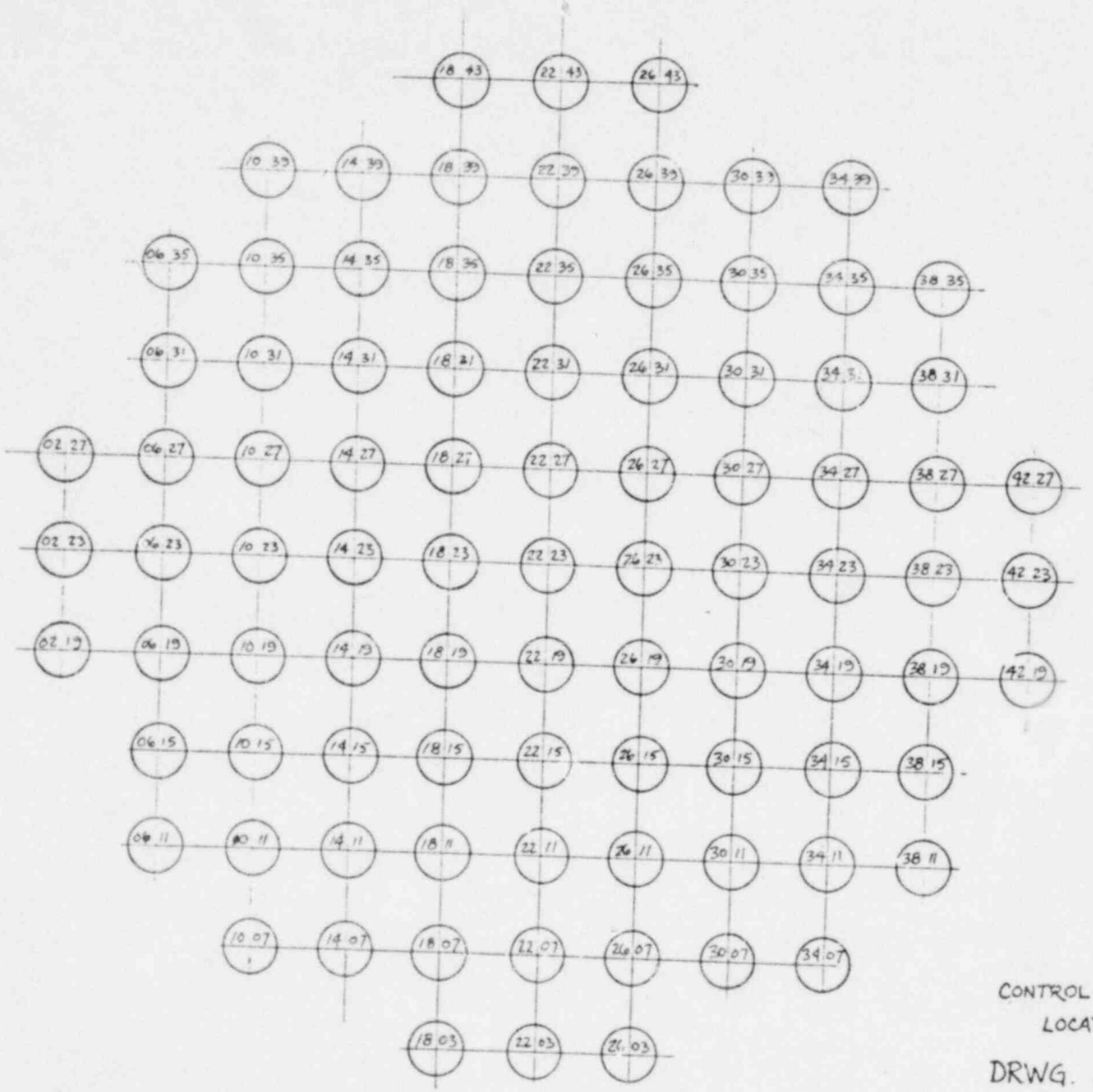
1277 336

LOCATION OF CLADDING PATCHES EXAMINED ON VESSEL INNER WALL



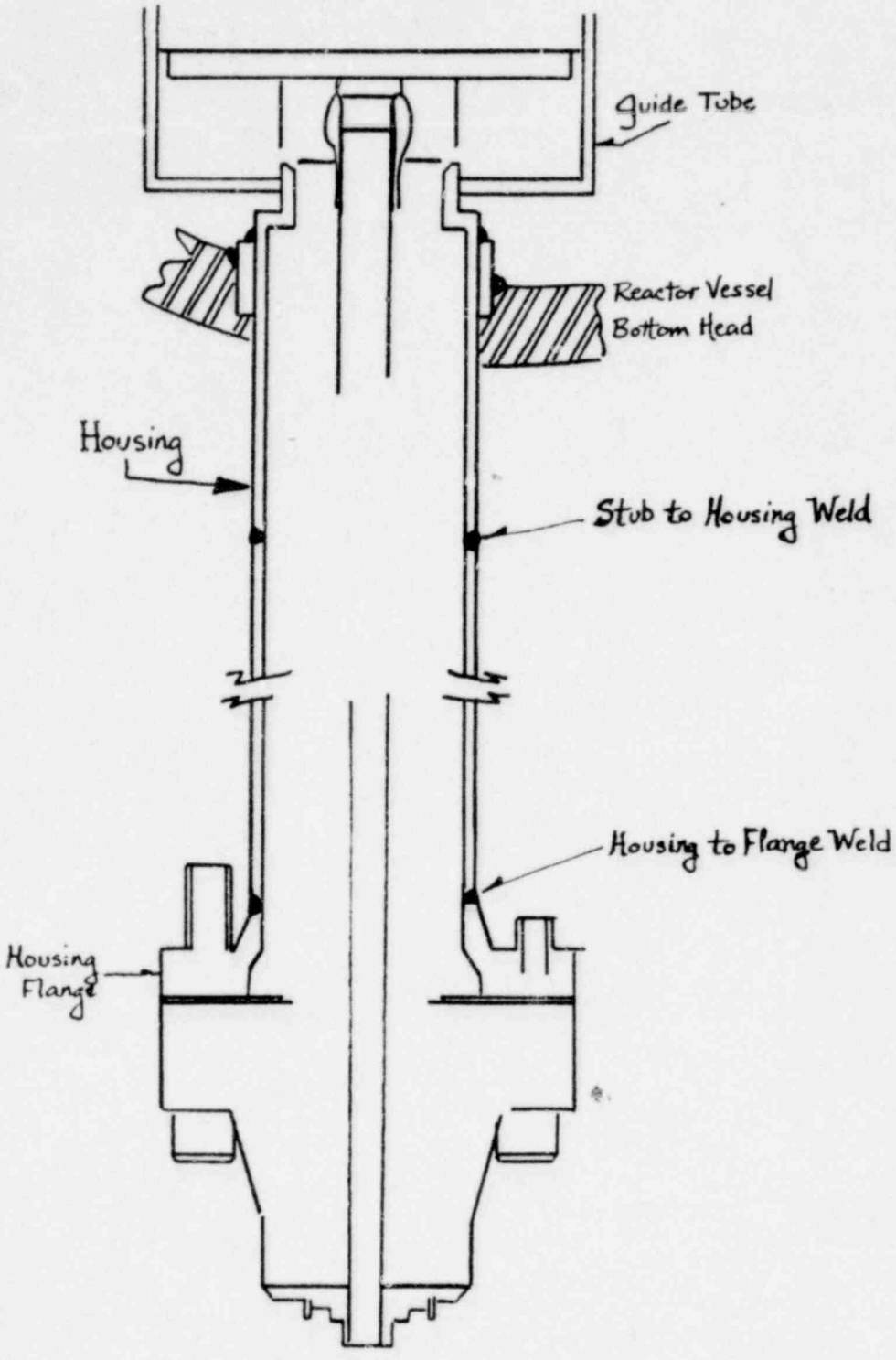
1277 337

DRWG. H-24



CONTROL ROD DRIVE LOCATIONS

DRWG. H-25



CRD HOUSING

DRWG. H-26

RELIEF REQUEST BASIS Numbers: B-1
B-2

NUMBER: B-1

COMPONENT: Longitudinal & Circumferential shell welds in Core Beltline Region.

CATEGORY: B-A

CLASS: 1

TEST REQUIREMENT: Volumetric

BASIS FOR RELIEF: Welds are inaccessible due to vessel insulation/ bio-shield configuration. Approximately 8 1/2" from outside of insulation to inner shield wall. Insulation is approximately 4" thick and 1" from vessel wall. Access to insulation for removal is through nozzle ports (away from beltline region).

ALTERNATE TESTING: Vessel hydrostatically tested before start-up after each refueling outage.

[Refer to Mirror Insulation Print 500299002C]

NUMBER: B-2

COMPONENT: Circumferential and Meridian Seam Welds on Bottom Head

CATEGORY: B-B

CLASS: 1

TEST REQUIREMENT: Volumetric

BASIS FOR RELIEF: Bottom Head is inaccessible due to mirror insulation configuration. Insulation rests above a steel support frame under the bottom head. CRD penetration protruding down through framework also limits access to head.

ALTERNATE TESTING: Vessel is hydrostatically tested before start-up after each refueling outage.

RELIEF REQUEST BASIS Numbers: B-3
B-4

NUMBER: B-3

COMPONENT: Primary nozzle to vessel weld. Nozzle N-15

CLASS: 1

FUNCTION: Vessel drain nozzle

TEST REQUIREMENT: Volumetric

BASIS FOR RELIEF: Nozzle N-15 is located just off the center of the bottom head. N-15 is inaccessible due to mirror insulation configuration and the nozzle's location amidst a forrest of control rod drives.

ALTERNATE TESTING: This nozzle is included as an instrument line and is visually inspected for leakage during the vessel hydro every refueling outage.

NUMBER: B-4

COMPONENT: Integrally welded supports

CATEGORY: B-K-1

CLASS: 1

TEST REQUIREMENT: Volumetric

BASIS FOR RELIEF: Supports are attached by partial penetration welds

ALTERNATE TESTING: Surface and visual exams will replace volumetric.

1277 341

RELIEF REQUEST BASIS Numbers: B-5
B-6

NUMBER: B-5

COMPONENT: Valve Bodies

CATEGORY: B-M-2

CLASS: 1

TEST REQUIREMENT: Visual

BASIS FOR RELIEF: Disassembling a valve for the sole purpose of performing a visual inspection imposes an undue burden on the plant and may increase the probability of valve failure.

ALTERNATE TESTING: Valve bodies shall be inspected if and when valves are disassembled for maintenance or other purposes.

NUMBER: B-6

COMPONENT: P-18-1A & P-18-1B (pump casings)

CATEGORY: B-L-2

CLASS: 1

TEST REQUIREMENT: Visual

BASIS FOR RELIEF: Disassembly of the pump for the sole purpose of visual examination of the casing imposes an undue burden on the plant and may increase the probability of pump failure.

ALTERNATE TESTING: Pump casings will be inspected if and when the pumps are disassembled.

1277 342

NUMBER: B-7

COMPONENT: Piping to fitting welds

CATEGORY: B-F; B-J & C-F; C-G

CLASS: 1 & 2

FUNCTION: Circumferential weld joints between piping and valves, elbows, reducers, etc.

TEST REQUIREMENT: Volumetric

BASIS FOR RELIEF: Ultrasonic examination can be performed from the pipe side of the weld only. Geometries of the fittings prohibit meaningful ultrasonic results.

ALTERNATE TESTING: Acceptable test results from the pipe side of the weld and base metal.

1277 343

RELIEF REQUEST BASIS Numbers: B-8

NUMBER: B-8

COMPONENT: Reactor vessel integrally welded supports

CATEGORY: B-H

CLASS: 1

TEST REQUIREMENT: Volumetric

BASIS FOR RELIEF: The reactor vessel skirt is uninspectable for two primary reasons.

1. The covering mirror insulation is structured in a manner that is not removable since there are many support members and locked, interconnecting insulation pieces. The weld is available only through a removable inspection panel that is nine feet below, with 8-1/2" of parallel wall clearance between weld and insulation.
2. Radiation levels inside the bio-shield wall, against the bottom head are 1-10 r/hr. Estimated personnel exposures would be 10-100 M/rem during the insulation removal, inspection and insulation replacement process.

The reactor vessel stabilizer brackets are attached with vee-prep fillet-type welds. An ultrasonic inspection of these welds would not be useful. The bottom side of the stabilizer weld is inaccessible due to its location at the top of the bio-shield wall.

ALTERNATE TESTING: The upper portion of each stabilizer shall be visually and surface inspected each inspection interval.

1277 344

Item	Category	No. in Category	Number and % Required 1st Interval Periods 1 & 2 -each (Tech. Spec.)	Period 3 (ASME Sum. 75)	Subsequent Intervals	Comments
C1.1	C-A	5	0	1	2 in 1 int'l 1 in other 3	
C1.2	C-B	3	0	0	1	Surface examinations shall be performed. See Relief Request No. C-1
C1.3	C-C	4	0	1	1	
C1.4	C-D	136 bolts 272 nuts	0	Vis: 46 bolts 91 nuts NDE: 3 bolts from ea. joint	Vis: 136 bolts 272 nuts NDE: 7 bolts from ea. joint	Bushing, threads, and ligaments in base metal of flanges are examined only when the connection is disassembled. - Bolting may be examined under tension.
C2.1	C-F C-G	114 405	0 0	10 17	29 51	See Relief Request No. B-7
C2.2	C-F C-G	0 0	0 0	0 0	0 0	
C2.3	C-F C-G	0 3	0 0	0 0	0 1	Branch connections will be ultrasonically inspected fr main line only. See RR B-7
C2.4	C-D	120 bolts 172 nuts	0	Vis: 40 bolt sts. NDE: 4 bolts	Vis: 120 bolt sets NDE: 2 bolts per joint	See comment of Item C1.4
C2.5	C-E-1	94	0	32	94	
C2.6	C-E-2	193	0	64	193	See comment C4.10

Item No.	Category	No. in Category	Number and % Required 1st Interval Periods 1 & 2 -each (Tech. Spec.)	Period 3 (ASME Sum. 75)	Subsequent Intervals	Comments
C3.1	C-F C-G	0	0	0	0	
C3.2	C-D	90	0	Vis: 30 bolts NDE: 3 bolts	Vis: 90 bolts NDE: 9 bolts (at least 2 from each joint)	See comment of Item C1.4
C3.3	C-E-1	2	0	1	2	
C3.4	C-E-2	0	0	0	0	
C4.1	C-F C-G	0	0	0	0	
C4.2	C-D	194	0	Vis: 65 bolts NDE: 7 bolts	Vis: 194 bolts NDE: 20 bolts (at least 2 from each joint)	See comment of Item C1.4

ITEM NO: C2.6 CATEGORY: C-E-2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Non-integrally Welded Supports														
Main Steam														
MS-1A	H-1	Rigid	-	-			I-1A	Vis				X		
*	H-126	Snubber	2 3/4	1 3/4			I-1A	Vis					X	
	H-2	Rigid	-	-			I-1A	Vis			X			X
	H-3	Rigid	-	-			I-1A	Vis				X		
	H-4	Rigid	-	-			I-1A	Vis					X	
	H-105	Rigid	-	-			I-1A	Vis			X			X
	H-114	Rigid	-	-			I-1A	Vis				X		
	H-116	Spring	5130	5535			I-1A	Vis					X	
	H-117	Spring	4684	5629			I-1A	Vis			X			X
MS-1B	H-5	Spring	4640	4540			I-1B	Vis				X		
	H-6	Rigid	-	-			I-1B	Vis					X	
*	H-127	Snubber	3	1 3/4			I-1B	Vis			X			X
	H-7	Rigid	-	-			I-1B	Vis				X		
	H-8	Rigid	-	-			I-1B	Vis					X	
	H-9	Rigid	-	-			I-1B	Vis			X			X
	H-106	Rigid	-	-			I-1B	Vis				X		
	H-113	Rigid	-	-			I-1B	Vis					X	
	H-115	Rigid	-	-			I-1B	Vis			X			X
	H-118	Rigid	-	-			I-1B	Vis				X		

1277 347

ITEM NO: C2.6 CATEGORY: C-E-2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
MS-1C														
	H-10	Spring	4730	4630			I-1C	Vis					X	
	H-11	Rigid	-	-			I-1C	Vis			X			X
*	H-128	Snubber	3 1/4	1 9/16			I-1C	Vis				X		
	H-11A	Rigid	-	-			I-1C	Vis					X	
	H-12	Rigid	-	-			I-1C	Vis			X			X
	H-13	Rigid	-	-			I-1C	Vis				X		
	H-20	Rigid	-	-			I-1C	Vis					X	
	H-107	Rigid	-	-			I-1C	Vis			X			X
	H-110	Rigid	-	-			I-1C	Vis				X		
	H-119	Spring	5624	6434			I-1C	Vis					X	
MS-1D	H-14	Spring	4156	4030			I-1D	Vis			X			X
*	H-129	Snubber	3 9/16	1 9/16			I-1D	Vis				X		
	H-15	Rigid	-	-			I-1D	Vis					X	
	H-16	Rigid	-	-			I-1D	Vis			X			X
	H-17	Rigid	-	-			I-1D	Vis				X		
	H-18	Rigid	-	-			I-1D	Vis					X	
	H-19	Rigid	-	-			I-1D	Vis			X			X
	H-21	Rigid	-	-			I-1D	Vis				X		
	H-108	Rigid	-	-			I-1D	Vis					X	
	H-112	Rigid	-	-			I-1D	Vis			X			X

ITEM NO: C2.6 CATEGORY: C-E-2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
MS-1D (cont'd)														
	H-120	Spring	5462	6272			I-1D	Vis					X	
MS-2A	H-22	Spring	2744	2969			I-1A	Vis			X			X
	H-23	Rigid	-	-			I-1A	Vis				X		
MS-2B	H-24	Spring	2658	2883			I-1B	Vis					X	
	H-25	Spring	3674	3874			I-1B	Vis			X			X
	H-26	Spring	2695	2770			I-1B	Vis				X		
MS-2C	H-29	Spring	2652	2802			I-1C	Vis					X	
	H-30	Rigid	-	-			I-1C	Vis			X			X
MS-2D	H-27	Spring	4156	3956			I-1D	Vis				X		
HPCI														
HPCI-3	H-38	Spring	3789	3289			I-3	Vis					X	
	H-38A	Rigid Sway	-	-			I-3	Vis			X			X
	H-40	Spring	3096	2796			I-3	Vis				X		
	H-40A	Spring	849	811			I-3	Vis					X	
	H-107	Rigid	-	-			I-3	Vis			X			X
	H-108	Rigid Sway	-	-			I-3	Vis				X		
HPCI-15B	H-30	Rigid	-	-			I-4	Vis					X	
	H-31	Rigid	-	-			I-4	Vis			X			X
HPCI Steam MS-4B	H-4	Rigid	-	-			I-2	Vis				X		
	H-5	Spring	2161	2048			I-2	Vis					X	

1777 349

ITEM NO: C2.6 CATEGORY: C-E-2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
MS-4B (cont'd)														
	H-6	Rigid	-	-			I-2	Vis			X			X
	H-14	Spring	1688	2028			I-2	Vis				X		
	H-14A	Rigid	-	-			I-2	Vis					X	
	H-15	Spring	1528	1783			I-2	Vis			X			X
	H-15B	Rigid	-	-			I-2	Vis				X		
	H-16A	Spring	1025	1175			I-2	Vis					X	
	H-17	Spring	1528	1783			I-2	Vis			X			X
	H-102A	Snubber	3-3/32	3-3/16			I-2	Vis				X		
*	H-102B	Snubber	4-3/16	2-5/16			I-2	Vis					X	
	H-103A	Snubber	3-5/32	3-9/32			I-2	Vis			X			X
*	H-103B	Snubber	3-1/16	3-13/32			I-2	Vis				X		
Booster to Main Pump	H-200	Rigid	-	-			I-4	Vis					X	
	H-201	Rigid	-	-			I-4	Vis			X			X
CRD Hydraulic				-										
	H-21	Rigid	-	-				Vis				X		
	H-22	Rigid	-	-				Vis					X	
	H-23	Rigid	-	-				Vis			X			X
	H-24	Rigid	-	-				Vis				X		
	H-25	Rigid	-	-				Vis					X	
	H-26	Rigid Sway	-	-				Vis			X			X

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ITEM NO: C2.6 CATEGORY: C-E-2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
CRD - 5A														
	H-18	Rigid Sway	-	-				Vis				X		
	H-19	Rigid	-	-				Vis					X	
	H-20	Rigid Sway	-	-				Vis			X			X
	H-27	Rigid	-	-				Vis				X		
	H-28	Rigid	-	-				Vis					X	
	H-29	Rigid	-	-				Vis			X			X
	H-30	Rigid Sway	-	-				Vis				X		
CRD - 6	H-9	Rigid	-	-				Vis					X	
	H-10	Rigid	-	-				Vis			X			X
	H-11	Rigid	-	-				Vis				X		
	H-12	Rigid	-	-				Vis					X	
	H-13	Rigid Sway	-	-				Vis			X			X
CRD - 6A	H-1	Rigid Sway	-	-				Vis				X		
	H-2	Rigid Sway	-	-				Vis					X	
	H-14	Rigid	-	-				Vis			X			X
	H-15	Rigid	-	-				Vis				X		
	H-16	Rigid	-	-				Vis					X	
	H-17	Rigid	-	-				Vis			X			X
CRD - 7	H-31	Rigid	-	-				Vis				X		
	H-32	Rigid	-	-				Vis					X	

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ITEM NO: C2.6 CATEGORY: C-E-2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
CRD - 7 (cont'd)														
	H-33	Rigid	-	-				Vis			X			X
	H-34	Rigid	-	-				Vis				X		
	H-35	Rigid	-	-				Vis					X	
	H-36	Rigid Sway	-	-				Vis			X			X
CRD - 8	H-3	Rigid	-	-				Vis				X		
	H-4	Rigid	-	-				Vis					X	
	H-5	Rigid	-	-				Vis			X			X
	H-6	Rigid	-	-				Vis				X		
	H-7	Rigid	-	-				Vis					X	
	H-8	Rigid Sway	-	-				Vis			X			X
RHR														
RHR - 1	H-182	Dual Rigid Sway	-	-			I-7A	Vis				X		
RHR - 1B	H-21	Rigid	-	-			I-7B	Vis					X	
	H-23	Rigid	-	-			I-7B	Vis			X			X
RHR - 2A	H-77	Spring	10,300	10,800			I-8	Vis				X		
	* H-183	Snubber	3-1/4	3-1/4			I-8	Vis					X	
	* H-185	Snubber	3-13/32	3-3/8			I-8	Vis			X			X
	H-185A	Rigid	-	-			I-8	Vis				X		
RHR - 2B	H-79	Spring	10,300	10,800			I-9	Vis					X	
RHR - 3A	H-81	Rigid	-	-			I-10A	Vis			X			X

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ITEM NO: C2.6 CATEGORY: C-E-2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
RHR (Cont)														
RHR-3B	H-82	Rigid	-	-			I-10B	Vis				X		
RHR-3C	H-144	Spring	4566	4366			I-10A	Vis					X	
	H-144A	Rigid	-	-			I-10A	Vis			X			X
	H-144B	Rigid	-	-			I-10A	Vis				X		
	H-197A	Snubber	3 11/32	3 3/8			I-10A	Vis					X	
	H-197B	Snubber	3 5/32	3 1/8			I-10A	Vis			X			X
RHR-3D	H-143	Sway	-	-			I-10B	Vis				X		
	H-143A	Spring	4566	4366			I-10B	Vis					X	
	H-143B	Rigid	-	-			I-10B	Vis			X			X
	H-143C	Rigid	-	-			I-10B	Vis				X		
	H-188	Snubber	3 3/32	3 1/8			I-10B	Vis					X	
RHR-5A	H-152	Spring	4068	4368			I-11	Vis			X			X
RHR-5B	H-151	Spring	4068	4368			I-11	Vis				X		
RHR-6	H-7	Rigid	-	-			I-12	Vis					X	
	H-12	Spring	8520	9020			I-12	Vis			X			X
	H-14	Spring	7191	6816			I-12	Vis				X		
	H-156	Rigid	-	-			I-12	Vis					X	
	H-156A	Rigid	-	-			I-12	Vis			X			X
RHR-7	H-18	Rigid	-	-			I-13	Vis				X		
	H-19	Spring	7291	7854			I-13	Vis					X	

ITEM NO: C2.6 CATEGORY: C--2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
RHR-7 (cont)														
	H-19A	Rigid	-	-			I-13	Vis			X			X
	H-24	Rigid	-	-			I-13	Vis				X		
	H-154B	Rigid	-	-			I-13	Vis					X	
RHR-8	H-15	Spring	12,387	12,054			I-14	Vis			X			X
	H-16	Rigid	-	-			I-14	Vis				X		
	H-17	Rigid	-	-			I-14	Vis					X	
	H-190	Rigid Sway	-	-			I-14	Vis			X			X
RHR-9	H-84	Spring	2795	3195			I-15	Vis				X		
	H-84A	Rigid	-	-			I-15	Vis					X	
	H-85	Spring	2662	3112			I-15	Vis			X			X
	H-86	Spring	2910	3286			15	Vis				X		
	H-87	Rigid Sway	-	-			I-15	Vis					X	
	H-88	Spring	3079	3304			I-15	Vis			X			X
	H-192	Rigid Sway	-	-			I-15	Vis				X		
	H-194	Rigid Sway	-	-			I-15	Vis					X	
RHR-10	H-30	Rigid	-	-			I-15	Vis			X			X
*	H-193	Snubber	3 3/16	3 5/16			I-15	Vis				X		
	H-193A	Spring	4614	5019			I-15	V[illegible]					X	
RHR-12	H-38	Spring	2438	2607			I-16	Vis			X			X
	H-39	Spring	2388	2275			I-16	Vis				X		

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ITEM NO: C2.6 CATEGORY: C-E-2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
RHR-14	CS-H-87	Rigid Sway	-	-			I-16	Vis					X	
	H-99	Spring	2879	3179			I-16	Vis			X			X
	H-100	Spring	2073	2186			I-16	Vis				X		
	H-100B	Rigid	-	-			I-16	Vis					X	
RHR-15	H-35	Spring	3243	3843			I-16	Vis			X			X
	CS-H-86A	Snubber	3 17/32	3 1/4			I-16	Vis				X		
	CS-H-86B	Snubber	3 1/32	2 11/16			I-16	Vis					X	
	H-98A	Rigid	-	-			I-16	Vis			X			X
RHR-17	H-27	Spring	3253	3553			I-15	Vis				X		
	H-28	Spring	4170	4570			I-15	Vis					X	
RHR-20	H-36	Spring	3783	4283			I-16	Vis			X			X
RHR-39	H-1	Rigid	-	-			I-7B	Vis				X		
RHR-40	H-8	Rigid	-	-			1-17	Vis					X	
	H-8A	Rigid	-	-			I-17	Vis			X			X
	H-10A	Rigid	-	-			I-17	Vis				X		
	H-10B	Rigid	-	-			I-17	Vis					X	
	H-120	Rigid	-	-			I-17	Vis			X			X
	H-122A	Rigid	-	-			I-17	Vis				X		
RHR-41	H7B	Rigid	-	-			I-12	Vis					X	

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ITEM NO: C2.6 CATEGORY: C-E-2

Component:		Type	Hot Setting	Cold Setting			Drawing No.	Required Methods	INTERVAL 1			INTERVAL 2		
									1	2	3	1	2	3
Core Spray														
CS-2A	H-3	Rigid	-	-			I-6A	Vis			X			X
	H-4	Rigid	-	-			I-6A	Vis				X		
	H-5	Rigid	-	-			I-6A	Vis					X	
	H-48	Rigid	-	-			I-6A	Vis			X			X
	H-49	Rigid Sway	-	-			I-6A	Vis				X		
	H-51	Spring	2038	2544			I-6A	Vis					X	
	H-89	Rigid Sway	-	-			I-6A	Vis			X			X
CS-2B	H-8A	Rigid	-	-			I-6B	Vis				X		
	H-9	Rigid	-	-			I-6B	Vis					X	
	H-10	Rigid	-	-			I-6B	Vis			X			X
	H-42	Rigid Sway	-	-			I-6B	Vis				X		
	H-43	Rigid	-	-			I-6B	Vis					X	
	H-44	Spring	4044	4444			I-6B	Vis			X			X
	H-56	Rigid Sway	-	-			I-6B	Vis				X		
	H-86	Rigid Sway	-	-			I-6B	Vis					X	
*	H-85	Snubber	3 3/32	3 1/32			I-6B	Vis			X			X
CS-3A	H-47	Rigid	-	-			I-6A	Vis				X		
CS-3B	H-41	Rigid	-	-			I-6B	Vis					X	

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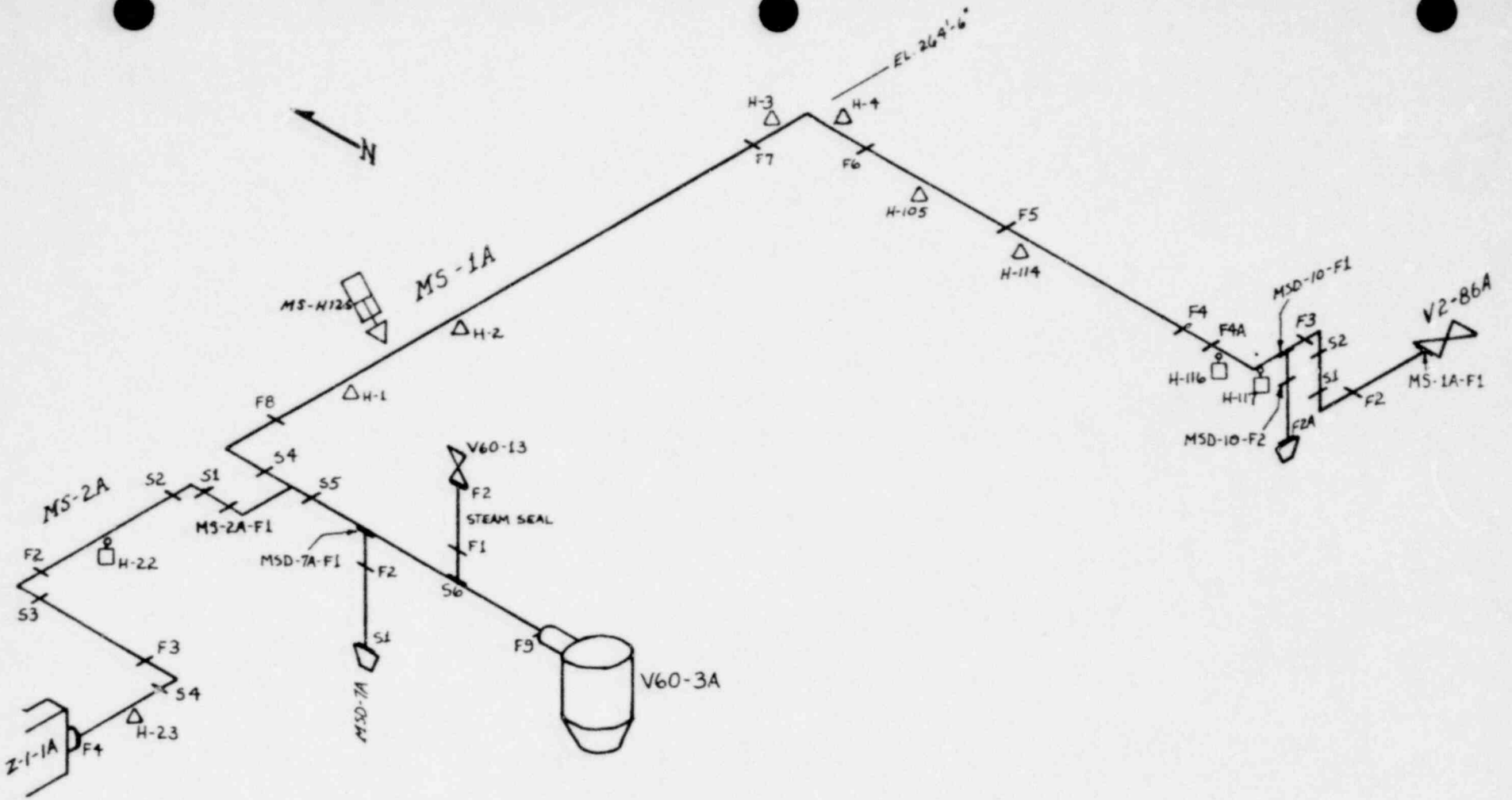

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"A"
DRWG. I-1A

REFER. DRWG. 5920-FS-I-1, 1B, 2, 3

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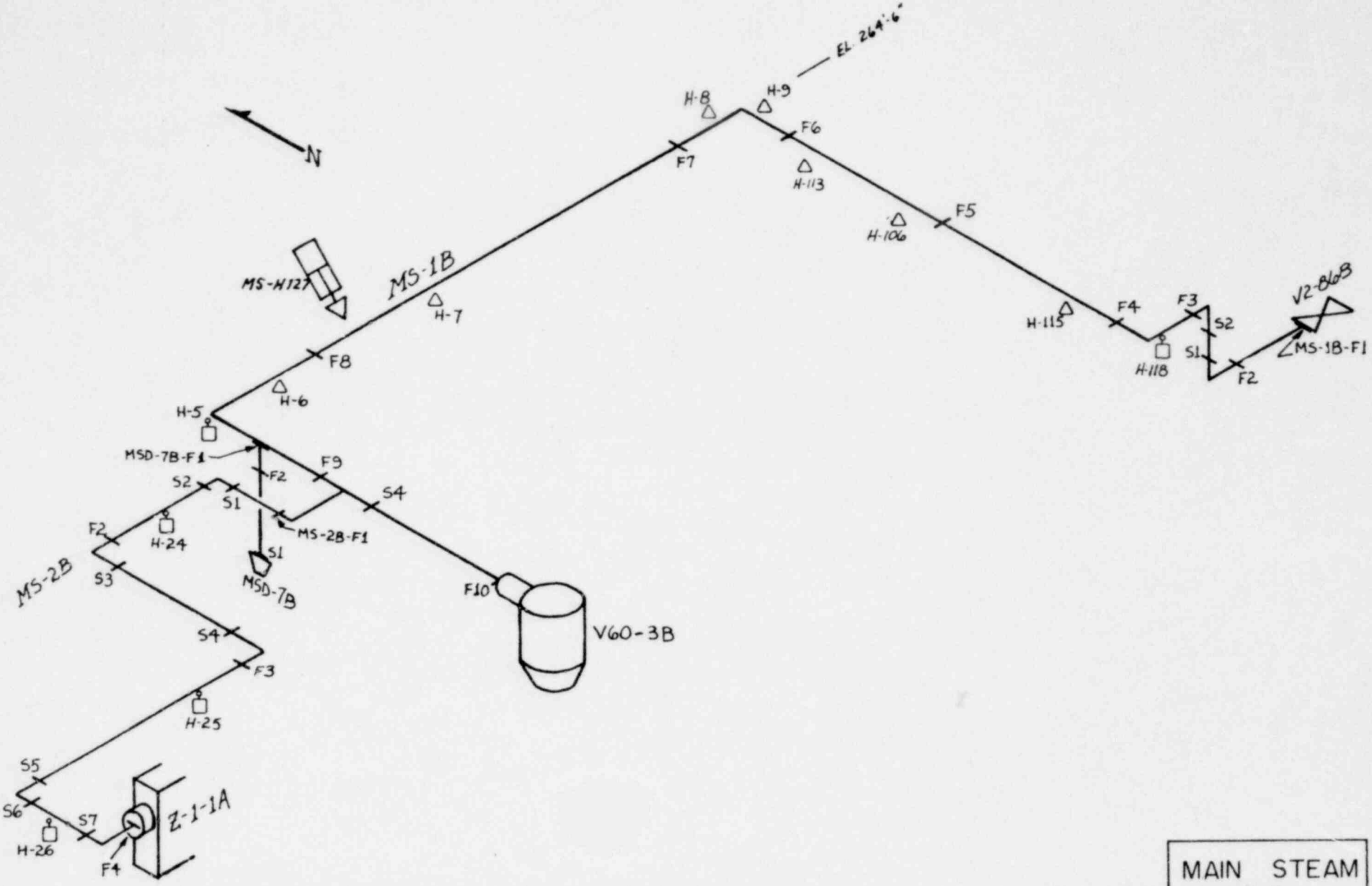
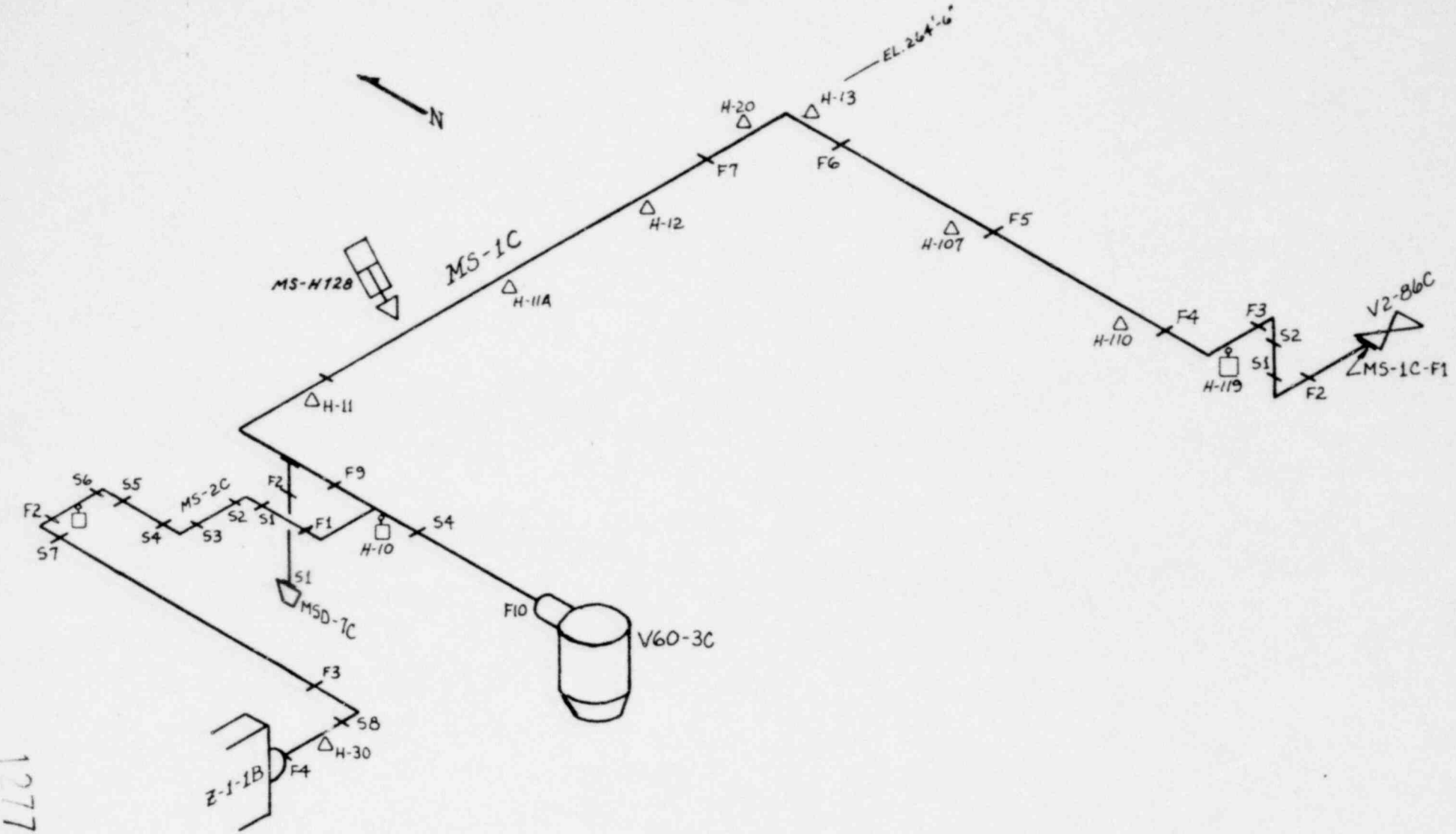


MAIN STEAM
"B"
DRWG. I-1B

REFER. DRWG. 5920-FS-I-1,1B,2,3

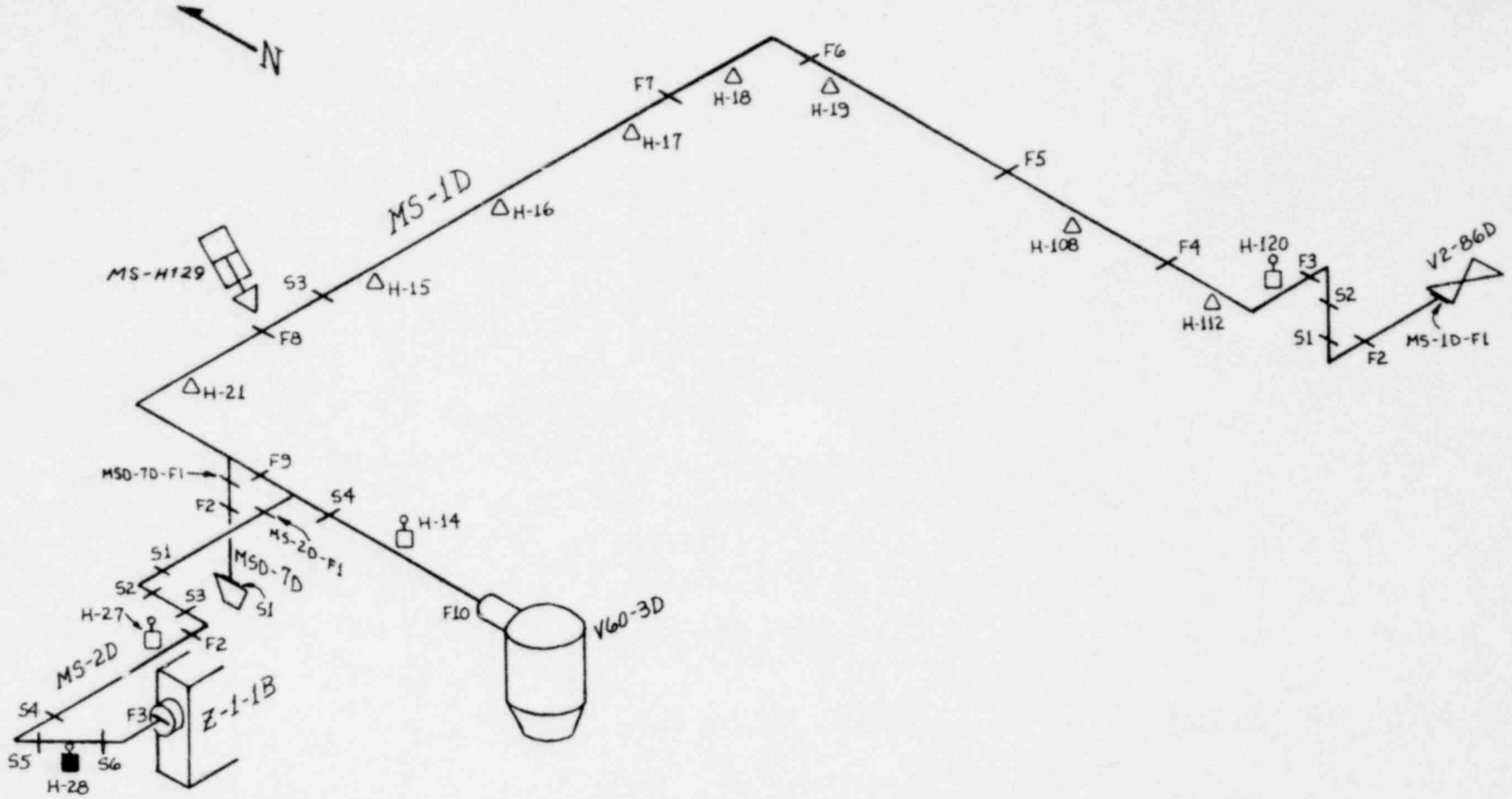
1277 358



MAIN STEAM
"C"
DRWG. I-IC

REFER. DRWG. 5920-FS-I-1,1B,2,3

1277 359



MAIN STEAM
"A"
DRWG. I-1D

REFER. DRWG. 5920-FS-I-1,18,2,3

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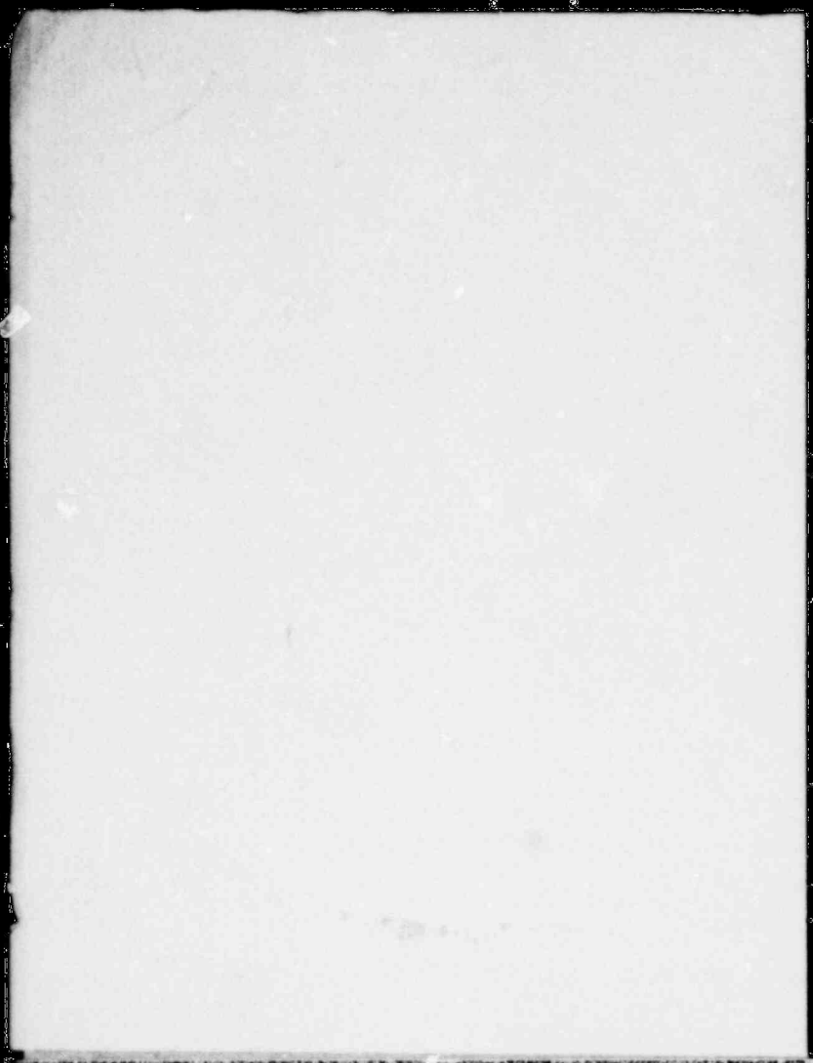
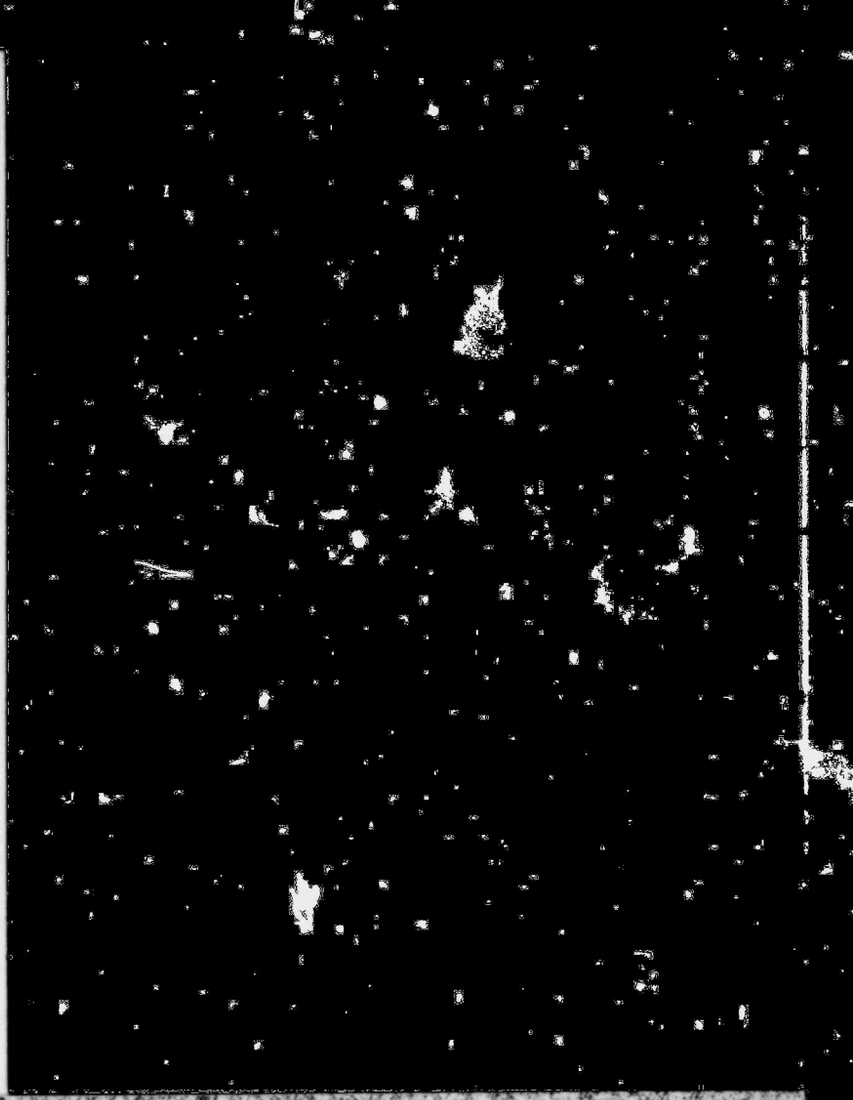
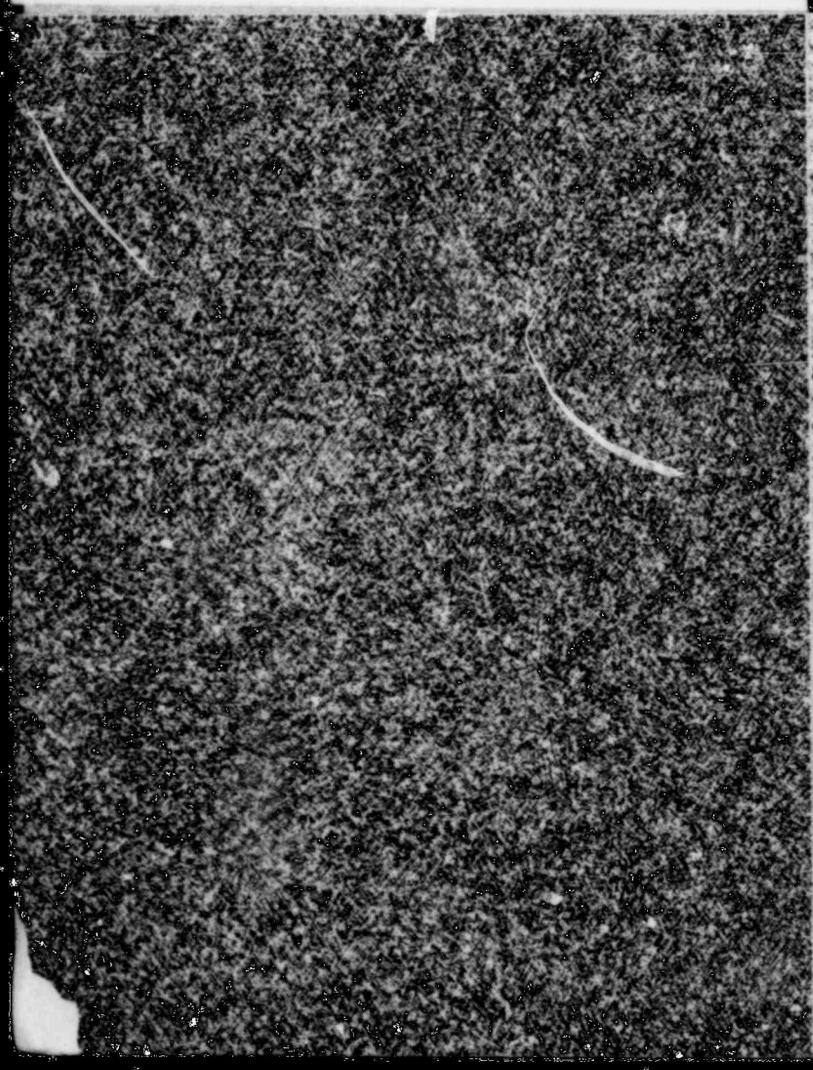
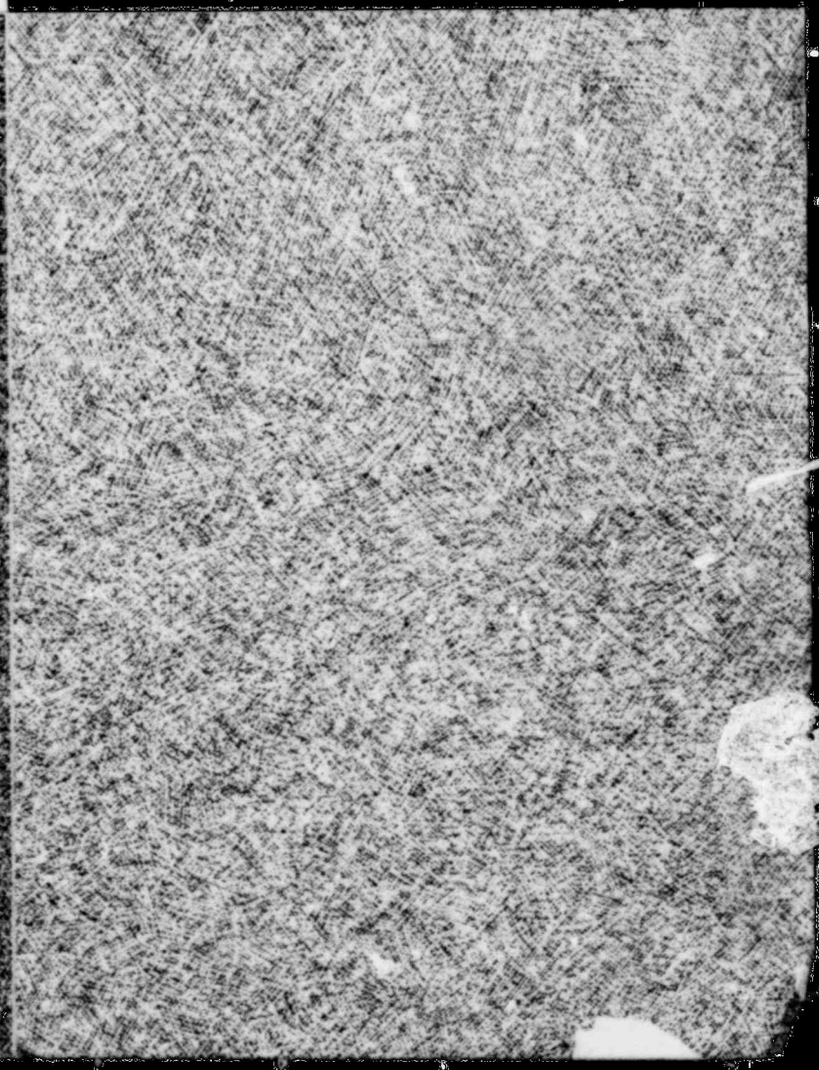
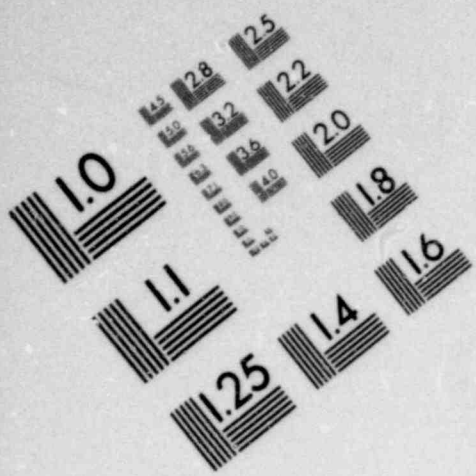










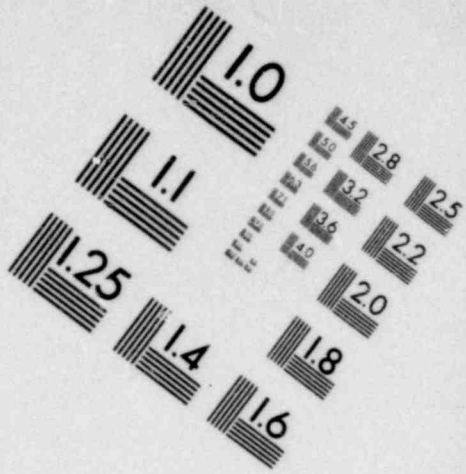
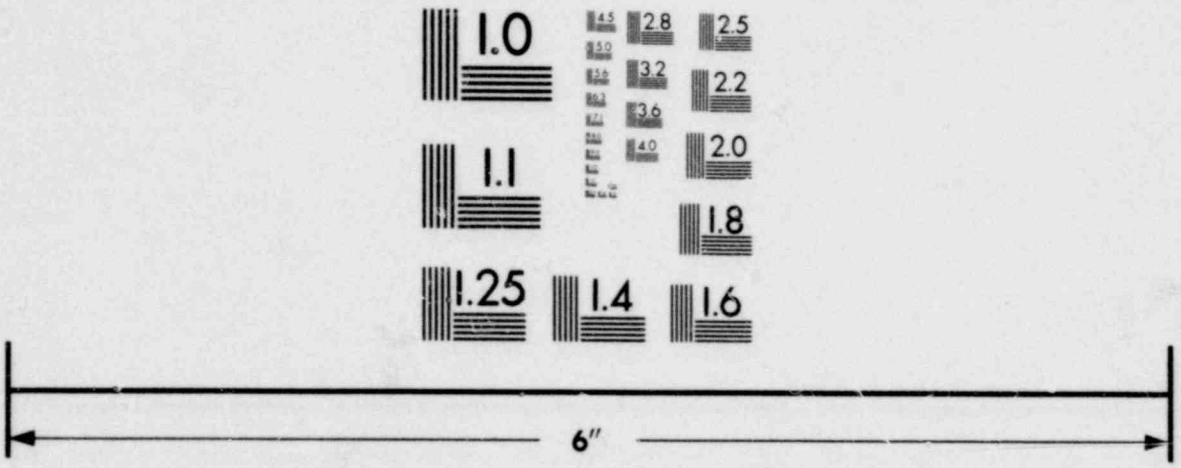
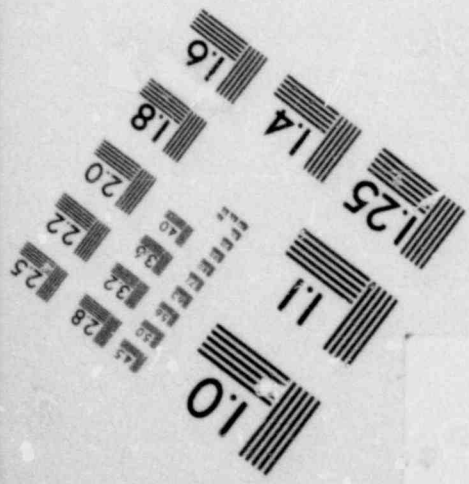
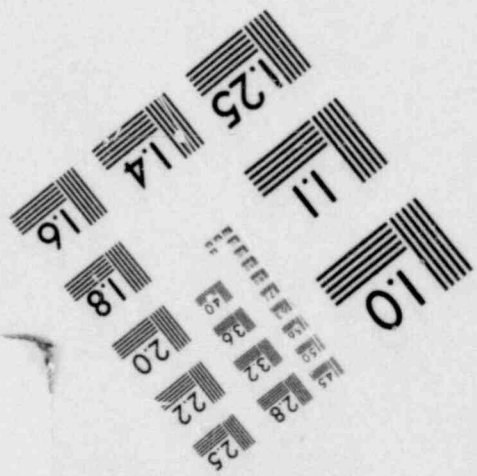
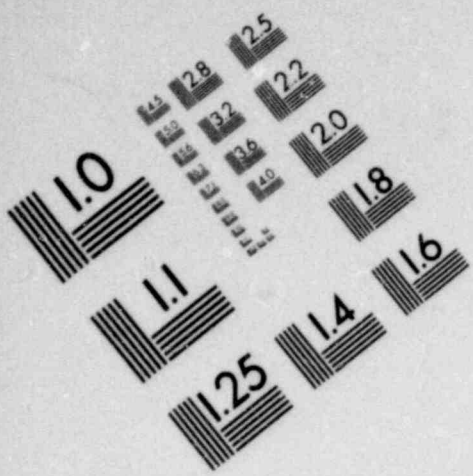


IMAGE EVALUATION TEST TARGET (MT-3)









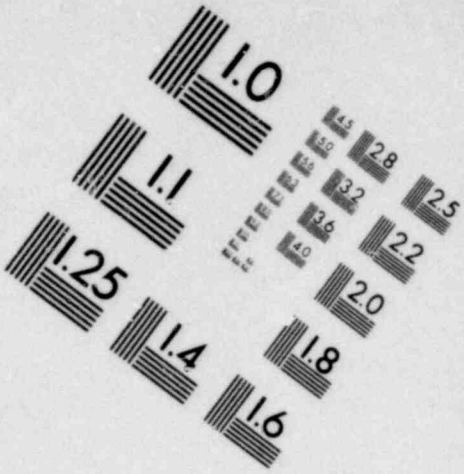
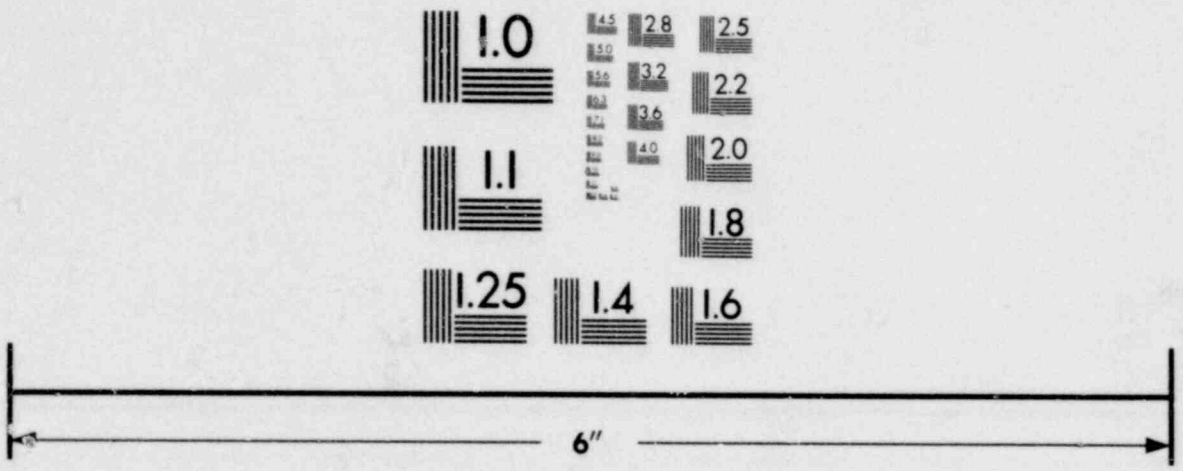
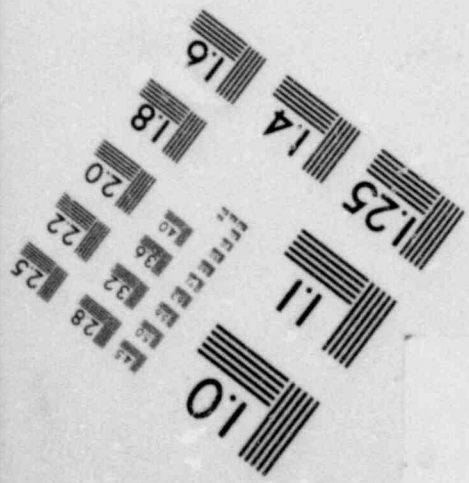
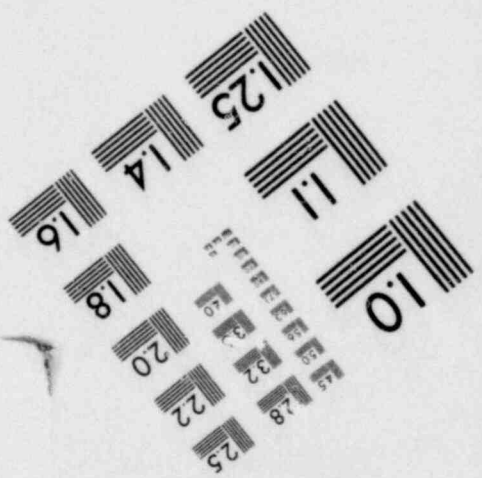
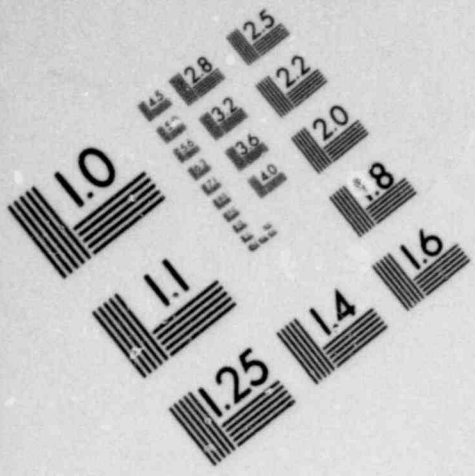


IMAGE EVALUATION TEST TARGET (MT-3)









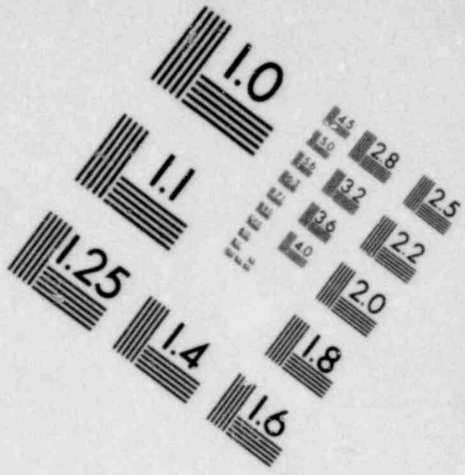
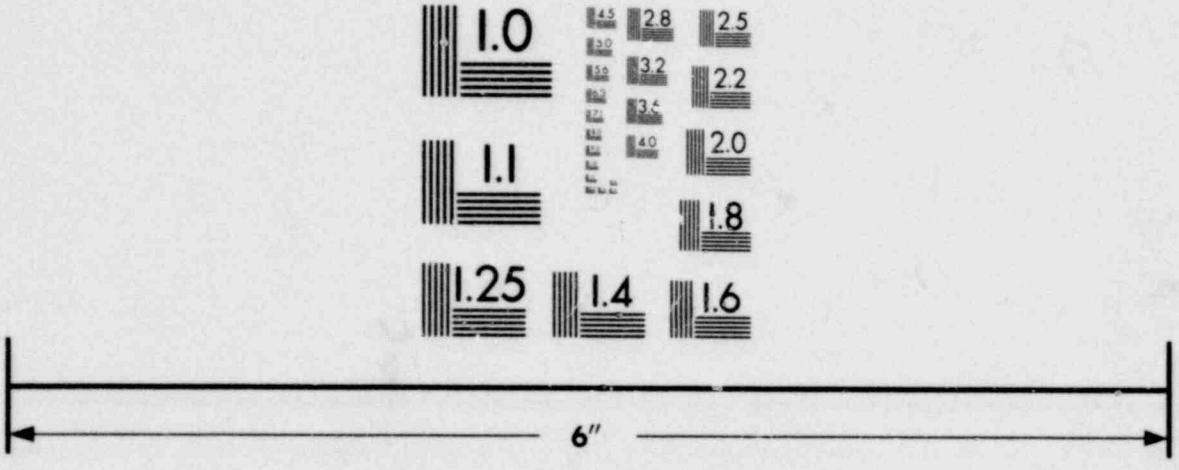
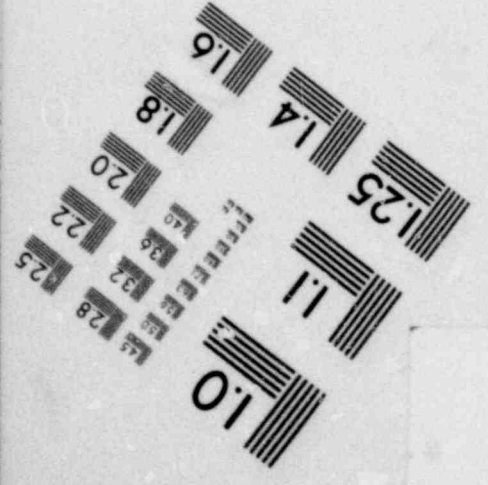
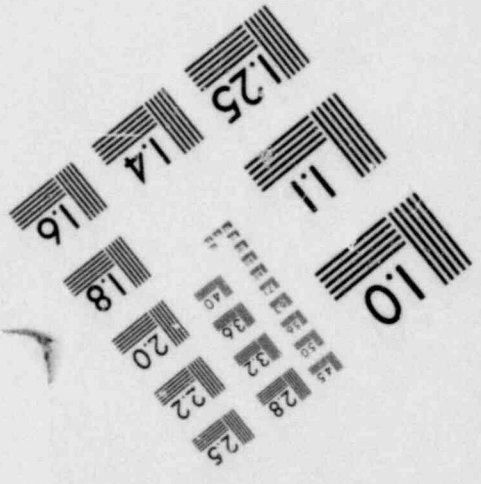
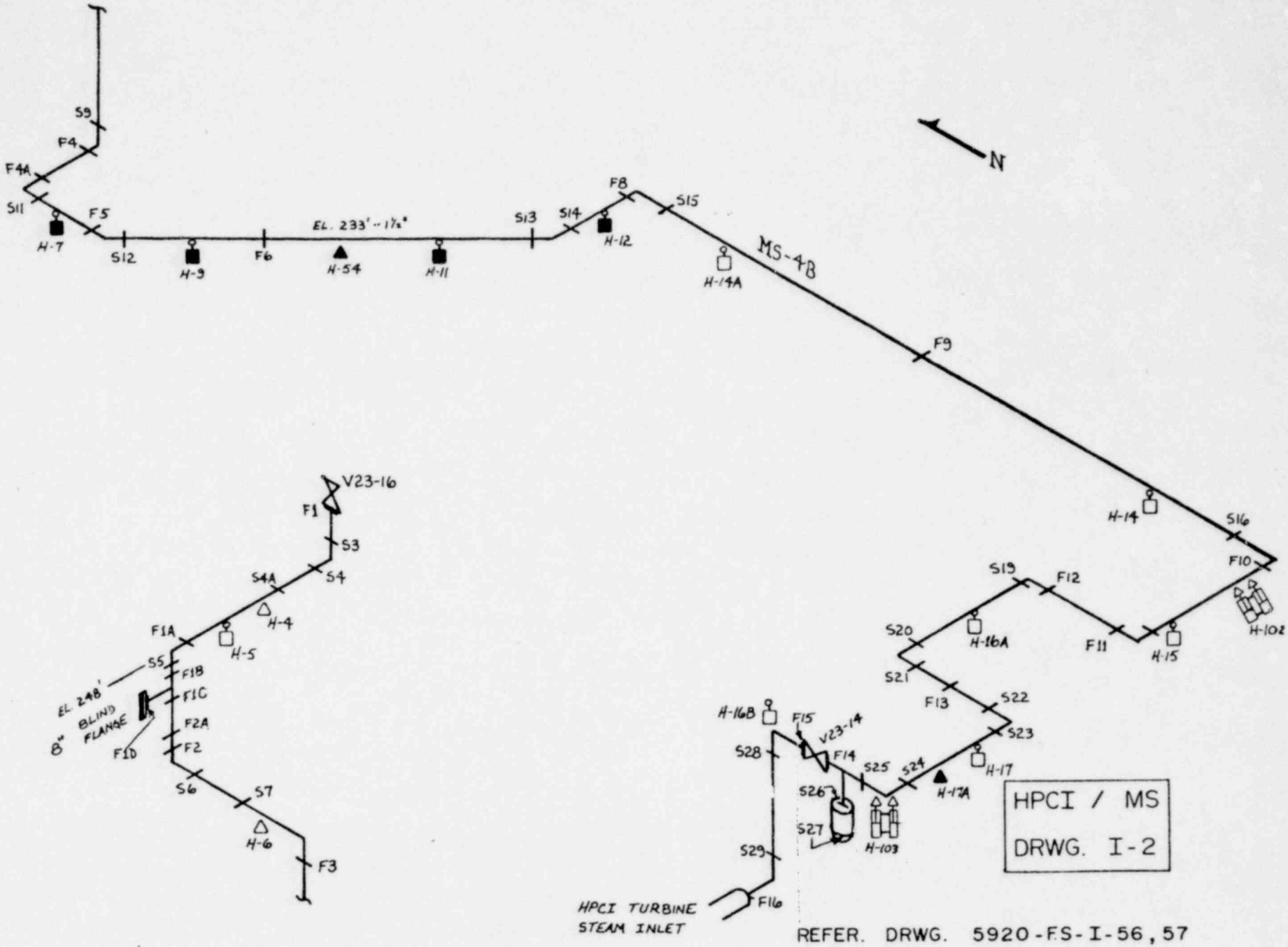


IMAGE EVALUATION
TEST TARGET (MT-3)








N
MS-4B
S9
F4
F4A
S11
F5
H-7
S12
H-9
F6
EL. 233'-1⅞"
H-54
H-11
S13
S14
F8
H-12
S15
H-14A
F9
H-14
S16
F10
H-102
S19
F12
S20
H-16A
F11
H-15
S21
F13
S22
S23
H-17
H-17A
H-16B
F15
V23-14
F14
S25
S24
S28
S26
S27
H-103
S29
F16
HPCI TURBINE STEAM INLET
V23-16
F1
S3
S4A
S4
H-4
F1A
H-5
S5
F1B
F1C
EL. 248'
BLIND FLANGE
8"
F1D
F2A
F2
S6
S7
H-6
F3
HPCI / MS
DRWG. I-2
REFER. DRWG. 5920-FS-I-56, 57

1278 001

NUMBER: C-1

COMPONENT: RHR Heat Exchangers' Nozzle Welds

CATEGORY: C-B

CLASS: 2

TEST REQUIREMENT: Volumetric

BASIS FOR RELIEF: Nozzle design configuration prohibits useful volumetric examination of the nozzle welds since the weld is 100% covered by a reinforcement saddle. Refer to detail "A" of drawing I-20.

ALTERNATE TESTING: Surface and visual examinations shall be performed on the reinforcement saddle-to-nozzle and reinforcement saddle-to-vessel welds.

1278 002

NUMBER: H-9

SYSTEM: Sampling LINE(S): Containment air

SAFETY CLASS: 2 & 3

BASIS FOR RELIEF: System is designed for air. All lines are less than 1" and have no access for a test connection.

ALTERNATE TESTING: Containment isolation piping valves are tested during the 44 psig Type A test. Other portions are in a normally operating condition. Flow meters detect any integrity problems.

NUMBER: H-10

SYSTEM: Fuel Pool Cooling and Clean-up LINE(S): FPC-34

SAFETY CLASS: 3

FUNCTION: Provide water from condensate transfer system

BASIS FOR RELIEF: Isolation beyond V19-24 requires an extensive tie-up of the condensate transfer system. This system is required to provide emergency make-up to the spent fuel pool, as well as various other make-up, flushing and backwashing functions, during all modes of operation. *

ALTERNATE TESTING: FPC-34 is under a constant "dead leg" pressure from the condensate system. (V19-24 is normally closed.) Any leakage from this line would show as flow to the fuel pool cooling system.

RELIEF REQUEST BASIS Numbers: H-11
H-12

NUMBER: H-11

SYSTEM: Service Water LINE(S): Full system

SAFETY CLASS: 3

FUNCTION: System provides cooling to remove plant waste heat.

BASIS FOR RELIEF: System cannot be hydrostatically tested because it is used to dissipate heat loads during all modes of operation. During power operation, service water is required to remove heat from main recirculation pumps. At shutdown, service water is used to supply cooling water to shutdown cooling equipment.

ALTERNATE TESTING: The visible portions of the service water system are observed during normal operation. The system runs approximately 100% of the time.

NUMBER: H-12

SYSTEM: Diesel Air Start LINE(S): Full system

SAFETY CLASS: 3

FUNCTION: System provides high pressure air to diesel generators to assist crank rotation in diesel starting.

BASIS FOR RELIEF: System is designed for air. The introduction of water may be detrimental to the diesels and system operation.

ALTERNATE TESTING: The air start system is constantly under a normal "operating" pressure of 250 psi, which is checked on every operator working shift.

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INSERVICE OPERABILITY TESTING PROGRAM FOR VALVES

All safety related valves that are necessary to safely shutdown the plant or mitigate the consequences of an accident, will be tested in accordance with the Inservice Inspection Program. The valves have been separated into five major categories which specify the required tests as follows:

Category A - Valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their function. (IWV - 2400 and IWV - 3420.)

Tests:

Q - Exercise the valve to the position required to fulfill its function every 3 months.

MT - Measure stroke time at the same frequency of the valve exercise (not more often than 3 months).

LT - Leak test the valves every refueling outage.

Category B - Valves for which seat leakage in the closed position is inconsequential for fulfillment of their function. (IWV - 3400)

Tests:

Q - Exercise the valve to the position required to fulfill its function every 3 months.

MT - Measure stroke time at the same frequency of the valve exercise (not more often than 3 months).

Category C - Valves which are self-actuating in response to some system characteristic, such as pressure (relief valves)

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or flow direction (check valves). (IWV - 3500)

Tests:

CV - Exercise to the position required to fulfill its function every 3 months. (IWV - 3520)

SRV - Test safety and relief valves in accordance with ASME PTC 25.2-1966 approximately once every five years. (IWV - 3510)

Category D - Valves which are actuated by an energy source capable of only one operation, such as rupture disks or explosive actuated valves. (IWV - 3600)

Tests:

DT - For explosive valves - remove, fire and replace 20% of the charges every 2 years. (IWV - 3610)
For rupture disks - test in accordance with the manufacturer's instructions. (IWV - 3620)

Category E - Valves which are normally locked (or sealed) open or locked (or sealed) closed to fulfill their function. (IWV - 3700)

Tests:

ET - Operational checks, with record entries, before and after operations are required to verify valve is locked or sealed in the proper position.

Specific procedural requirements, exceptions, and acceptance criteria are described in Section XI, sub-section IWV.

Procedures and records will be developed, evaluated, and maintained in accordance with the requirements of this sub-section.

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OTHER SYMBOLS USED IN THE FOLLOWING TABLES

Test Requirements:

LTJ - Leak Rate Test, documentation and analysis will be completed in accordance with 10 CFR 50, Appendix J.

RR - Exercise valve for operability every refueling outage.

CS - Exercise valve for operability every cold shutdown.

M - Valve will be exercised monthly.

L - Other leak test.

Valve Types:

GA - Gate valve

GL - Globe valve

CK - Check valve

EFC - Excess flow check valve

RV - Relief or safety valve

RD - Rupture disk

BF - Butterfly valve

BL - Ball valve

Actuator Types:

AO - Air operator

MO - Motor operator

SO - Solenoid operator

M - Manual

EXP - Explosive

HO - Hydraulic operator

Relief Request Bases to section IWV are found in the back portion of this section.

NOTE: Relief Request Bases GV-1, GV-2 and GV-3 apply generally to subsection IWV.

1278 007

SYSTEM: Service Water DRAWING NO. : G-191159 Sht. 1

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
V70-1A-D	3	B,H-3			X			14	CK	-	O	CV	-	-	
V70-19A/B	3	B,H-11		X				24	GA	MO	O	Q MT	-	-	
V70-20	3	F-12		X				20	GA	MO	O	Q MT	-	-	
V70-38A/B	3	A,J-13			X			12	CK	-	C	CV	-	-	
V70-40A/B	3	B,J-13			X			12	CK	-	C	CV	-	-	

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SYSTEM: Recirculation Pump DRAWING NO. : G-191159 Sht. 5

Valve Number	Class	Coordinates	Valve Category					Size (Inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
2-2-7A/B	2		X		X			1	EFC	-	O	LT	CV	RR	See RRB 1
2-2-8A/B	2		X		X			1	EFC	-	O	LT	CV	RR	See RRB - V1

1278 009 V-5 Rev 2

SYSTEM: Service and Instrument Air DRAWING NO. : G-191160 Sht. 1

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
V72-78 A-D	3	C-7,11			X			2	CK	-	C	CV	-	-	
V72-80 A-D	3	C-7-11			X			3/4"	CK	-	C	CV	-	-	
V72-76A/B					X			3/4"	CK	-	C	CV	-	-	

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Rev 2

SYSTEM: Service and Instrument Air DRAWING NO. : G-191160 Sht. 2

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
V72-37A/B	2	K-8	X		X			2	CK	-	C	-	CV LT	-	See RRB - V2
V72-38A/B	2	F-7	X		X			2	GA	AO	O	Q MT	LT	LTJ	See RRB - V3
V72-89B/C	2	J-6	X		X			2	CK	-	O	-	CV LT	LTJ	See RRB - V3, V4
V72-103A/B	2	L-4	X		X			2	CK	-	C	-	CV LT	-	See RRB - V2

1278 011

SYSTEM: Diesel Fuel Oil DRAWING NO. : G-191162

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
LCV 108-2A/B	3	B,D-7		X				1 1/2	GA	AO	C	MT Q	-	-	
V78-6	3	D-3					X	2	GA	M	LC	ET	-	-	
V78-7	3	D-2					X	2	GA	M	LC	ET	-	-	
V78-15A/B	3	B,D-7					X	1	GA	M	LO	ET	-	-	
V78-28A/B	3	C,D-4			X			1 1/4	CK	-	C	CV	-	-	

1 7 8 0 1 2

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SYSTEM: Nuclear Boiler DRAWING NO. : G-191167

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
SR2-14 A-D	3	M-12			X			10	CK	-	C	-	CV	CS	See RRB - V5
V2-27A, V2-96A	1	F,H-3			X			16	CK	-	O	CV	-	-	See Note 1
V2-28A/B	1	F,H-4	X		X			16	CK	-	O	CV	LT	-	See V6 and Note 1
V2-39	1	L-4	X					3/4	GL	AO	C	O MT	LT	LTJ	See RRB - V7
V2-40	1	L-3	X					3/4	GL	AO	C	O MT	LT	LTJ	See RRB - V7
V2-53A/B	1	L,N-10		X				28	GA	MO	O	MT	Q	CS	See RRB - V8
V2-54A/B	1	N-10 L-9		X				4	GA	MO	O	MT	Q	CS	See RRB - V8
SV2-70A/B	1	D,H-8			X			6x8	RV	-	C	SRV	-	-	See Note 2
RV2-71A/B	1	D,F,G H-8		X	X			6x10	RV	-	C	SRV	Q	RR	See RRB - V9 and Note 3
V2-74	1	D-10	X					3	GA	MO	C	-	Q,MT LT	LTJ	See RRB - V7, V10
V2-77	1	D-13	X					3	GA	MO	C	-	Q,MT LT	LTJ	See RRB - V7, V10
V2-80A-D	1	D,F,G H-10	X					18	GL	AO	O	O MT	LT	LTJ	See RRB - V7 and Note 4
V2-86 A-D	1	D,F,G H-13	X					18	GL	AO	O	O MT	LT	LTJ	See RRB - V7 and Note 4
V2-27B, V2-96B	2	F,H-3			X			16	CK	-	O	-	CV	RR	See RRB - V11
2-3-23	2	C-3	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V12
2-62-A-D	2	J-13	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V 12
2-64-A-D	2	K-13	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V12

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SYSTEM: Nuclear Boiler (cont'd) DRAWING NO. : G-191167

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
2-73-A-H	2	F-12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V12
2-305-A/B	2	M-3	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V12

SYSTEM: Core Spray System DRAWING NO. : G-191168

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
V14-8A/B	2	K-12 L-14					X	12	GA	M	LC	ET	-	-	
V14-10A/B	2	I-11, 14			X			8	CK	-	C	CV	-	-	
V14-11A/B	2	C,G-9		X				8	GA	MO	O	Q MT	-	-	
V14-12A/B	2	C,G-8		X				8	GA	MO	C	Q MT	-	-	
V14-13A/B	2	D,G-6			X			8	CK	-	C	-	CV	CS	See RRB - V13
V14-14A/B	2	E,F-5					X	8	GA	M	LO	ET	-	-	
V14-26A/B	2	E,F-10		X				8	GL	MO	C	Q MT	-	-	
V14-30A/B	2	E,F-7					X	1	GL	M	LC	ET	-	-	
14-31A/B	2	E,F-7	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V14
V14-5A/B	2	E-12, 14		X				3	GA	MO	O	Q MT	-	-	

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Rev 2

SYSTEM: High Pressure Coolant Injection DRAWING NO. : G-191169 Sht. 1

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
V23-14	2	H-16		X				10	GA	MO	C	Q MT	-	-	
V23-15	1	E-5	X					10	GA	MO	O	MT	Q LT	CS LTJ	See RRb - V15, V16
V23-16	1	E-7	X					10	GA	MO	O	MT	Q LT	CS LTJ	See RRB - V15, V16
V23-17	2	D-11		X				14	GA	MO	O	MT	Q	CS	See RRB - V16
V23-18	2	H-6			X			14	CK	-	C	-	CV	CS	See RRB - V17
V23-19	2	H-6		X				14	GA	MO	C	MT	Q	CS	See RRB - V16
V23-20	2	H-7		X				14	GA	MO	O	MT	Q	CS	See RRB - V16
V23-21	2	F-7		X				10	GL	MO	C	Q MT	-	-	
V23-57	2	G-11		X				16	GA	MO	C	Q MT	-	-	
V23-58	2	N-5		X				16	GA	MO	C	Q MT	-	-	
V23-65	2	K-4			X			20	CK	-	C	-	CV	CS	See RRB - V18
SSC-23-12	2	K-4			X			20	CK	-	C	-	CV	CS	See RRB - V18
SL23-37A-D	2	F,G-5	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V19
V23-6[illegible]	2	N-7			X			16	CK	-	C	-	CV	CS	See RRB - V20
V23-32	2	F-11			X			14	CK	-	C	-	CV	CS	See RRB - V18
V23-25	2	G-9		X				4	GL	MO	C	MT	-	CS	See RRB - V16

1278 016

SYSTEM: High Pressure Coolant Injection DRAWING NO. : G-191169 Sht. 2

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
V23-50A	2	J-10		X				2	GA	AO	C	Q MT	-	-	
PCV23-50	2	J-11		X				2	GL	HO	O	Q	MT		See RRB - V21
Turbine Stop	2	E-14		X				10"	GA	PO	C	Q MT	-	-	
Turbine Cont	2	E-14		X				10	GL	HO	C	Q MT	-	-	

SYSTEM: Control Rod Drive Hydraulic DRAWING NO. : G-191170

	Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
*	V3-13-114	2	C-18			X			3/4	CK	-	C	-	CV	CS	See RRB - V22
*	V3-13-126	2	C-16		X				1	GA	AO	C	-	Q	CS	See RRB - V22
*	V3-13-127	2	C-18		X				3/4	GA	AO	C	-	Q	CS	See RRB - V22
	PCV3-32A/B	2	B-2, 10		X				1	GA	AO	O	Q MT	-	-	
	LCV3-33	2	D-6		X				2	GA	AO	O	Q MT	-	-	
*	V3-181	3	I-21	X		X			2 1/2"	CK	-	O	-	CV LT	CS LTJ	See RRB - V 22A, V22B
			* Refers to one of 89 units													

1278 018

SYSTEM: Standby Liquid Control System DRAWING NO. : G-191171

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
S11-14A/B	2	G,H-4				X		1 1/2"	GA	EXP	C	DT	-	-	See Note 5
V11-16	1	H-3	X		X			1 1/2"	CK	-	C	-	LT CV	RR	See RRB - V23, V24
V11-17	1	H-2	X		X			1 1/2"	CK	-	C	-	LT CV	RR	See RRB - V23, V24
V11-43A/B	2	H,J-7			X			1 1/2"	CK	-	C	CV	-	-	

1278 019

SYSTEM: Residual Heat Removal DRAWING NO. : G-191172

Valve Number	Class	Coordinates	Valve Category A	B	C	D	L	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
V10-9	2	L-2					X	8	GA	M	O	ET	-	-	
V10-17	1	G-8	X					20	GA	MO	C	Q MT	LT	-	See RRB - V25
V10-18	1	F-8	X					20	GA	MO	C	Q MT	LT	-	See RRB - V25
V10-25A/B	1	E-6, 12		X				24	GA	MO	O	Q MT	-	-	
V10-26A/B	2	C-7, 11	X					12	GA	MO	C	Q MT	LT	-	See RRB - V25
V10-27A/B	1	D-6, 12		X				24	GL	MO	C	Q MT	-	-	
V10-31A/B	2	C-8, 10	X					12	GA	MO	C	Q MT	LT	-	See RRB - V25
V10-32	1	C-8	X					4	GA	MO	C	Q MT	LT	-	See RRB - V25
V10-33	1	B-8	X					4	GA	MO	C	Q MT	LT	-	See RRB - V25
V10-34A/B	2	E-4, 14	X					10	GL	MO	C	Q MT	LT	-	See RRB - V25
V10-38A/B	2	E-4, 13	X					4	GL	MO	C	Q MT	LT	-	See RRB - V25
V10-39A/B	2	D-4, 14	X					12	GA	MO	C	Q MT	LT	-	See RRB - V25
V10-46A/B	1	E-7, 11			X			24	CK	-	C	-	CV	CS	See RRB - V26
V10-48 A-D	2	L-4,13 J-4,13			X			16	CK	-	C	CV	-	-	
V10-57	0	H-13	X					4	GA	MO	C	Q MT	LT	LTJ	See RRB - V27
V10-65A/B	2	J-3 K-15		X				20	GL	MO	O	Q MT	-	-	
V10-66	2	H-13	X					4	GA	MO	C	Q MT	LT	LTJ	See RRB - V27

1778 020

SYSTEM: Residual Heat Removal (cont'd) DRAWING NO : G-191172

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
V10-89A/B	3	M-1 L-17		X				12	GL	MO	C	Q	MT	-	See RRB - V28
V10-16A/B	2	I-6, 12		X				4	GA	MO	C	Q MT	-	-	
V10-19A-D	2	J,L-5 J,L-13			X			3	CK	-	C	CV	-	-	See Note 6

1278 021

SYSTEM: Reactor Core Isolation Cooling DRAWING NO. : G-191174 Sht. 1

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
V13-15	1	D-7	X					3	GA	MO	O	MT	Q LT	CS LTJ	See RRB - V29,V30
V13-16	1	D-9	X					3	GA	MO	O	MT	Q LT	CS LTJ	See RRB - V29, V30
V13-18	2	E-14		X				6	GA	MO	O	MT	Q	CS	See RRB - V30
V13-20	2	G-10		X				4	GA	MO	O	MT	Q	CS	See RRB - V30
V13-21	2	G-9		X				4	GA	MO	C	MT	Q	CS	See RRB - V30
V13-22	2	G-9			X			4	CK	-	C	-	CV	CS	See RRB - V31
V13 - 30	2	E-10		X				4	GL	MO	C	Q MT	-	-	
V13-39	2	F-13		X				6	GA	MO	C	Q MT	-	-	
V13-41	2	N-10		X				6	GA	MO	C	Q MT	-	-	
V13-50	2	K-7			X			8	CK	-	C	CV	-	-	
SSC13-9	2	K-7			X			8	CK	-	C	CV	-	-	
SL13-55 A-D	2	B-8	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V32
V13-27	2	I-11		X				2	GL	MO	C	MT	Q	CS	See RRB - V30
V13-19	2	E-14			X			6	CK	-	C	CV	-	-	
V13-40	2	N-11			X			6	CK	-	C	-	C	C	See RRB - V33

SYSTEM: Reactor Core Isolation Cooling DRAWING NO. : G-191174 Sht. 2

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
PCV13-23	2	H-7		X				2	GL	HO	O	Q	MT	-	See RRB - V34
V13-131	2	D-15		X				3	GL	MO	C	Q MT	-	-	
V13-132	2	G-7		X				2	GL	MO	C	Q MT	-	-	
Turb. Gov	2	D-12		X				2	GL	HO	O	Q	MT	-	See RRB - V34

1278 023

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SYSTEM: Primary Containment and Atmosphere Control DRAWING NO. : G-191175

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
V16-19-5A-J	2	J-8	X		X			18"	CK	-	C	CV	LT	L	See RRB - V35, Note 7
SB16-19-6A	2	F-2	X					3	BF	AO	C	-	Q,MT LT	LTJ	See RRB - V36, V37
SB16-19-7A/B	2	E,K-2	X					18	BF	AO	C	-	Q,MT LT	LTJ	See RRB - V36, V37
SB16-19-8	2	I-12	X					18	BF	AO	C	MT	Q LT	CS LTJ	See RRB - V36, V38
SB16-19-9	2	I-16	X					18	BF	AO	C	-	Q,MT LT	LTJ	See RRB - V36, V37
SB16-19-10	2	J-13	X					18	BF	AO	C	-	Q,MT LT	LTJ	See RRB - V36, V37
SB16-19-11A/B	2	K,M-15	X					20	BF	AO	C	Q MT	LT	LTJ	See RRB - V36
V36-19-12A/B	2	K,M-16	X		X			20	CK	-	C	CV	LT	LTJ	See RRB - V36, Note 8
V16-20-20	2	G-12	X					1	GA	SO	O	-	Q LT	CS LTJ	See RRB - V36, V38
V16-20-22A	2	H-12	X					1	GA	SO	C	-	Q,MT LT	LTJ	See RRB - V36, V37
V16-19-23	2	G-16	X					6	BF	AO	O	MT	Q LT	CS LTJ	See RRB - V36, V38
SB-16-19-6B	2	L-2	X					3	BF	AO	O	MT	Q LT	CS LTJ	See RRB - V36, V38
V16-20-22B	2	H-12	X					1	GA	SO	O	MT	Q LT	CS LTJ	See RRB - V36, V38

1278 024

SYSTEM: Condensate and Demineralized Water DRAWING NO. : G-191176

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
V13-17	2	F-14					X	6	GA	M	LO	ET	-	-	
V23-23	2	F-14					X	14	GA	M	LO	ET	-	-	
V73-26	2	F-14					X	4	GA	M	LC	ET	-	-	

1278 025

SYSTEM: Radwaste System DRAWING NO. : G-191177 Sht. 1

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
V20-82	2	B-4	X					3	GA	AO	O	Q MT	LT	LTJ	See RRB - V39
V20-83	2	B-5	X					3	GA	AO	O	Q MT	LT	LTJ	See RRB - V39
V20-94	2	G-4	X					3	GA	AO	O	Q MT	LT	LTJ	See RRB - V39
V20-95	2	G-5	X					3	GA	AO	O	Q MT	LT	LTJ	See RRB - V39

1278 026

SYSTEM: Reactor Water Cleanup System DRAWING NO. : G-191178 Sht. 1

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
V12-15	1	D-2	X					4	GA	MO	O	Q MT	LT	LTJ	See RRB - V40
V12-18	1	D-3	X					4	GA	MO	O	Q MT	LT	LTJ	See RRB - V40
V12-68	3	C-11	X					4	GL	MO	O	Q MT	LT	LTJ	See RRB - V40

1278 027

SYSTEM: HVAC - Reactor Building DRAWING NO. : G-191238

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARI
SGT-1A/B	2	I-9		X				12	BF	AO	C	Q MT	-	-	
SGT-2A/B	2	I-7		X				12	BF	AO	O/C	O MT	-	-	
SGT-3A/B	2	G-7		X				12	BF	AO	O/C	Q MT	-	-	
SGT-4A/B	2	I-7		X				12	BF	AO	C	Q MT	-	-	
SGT-5	2	H-7		X				4	BF	AO	C	Q MT	-	-	
SB-16-19-6	2	F-7	X					8	BF	AO	O	MT	Q LT	CS LJT	See RRB - V41,V42
SB-16-19-7	2	F-7	X					18	BF	AO	C	-	Q,MT LT	LTS	See RRB - V41,V43
HVAC-9	2	J-9		X				54	BF	AO	O	Q MT	-	-	
HVAC-10	2	J-9		X				54	BF	AO	O	O MT	-	-	
HVAC-11	2	H-9		X				54	BF	AO	O	Q MT	-	-	
HVAC-12	2	H-9		X				54	BF	AO	O	Q MT	-	-	

1278 028

V - 24 Rev 2

SYSTEM: Nuclear Boiler Vessel Instrumentation DRAWING NO. : G-191267

Valve Number	Class	Coordinates	Valve Category					Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
			A	B	C	D	E								
2-3-11	2	D-4	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-13A/B	2	E-4, 12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-15A/B	2	E-4, 12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-17A/B	2	F-4, 12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-19A/B	2	G-4, 12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-21A/B	2	J-4, 12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-23A/B	2	G-4, 12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-25	2	I-4	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-29A/B	2	G-4, 12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-31 A-H	2	G-4	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-31 I-Q	2	H-12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-33	2	J-12	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44
2-3-35	2	J-4	X		X			1	EFC	-	O	LT	CV	RR	See RRB - V44

1778 029

V - 25 Rev 2

SYSTEM: Containment Atmosphere Dilution DRAWING NO. : VY-E-75-002

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
FSO-109-75 A1,2	2	E-16	X					3/4	GA	SO	C	-	MT,Q LT	-	See RRB - V45, V46
FSO-109-75 B1,2	2	D-16	X					3/4	GA	SO	O	Q MT	LT	-	See RRB - V45
FSO-109-75 C1,2	2	C-15	X					3/4	GA	SO	O	Q MT	LT	-	See RRB - V45
FSO-109-75 D1,2	2	B-15	X					3/4	GA	SO	O	Q MT	LT	-	See RRB - V45
FSO-109-76 A/B	2	L-14	X					3/4	GA	SO	O	Q MT	LT	-	See RRB - V45

1278 030

SYSTEM: TIP DRAWING NO. : 1

Valve Number	Class	Coordinates	Valve Category A	B	C	D	E	Size (inches)	Valve Type	Actuator Type	Normal Position	Test Requirements	Relief Requests	Testing Alternative	REMARKS
Ball A-C	2	NA	X					3/8	BL	MO	C	Q MT	LT	-	See RRB - V47
Shear A-C	2	NA				X		3/8	GA	EXP	C	DT	-	-	
Solenoid	2	NA	X					1/2	GA	SO	C	Q	MT LT	-	See RRB - V47, V48

1278 031

V - 27

Rev 2

Relief Request Basis

NUMBER: V1

SYSTEM: Recirculation pump

VALVE: 2-2-7A/B, 2-2-8A/B

CATEGORY: C

CLASS: 2

FUNCTION: Excess flow check valves for instrument isolation

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves can only be verified to shut by leak testing which is performed during the refueling outage hydrostatic test. Valves cannot be exercised shut during power operation since shutting these would isolate instrumentation required for power operation.

ALTERNATE TESTING: Valves will be functionally tested each refueling outage.

Relief Request Basis

NUMBER: V2

SYSTEM: Instrument and Service Air

VALVE: V72-37A/B V72-103A/B

CATEGORY: A,C

CLASS: 2

FUNCTION: Primary Containment Isolation

TEST REQUIREMENT: CV, LT

BASIS FOR RELIEF: Valves are normally closed and passive during an accident. There is no means available to perform either test.

ALTERNATE TESTING: Valves are evaluated for leak tightness during the performance of each type "A" leak test. Further testing of these valves, if appropriate, will be implemented when the type "A" rest results are evaluated.

1278 033

Relief Request Basis

NUMBER: V3

SYSTEM: Service and Instrument Air

VALVE: V72-38A/B, V72-89B/C

CATEGORY: A

CLASS: 2

FUNCTION: Primary Containment Isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, via Technical Specification Section 4.7.2b and additional administrative requirements.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

1278 034

Relief Request Basis

NUMBER: V4

SYSTEM: Service and Instrument Air

VALVE: V72-89B/C

CATEGORY: C

CLASS: 2

FUNCTION: Primary Containment Isolation

TEST REQUIREMENT: CV

BASIS FOR RELIEF: There are no means available to test the valves in the manner prescribed by IWV-3520.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

1278 035

Relief Request Basis

NUMBER: V5

SYSTEM: Nuclear Boiler

VALVE: SR 2-14A-D

CATEGORY: C

CLASS: 3

FUNCTION: Relief Valve Discharge line vacuum breaker

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves cannot be exercised during power operation since valves are inside the drywell and are inaccessable when at power.

ALTERNATE TESTING: Valves will be manually exercised during cold shutdowns.

1278 036

Relief Request Basis

NUMBER: V6

SYSTEM: Nuclear Boiler

VALVE: V2-28A/B

CATEGORY: A

CLASS: 1

FUNCTION: Primary Containment Isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Valves presently exempted, per Tech. Spec. table 4.7.2 from leak testing.

ALTERNATE TESTING: None

1278 037

Relief Request Basis

NUMBER: 27

SYSTEM: Nuclear Boiler

VALVE: V2-39, V2-40, V2-74, V2-77, V2-80A-D, V2-86A-D

CATEGORY: A

CLASS: 1

FUNCTION: Primary Containment Isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, via technical specification section 4.7.2.b and additional administrative requirements.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

1278 038

Relief Request Basis

NUMBER: V8

SYSTEM: Nuclear Boiler

VALVE: V2-53A/B, V2-54A/B

CATEGORY: B

CLASS: 1

FUNCTION: Recirculation pump discharge and bypass valve - required for LPCI operation.

TEST REQUIREMENT: Q

BASIS FOR RELIEF: Valve exercising during power operation would require a reactor trip.

ALTERNATE TESTING: Valves will be full stroke exercised during cold shutdowns of duration greater than 48 hours and during refueling outages.

1278 039

Relief Request Basis

NUMBER: V9

SYSTEM: Nuclear Boiler

VALVE: RV2-71A/B

CATEGORY: B

CLASS: 1

FUNCTION: Automatic depressurization

TEST REQUIREMENT: Q

BASIS FOR RELIEF: Valves cannot be exercised during power operation since failure in the open position would require tripping the reactor. Also, live steam would be discharged to the suppression pool which would heat the water and pressurize the containment. This causes undue structural stresses in the containment. Valves cannot be exercised during cold shutdowns since steam is required to stroke the main piston in the valve. Experience in safety and relief valve operation shows that testing 50% of the valves per refueling outage is adequate to detect failures or deterioration. Valve design prohibits full stroke exercising.

ALTERNATE TESTING: During each operation cycle, each relief valve will be manually opened with the reactor at low pressure until the thermocouple downstream of the valve indicates fluid is flowing from the valve.

1278 040

Relief Request Basis

NUMBER: V10

SYSTEM: Nuclear Boiler

VALVE: V2-74, V2-77

CATEGORY: A

CLASS: 1

FUNCTION: Primary Containment Isolation

TEST REQUIREMENT: Q, MT

BASIS FOR RELIEF: Valves are normally closed and remain passive in the event of an accident. A quarterly test frequency is not required for passive valves.

ALTERNATE TESTING: None

1278 041

Relief Request Basis

NUMBER: V11

SYSTEM: Nuclear Boiler

VALVE: V2-27B, V2-96B

CATEGORY: C

CLASS: 2

FUNCTION: Feedwater checks for HPCI/RCIC operation.

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves are required to be open during power operation. Shutting these valves will cause a reactor trip. Testing via the HPCI/RCIC systems would cause thermal shocking of the feedwater nozzles and could result in damage to reactor internals. Testing the valves during cold shutdown would require removing the only mechanism of vessel level control (via reactor cleanup system).

ALTERNATE TESTING: Valves will be verified shut during the refueling outages.

1278 042

Relief Request Basis

NUMBER: V12

SYSTEM: Nuclear Boiler

VALVE: 2-3-23, 2-62-A-D, 2-64-A-D, 2-73-A-H, 2-305-A/B

CATEGORY: C

CLASS: 2

FUNCTION: Excess flow check valves for instrument isolation

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves can only be verified to shut by leak testing which is performed during the refueling outage hydrostatic test. Valves cannot be exercised shut during power operation since shutting these would isolate instrumentation required for power operation.

ALTERNATE TESTING: Valves will be functionally tested each refueling outage.

1278 043

Relief Request Basis

NUMBER: V13

SYSTEM: Core Spray

VALVE: V14-13A/B

CATEGORY: C

CLASS: 2

FUNCTION: Injection check valve

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves cannot be exercised manually since valves are located inside the primary containment. Valves cannot be exercised with flow since pump discharge pressure cannot overcome reactor pressure.

ALTERNATE TESTING: These valves will be full stroke exercised during cold shutdowns when the drywell is accessible and during refueling outages.

1278 044

Relief Request Basis

NUMBER: V14

SYSTEM: Core Spray

VALVE: 14-31 A/B

CATEGORY: C

CLASS: 2

FUNCTION: Excess flow check valves for instrument isolation

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves can only be verified to shut by leak testing which is performed during the refueling outage hydrostatic test. Valves cannot be exercised shut during power operation since shutting these would isolate instrumentation required for power operation.

ALTERNATE TESTING: Valves will be functionally tested each refueling outage.

1278 045

Relief Request Basis

NUMBER: V15

SYSTEM: High Pressure Coolant Injection

VALVE: V23-15, V23-16

CATEGORY: A

CLASS: 1

FUNCTION: HPCI steam line isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, via technical specification section 4.7.2b and additional administrative requirements.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

Relief Request Basis

NUMBER: V16

SYSTEM: High Pressure Coolant Injection

VALVE: V23-15, V23-16, V23-17, V23-19, V23-20

CATEGORY: A or B

CLASS: 1 or 2

FUNCTION: Injection mode valves

TEST REQUIREMENT: Q

BASIS FOR RELIEF: Valves cannot be exercised during power operation since repositioning these valves would render the HPCI system inoperable if the valve failed in an unconservative position.

ALTERNATE TESTING: Valves will be full stroke exercised during cold shutdowns and refueling outages.

Relief Request Basis

NUMBER: V17

SYSTEM: High Pressure Coolant Injection

VALVE: V23-18

CATEGORY: C

CLASS: 2

FUNCTION: Injection check valve

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valve cannot be exercised during power operation since flow through this valve must be injected into the reactor coolant system. This would thermally shock the reactor nozzles. The cold water injection would also cause a reactivity excursion. Manual valve operation is not possible during power operation since the valve is located in the steam tunnel which is inaccessible.

ALTERNATE TESTING: Valve will be manually fully stroke exercised during cold shutdowns.

1278 048

Relief Request Basis

NUMBER: V18

SYSTEM: High Pressure Coolant Injection

VALVE: V23-65, SSC-23-12, V23-32

CATEGORY: C

CLASS: 2

FUNCTION: Injection mode valves

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves cannot be full stroke exercised quarterly since a full flow HPCI test adds significant heat to the suppression chamber (via turbine exhaust). This could heat the suppression chamber to greater than the temperature limits. The HPCI pump cannot be run during cold shutdown since steam is not available to run the turbine. Approximately 150 psi of steam is required to run a full flow test of the HPCI pump. This steam is not always available prior to an unplanned cold shutdown.

ALTERNATE TESTING: Valves will be full stroke exercised during the shutdown of the plant when entering a refueling outage or a planned cold shutdown. Valves will be partial stroke exercised quarterly.

1278 049

Relief Request Basis

NUMBER: V19

SYSTEM: High Pressure Coolant Injection

VALVE: SL 23-37 A-D

CATEGORY: C

CLASS: 2

FUNCTION: Excess flow check valves for instrument isolation

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves can only be verified to shut by leak testing which is performed during the refueling outage hydrostatic test. Valves cannot be exercised shut during power operation since shutting these would isolate instrumentation required for power operation.

ALTERNATE TESTING: Valves will be functionally tested each refueling outage.

1278 050

Releif Request Basis

NUMBER: V20

SYSTEM: High Pressure Coolant Injection

VALVE: V23-61

CATEGORY: C

CLASS: 2

FUNCTION: Torus suction check valve

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valve cannot be full stroke exercised during power operation since there is no full flow test loop available to recirculate the water back to the torus. There are no means to manually stroke the valve. Valve cannot be stroked via a system injection into the reactor since that would result in a reactivity excursion and potentially thermally shocking the reactor nozzles.

ALTERNATE TESTING: Valve will be verified to open freely each cold shutdown and refuel outages.

Relief Request Basis

NUMBER: V21

SYSTEM: High Pressure Coolant Injection

VALVE: PCV 23-50

CATEGORY: B

CLASS: 2

FUNCTION: Pressure control

TEST REQUIREMENT: MT

BASIS FOR RELIEF: Valve is a modulating type valve. Stroke time is not an appropriate reference parameter.

ALTERNATE TESTING: Proper valve operation is verified through normal system operation during the pump tests.

1278 052

Relief Request Basis

NUMBER: V22

SYSTEM: Control Rod Drive Hydraulic

VALVE: V3-13-114, V3-13-126, V3-13-127

CATEGORY: B or C

CLASS: 2

FUNCTION: Control rod drive scram

TEST REQUIREMENT: Q or CV

BASIS FOR RELIEF: Exercising these valves during power operation would require scramming the plant or an undesirable reactor transient.

ALTERNATE TESTING: Since scram insertion times are representative of valve operability and stroke times, alternate testing will be performed in accordance with Tech. Spec. section 4.3.C.1 and 2. This section requires that all control rods be subjected to scram-time measurements on a refueling outage basis. Also, this section requires that 50% of the control rods be measured for scram times every 16 to 32 weeks. An evaluation is required that provides reasonable assurance that proper control rod drive performance is being maintained. These tests adequately verify valve operability and stroke times.

1278 053

Relief Request Basis

NUMBER: V22A

SYSTEM: Control Rod Drive Hydraulic

VALVE: V3-181

CATEGORY: A

CLASS: 3

FUNCTION: Primary Containment Isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, via Tech. Spec. section 4.7.2b and additional administrative requirements.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

1278 054

Relief Request Basis

NUMBER: V22B

SYSTEM Control Rod Drive Hydraulic

VALVE: V3-181

CATEGORY: C

CLASS: 3

FUNCTION: CRD Return to RWCU System

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valve cannot be exercised during power operation since this would require isolating and venting a portion of the CRD system. This would cause hydraulic instability throughout the system. This situation is potentially unsafe until the system can be rebalanced and the rod strokes retimed. This cannot be done during power operation.

ALTERNATE TESTING: Valve will be verified to close during cold shutdowns.

1278 055

Relief Request Basis

NUMBER: V23

SYSTEM: Standby Liquid Control

VALVE: V11-16, V11-17

CATEGORY: A

CLASS: 1

FUNCTION: Primary Containment Isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Valves presently exempted, per Tech. Spec. table 4.7.2 from leak testing.

ALTERNATE TESTING: None

1278 056

Relief Request Basis

NUMBER: V24

SYSTEM: Standby Liquid Control

VALVE: V11-16, V11-17

CATEGORY: C

CLASS:

FUNCTION: SLC injection into reactor

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Exercising these valves during power operation would require injecting borated water into the reactor coolant system. This would create a reactivity excursion and potential for reactor trip. Injection of demineralized water would require removing the system from service to clean the borated solution from the piping and replacing the explosive actuated valves. This system is required for power operation. Performing the demin. water test during cold shutdowns is impractical since extensive flushing of the boron from the system for several days is required to reduce the boron concentration to a level compatible for injection into the reactor coolant system.

ALTERNATE TESTING: Valves will be full stroke exercised during refueling outages.

1278 05

Relief Request Basis

NUMBER: V25

SYSTEM: Residual Heat Removal

VALVE: V10-17, V10-18, V10-26A/B, V10-31A/B, V10-32, V10-33, V10-34A/B, V10-38A/B, V10-39A/B

CATEGORY: A

CLASS: 1 or 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Valves presently exempted, per Tech. Spec. table 4.7.2 from leak testing.

ALTERNATE TESTING: None

1278 058

Relief Request Basis

NUMBER: V26

SYSTEM: Residual Heat Removal

VALVE: V10-46 A/B

CATEGORY: C

CLASS: 1

FUNCTION: LPCI injection check

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves cannot be exercised during power operation since the valves are located inside the primary containment. Exercising the valves by system flow is not possible during power operation since pump discharge is unable to overcome reactor coolant system pressure.

ALTERNATE TESTING: Valves will be full stroke exercised during cold shutdowns when the drywell is accessible and during refueling outages.

1278 059

Relief Request Basis

NUMBER: V27

SYSTEM: Residual Heat Removal

VALVE: V10-57, V10-66

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, via Technical Specification Section 4.7.2b and additional administrative requirements.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

1278 060

Relief Request Basis

NUMBER: V28

SYSTEM: Residual Heat Removal

VALVE: V10-89 A/B

CATEGORY: B

CLASS: 3

FUNCTION: Flow control

TEST REQUIREMENT: MT

BASIS FOR RELIEF: Valve is a modulating type valve. Stroke time is not an appropriate reference parameter.

ALTERNATE TESTING: Proper valve operation is verified through normal system operation during the pump tests.

1278 061

Relief Request Basis

NUMBER: V29

SYSTEM: Reactor Core Isolation Cooling

VALVE: V13-15, V13-16

CATEGORY: A

CLASS: 1

FUNCTION: RCIC steam line isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, Tech. Spec, section 4.7.2b and additional administrative requirements.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

1278 062

Relief Request Basis

NUMBER: V30

SYSTEM: Reactor Core Isolation Cooling

VALVE: V13-15, V13-16, V13-18, V13-20, V13-21, V13-27

CATEGORY: A or B

CLASS: 1 or 2

FUNCTION: Injection mode valves

TEST REQUIREMENT: Q

BASIS FOR RELIEF: Valves cannot be exercised during power operation since repositioning these valves would render the RCIC system inoperable if the valve failed in an unconservative position.

ALTERNATE TESTING: Valves will be full stroke exercised during cold shutdowns and refueling outages.

1278 063

Relief Request Basis

NUMBER: V31

SYSTEM: Reactor Core Isolation Cooling

VALVE: V13-22

CATEGORY: C

CLASS: 2

FUNCTION: Injection check valve

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valve cannot be exercised during power operation since flow through this valve must be injected into the reactor coolant system. This would thermally shock the reactor nozzles. The cold water injection would also cause a reactivity excursion. Manual valve operation is not possible during power operation since the valve is located in the steam tunnel which is inaccessible.

ALTERNATE TESTING: Valve will be manually fully stroke exercised during cold shutdowns.

1278 064

Relief Request Basis

NUMBER: V32

SYSTEM: Reactor Core Isolation Cooling

VALVE: SL 13-55 A-D

CATEGORY: C

CLASS: 2

FUNCTION: Excess flow check valves for instrument isolation

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves can only be verified to shut by leak testing which is performed during the refueling outage hydrostatic test. Valves cannot be exercised shut during power operation since shutting these would isolate instrumentation required for power operation.

ALTERNATE TESTING: Valves will be functionally tested each refueling outage.

1278 065

Relief Request Basis

NUMBER: V33

SYSTEM: Reactor Core Isolation Cooling

VALVE: V13-40

CATEGORY: C

CLASS: 2

FUNCTION: Torus suction check valve

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valve cannot be full stroke exercised during power operation since there is no full flow test loop available to recirculate the water back to the torus. There are no means to manually stroke the valve. Valve cannot be stroked via a system injection into the reactor since that would result in a reactivity excursion and potentially thermally shocking the reactor nozzles.

ALTERNATE TESTING: Valve will be verified to open freely each cold shutdown and refuel outages.

1278 066

Relief Request Basis

NUMBER: V34

SYSTEM: Reactor Core Isolation Cooling

VALVE: PCV 13-23, Turb. gov.

CATEGORY: B

CLASS: 2

FUNCTION: Modulating valves

TEST REQUIREMENT: MT

BASIS FOR RELIEF: Valve is a modulating type valve. Stroke time is not an appropriate reference parameter.

ALTERNATE TESTING: Proper valve operation is verified through normal system operation during the pump tests.

1278 067

Relief Request Basis

NUMBER: V35

SYSTEM: Primary Containment and Atmosphere Control

VALVE: V16-19-5 A to J

CATEGORY: A

CLASS: 2

FUNCTION: Torus-drywell vacuum breakers

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Valves cannot be leak tested individually

ALTERNATE TESTING: Leak test will be done which will demonstrate that with an initial differential pressure of not less than 1.0 psi, the differential pressure decay rate shall not exceed the equivalent of the leakage rate through a 1-inch orifice.

1278 068

Relief Request Basis

NUMBER: V36

SYSTEM: Primary Containment and Atmosphere Control

VALVE: SB 16-19-6 A/B, SB16-19-7 A/B, SB16-19-8, SB16-19-9, SB16-19-10 SB16-19-11 A/B, V16-19-12A/B, V16-20-20, V16-20-22A/B, V16-19-23

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, via Tech. Spec. section 4.7.2b and additional administrative requirements.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

1278 069

Relief Request Basis

NUMBER: V37

SYSTEM: Primary Containment and Atmosphere Control

VALVE: SB16-19-6A, AB16-19-7A/B, SB16-19-9, SB16-19-10, V16-20-22A

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: Q

BASIS FOR RELIEF: Valves are normally closed and remain passive in the event of an accident. A quarterly test frequency is not required for passive valves.

ALTERNATE TESTING: None

1278 070

Relief Request Basis

NUMBER: V38

SYSTEM: Primary Containment and Atmosphere Control

VALVE: SB16-19-8, V16-20-20, V16-19-23, SB16-19-6B, V16-20-22B

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: Q

BASIS FOR RELIEF: Valves cannot be exercised during power operation since this would cause the loss of the differential pressure between the drywell and the suppression chamber. This DP is a required condition of plant operation.

ALTERNATE TESTING: VAlves will be full stroke exercised during cold shutdowns and refueling outages.

1278 071

Relief Request Basis

NUMBER: V39

SYSTEM: Radwaste

VALVE: V20-82, V20-83, V20-94, V20-95

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, via Tech. Spec. section 4.7.?b and additional administrative requirements.

ALTERNATF TESTING: Leak testing in accordance with Appendix J.

1278 072

Relief Request Basis

NUMBER: V40

SYSTEM: Reactor Water Cleanup

VALVE: V12-15, V12-18, V12-68

CATEGORY: A

CLASS: 1 or 3

FUNCTION: Primary containment isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, via Tech. Spec. section 4.7.2b and additional administrative requirements.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

1278 073

Relief Request Basis

NUMBER: V41

SYSTEM: HVAC - Reactor Building

VALVE: SB-16-19-6, SB-16-19-7

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Primary containment isolation valves are covered by 10 CFR 50, Appendix J, via Tech. Spec. section 4.7.2b and additional administrative requirements.

ALTERNATE TESTING: Leak testing in accordance with Appendix J.

1278 074

Relief Request Basis

NUMBER: V42

SYSTEM: HVAC - Reactor Building

VALVE: SB-16-19-6

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: Q

BASIS FOR RELIEF: Valves cannot be exercised during power operation since this would cause the loss of the differential pressure between the drywell and the suppression chamber. This DP is a required condition of plant operation.

ALTERNATE TESTING: Valves will be full stroke exercised during cold shutdowns and refueling outages.

1278 075

Relief Request Basis

NUMBER: V43

SYSTEM: HVAC - Reactor Building

VALVE: SB-16-19-7

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: Q, MT

BASIS FOR RELIEF: Valves are normally closed and remain passive in the event of an accident. A quarterly test frequency is not required for passive valves.

ALTERNATE TESTING: None

1278 076

Relief Request Basis

NUMBER: V44

SYSTEM: Nuclear Boiler Vessel Instrumentation

VALVE: 2-3-11, 2-3-13A/B, 2-3-15A/B, 2-3-17A/B, 2-3-19A/B, 2-3-21A/B 2-3-23A/B, 2-3-25, 2-3-27, 2-3-29A/B, 2-3-31 A-H, 2-3-31 I-Q, 2-3-33, 2-3-35

CATEGORY: C

CLASS: 2

FUNCTION: Excess flow check valves for instrument isolation

TEST REQUIREMENT: CV

BASIS FOR RELIEF: Valves can only be verified to shut by leak testing which is performed during the refueling outage hydrostatic test. Valves cannot be exercised shut during power operation since shutting these would isolate instrumentation required for power operation.

ALTERNATE TESTING: Valves will be functionally tested each refueling outage.

1278 077

Relief Request Basis

NUMBER: V45

SYSTEM: Containment Atmosphere Dilution

VALVE: FSO-109-75A1,2, FSO-109-75B1,2, FSO-109-75C1,2, FSO-109-75D1,2
FSO-109-76A/B

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Valves presently exempted, per Tech. Spec. table 4.7.2 from leak testing.

ALTERNATE TESTING: None

1278 078

Relief Request Basis

NUMBER: V46

SYSTEM: Containment Atmosphere Dilution

VALVE: FSO-109-75A1,2

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: Q, MT

BASIS FOR RELIEF: Valves are normally closed and remain passive in the event of an accident. A quarterly test frequency is not required for passive valves.

ALTERNATE TESTING: None

1278 079

Relief Request Basis

NUMBER: V47

SYSTEM: TIP

VALVE: Ball A-C, Solenoid

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: LT

BASIS FOR RELIEF: Valves are normally closed and passive during an accident. There is no means available to perform a leak test.

ALTERNATE TESTING: Valves will be evaluated for leak tightness during the performance of each type "A" leak test. Further testing of these valves, if appropriate, will be implemented when the type "A" test results are evaluated.

1278 080

Relief Request Basis

NUMBER: V48

SYSTEM: TIP

VALVE: Solenoid

CATEGORY: A

CLASS: 2

FUNCTION: Primary containment isolation

TEST REQUIREMENT: MT

BASIS FOR RELIEF: Valve is a 1/2 inch solenoid valve. Timing the stroke is not possible.

ALTERNATE TESTING: None

1278 081

Relief Request Basis

NUMBER: GV-1

CODE PARAGRAPHS: IWV-3410 (C) (3) concerning an increase in test frequency.

BASIS FOR RELIEF: As defined in the Inservice Test Program, there is sufficient justification to test certain valves on either a cold shutdown or a refueling outage basis. The test frequency of these valves cannot be increased without jeopardizing plant operations.

ALTERNATIVE: If any of the valves that are tested quarterly fail, the test frequency will be increased in accordance with the provisions of the referenced paragraph. If any of the valves that are tested on a cold shutdown basis fail, the valves will be tested each cold shutdown, not to exceed once every month until corrective action is taken.

1278 082

Relief Request Basis

NUMBER: GV-2

CODE PARAGRAPHS: IWV-3410 (g1 and LWV-3520(c) concerning corrective action prior to startup.

BASIS FOR RELIEF: The Vermont Yankee Technical Sepcifications describes various limiting conditions for operation. These are more appropriately used as a basis for plant startup than are the above referenced requirements.

ALTERNATIVE: The Technical Specifications' limiting conditions for operation will be used as the basis to determine if the plant can startup.

1278 083

Relief Request Basis

NUMBER: GV-3

CODE PARAGRAPHS: IWV-3410 and IWV-3520 concerning the definition of "cold shutdown".

BASIS FOR RELIEF: Since operations personnel are faced with many activities associated with and maintaining the plant in cold shutdown conditions, the operators require some amount of flexibility in scheduling certain surveillance testing. Surveillance testing alone should not be a cause for the plant to remain in a shutdown condition.

ALTERNATIVE: "Cold Shutdown Testing" will be defined as commencing the required testing not later than 48 hours after cold shutdown is achieved. Testing must continue until complete or the plant is ready to return to power. Completion of all valve testing is not a prerequisite to return to power. Any testing not completed at one cold shutdown should be performed during subsequent cold shutdowns to meet the code specified testing frequency.

1278 084

NOTES

1. Valves are continuously tested to their full open position via normal feedwater flow into the reactor vessel. These valves are required to open for HPCI/RCIC operation.
2. A minimum of 1/2 of all safety valves shall be bench-checked or replaced with a bench-checked valve each refueling outage. Both valves shall be checked or replaced every two refueling outages.
3. A minimum of 1/2 of all relief valves shall be bench-checked or replaced with a bench-checked valve each refueling outage. All four valves shall be checked or replaced every two refueling outages.
4. Prior to quarterly exercise and timing tests, decrease reactor power to less than 50 percent. At least twice a week the MSIV's shall be exercised by partial closure and subsequent reopening.
5. During each refueling outage, explode one of the three charges manufactured in the same batch to verify proper function. Then install the untested charges in the explosion valves.
6. Valves are verified to open by observing a decrease in pump discharge pressure.
7. Each refueling outage each valve will be tested to determine that the force required to open each valve from fully closed to fully open.
8. Each refueling outage each valve will be tested to determine that the force required to open the vacuum breaker does not exceed the force specified by Tech. Spec. section 3.7.A.5.a and each vacuum breaker will be inspected and verified to meet the design requirements.

85

INSERVICE OPERABILITY TESTING PROGRAM FOR PUMPS

All safety related pumps that are provided with an emergency power source will be tested in accordance with the Inservice Inspection Program.

Specific procedural requirements, exceptions, and acceptance criteria are as described in Section XI, subsection IWP. Procedures and records will be developed, evaluated, and maintained in accordance with the requirements of this subsection.

Symbols used in the following tables:

M - Monthly Test

NP - Not Possible

V - Variable Resistance System

F - Fixed Resistance System

Relief Request Basis' are located in the back portion of this section.

1278 086

PUMP/SYSTEM	REFERENCE DRAWING	SAFETY CLASS	OPERABILITY FREQ.	INSERVICE TEST QUANTITIES							TYPE SYSTEM FIXED OR VARIABLE	REMARKS
				N SPEED	Pi INLET PRESS.	ΔP PRESS.	Q FLOW	V Vib Ampl	L or P LUB LVL or PRESS.	Tb BEARING TEMP		
P7-1A-D SW	G-191159 Snt. 1	3	M	-	Pi	ΔP	Q	V	-	NP	V	See RRB - P1 and Note 1
P8-1A-D RHRSW	G-191159 Sht. 1	3	M	-	Pi	ΔP	Q	V	-	NP	V	See RRB - P2
P10-1A-D	G-191172	2	M	-	Pi	ΔP	Q	V	-	NP	V	See RRB - P3 and Note 2
P44-1A HPCI	G-191169 Sht. 1 & 2	2	M	N	Pi	ΔP	Q	V	L	NP	V	See RRB - P4 and Note 3
P45-1A/B SLC	G-191171	2	M	-	Pi	ΔP	Q	V	L	NP	V	See RRB - P5 and Note 4
P46-1A/B CS	G-191168	2	M	-	Pi	ΔP	Q	V	-	NP	V	See RRB - P6 and Note 5
P47-1A RCIC	G-191174 Sht. 1 & 2	2	M	N	Pi	ΔP	Q	V	L	NP	V	See RRB - P7 and Note 6
P92-1A/B FO	G-191162	3	M	-	Pi	ΔP	-	V	-	NP	F	See RRB - P8

1278 087

Relief Request Basis

NUMBER: P1

SYSTEM: Service Water

PUMP: P7-1A-D

CLASS: 3

TEST REQUIREMENT: Bearing temperature per IWP-3300

BASIS FOR RELIEF: Service water pump bearings are physically submerged under a minimum of 30 feet of river water. Contact pyrometer readings would be impractical.

ALTERNATIVE TESTING: None

1278 088

Relief Request Basis

NUMBER: P2

SYSTEM: Residual Heat Removal Service Water

PUMP: P8-1A-D

CLASS: 3

TEST REQUIREMENT: Bearing temperature per IWP-3300

BASIS FOR RELIEF: Bearings are internal to the pump casing and therefore are completely inaccessible for temperature measurements.

ALTERNATIVE TESTING: None

1278.089

Relief Request Basis

NUMBER: P3

SYSTEM: Residual Heat Removal

PUMP: P10-1A-D

CLASS: 2

TEST REQUIREMENT: Bearing temperature per IWP-3300

BASIS FOR RELIEF: Bearings are internal to the pump casing and are inaccessible for temperature measurements. Contact pyrometer would not be feasible since the casing is large and would quickly dissipate the heat.

ALTERNATIVE TESTING: None

1278 090

Relief Request Basis

NUMBER: P4

SYSTEM: High Pressure Coolant Injection

PUMP: P44-1A

CLASS: 2

TEST REQUIREMENT: Bearing temperature per IWP-3300

BASIS FOR RELIEF: There are no means available to measure the bearing or a surface representative of bearing temperature.

ALTERNATIVE TESTING: None

1278 091

Relief Request Basis

NUMBER: P5

SYSTEM: Standby Liquid Control

PUMP: P45-1A/B

CLASS: 2

TEST REQUIREMENT: Bearing temperature per IWP-3300

BASIS FOR RELIEF: Bearings are internal to the pump casing and are inaccessible for temperature measurements. Contact pyrometer would not be feasible since the casing is large and would quickly dissipate the heat.

ALTERNATIVE TESTING: None

1278 092

Relief Request Basis

NUMBER: P6

SYSTEM: Core Spray

PUMP: P46 1A/B

CLASS: 2

TEST REQUIREMENT: Bearing temperature per IWP-3300

BASIS FOR RELIEF: Bearings are internal to the pump casing and are inaccessible for temperature measurements. Contact pyrometer would not be feasible since the casing is large and would quickly dissipate the heat.

ALTERNATIVE TESTING: None

1278 093

Relief Request Basis

NUMBER: P7

SYSTEM: Reactor Core Isolation Cooling

PUMP: P47-1A

CLASS: 2

TEST REQUIREMENT: Bearing temperature per IWP-3300

BASIS FOR RELIEF: There are no means available to measure the bearing or a surface representative of bearing temperature.

ALTERNATIVE TESTING: None

1278 094

Relief Request Basis

NUMBER: P8

SYSTEM: Fuel Oil Transfer

PUMP: P>Z-1A/B

CLASS: 3

TEST REQUIREMENT: Bearing temperature per IWP-3300

BASIS FOR RELIEF: Per IWP-3500, bearing temperature measurements require that each pump be run until the bearing temperatures stabilize... A bearing temperature is considered stable when three successive readings taken at ten minute intervals do not vary by more than 3%. The fuel oil transfer pump operability test can only be performed when the diesel is undergoing testing. When low level is sensed in the day tank, the fuel oil transfer pumps provide the make-up. This normally takes less than 15 minutes. This is not sufficient time to record a meaningful bearing temperature.

ALTERNATIVE TESTING: None

1278 095

NOTES

1. Q is calculated using a computer program based on the pump total discharge head and the head/capacity curve. Pi is based on the river elevation.
2. Each refueling outage, conduct a LPCI flow test that demonstrates that each LPCI pump delivers 7450 $\pm$ 150 gpm (vessel to vessel).
3. Each operating cycle, demonstrate that the HPCI system will deliver at least 4250 gpm at normal operating pressure (recirculate to the condensate storage tank).
4. Pi will be calculated based on the level in the test tank. Q will be calculated based on the decrease in volume of the test tank per time period.
5. Each refueling outage, conduct a core spray flow rate test that demonstrates that each pump will deliver at least 3000 gpm against a system head of 120 psig (torus to torus).
6. Every three months, conduct a flow rate test that demonstrates that the RCIC system will deliver at least 400 gpm at normal operating pressure (recirculate to the condensate storage tank).

1278 096