Attachment 2

Waterford 3
Inservice Testing (IST) Plan - Pumps and Valves
Revision 7, Change 4

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1.0 PURPOSE

The Entergy Operations Inc. Pump and Valve Inservice Test Plan provides a description of the inservice testing plan for Waterford-3 Steam Electric Station for Safety-related ASME Boiler and Pressure Vessel Code Class 1, 2, and 3 pumps and valves in accordance with the requirements of subsections IWP and IWV of the ASME Boiler and Pressure Vessel Code Section XI, 1980 Edition through the Winter 1981 Addenda (Reference 2.1).

2.0 REFERENCES

2.1 ASME Boiler and Pressure Vessel Code, Section XI, 1980 Edition Through Winter; 1981 Addenda, Subsections IWP and IWV.

2.2 Waterford 3 FSAR Section 3.9.6, Inservice Testing of Pumps and Valves

2.3 Waterford 3 Technical Specifications 4.0.5

2.4 10CFR50.55.a (g), Code of Federal Regulations

2.5 Draft Regulatory Guide Task MS-901-4, Identification of Valves for Inclusion in Inservice Testing Programs, Nov. 1981

2.6 Regulatory Guide 1.26, Revision 3

2.7 Waterford 3 POM Procedure, UNT-06-021, Administrative Procedure, Pump and Valve Inservice Testing

2.8 NRC Generic Letter 89-04, Guidance on Developing Acceptable Inservice Testing Programs

2.9 NRC SER Related to IST Program and Requests for Relief (Rev 5), Docket NO. 50-382, dated February 7, 1989.

2.10 NRC Minutes of the Public Meetings on Generic Letter 89-04 dtd 10-25-89.

2.11 Waterford 3 Technical Specification 4.0.2.

2.12 Fatigue Life Evaluation of MSIV Stem Using Material Fatigue Test Data, Kelsi Engineering Inc., January 16, 1991

2.13 NRC SER Related to IST Program and Requests for Relief (Rev 6 through Change 1), Docket No. 50-382, dated March 1, 1991

2.14 NRC SER Related to IST Program and Requests for Relief (Rev 6, Change 2), Docket No. 50-382, dated May 3, 1990

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 The Waterford 3 Vice President - Operations is responsible for the approval of this Test Plan and any revisions made to it.

4.2 The General Manager Plant Operations is responsible for the approval of the test plan and any revisions made to it.

4.3 The Shift Technical Advisor (STA) Department is responsible for development of this plan and for overseeing its implementation as follows:

4.3.1 Defining pumps and valves within Section XI jurisdiction per Reference 2.1, 2.3 and 2.5.

4.3.2 Preparing relief requests for components which cannot be tested in accordance with Reference 2.1.

4.3.3 Ensuring that all implementing procedures are in accordance with this test plan.

4.3.4 Making changes to this plan to improve testing or incorporate station modifications.

4.4 Operational Licensing is responsible for transmitting Relief Requests and Plan revisions to the NRC and for obtaining NRC approval of Relief Requests which are outside the scope of Reference 2.8.

5.0 TEST PLAN

5.1 GENERAL

5.1.1 This Test Plan is written in accordance with Reference 2.4 and 2.8. References 2.5 and 2.6 were used for guidance in preparation of this plan. The Waterford 3 FSAR (Reference 2.2) and Plant Technical Specification 4.0.5 (Reference 2.3) reference this plan.

5.1.2 Reference 2.3 allows extending the testing intervals in accordance with Reference 2.11.

5.1.3 As a minimum, this plan will be reviewed and revised as necessary for compliance with the ASME Code in effect 12 months prior to the end of the first 120 months of commerical operation. Similarly, this plan will be reviewed and revised for each subsequent 120 month interval. Entergy Operations Inc. reserves the right to submit plan revisions which may enhance or improve this pump and valve testing plan at any time within the effective period. Guidelines for revising the plan are contained in Reference 2.7.

5.2 INSERVICE TESTING OF PUMPS

Attachment 6.1 contains the table entitled "Pumps for Inservice Testing" which describes the inservice testing plan for pumps subject to the requirements of subsection IWP of Reference 2.1. It provides identification of the pumps to be tested, the ASME Section III Code classes, drawing references, parameters to be measured and test intervals. Attachment 6.2 contains the hydraulic circuit used for the testing of each pump and the location and type of measurement for each of the required test quantities. Relief from the testing requirements of Section XI is requested from the NRC where full compliance with the requirement of the Code is not practical. In such cases, specific information is provided in Attachment 6.3 which identifies the applicable code requirements, justification for the relief request, and the testing to be used as an alternate. When the code-required testing is performed in an unusual or complicated manner, clarifications are included in Attachment 6.4 in order to explain how the requirements of Section XI are fulfilled.

5.3 INSERVICE TESTING OF VALVES

5.3.1 Attachment 6.5 contains the table entitled "Valves for Inservice Testing" which describes the inservice testing plan for valves subject to the requirements of subsection IWV of Reference 2.1. It provides the identification of the valves to be tested by system, valve code classes, drawing references, test categories, size, types, positions, function, test requirements, and any alternate testing. A legend of symbols is provided in Attachment 6.5. Relief from the testing requirements of Section XI is requested where full compliance with the requirements of the Code is not practical. In such cases, the table refers to a specific relief request number in Attachment 6.6 for the appropriate valves. The relief request provides specific information which identifies the applicable code requirements, justification for the relief request, and the testing to be used as an alternate. The design of Waterford 3 does not include any valves which would be classified as ASME Section XI Category D valves. When the code-required testing is performed in an unusual or complicated manner or justification for cold shutdown frequency is required, clarifications are included in Attachment 6.7 in order to explain how the requirements of Section XI are fulfilled.

5.3.2 Both normal and failure positions for valves are tabulated. When valves having fail-safe positions that are either closed or open are tested to those positions during the exercising tests, the normal test methods simulate operation of the valve on loss of actuator power. The normal test methods meet code requirements for fail-safe valve testing.

5.3.3 When valve disassembly is specified as an alternate test method, the valve grouping and test frequency is as specified in the applicable Relief Request. At each disassembly the valve inspection verifies that the disassembled valve is capable of full stroking and that the accessible internals of the valve are structurally sound. Disassembly is required only as far as necessary to assess the condition of the valve and to allow manually exercising of the disk. If the disassembled valve is not capable of being full stroke exercised or there is binding or failure of valve internals, the remaining valves in the group must also be disassembled, inspected, and manually full stroke exercised during the same outage.

5.3.4 When a valve is both partial stroke and full stroke exercised, the full stroke exercise may be used to fulfill the partial stroke requirement.

NOTE

Most valve numbers have only three numerical digits with a few valves having four. Typically, the four digit valves were added after the valves in that system had been given Unique Identification (UNID) numbers by LP&L. Since valves are numbered according to their relative location in the flow path, a newly-added valve is given a fourth digit which maintains the unique numbering system and also reflects relative flow path position. As an example, RC-3183 is situated between RC-318 and RC-3184.

6.0 ATTACHMENTS

6.1 Pumps for Inservice Testing

6.2 Pump Testing Flow Path

6.3 Requests for Relief from ASME Section XI Pump Testing Requirements

6.4 Clarification of Pump Testing Methods

6.5 Valves for Inservice Testing

6.6 Request for Relief from ASME Section XI Valve Testing Requirements

6.7 Clarification of Valve Testing Methods.

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARI-FICATIONS	REMARKS
Containment Spray A	2	LOU-1564-G-163	RAB,El-35.0' LOU-1564 G-137, E-10	1. Inlet Pressure (Pi)	Quarterly	-	
				2. Outlet Pressure (Po)	Quarterly	-	
Containment Spray B	2	G-163	RAB,El-35.0' LOU-1564 G-137, D-10	3. Differential Pressure ($\Delta P = Po - Pi$)	Quarterly	-	
				4. Flow Rate	Quarterly	-	
				5. Vibration Amplitude	Quarterly	2.1.6	
				6. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Not Applicable	-	

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARI-FICATIONS	REMARKS
High-Pressure Safety Injection A	2	LOU-1564-G-167 Sheet 1	RAB,El-35.0' Lou-1564 G-137, E-10	1. Inlet Pressure (Pi)	Quarterly	-	
				2. Outlet Pressure (Po)	Quarterly	-	
High-Pressure Safety Injection B	2	G-167 Sheet 1	RAB,El-35.0' Lou-1564 G-137, D-10	3. Differential Pressure ($\Delta P = Po - Pi$)	Quarterly	-	
				4. Flow Rate	Quarterly	-	
High-Pressure Safety Injection A/B	2	G-167 Sheet 1	RAB,El-35.0' Lou-1564 G-137, E-8	5. Vibration Amplitude	Quarterly	2.1.6	
				6. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Not Applicable	-	

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARI-FICATIONS	REMARKS
Low-Pressure Safety Injection A	2	LOU-1564-G-167 Sheet 3	RAB,E1-35.0' Lou-1564 G-137, E-11	1. Inlet Pressure (Pi)	Quarterly	-	
				2. Outlet Pressure (Po)	Quarterly	-	
Low-Pressure Safety Injection B	2	G-167 Sheet 3	RAB,E1-35.0' Lou-1564 G-137, D-11	3. Differential Pressure ($\Delta P = Po - Pi$)	Quarterly	-	
				4. Flow Rate	Quarterly	-	
				5. Vibration Amplitude	Quarterly	2.1.6	
				5. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Not Applicable	-	

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARI-FICATIONS	REMARKS
Component Cooling Water A	3	LOU-1564-G-160 Sheet 2	RAB,El+21.0' Lou-1564 G-135, C-6	1. Inlet Pressure (Pi)	Quarterly	-	
				2. Outlet Pressure (Po)	Quarterly	-	
Component Cooling Water B	3	G-160 Sheet 2	RAB,El+21.0' LOU-1564 G-135, C-9	3. Differential Pressure ($\Delta P = Po - Pi$)	Quarterly	-	
				4. Flow Rate	Quarterly	-	
Component Cooling Water A/B	3	G-160 Sheet 2	RAB,El+21.0' LOU-1564 G-135, C-8	5. Vibration Amplitude	Quarterly	2.1.6	
				6. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Not Applicable	-	

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARI-FICATIONS	REMARKS
Auxiliary Component Cooling Water A	3	LOU-1564-G-160 Sheet 2	RAB,El-35.0' LOU-1564 G-145, H-3	1. Inlet Pressure (Pi)	Quarterly	-	
				2. Outlet Pressure (Po)	Quarterly	-	
Auxiliary Component Cooling Water B	3	G-160 Sheet 2	RAB,El-35.0' LOU-1564 G-145, H-15	3. Differential Pressure ($\Delta P = Po - Pi$)	Quarterly	-	
				4. Flow Rate	Quarterly	-	
				5. Vibration Amplitude	Quarterly	2.1.6	
				6. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Not Applicable	-	

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARI-FICATIONS	REMARKS
Emergency Generator Fuel (EGF) Oil Trf Pump A	3	LOU-1564-G-164 Sheet 1	RAB, EL -4.0' LOU-1564-G-145 L-1	1. Inlet Pressure (Pi)	Quarterly	-	
				2. Outlet Pressure (Po)	Quarterly	-	
				3. Differential Pressure (ΔP = Po - Pi)	Quarterly	-	
Emergency Generator Fuel (EGF) Oil Trf Pump B	3	LOU-1564 G-164 Sheet 1	RAB, EL -4.0' LOU-1564-G-145 L-16	4. Flow Rate	Quarterly	-	
				5. Vibration Amplitude	Quarterly	2.1.6	
				6. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Not Applicable	-	

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARI-FICATIONS	REMARKS
Emergency Feedwater A (Motor-Driven)	3	LOU-1564-G-153 Sheet 4	RAB,E1-35.0' LOU-1564 G-137, F-7	1. Inlet Pressure (Pi)	Quarterly	2.1.3	
				2. Outlet Pressure (Po)	Quarterly	2.1.3	
Emergency Feedwater B (Motor-Driven)	3	G-153 Sheet 4	RAB,E1-35.0' LOU-1564 G-137, E-7	3. Differential Pressure (ΔP = Po - Pi)	Quarterly	2.1.3	
				4. Flow Rate	Quarterly	2.1.3	
Emergency Feedwater A/B (Turbine Driven)	3	G-153 Sheet 4	RAB, E1-35.0' LOU-1564 G-137, C5	5. Vibration Amplitude	Quarterly	2.1.6	
				6. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Quarterly for A/B Pump Only	-	

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARI-FICATIONS	REMARKS
Charging A	2	LOU-1564-G-168 Sheet 2	RAB,El-30.0' LOU-1564 G-137, F-1	1. Inlet Pressure (Pi)	Quarterly	2.1.1	
				2. Outlet Pressure (Po)	Quarterly	2.1.1	
Charging B	2	G-168 Sheet 2	RAB,El-30.0' LOU-1564 G-137, F-4	3. Differential Pressure (ΔP = Po - Pi)	Quarterly	2.1.1	
				4. Flow Rate	Quarterly	2.1.2, 2.1.1	
Charging A/B	2	G-168 Sheet 2	RAB,El-30.0' LOU-1564 G-137, F-3	5. Vibration Amplitude	Quarterly	-	
				6. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Not Applicable	-	

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

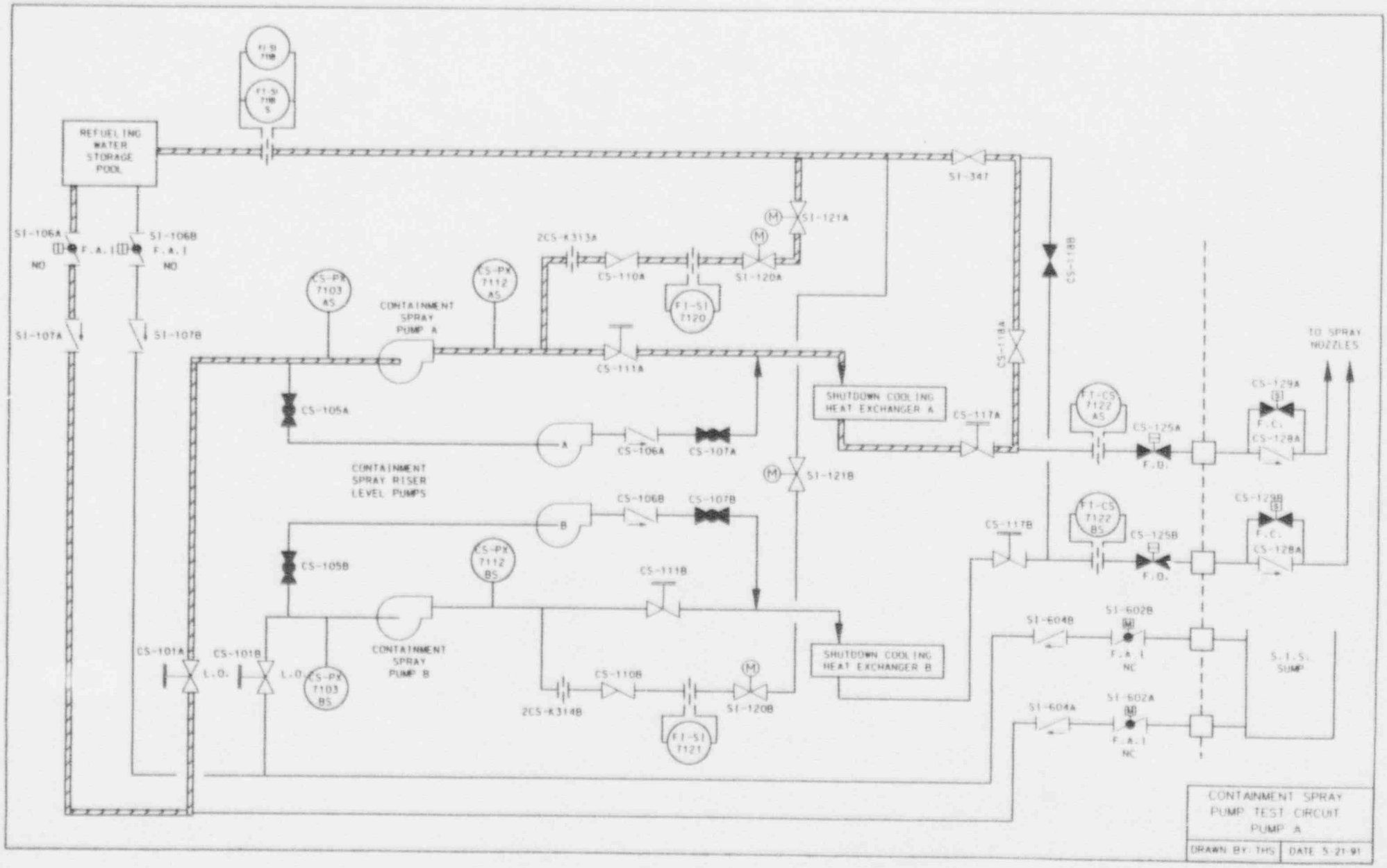
PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARI-FICATIONS	REMARKS
Boric Acid A	3	LOU-1564-G-168 Sheet 3	RAB,El-35.0' LOU-1564 G-137, H-6	1. Inlet Pressure (Pi)	Quarterly	-	
				2. Outlet Pressure (Po)	Quarterly	-	
Boric Acid B	3	G-168 Sheet 3	RAB,El-35.0' LOU-1564 G-137, H-6	3. Differential Pressure ($\Delta P = Po - Pi$)	Quarterly	-	
				4. Flow Rate	Quarterly	-	
				5. Vibration Amplitude	Quarterly	2.1.6	
				6. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Not Applicable	-	

PUMPS FOR INSERVICE TESTING

WATERFORD 3 S.E.S.

PUMP IDENTIFICATION	ASME CODE CLASS	FLOW DIAGRAM/ SHEET NUMBER	LOCATION ON GENERAL ARRANGEMENT	MEASURED PARAMETERS	TEST INTERVAL	RELIEF REQUESTS/ CLARIFICATIONS	REMARKS
Chilled Water A	3	LOU-1564-G-853 SO3	RAB,El+46.0' LOU-1564 G-134, E-3	1. Inlet Pressure (Pi)	Quarterly	-	
				2. Outlet Pressure (Po)	Quarterly	-	
Chilled Water B	3	G-853 SO3	RAB,El+46.0' LOU-1564 G-134, D-3	3. Differential Pressure (ΔP = Po - Pi)	Quarterly	-	
				4. Flow Rate	Quarterly	-	
Chilled Water A/B	3	G-853 SO3	RAB,El+46.0' LOU-1564 G-134, E-2	5. Vibration Amplitude	Quarterly	2.1.6	
				6. Bearing Temperature	Annually	2.1.5	
				7. Lubricant Level or Pressure	Observe Quarterly	-	
				8. Speed	Not Applicable	-	

Attachment 6.1 (10 of 10)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SI-106A
SI-106B
F.A.I
NO
SI-107A
SI-107B
CS-PX 7103 AS
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CS-PX 7112 AS
2CS-K313A
CS-110A
FI-SI 7120
SI-120A
SI-121A
SI-347
CS-118B
CS-118A
TO SPRAY NOZZLES
CS-105A
CS-111A
SHUTDOWN COOLING HEAT EXCHANGER A
CS-117A
FT-CS 7122 AS
CS-125A
F.O.
CS-129A
F.C.
CS-128A
CS-106A
CS-107A
SI-121B
CONTAINMENT SPRAY RISER LEVEL PUMPS
CS-106B
CS-107B
CS-117B
FT-CS 7122 BS
CS-125B
CS-129B
CS-105B
CS-PX 7112 BS
CS-111B
SI-604B
SI-602B
CS-101A
CS-101B
L.O.
CS-PX 7103 BS
CONTAINMENT SPRAY PUMP B
CS-110B
2CS-K314B
SI-120B
SHUTDOWN COOLING HEAT EXCHANGER B
F.A.I
NC
S.I.S. SUMP
SI-604A
SI-602A
FI-SI 7121
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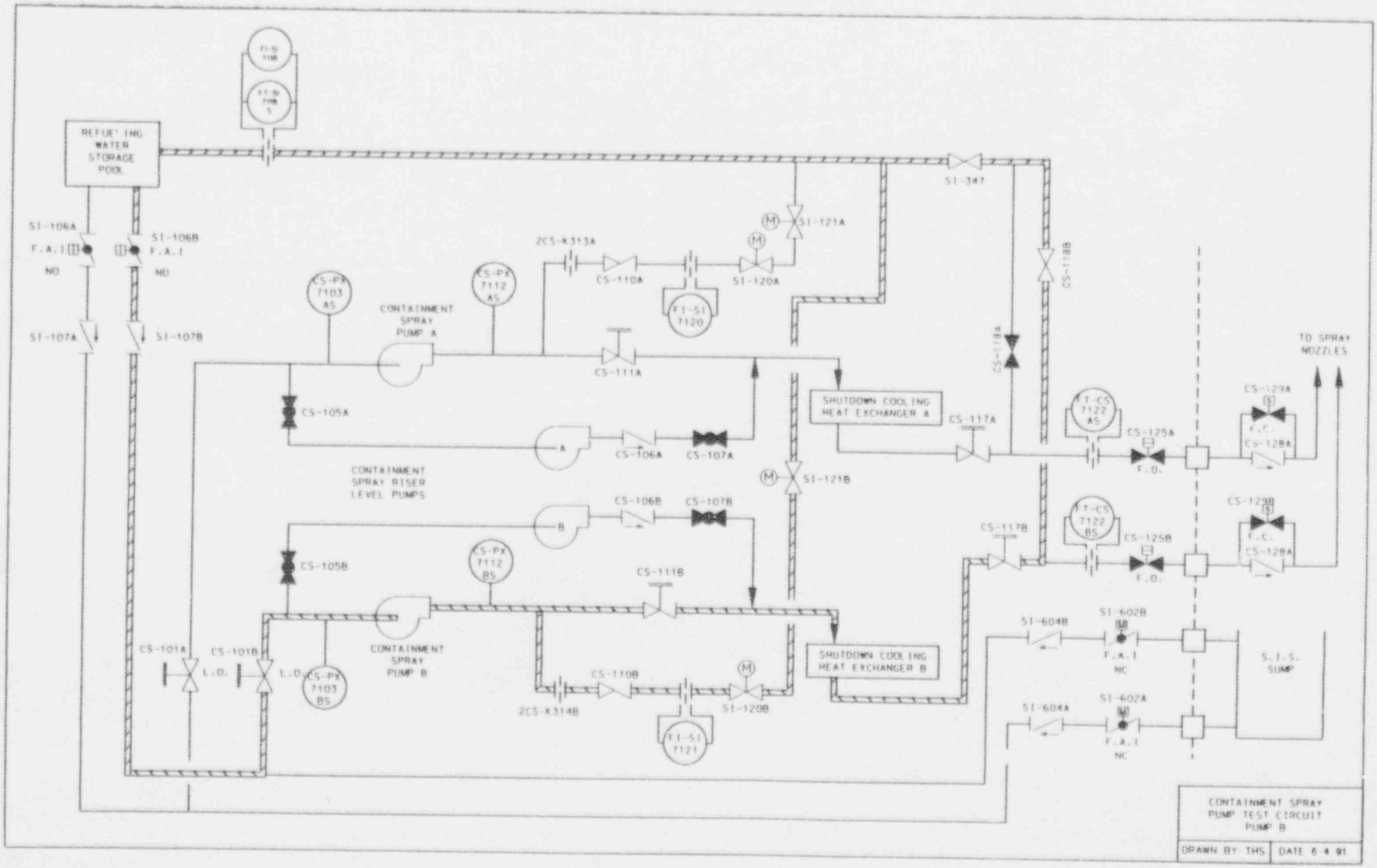
DRAWN BY: THS
DATE 5-21-91


REFUELING WATER STORAGE POOL
SI-106A
F.A.I
NO
SI-106B
F.A.I
NO
SI-107A
SI-107B
CS-PX 7103 AS
CS-PX 7112 AS
CONTAINMENT SPRAY PUMP A
2CS-K313A
CS-110A
FI-SI 7120
SI-120A
SI-121A
SI-347
CS-118B
CS-111A
CS-105A
CS-106A
CS-107A
CONTAINMENT SPRAY RISER LEVEL PUMPS
SHUTDOWN COOLING HEAT EXCHANGER A
CS-117A
FT-CS 7122 AS
CS-125A
F.O.
CS-129A
F.C.
CS-128A
TO SPRAY NOZZLES
SI-121B
CS-106B
CS-107B
CS-105B
CS-PX 7112 BS
CS-111B
CS-117B
FT-CS 7122 BS
CS-125B
F.O.
CS-129B
F.C.
CS-128B
CS-101A
CS-101B
L.O.
L.O.
CS-PX 7103 BS
CONTAINMENT SPRAY PUMP B
2CS-K314B
CS-110B
SI-120B
FI-SI 7121
SHUTDOWN COOLING HEAT EXCHANGER B
SI-604B
SI-602B
F.A.I
NC
S.I.S. SUMP
SI-604A
SI-602A
F.A.I
NC
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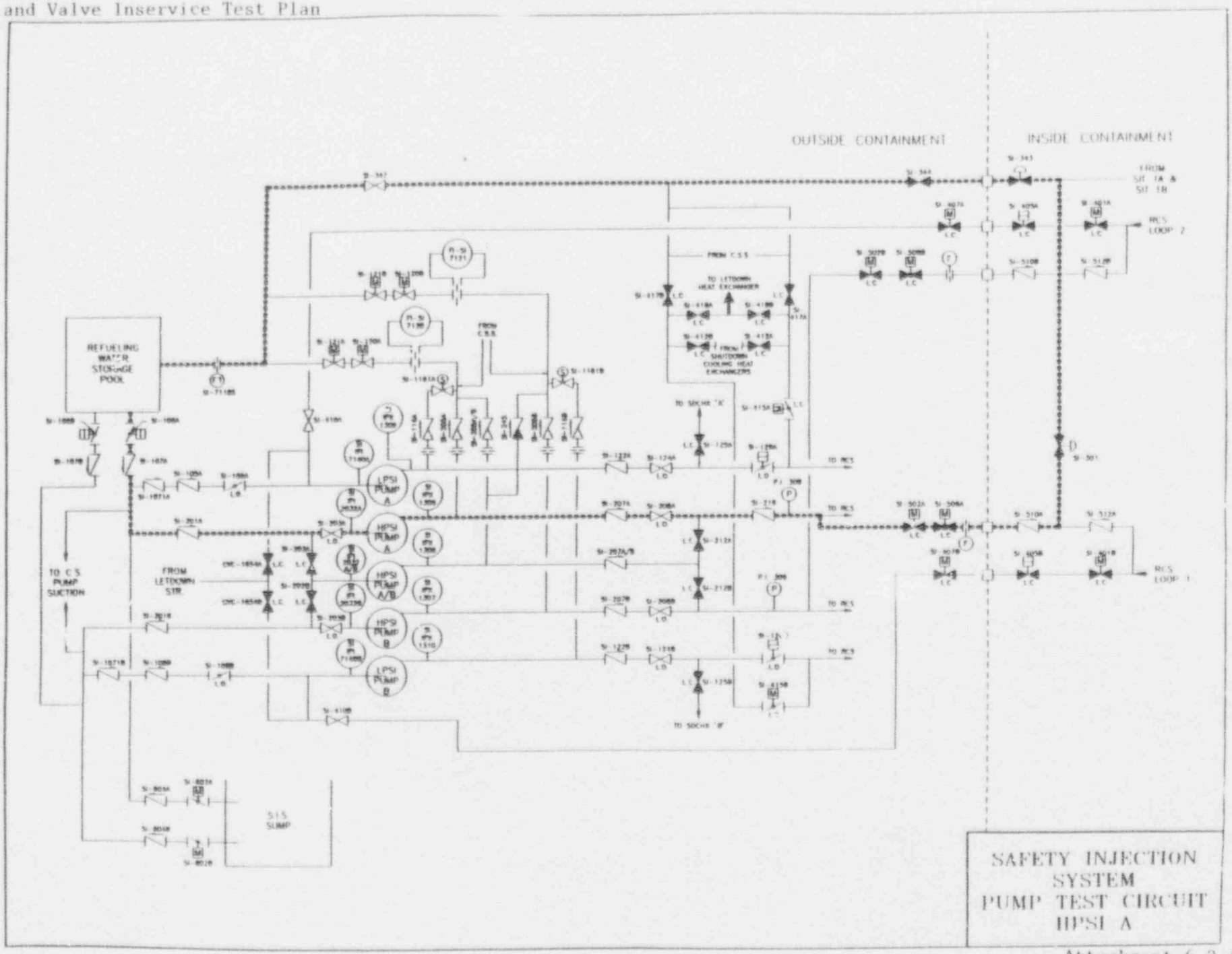
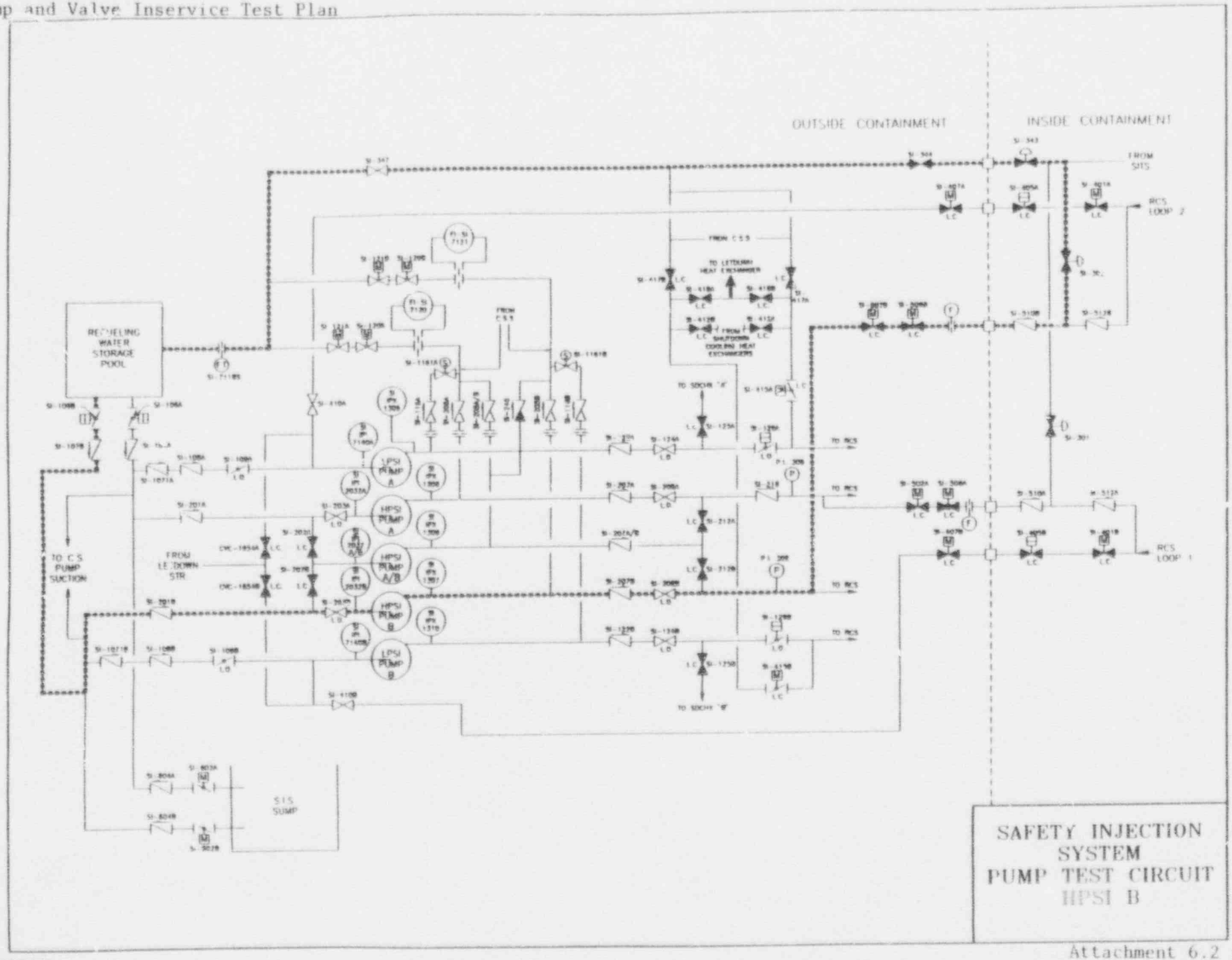
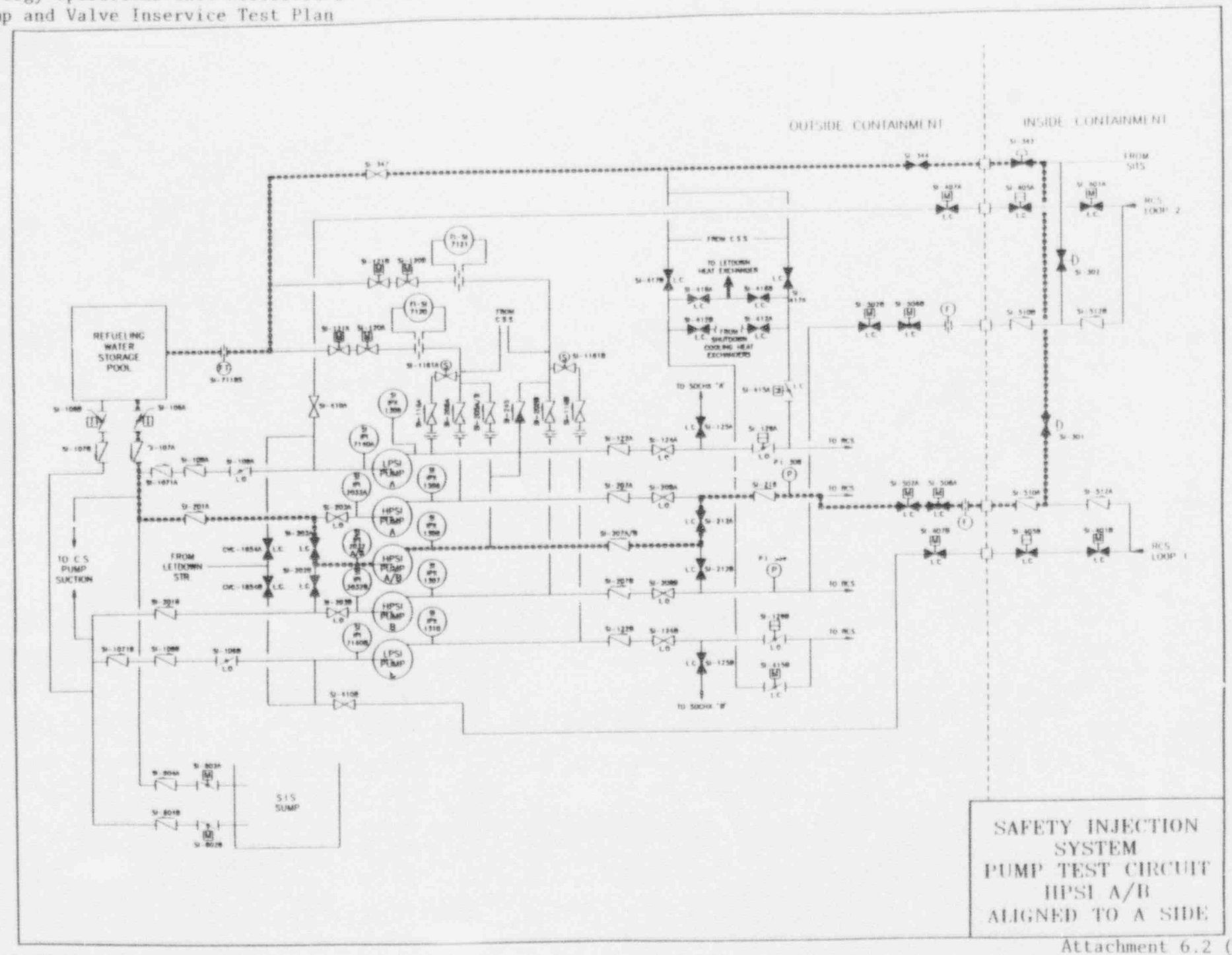
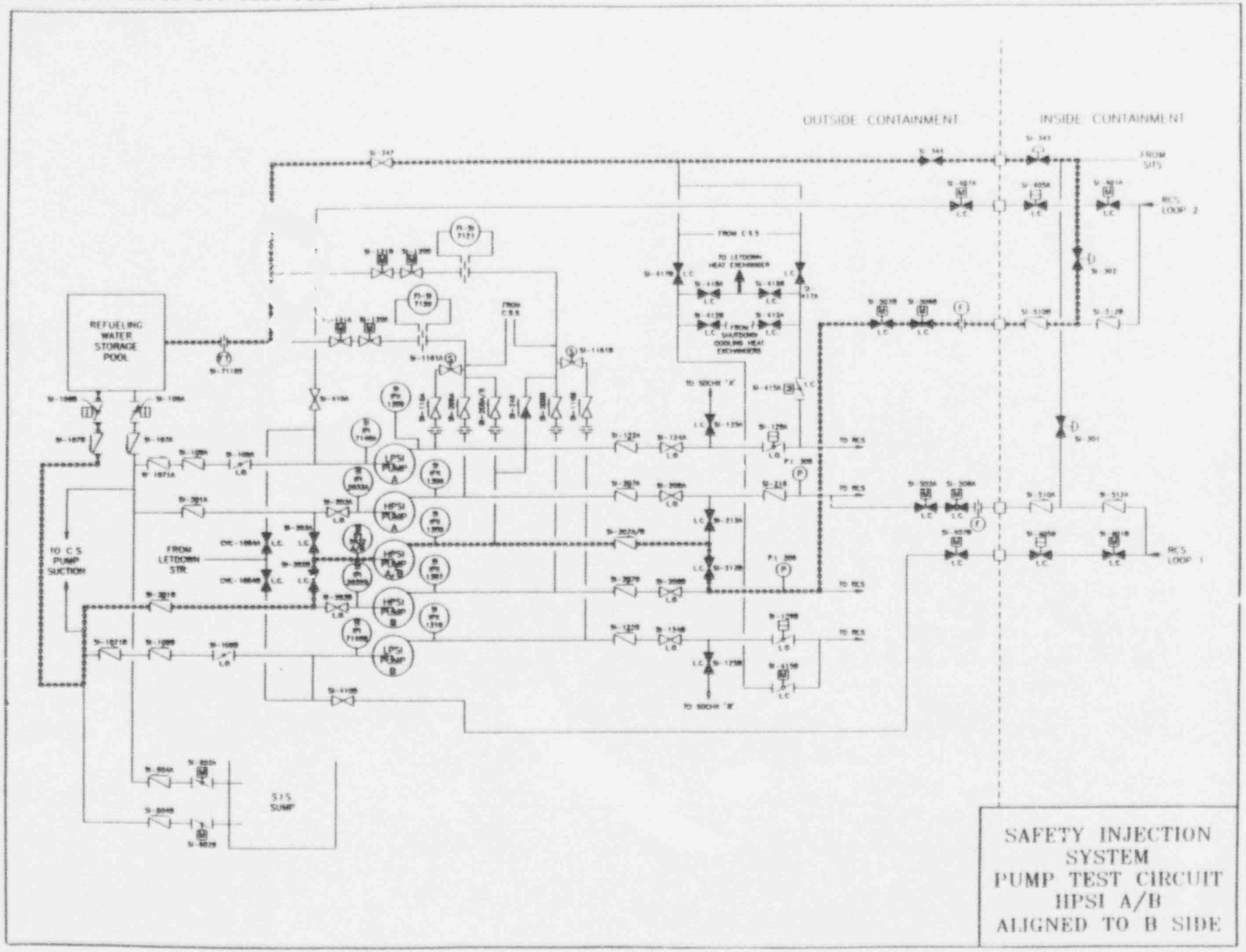
DRAWN BY THS
DATE 6 4 91



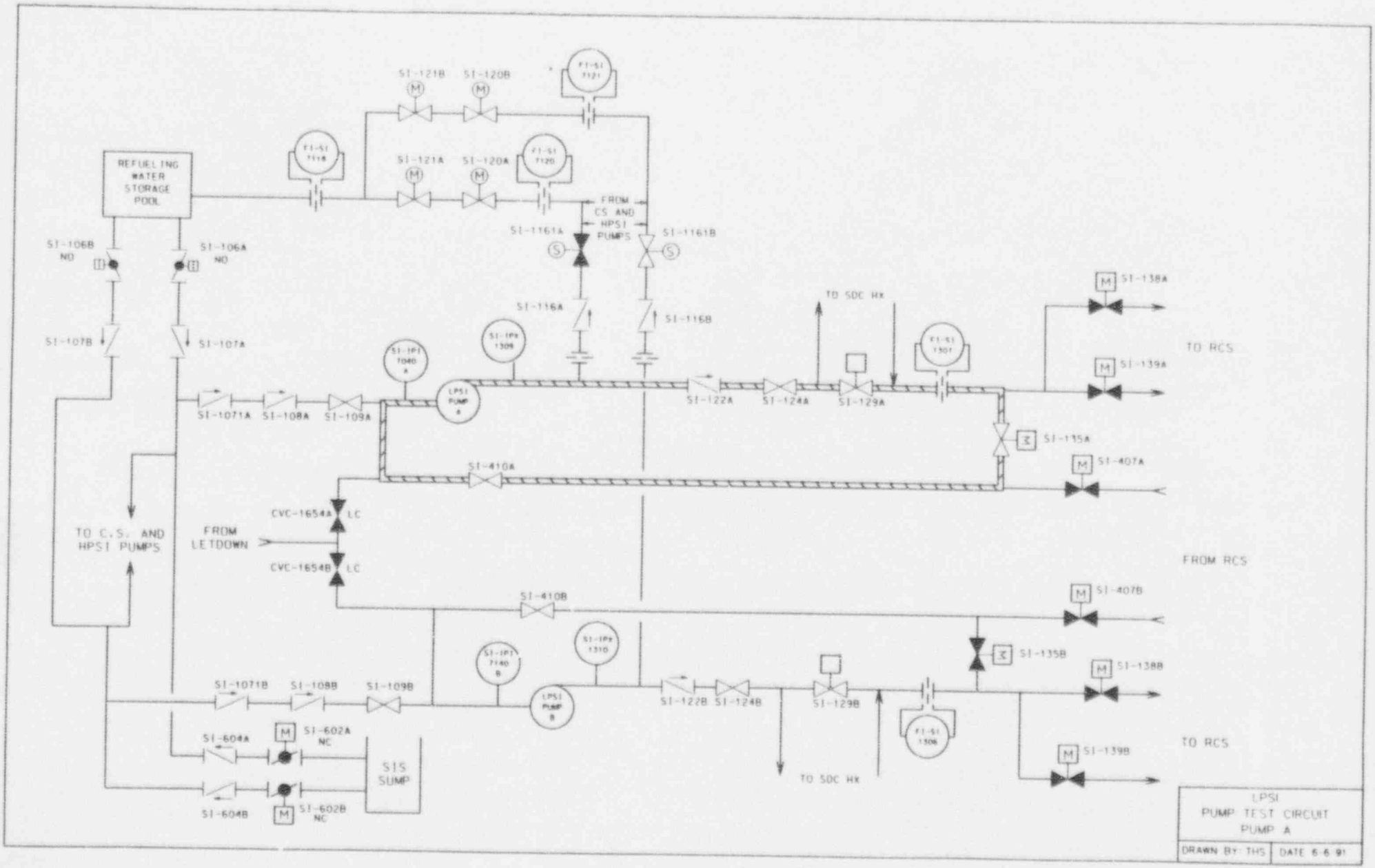
Attachment 6.2 (3 of 26)

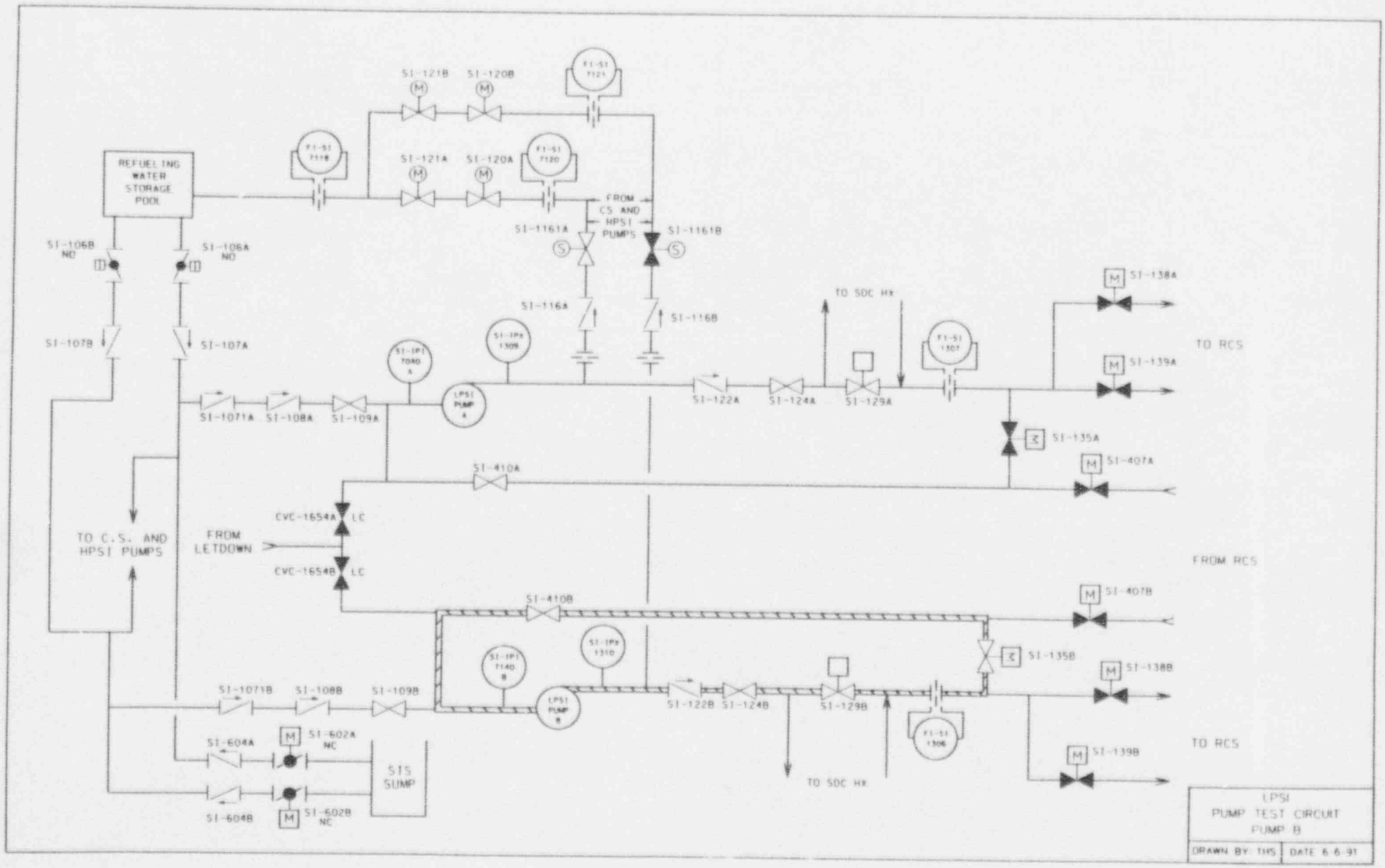

OUTSIDE CONTAINMENT
INSIDE CONTAINMENT
REFUELING WATER STORAGE POOL
TO C S PUMP SUCTION
FROM LETDOWN STR
FROM SITS
RCS LOOP 2
RCS LOOP 1
TO RCS
TO SDCHX "A"
TO SDCHX "B"
FROM C S S
TO LETDOWN HEAT EXCHANGER
FROM SHUTDOWN COOLING HEAT EXCHANGERS
LPSI Pump A
HPSI Pump A
HPSI Pump A/B
HPSI Pump B
LPSI Pump B
SIS SUMP
SAFETY INJECTION SYSTEM
PUMP TEST CIRCUIT
HPSI B

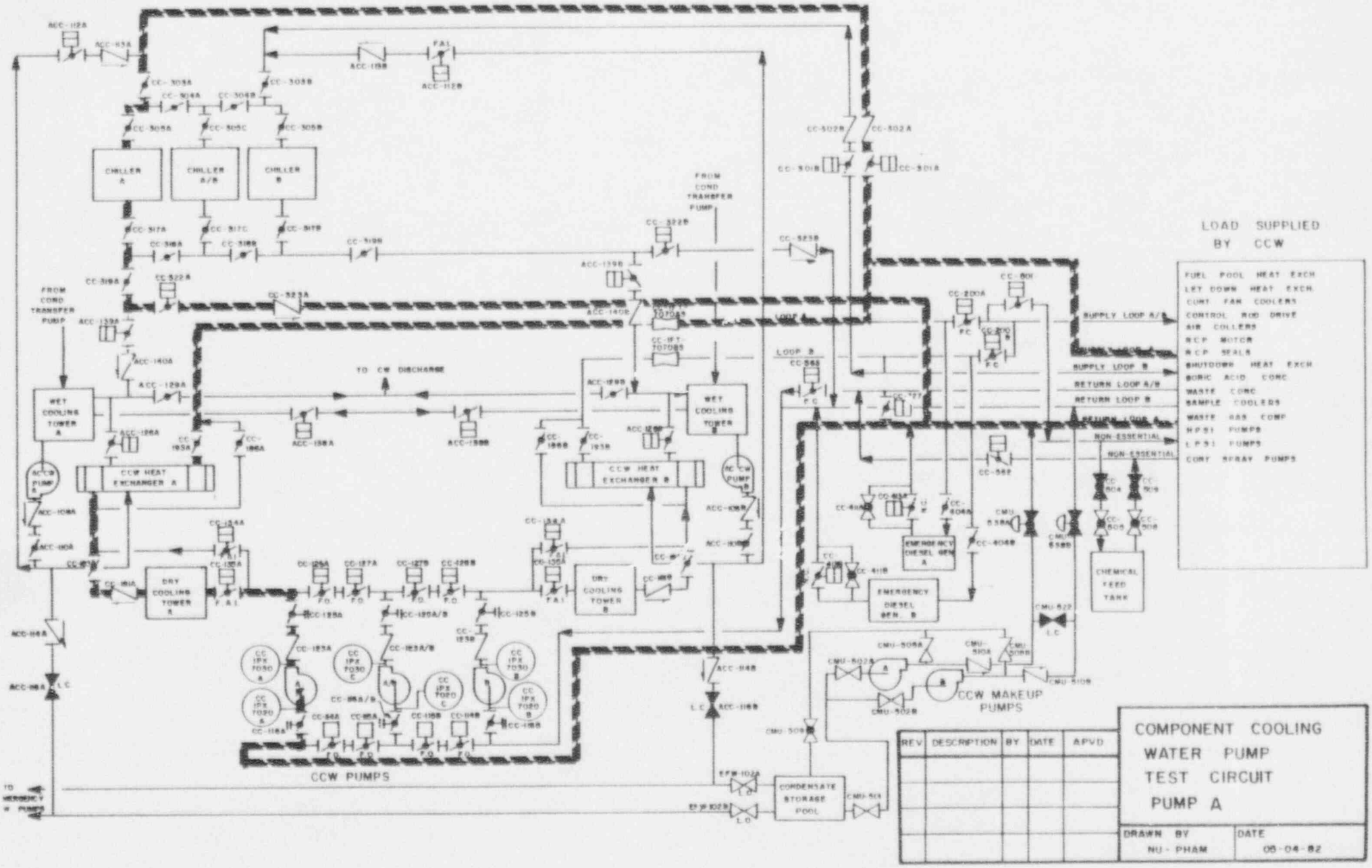

OUTSIDE CONTAINMENT
INSIDE CONTAINMENT
REFUELING WATER STORAGE POOL
TO C S PUMP SUCTION
FROM LETDOWN STR
FROM C S S
TO LETDOWN HEAT EXCHANGER
FROM SHUTDOWN COOLING HEAT EXCHANGERS
FROM SIS
TO SDCHX "A"
TO SDCHX "B"
TO RCS
RCS LOOP 2
RCS LOOP 1
SIS SUMP
SAFETY INJECTION SYSTEM
PUMP TEST CIRCUIT
HPSI A/B
ALIGNED TO A SIDE

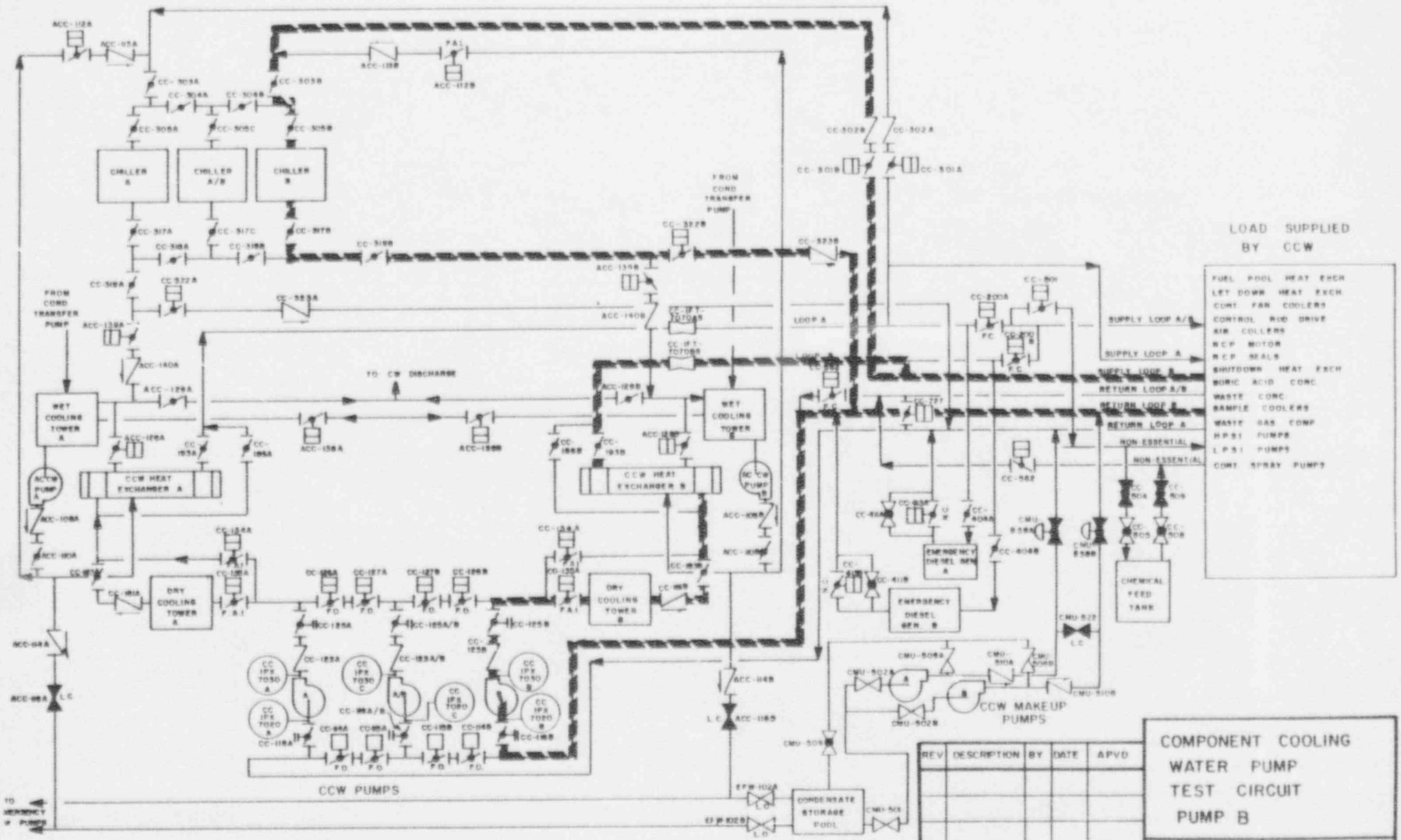


Attachment 6.2 (6 of 26)

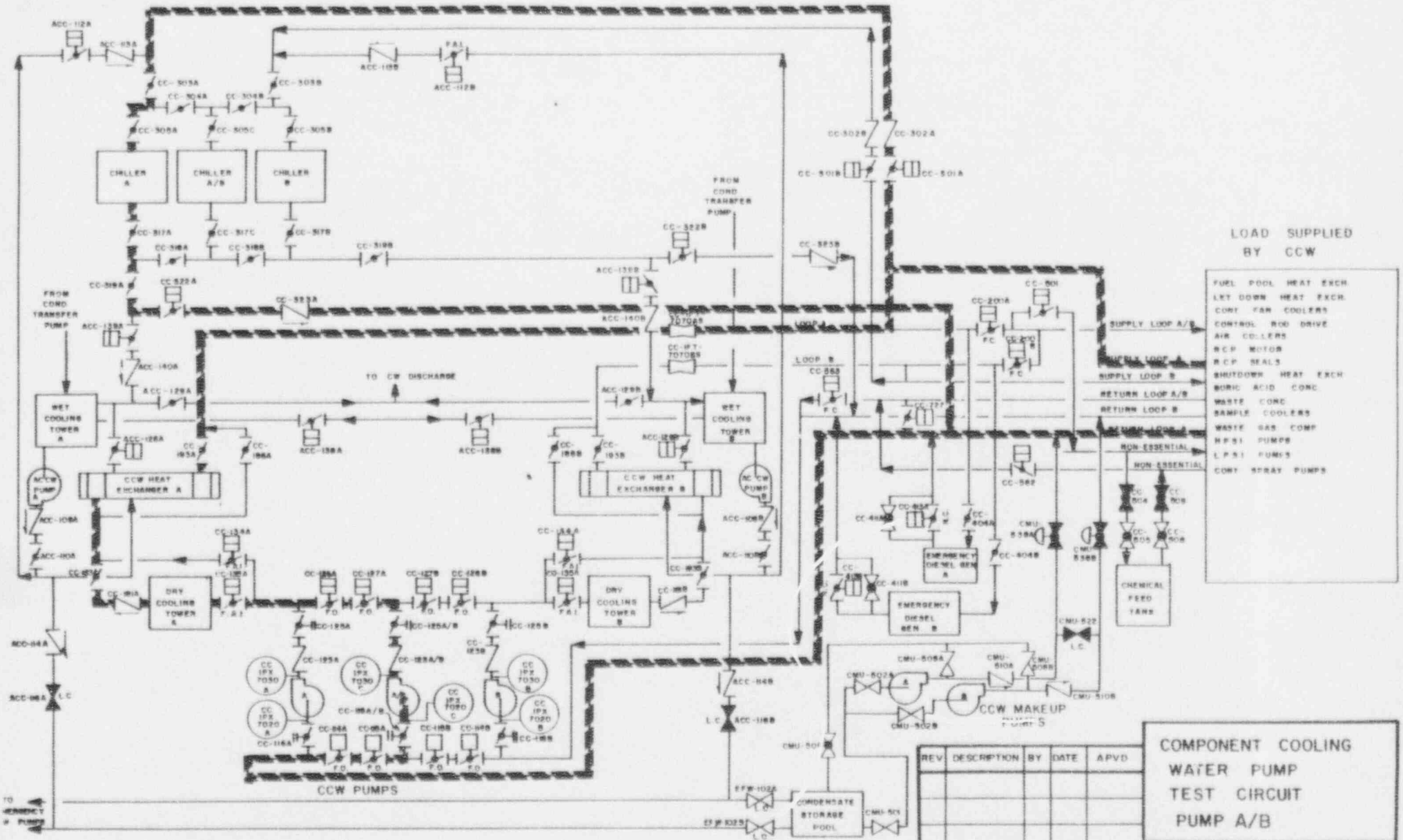

REFUELING WATER STORAGE POOL
SI-121B
SI-120B
SI-121A
SI-120A
FI-SI 1121
FI-SI 1119
FI-SI 1120
FROM CS AND HPSI PUMPS
SI-1161A
SI-1161B
SI-106B NO
SI-106A NO
SI-116A
SI-116B
TO SDC Hx
SI-138A
TO RCS
SI-139A
SI-107B
SI-107A
SI-1PT 7040 A
SI-1PX 1309
FI-SI 1301
LPSI PUMP A
SI-122A
SI-124A
SI-129A
SI-135A
SI-407A
SI-1071A
SI-108A
SI-109A
SI-410A
CVC-1654A LC
FROM LETDOWN
CVC-1654B LC
TO C.S. AND HPSI PUMPS
FROM RCS
SI-410B
SI-407B
SI-135B
SI-138B
SI-1PT 7140 B
SI-1PX 1310
SI-1071B
SI-108B
SI-109B
LPSI PUMP B
SI-122B
SI-124B
SI-129B
FI-SI 1306
SI-604A
SI-602A NC
SIS SUMP
TO RCS
SI-139B
TO SDC Hx
SI-604B
SI-602B NC
LPSI
PUMP TEST CIRCUIT
PUMP A
DRAWN BY: THS
DATE 6 6 91


SI-121B
SI-120B
FI-SI 7121
FI-SI 7118
SI-121A
SI-120A
FI-SI 7120
REFUELING WATER STORAGE POOL
FROM CS AND HPSI PUMPS
SI-1161A
SI-1161B
SI-106B NO
SI-106A NO
SI-116A
SI-116B
TO SDC HX
SI-138A
SI-107B
SI-107A
SI-IPI 7040 A
SI-IPx 1309
FI-SI 1307
TO RCS
SI-139A
LPSI PUMP A
SI-122A
SI-124A
SI-129A
SI-135A
SI-1071A
SI-108A
SI-109A
SI-407A
SI-410A
CVC-1654A LC
FROM LETDOWN
CVC-1654B LC
TO C.S. AND HPSI PUMPS
FROM RCS
SI-407B
SI-410B
SI-IPx 1310
SI-IPI 7140 B
SI-135B
SI-138B
SI-1071B
SI-108B
SI-109B
LPSI PUMP B
SI-122B
SI-124B
SI-129B
FI-SI 1306
TO RCS
SI-604A
SI-602A NC
SIS SUMP
SI-139B
TO SDC HX
SI-604B
SI-602B NC
LPSI
PUMP TEST CIRCUIT
PUMP B
DRAWN BY: TMS
DATE 6-6-91

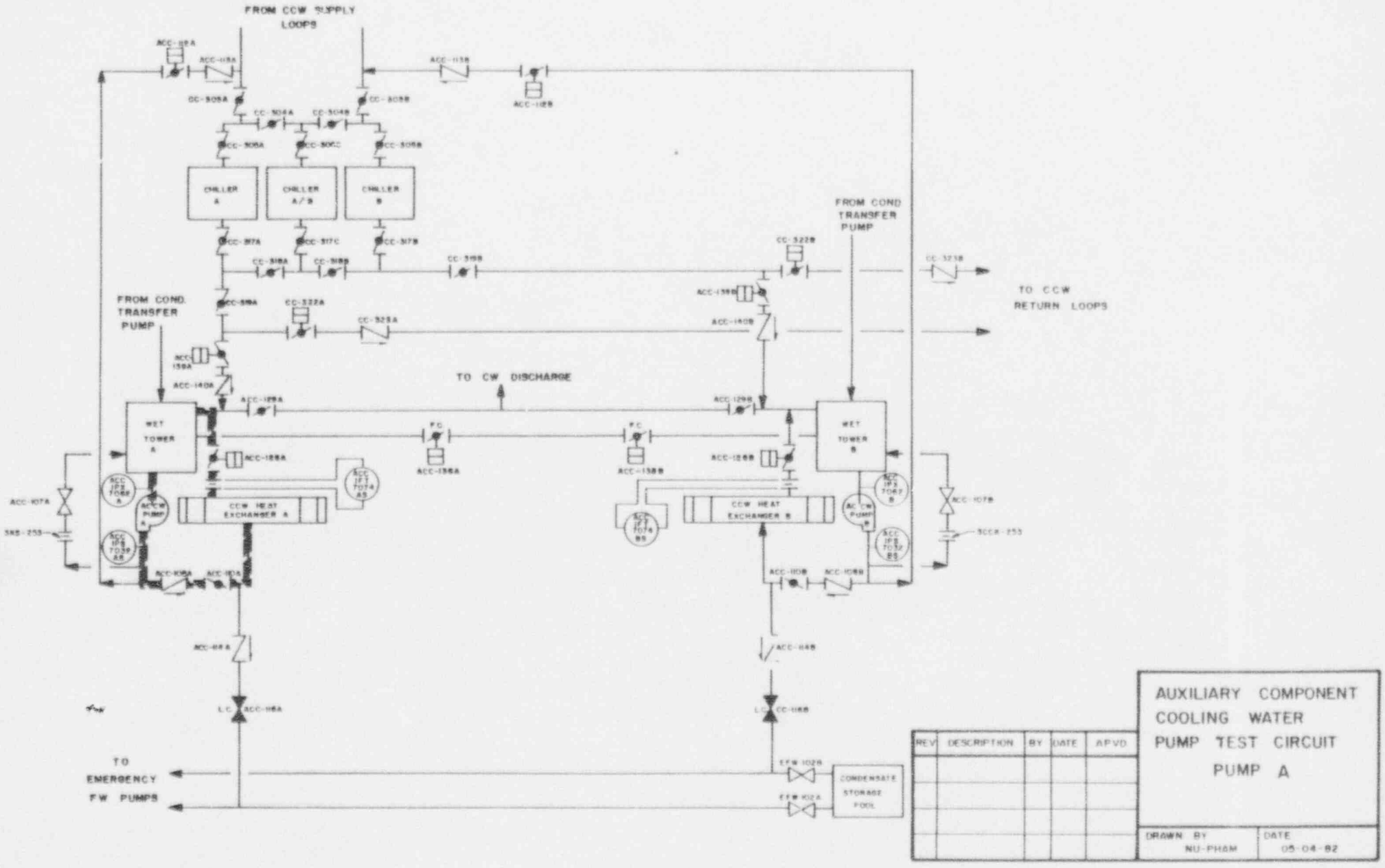

LOAD SUPPLIED BY CCW
FUEL POOL HEAT EXCH
LET DOWN HEAT EXCH
CONT FAN COOLERS
CONTROL ROD DRIVE
AIR COLLERS
RCP MOTOR
RCP SEALS
SHUTDOWN HEAT EXCH
BORIC ACID CONC
WASTE CONC
SAMPLE COOLERS
WASTE GAS COMP
HPSI PUMPS
LPSI PUMPS
CONT SPRAY PUMPS
CCW PUMPS
CCW MAKEUP PUMPS
COMPONENT COOLING WATER PUMP TEST CIRCUIT PUMP A
REV
DESCRIPTION
BY
DATE
APVD
DRAWN BY
NU - PHAM
DATE
06-04-82

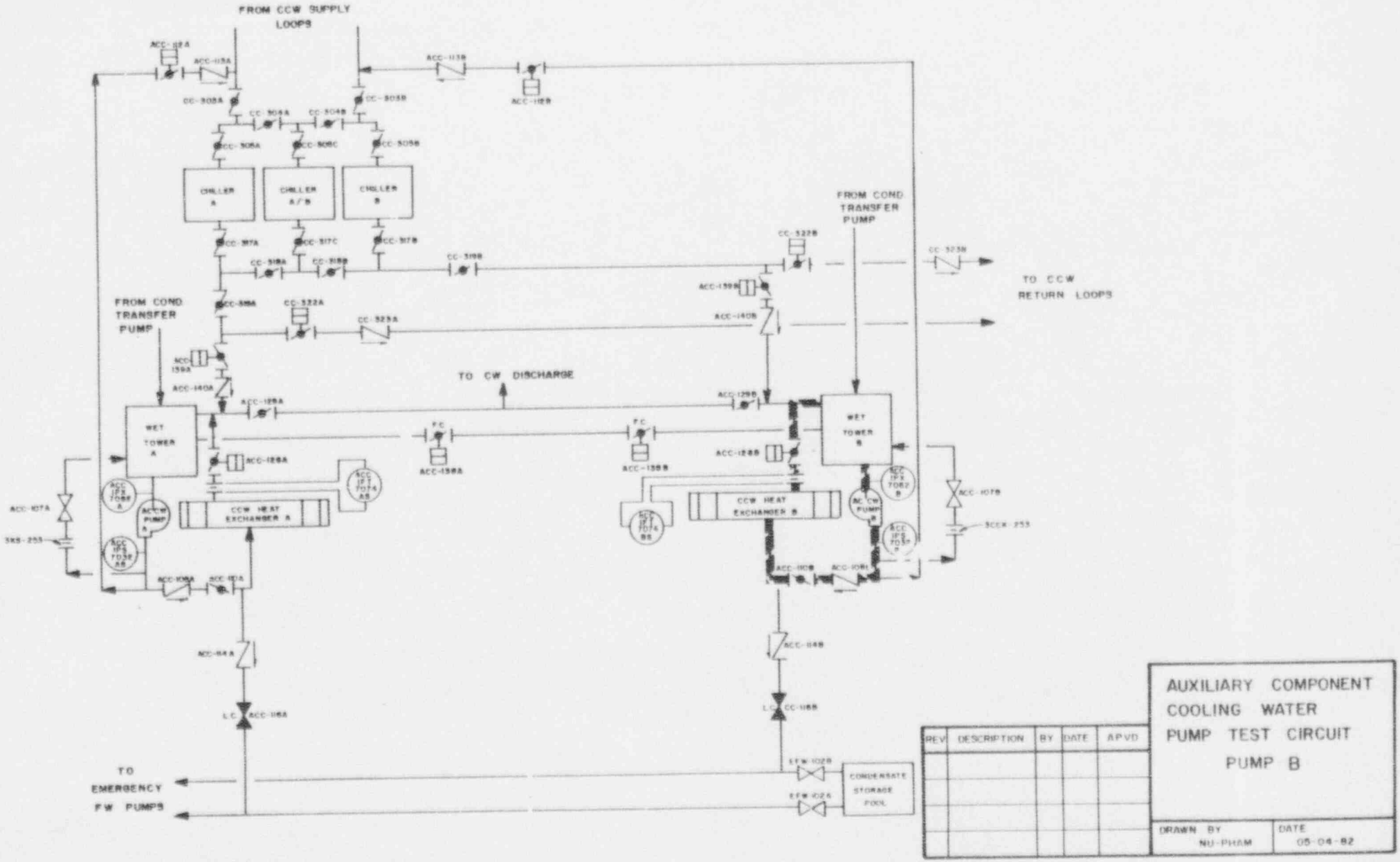


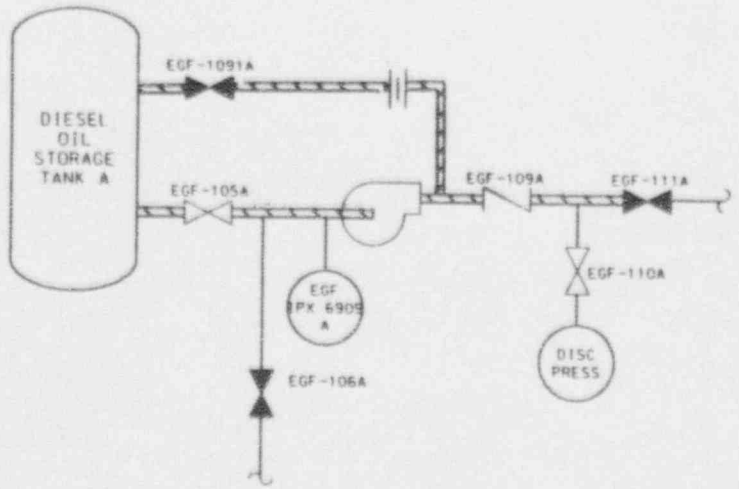
Attachment 6.2 (10 of 26)



Attachment 6.2 (11 of 26)

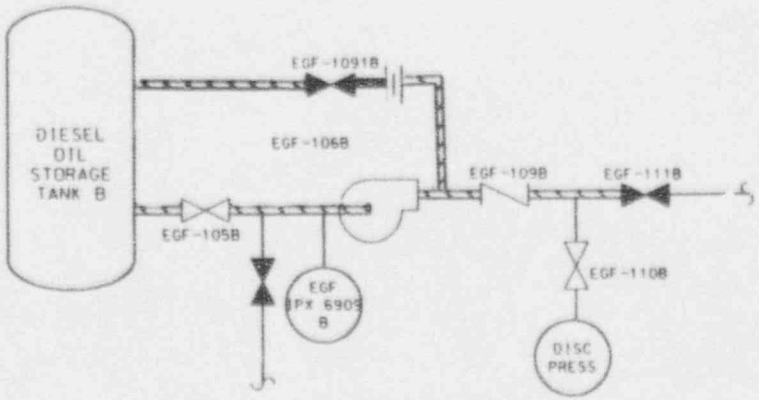

FROM CCW SUPPLY LOOPS
CHILLER A
CHILLER A/B
CHILLER B
FROM COND TRANSFER PUMP
FROM COND. TRANSFER PUMP
TO CCW RETURN LOOPS
TO CW DISCHARGE
WET TOWER A
WET TOWER B
CCW HEAT EXCHANGER A
CCW HEAT EXCHANGER B
ACC-P1A
ACC-P1B
TO EMERGENCY FW PUMPS
CONDENSATE STORAGE POOL
AUXILIARY COMPONENT COOLING WATER PUMP TEST CIRCUIT PUMP A
REV
DESCRIPTION
BY
DATE
APVD
DRAWN BY NU-PHAM
DATE 05-04-92


FROM CCW SUPPLY LOOPS
CHILLER A
CHILLER A/B
CHILLER B
FROM COND TRANSFER PUMP
TO CCW RETURN LOOPS
FROM COND TRANSFER PUMP
TO CW DISCHARGE
WET TOWER A
WET TOWER B
CCW HEAT EXCHANGER A
CCW HEAT EXCHANGER B
TO EMERGENCY FW PUMPS
CONDENSATE STORAGE POOL
AUXILIARY COMPONENT COOLING WATER PUMP TEST CIRCUIT PUMP B
REV
DESCRIPTION
BY
DATE
APVD
DRAWN BY NU-PHAM
DATE 05-04-82



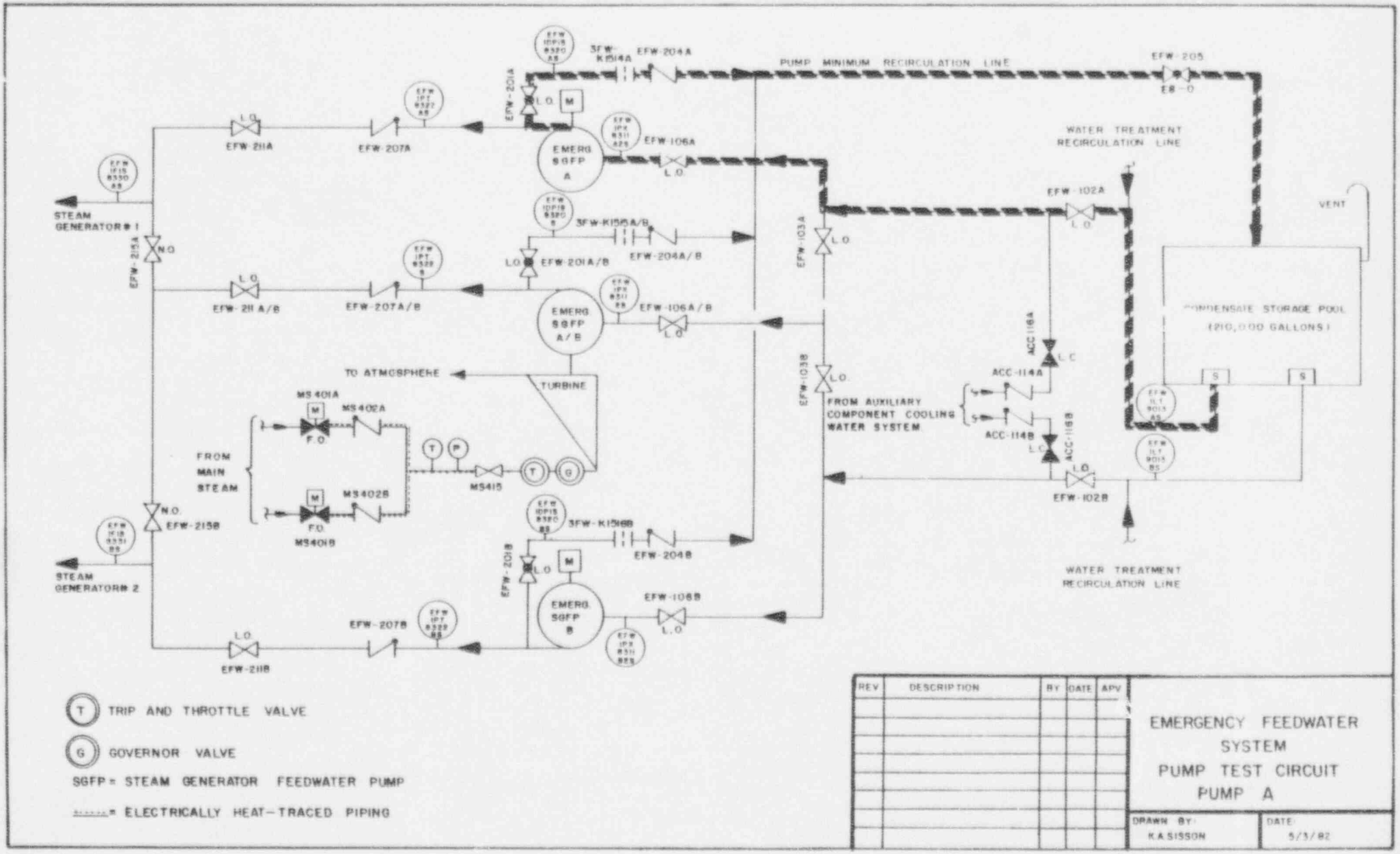
DIESEL OIL TRANSFER PUMP TEST CIRCUIT A

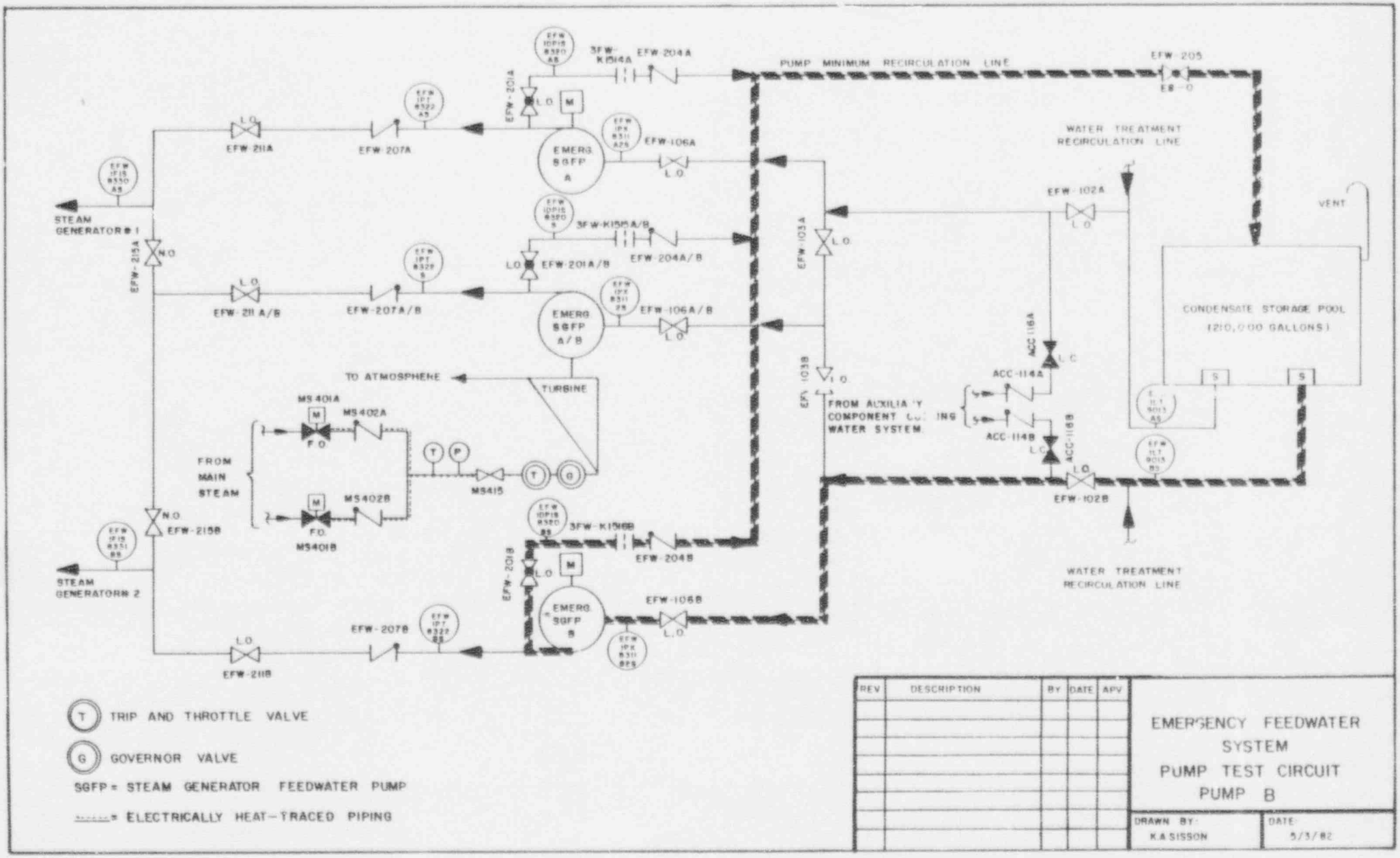
DRAWN BY: THS | DATE: 5-17-91

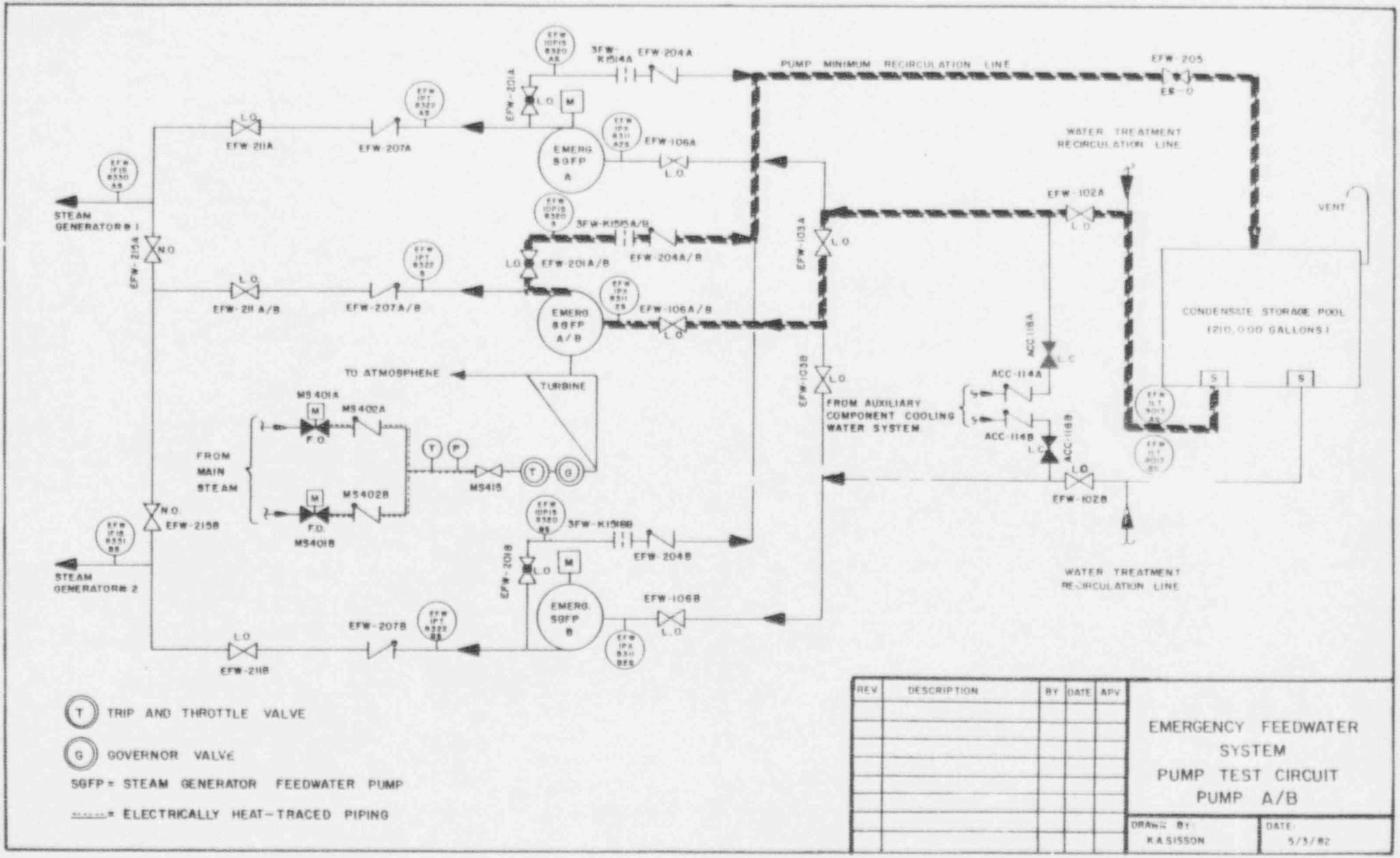


DIESEL OIL TRANSFER PUMP TEST CIRCUIT B

DRAWN BY: THS	DATE 5-17-91


PUMP MINIMUM RECIRCULATION LINE
EFW-205
EFW-204A
3FW-K154A
EFW-201A
EFW-211A
EFW-207A
EMERG. SGFP A
EFW-106A
WATER TREATMENT RECIRCULATION LINE
EFW-102A
VENT
STEAM GENERATOR # 1
EFW-215A
3FW-K156A/B
EFW-204A/B
EFW-201A/B
EFW-103A
EFW-211A/B
EFW-207A/B
EMERG. SGFP A/B
EFW-106A/B
CONDENSATE STORAGE POOL (210,000 GALLONS)
TO ATMOSPHERE
TURBINE
EFW-103B
ACC-114A
ACC-116A
FROM AUXILIARY COMPONENT COOLING WATER SYSTEM
ACC-114B
ACC-116B
MS401A
MS402A
FROM MAIN STEAM
MS415
EFW-102B
MS402B
MS401B
EFW-215B
3FW-K156B
EFW-204B
EFW-201B
STEAM GENERATOR # 2
EMERG. SGFP B
EFW-106B
WATER TREATMENT RECIRCULATION LINE
EFW-207B
EFW-211B
T TRIP AND THROTTLE VALVE
G GOVERNOR VALVE
SGFP = STEAM GENERATOR FEEDWATER PUMP
ELECTRICALLY HEAT-TRACED PIPING
REV
DESCRIPTION
BY
DATE
APV
EMERGENCY FEEDWATER SYSTEM
PUMP TEST CIRCUIT
PUMP A
DRAWN BY: K.A.SISSON
DATE: 5/3/82

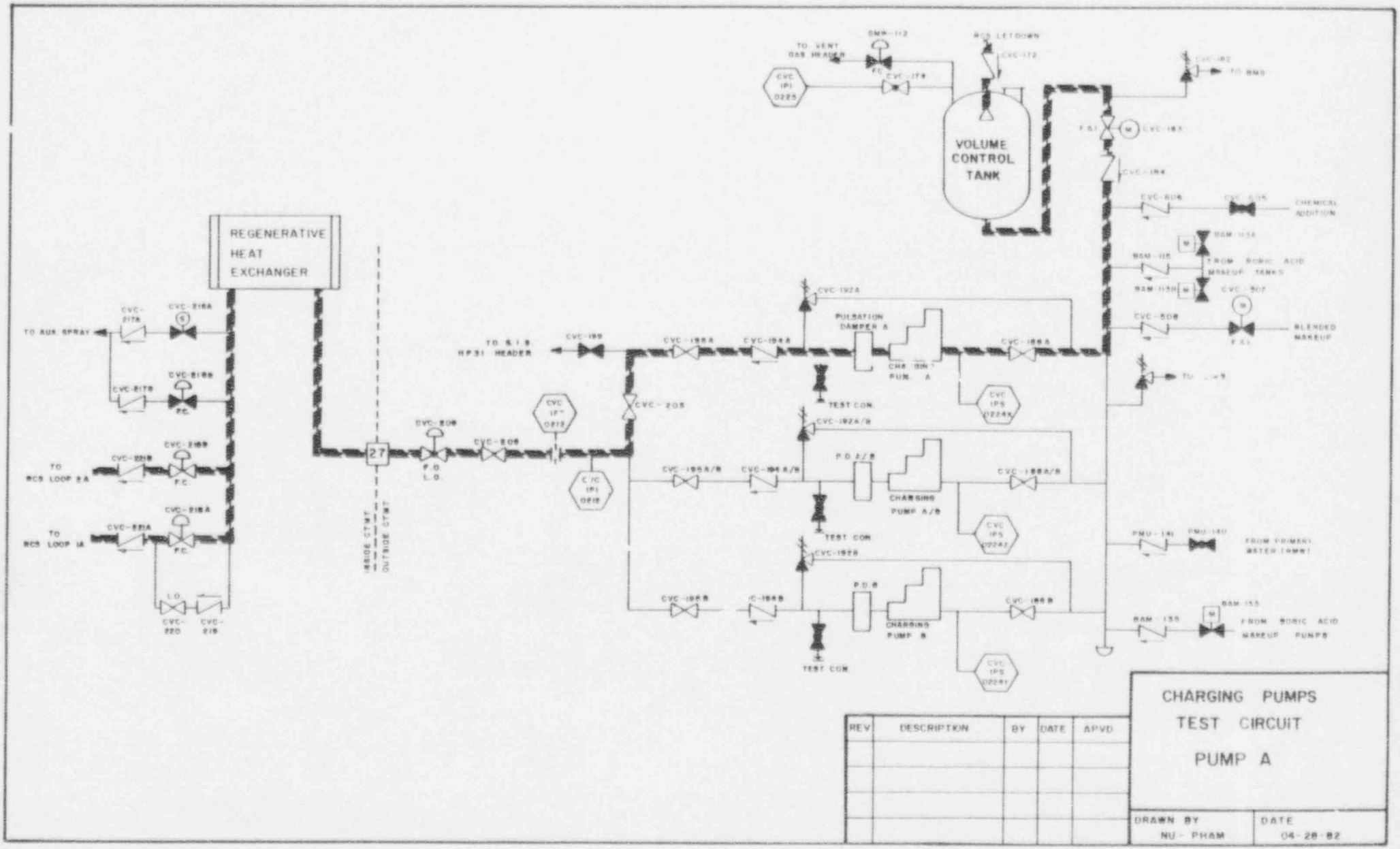

PUMP MINIMUM RECIRCULATION LINE
EFW-205
ES-0
WATER TREATMENT RECIRCULATION LINE
EFW-102A
L.O.
VENT
CONDENSATE STORAGE POOL (210,000 GALLONS)
S
S
EFW-103A
L.O.
EFW-103B
L.O.
ACC-116A
L.C.
ACC-114A
ACC-114B
ACC-116B
L.C.
FROM AUXILIARY COMPONENT COOLING WATER SYSTEM
L.O.
EFW-102B
WATER TREATMENT RECIRCULATION LINE
3FW-K151A
EFW-204A
EFW-201A
L.O.
M
EMERG. SGFP A
EFW-106A
L.O.
EFW-211A
L.O.
EFW-207A
STEAM GENERATOR # 1
EFW-215A
N.O.
3FW-K151A/B
EFW-204A/B
EFW-201A/B
L.O.
EFW-211A/B
L.O.
EFW-207A/B
EMERG. SGFP A/B
EFW-106A/B
L.O.
TO ATMOSPHERE
TURBINE
MS401A
M
F.O.
MS402A
FROM MAIN STEAM
T
P
MS415
T
G
MS402B
M
F.O.
MS401B
N.O.
EFW-215B
STEAM GENERATOR # 2
3FW-K151B
EFW-204B
EFW-201B
L.O.
M
EMERG. SGFP B
EFW-106B
L.O.
EFW-207B
L.O.
EFW-211B
T TRIP AND THROTTLE VALVE
G GOVERNOR VALVE
SGFP = STEAM GENERATOR FEEDWATER PUMP
..... = ELECTRICALLY HEAT-TRACED PIPING
REV
DESCRIPTION
BY
DATE
APV
EMERGENCY FEEDWATER SYSTEM
PUMP TEST CIRCUIT
PUMP B
DRAWN BY:
K.A.SISSON
DATE:
5/3/82

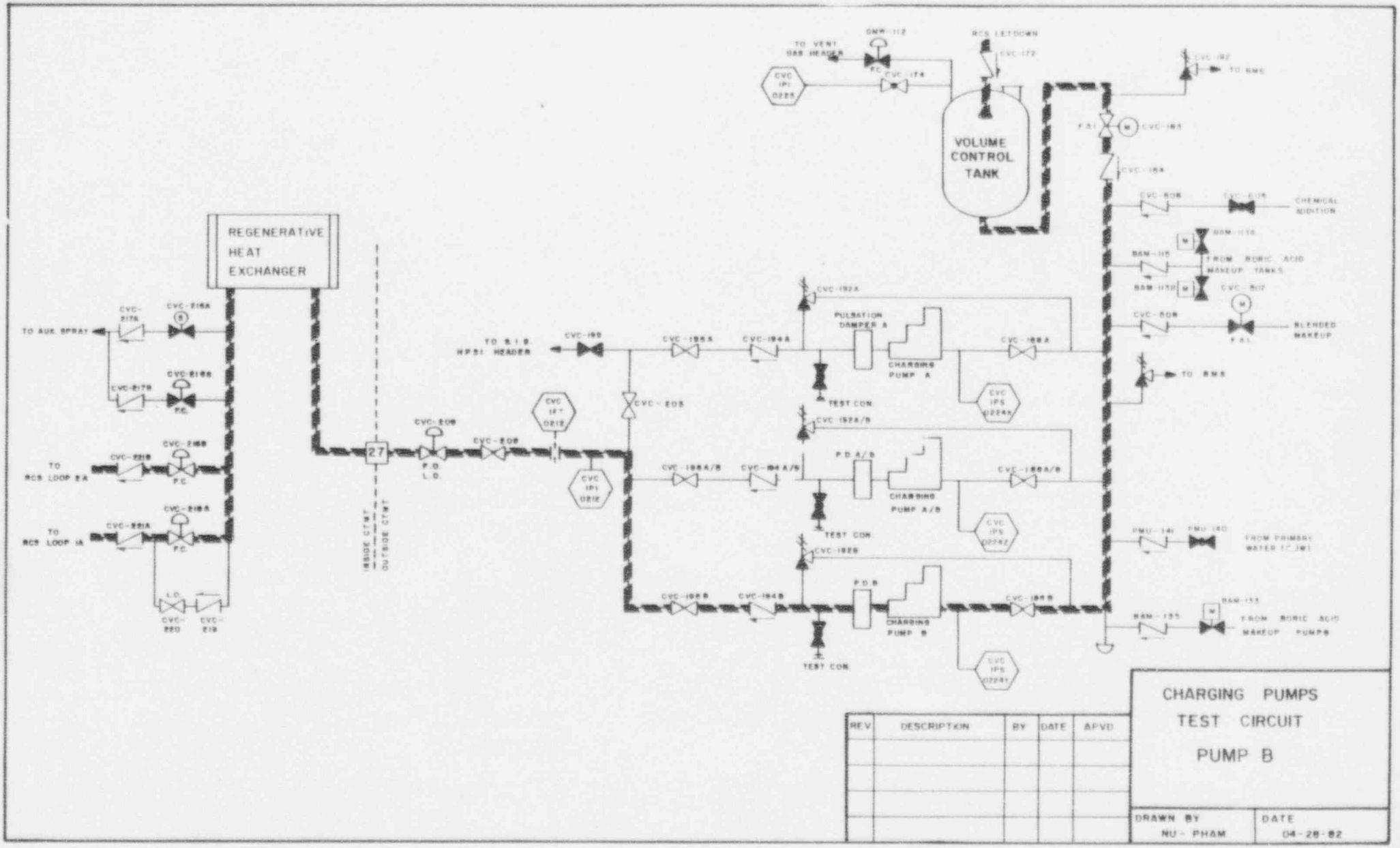


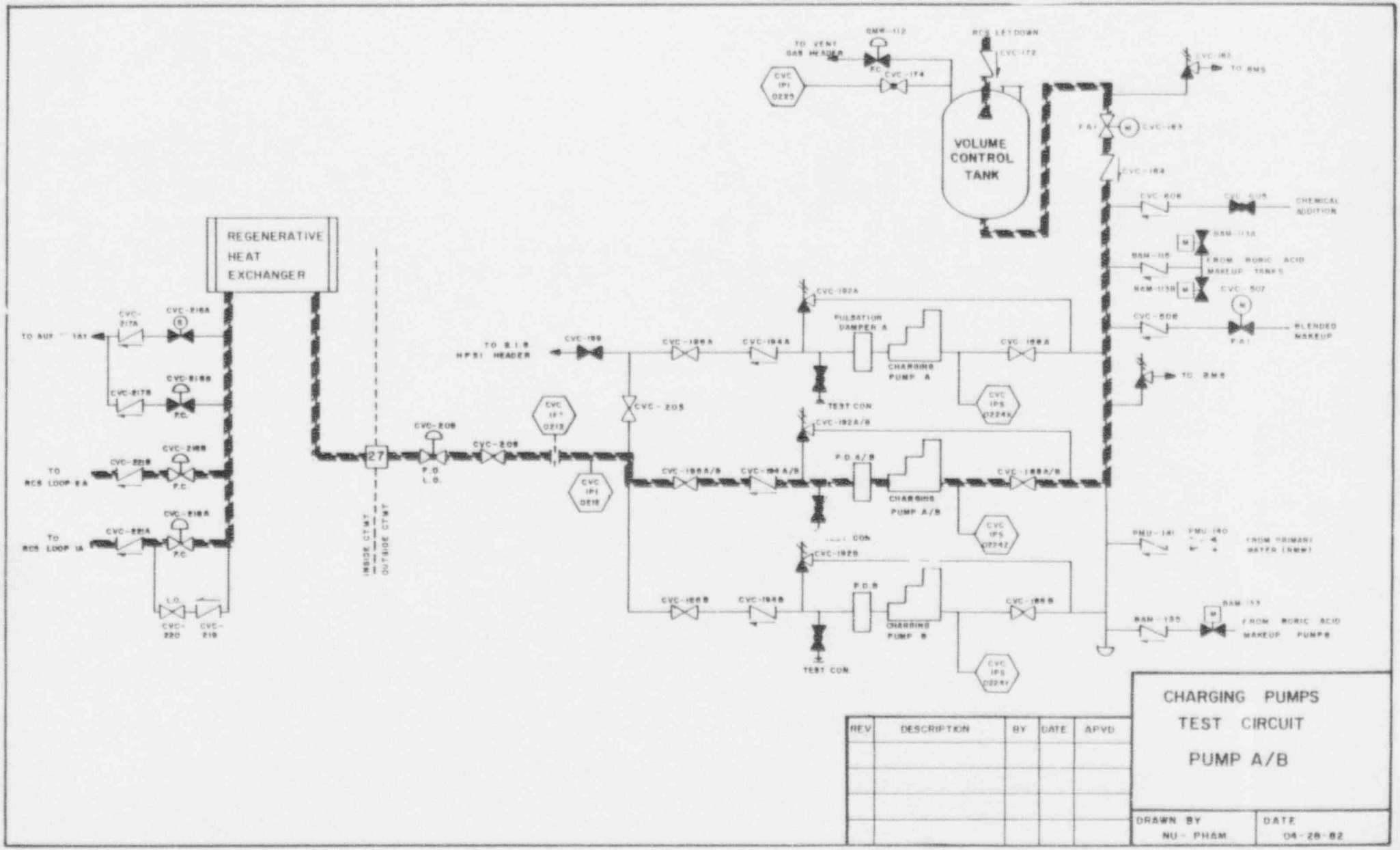
REV	DESCRIPTION	BY	DATE	APV

EMERGENCY FEEDWATER SYSTEM
PUMP TEST CIRCUIT
PUMP A/B

DRAWN BY: K.A.SISSON
DATE: 5/3/82


VOLUME CONTROL TANK
REGENERATIVE HEAT EXCHANGER
TO AUX SPRAY
TO RCS LOOP 2A
TO RCS LOOP 1A
TO VENT GAS HEADER
RCS LETDOWN
TO RMS
CHEMICAL ADDITION
FROM BORIC ACID MAKEUP TANKS
BLENDED MAKEUP
TO SI HP31 HEADER
PULSATION DAMPER A
CHARGING PUMP A
TEST CON.
CHARGING PUMP A/B
CHARGING PUMP B
FROM PRIMARY WATER SYMST
FROM BORIC ACID MAKEUP PUMPS
INSIDE CTMT
OUTSIDE CTMT
P.O.
L.O.
CHARGING PUMPS
TEST CIRCUIT
PUMP A
REV
DESCRIPTION
BY
DATE
APVD
DRAWN BY
NU - PHAM
DATE
04-28-82

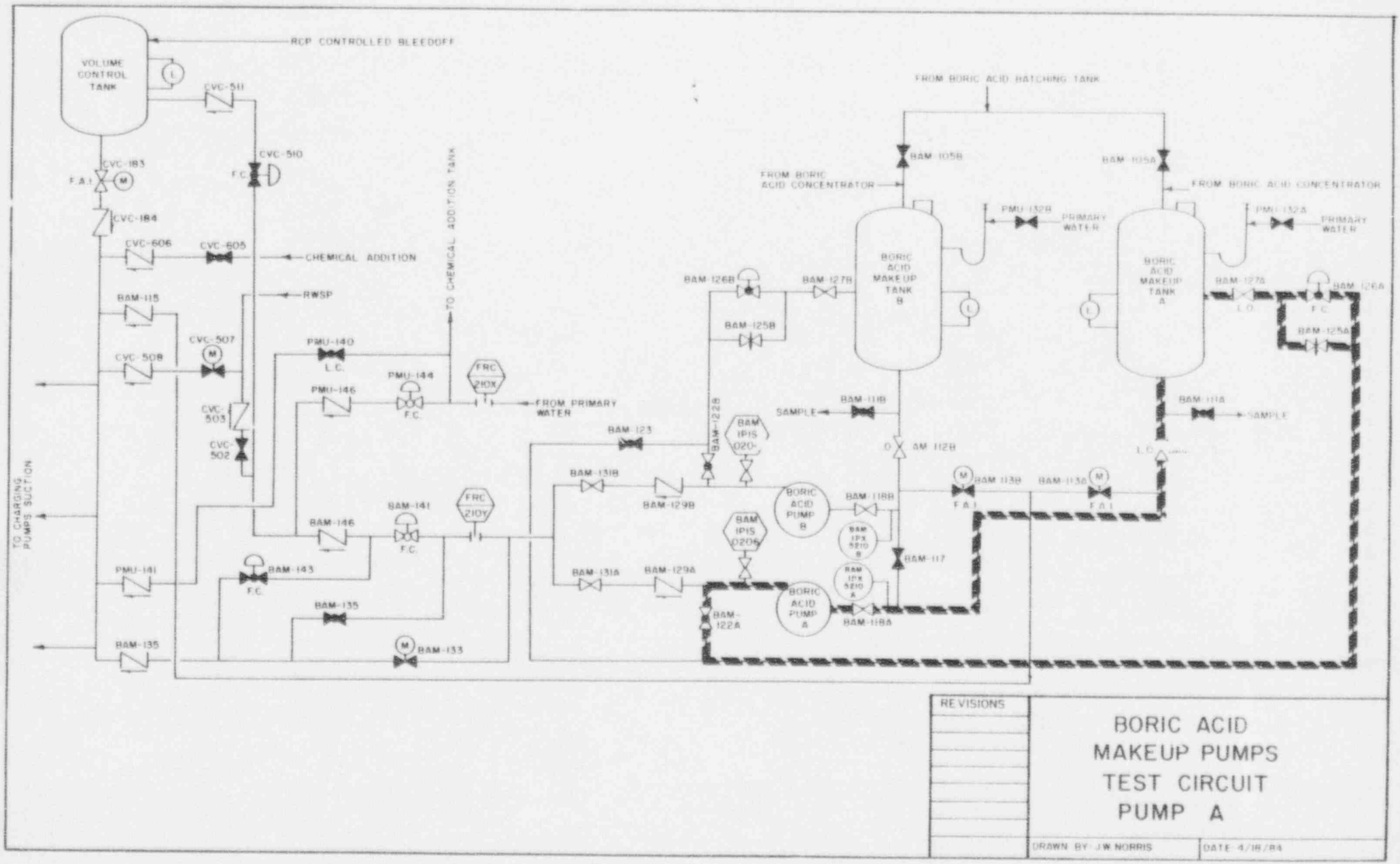

REGENERATIVE HEAT EXCHANGER
VOLUME CONTROL TANK
TO VENT GAS HEADER
RCS LETDOWN
CHEMICAL ADDITION
FROM BORIC ACID MAKEUP TANKS
BLENDED MAKEUP
TO RMS
FROM PRIMARY WATER SYSTEM
FROM BORIC ACID MAKEUP PUMPS
TO AUX SPRAY
TO RCS LOOP 2A
TO RCS LOOP 1A
TO S.I.S HP.S.I. HEADER
PULSATION DAMPER A
CHARGING PUMP A
P.D. A/B
CHARGING PUMP A/B
P.D. B
CHARGING PUMP B
TEST CON.
INSIDE CTMT
OUTSIDE CTMT
P.O. L.O.
CHARGING PUMPS TEST CIRCUIT PUMP B
REV
DESCRIPTION
BY
DATE
APVD
DRAWN BY NU - PHAM
DATE 04-28-82

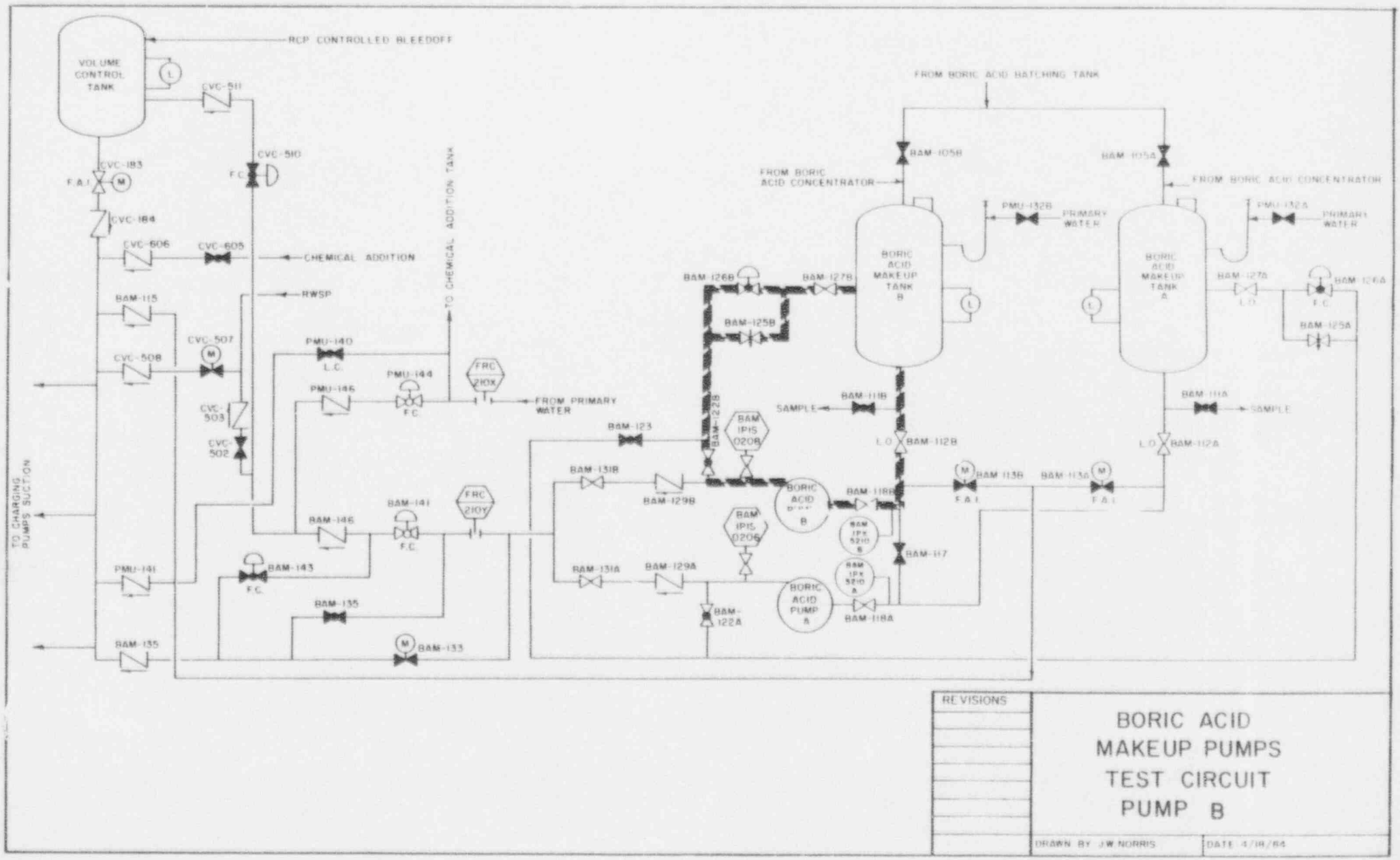


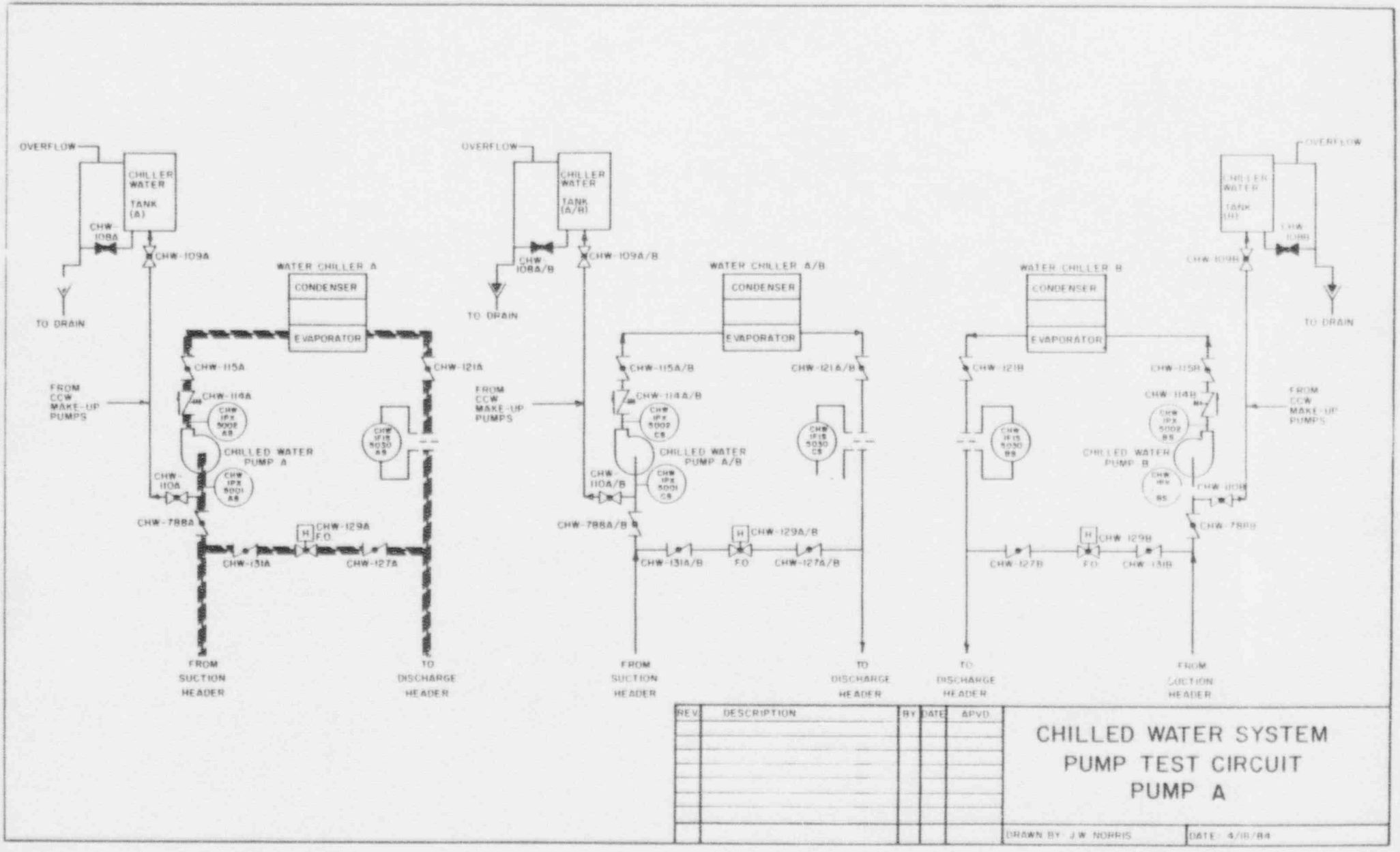
REV	DESCRIPTION	BY	DATE	APVD

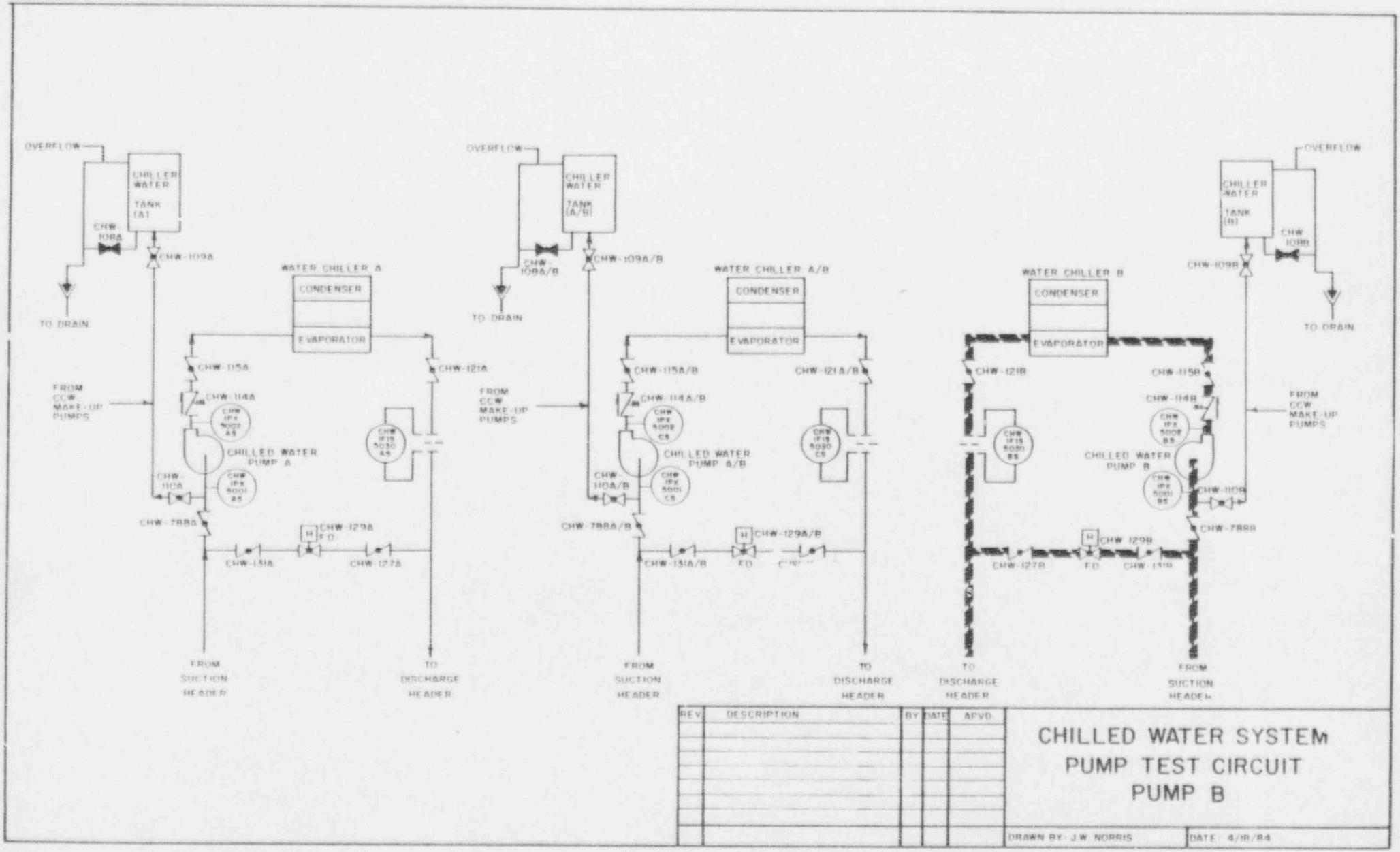
CHARGING PUMPS
TEST CIRCUIT
PUMP A/B

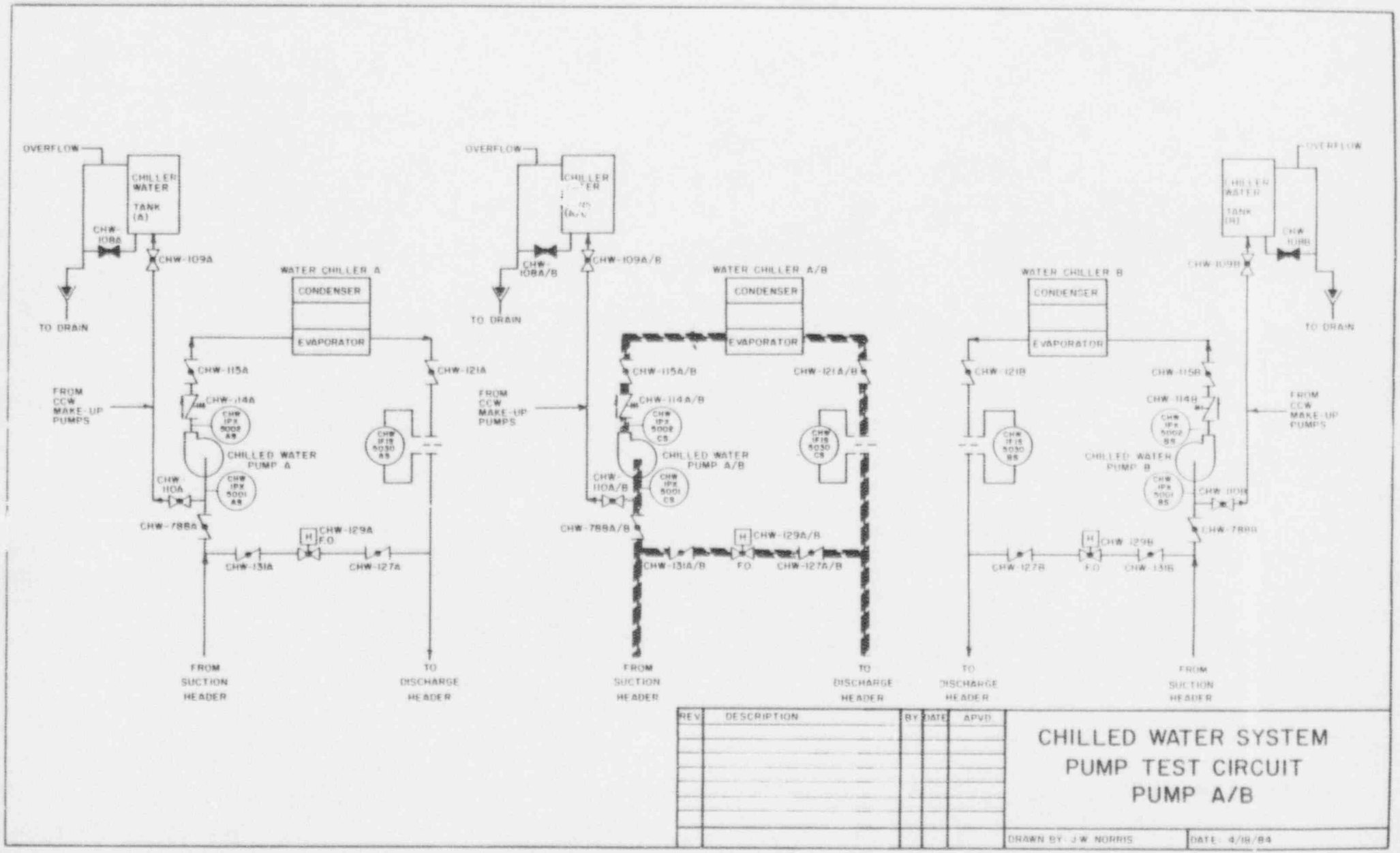
DRAWN BY	DATE
NU-PHAM	04-28-82


VOLUME CONTROL TANK
RCP CONTROLLED BLEEDOFF
CVC-511
CVC-183
CVC-510
CVC-184
CVC-606
CVC-605
CHEMICAL ADDITION
RWSP
TO CHEMICAL ADDITION TANK
BAM-115
CVC-507
CVC-508
PMU-140
L.C.
PMU-144
PMU-146
F.C.
FRC 210X
FROM PRIMARY WATER
CVC-503
CVC-502
TO CHARGING PUMPS SUCTION
BAM-123
BAM-122B
BAM IPIS 0200
BAM-131B
BAM-129B
BAM-141
FRC 210Y
BAM-146
BAM-143
PMU-141
BAM-135
BAM-133
BAM-131A
BAM-129A
BAM-122A
BORIC ACID PUMP A
BORIC ACID PUMP B
BAM IPX 5810 A
BAM IPX 5810 B
BAM-118A
BAM-118B
BAM-117
FROM BORIC ACID BATCHING TANK
BAM-105B
BAM-105A
FROM BORIC ACID CONCENTRATOR
FROM BORIC ACID CONCENTRATOR
PMU-132B
PRIMARY WATER
PMU-132A
PRIMARY WATER
BORIC ACID MAKEUP TANK B
BORIC ACID MAKEUP TANK A
BAM-126B
BAM-127B
BAM-125B
BAM-127A
BAM-126A
BAM-125A
SAMPLE
BAM-118B
BAM-118A
SAMPLE
BAM-113B
BAM-113A
F.A.I
F.A.I
L.O.
L.O.
REVISIONS
BORIC ACID MAKEUP PUMPS TEST CIRCUIT PUMP A
DRAWN BY: J.W. NORRIS
DATE: 4/18/84


VOLUME CONTROL TANK
RCP CONTROLLED BLEEDOFF
CVC-511
CVC-510
CVC-183
CVC-184
CVC-606
CVC-605
CHEMICAL ADDITION
RWSP
TO CHEMICAL ADDITION TANK
BAM-115
CVC-507
CVC-508
PMU-140
PMU-144
PMU-145
FRC 210X
FROM PRIMARY WATER
CVC-503
CVC-502
TO CHARGING PUMPS SUCTION
BAM-123
BAM-131B
BAM-129B
BAM-141
FRC 210Y
BAM-146
BAM-143
PMU-141
BAM-135
BAM-133
BAM-131A
BAM-129A
BAM-122A
BAM-118A
BAM-117
BAM-118B
BAM-113B
BAM-113A
BAM-112B
BAM-112A
BAM-111B
BAM-111A
SAMPLE
BAM-122B
BAM-126B
BAM-127B
BAM-125B
BAM-126A
BAM-127A
BAM-125A
FROM BORIC ACID BATCHING TANK
BAM-105B
BAM-105A
FROM BORIC ACID CONCENTRATOR
PMU-132B
PMU-132A
PRIMARY WATER
BORIC ACID MAKEUP TANK B
BORIC ACID MAKEUP TANK A
BORIC ACID PUMP B
BORIC ACID PUMP A
BAM IPIS 0208
BAM IPIS 0206
BAM IPX 5210 B
BAM IPX 5210 A
REVISIONS
BORIC ACID MAKEUP PUMPS TEST CIRCUIT PUMP B
DRAWN BY J.W.NORRIS
DATE 4/18/84


OVERFLOW
CHILLER WATER TANK (A)
CHW-108A
CHW-109A
TO DRAIN
WATER CHILLER A
CONDENSER
EVAPORATOR
CHW-115A
CHW-121A
FROM CCW MAKE-UP PUMPS
CHW-114A
CHILLED WATER PUMP A
CHW-110A
CHW-788A
CHW-129A F.O.
CHW-131A
CHW-127A
FROM SUCTION HEADER
TO DISCHARGE HEADER
OVERFLOW
CHILLER WATER TANK (A/B)
CHW-108A/B
CHW-109A/B
TO DRAIN
WATER CHILLER A/B
CONDENSER
EVAPORATOR
CHW-115A/B
CHW-121A/B
FROM CCW MAKE-UP PUMPS
CHW-114A/B
CHILLED WATER PUMP A/B
CHW-110A/B
CHW-788A/B
CHW-129A/B
CHW-131A/B
F.O.
CHW-127A/B
FROM SUCTION HEADER
TO DISCHARGE HEADER
WATER CHILLER B
CONDENSER
EVAPORATOR
CHW-121B
CHW-115B
CHW-114B
CHILLED WATER PUMP B
CHW-110B
CHW-788B
CHW-129B
CHW-127B
F.O.
CHW-131B
TO DISCHARGE HEADER
FROM SUCTION HEADER
REV.
DESCRIPTION
BY
DATE
APVD.
CHILLED WATER SYSTEM
PUMP TEST CIRCUIT
PUMP A
DRAWN BY: J.W. NORRIS
DATE: 4/18/84


OVERFLOW
CHILLER WATER TANK (A)
CHW-108A
CHW-109A
TO DRAIN
WATER CHILLER A
CONDENSER
EVAPORATOR
CHW-115A
CHW-121A
FROM CCW MAKE-UP PUMPS
CHW-114A
CHW IPX 5002 AS
CHILLED WATER PUMP A
CHW IPX 5001 AS
CHW-110A
CHW-788A
CHW-129A
FO
CHW-131A
CHW-127A
FROM SUCTION HEADER
TO DISCHARGE HEADER
OVERFLOW
CHILLER WATER TANK (A/B)
CHW-108A/B
CHW-109A/B
TO DRAIN
WATER CHILLER A/B
CONDENSER
EVAPORATOR
CHW-115A/B
CHW-121A/B
FROM CCW MAKE-UP PUMPS
CHW-114A/B
CHW IPX 5002 CS
CHILLED WATER PUMP A/B
CHW IPX 5001 CS
CHW-110A/B
CHW-788A/B
CHW-129A/B
FO
CHW-131A/B
FROM SUCTION HEADER
TO DISCHARGE HEADER
OVERFLOW
CHILLER WATER TANK (B)
CHW-108B
CHW-109B
TO DRAIN
WATER CHILLER B
CONDENSER
EVAPORATOR
CHW-121B
CHW-115B
FROM CCW MAKE-UP PUMPS
CHW-114B
CHW IPX 5002 BS
CHILLED WATER PUMP B
CHW IPX 5001 BS
CHW-110B
CHW-788B
CHW-129B
FO
CHW-127B
CHW-131B
TO DISCHARGE HEADER
FROM SUCTION HEADER
REV.
DESCRIPTION
BY
DATE
APVD
CHILLED WATER SYSTEM
PUMP TEST CIRCUIT
PUMP B
DRAWN BY: J.W. NORRIS
DATE: 4/18/84


OVERFLOW
CHILLER WATER TANK (A)
CHW-108A
CHW-109A
TO DRAIN
WATER CHILLER A
CONDENSER
EVAPORATOR
CHW-115A
CHW-121A
CHW-114A
FROM CCW MAKE-UP PUMPS
CHILLED WATER PUMP A
CHW-110A
CHW-788A
CHW-129A
F.O.
CHW-131A
CHW-127A
FROM SUCTION HEADER
TO DISCHARGE HEADER
CHW-108A/B
CHW-109A/B
WATER CHILLER A/B
CHW-115A/B
CHW-121A/B
CHW-114A/B
CHILLED WATER PUMP A/B
CHW-110A/B
CHW-788A/B
CHW-129A/B
CHW-131A/B
CHW-127A/B
WATER CHILLER B
CHW-121B
CHW-115B
CHW-114B
CHILLED WATER PUMP B
CHW-110B
CHW-788B
CHW-129B
CHW-127B
CHW-131B
REV
DESCRIPTION
BY
DATE
APVD
CHILLED WATER SYSTEM
PUMP TEST CIRCUIT
PUMP A/B
DRAWN BY: J.W. NORRIS
DATE: 4/18/84

2.1 Requests for Relief from ASME Boiler and Pressure Vessel Code Section XI Pump Testing Requirements

2.1.1 Test Requirement

Measure inlet pressure before pump startup and during the inservice test.

Basis for Relief

The Charging Pumps are positive displacement type pumps and do not have a performance curve like centrifugal pumps. Variations in inlet and differential pressure do not effect pump flow as long as the Net Positive Suction Head (NPSH) requirements of the pumps are fulfilled. Each pump inlet has a pressure switch which will not allow the pump to start if NPSH requirements are not met.

Alternate Testing

Inlet pressure of the Charging Pumps will not be measured. Since inlet pressure is not measured, differential pressure cannot be measured. As an alternate test, discharge pressure will be used for determining pump operability. If the discharge pressure is greater than or equal to RCS pressure, and measured flow is greater than or equal to 0.90 times the reference flow, the pumps are operable.

Comments

Relief granted per NRC SER dated February 7, 1989.

2.1.2 Test Requirement

IWP-4120 requires that the full-scale range of each instrument shall be three times the reference value or less.

Basis for Relief

The Charging Pumps' discharge flow indicator does not comply with this requirement. Each of the three pumps produces a flow of 44 gpm. The flow gauge has a full-scale range of 150 gpm in order to accommodate three-pump flow, such as during safety injection operations. The full-scale range is 3.4 times the reference value. The small difference between the code requirement and the range of this flow gauge is minor.

Alternate Testing

The existing, installed flow indicator will be used for quarterly pump operability testing. The accuracy of the installed flow indicator is within Section XI requirements.

Comments

Relief granted per NRC SER dated February 7, 1989.

2.1.3 Test Requirement

IWP-3100 requires that the resistance of the system shall be varied until either the measured differential pressure or the measured flow rate equals the corresponding reference value.

Basis for Relief

These systems have recirculation flow paths that contain a restricting orifice. The pumps that have a restricting orifice are as follows: Emergency Feedwater. The orifice limits flow through the recirculation line to a specific amount. The flow rate is therefore fixed and cannot be adjusted. When these pumps are tested using these fixed-resistance flow paths, the flow rates will be approximately the same each time the tests are conducted.

Alternate Testing

Pump testing will be performed using fixed-resistance flow paths. Differential pressure, flow rate, and vibration are measured and compared to Alert and Required Action limits to determine pump operability.

Comments

Relief granted per NRC SER dated February 7, 1989.

2.1.4 This relief is withdrawn as a result of the NRC conference call on August 16, 1990.

2.1.5 Test Requirements

IWP-3300, IWP-3500(b), and IWP-4310 require measurement of bearing temperatures of applicable pumps during at least one inservice test each year.

Basis for Relief

Bearing temperature increases rapidly with impending bearing failure. Yearly measurement of bearing temperature is not expected to detect bearing degradation. Vibration and hydraulic parameters provide significantly better evidence of pump degradation which could result in or from a bearing failure.

Alternate Testing

Vibration and hydraulic (pressure, flow) measurements taken during each test will identify pump degradation causing or resulting from bearing failure.

This relief would apply to all pumps in the Inservice Test Plan.

Comments

Relief granted per NRC SER dated March 1, 1991

2.1.6 Test Requirement

IWP-3100 and Table IWP-3100-1 require that vibration amplitude (displacement) be measured and recorded during each pump Inservice Test. IWP-3210 and Table IWP-3100-2 provide the allowable ranges of vibration amplitude (displacement).

Basis for Relief

Velocity vibration measurements are generally considered to be the best indicator of pump condition, except for slow speed pumps (less than 600 RPM) where displacement vibration is the better parameter.

Alternate Testing

For all pumps that operate at greater than 600 RPM, peak vibration velocity measurements shall be substituted for the vibration displacement measurements required by IWP-3100. The allowable ranges of vibration listed below shall be substituted for the vibration displacement allowable ranges listed in Table IWP-3100-2.

ACCEPTABLE RANGE	ALERT RANGE	REQUIRED ACTION RANGE
$\leq 2.5\ V_R$	$> 2.5\ V_R$ to $6\ V_R$ or > 0.325 in/sec	$> 6\ V_R$ or > 0.70 in/sec

Where V_R is the reference vibration velocity. This is consistent with OMa-1988 Part 6.

Comments

Relief granted per NRC SER dated August 19, 1992, with the provision that the vibration testing program comply with all the vibration testing requirements of OM-6.

Pumps

CS A	EGF A
CS B	EGF B
HPSI A	EFW A
HPSI B	EFW B
HPSI A/B	EFW A/B
LPSI A	BAM A
LPSI B	BAM B
CCW A	CHW A
CCW B	CHW B
CCW A/B	CHW A/B
ACCW A	
ACCW B	

2.1.7 Deleted

2.1.8 Deleted

2.1.9 Deleted

2.2 Clarifications of Pump Testing Methods

2.2.1 This clarification deleted. Not necessary.

2.2.2 Deleted

VALVES FOR INSERVICE TESTING

SYSTEMS BY SECTION

Attachment 6.5 (1 of 101)

LEGEND OF SYMBOLS

Legend for Valve Type

BL - Ball
B - Butterfly
CK - Check
D - Diaphragm
GA - Gate
GL - Globe
N - Needle
PR - Pressure Relief or Safety
ANG - Angle

Legend for Actuator Type

AO - Air Operated
M - Manual
MO - Motor Operated
S - System Actuated
- Solenoid Operated
HO - Hydraulic Operated
HP - Hydraulic/Pneumatic Operated

Legend for Valve Testing Requirements

Q - Exercise valves (full stroke) for operability at least once every three (3) months. Stroke time measurements are taken for power operated valves and compared to the stroke time limiting value per IWV-3410, and trended per IWV-3417.

* - Valves with remote position indicators shall be observed at least once every 2 years to verify that valve operation is accurately indicated.

CV - Exercise check valves (full stroke) to the open position at least once every three (3) months.

CVC - Exercise check valve to the open position (full or partial stroke as plant conditions permit), then verify valve closure on the cessation or reversal of flow.

CVV - Verify valve closure at least once every three months. Valves are not required to be exercised open prior to closure verification.

SRV - Safety and relief valve testing per IWV-3500.

LT - Leak rate testing per IWV-3420.

Legend for Alternate Valve Testing

CS - Perform specified test requirement during each cold shutdown, if not performed within the last three (3) months.

CSP - Exercise valve (partial stroke) at least once every three (3) months and full stroke at each cold shutdown, if not full stroke exercised within the last three (3) months.

CSR - Exercise valve (partial stroke) at each cold shutdown (if not exercised within the last three months), and full stroke at each reactor refueling outage.

RR - Perform specified test requirement during each reactor refueling outage.

PRR - Exercise valve (partial stroke) at least once every three (3) months, and full stroke at each reactor refueling outage.

TNT - Stroke times of these "rapid acting" valves are not trended due to very short stroke times (less than or equal to 2 seconds).

ME - Valves are manually exercised.

NST - No stroke time measurements are taken.

LTJ - Valves are leak tested per Appendix J to 10CFR50 at each refueling outage per relief request 3.1.55. This test also verifies valve closure.

LTO - Operational observations are used to demonstrate satisfactory valve performance per IWV-3421.

PIV - Reactor Coolant System Pressure Isolation valves are leak tested per plant Technical Specifications. This test verifies valve closure.

DRR - Valves are disassembled, stroked and visually inspected during reactor refueling outages on a sampling basis.

DRRP - Valves are disassembled, stroked and visually inspected during reactor refueling outages on a sampling basis. Partial stroke valve after reassembly. Exercise valve (partial stroke) where specified in the relief/clarification (quarterly/cold shutdown).

LTR - Valves are leak tested during refueling outages on a sampling basis.

VALVES FOR INSERVICE TESTING

System: Reactor Coolant (RC)

Drawing Number: LOU-1564-G-172

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
RC-1014	2	E-7	B	1	GL	SO	C	C	Q*	CS TNT	3.1.42 3.1.1	O,C	Reactor Pressure Vessel Head Vent	Active O and C
RC-1015	2	F-7	B	1	GL	SO	C	C	Q*	CS TNT	3.1.42 2.1.1	O,C	Reactor Pressure Vessel Head Vent	Active O and C
RC-1017	2	E-8	B	1	GL	SO	C	C	Q*	CS TNT	3.1.42 3.1.1	O,C	Pressurizer and Reactor Vessel Head Vent to Quench Tank	Active O and C
RC-317A	1	H-6	C	6x8	PR	SA	C	-	SRV	-	3.1.64	O,C	Pressurizer Safety	Active O and C
RC-317B	1	H-6	C	6x8	PR	SA	C	-	SRV	-	3.1.64	O,C	Pressurizer Safety	Active O and C
RC-3183	2	H-7	B	1	GL	SO	C	C	Q*	CS TNT	3.1.42 3.1.1	O,C	Pressurizer Head Vent	Active O and C
RC-3184	2	G-7	B	1	GL	SO	C	C	Q*	CS TNT	3.1.42 3.1.1	O,C	Pressurizer Head Vent	Active O and C
RC-3186	2	F-8	B	1	GL	SO	C	C	Q*	CS TNT	3.1.42 3.1.1	O,C	Pressurizer and Reactor Vessel Head Vent to Quench Tank	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (6 of 101)

VALVES FOR INSERVICE TESTING

System: Reactor Coolant (RC)

Drawing Number: LOU-1564-G-168, LOU-1564-G-172

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	STROKE SAFETY POSITION	FUNCTION	REMARKS
RC-606	2	SH 2 A-13 G-168	A	2	GL	AO	O	C	Q* LT	CS LTJ	3.1.2 3.2.9 - 3.1.55	C	Seal Water from RC Pumps to Volume Control Tank	Active C
RC-301A	1	G-172 E-4	B	3	ANG	AO	C	C	Q*	CSP	3.2.10 3.2.9	C	Pressurizer Spray Valve	Active C
RC-301B	1	G-172 E-4	B	3	ANG	AO	C	C	Q*	CSP	3.2.10 3.2.9	C	Pressurizer Spray Valve	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Boric Acid Makeup (BAM)

Drawing Number: LOU-1564-G-168

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
BAM-113A	3	SH 3 I-5	B	3	GA	MO	C	AI	Q*	-	-	O	Gravity Feed Discharge from Boric Acid Makeup Tank A to Charging Pumps Suction	Active O
BAM-113B	3	SH 3 1-7	B	3	GA	MO	C	AI	Q*	-	-	O	Gravity Feed Discharge from Boric Acid Makeup Tank B to Charging Pumps Suction	Active O
BAM-115	2	SH 2 F-8	C	3	CK	SA	C	-	CV	CS	3.1.6	O	Gravity Feed Discharge from Boric Acid Makeup Tanks to Charging Pumps Suction	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (8 of 101)

VALVES FOR INSERVICE TESTING

System: Boric Acid Makeup (BAM)

Drawing Number: LOU-1564-G-168

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
BAM-126A	3	SH 3 F-2	B	1	GL	AO	O	C	Q*	- -	- -	C	Boric Acid Pump A Recirculation Line	Active C
BAM-126B	3	SH 3 F-10	B	1	GL	AO	O	C	Q*	- -	- -	C	Boric Acid Pump B Recirculation Line	Active C
BAM-129A	3	SH 3 J-10	C	3	CK	SA	C	-	CV	CSP	3.2.26	O	Boric Acid Pump A Discharge Check Valve	Active O
BAM-129B	3	SH 3 I-10	C	3	CK	SA	C	-	CV	CSP	3.2.26	O	Boric Acid Pump B Discharge Check Valve	Active O
BAM-133	3	SH 3 F-11	B	3	GA	MO	C	AI	Q*	- -	- -	O	Boric Acid Pumps Discharge to Charging Pumps Suction	Active O
BAM-135	2	SH 2 F-11	C	3	CK	SA	C	-	CV	CS	3.1.6	O	Boric Acid Pumps Discharge to Charging Pumps Suction	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Chemical And Volume Control System (CVC)

Drawing Number: LOU-1564-G-168

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CVC-101	1	SH 1 D-7	B	2	GA	AO	O	C	Q*	CS	3.1.7 3.2.9	C	Letdown from RCS Loop 2B to Regenerative Heater Exchanger	Active C
CVC-103	1	SH 1 D-7	A	2	GL	AO	O	C	Q*	CS	3.1.7 3.2.9	C	Letdown from RCS Loop 2B to Regenerative Heater Exchanger	Active C
									LT	LTJ	3.1.55			
CVC-109	2	SH 1 E-7	A	2	GL	AO	O	C	Q*	CS	3.1.7 3.2.9	C	Letdown from Regenerative Heat Exchanger to Letdown Heat Exchanger	Active C
									LT	LTJ	3.1.55			

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Chemical And Volume Control System (CVC)

Drawing Number: LOU-1564-G-168

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CVC-183	2	SH 2 E-4	B	4	GA	MO	O	AI	Q*	CS	3.1.7 3.2.9	C	Discharge from Volume Control Tank to Charging Pumps Suction	Active C
CVC-194A	2	SH 2 J-6	C	2	CK	SA	C	-	CV	-	-	O	Charging Pump A Discharge Check	Active O
CVC-194B	2	SH 2 M-6	C	2	CK	SA	C	-	CV	-	-	O	Charging Pump B Discharge Check	Active O
CVC-194A/B	2	SH 2 K-6	C	2	CK	SA	C	-	CV	-	-	O	Charging Pump A/B Discharge Check	Active O
CVC-216A	1	SH 1 C-7	B	2	GL	SO	C	C	Q*	CS TNT	3.1.8 3.2.9 3.1.9	O,C	Auxiliary Pressurizer Spray Isolation	Active O and C
CVC-216B	1	SH 1 C-7	B	2	GL	SO	C	C	Q*	CS TNT	3.1.8 3.2.9 3.1.9	O,C	Auxiliary Pressurizer Spray Isolation	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Chemical And Volume Control System (CVC)

Drawing Number: LOU-1564-G-168

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CVC-217A	1	SH 1 C-8	C	2	CK	SA	C	-	CV	CS	3.1.10	O	Auxiliary Pressurizer Spray Check	Active O
CVC-217B	1	SH 1 C-8	C	2	CK	SA	C	-	CV	CS	3.1.10	O	Auxiliary Pressurizer Spray Check	Active O
CVC-218A	1	SH 1 B-7	B	2	GL	SO	O	C	Q*	-	-	O,C	Normal Charging Isolation	Active O and C
CVC-218B	1	SH 1 B-7	B	2	GL	SO	O	C	Q*	-	-	O,C	Normal Charging Isolation	Active O and C
CVC-219	1	SH 1 A-7	C	2	CK	SA	C	-	CV	CS	3.1.41	O	Normal Charging Bypass Check	Active O
CVC-221A	1	SH 1 B-8	C	2	CK	SA	O	-	CV CVC	- CS	- 3.2.21	O C	Normal Charging Check	Active O and C
CVC-221B	1	SH 1 B-8	C	2	CK	SA	O	-	CV CVC	- CS	- 3.2.21	O C	Normal Charging Check	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Chemical And Volume Control System (CVC)

Drawing Number: LOU-1564-G-168

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CVC-401	2	SH 2 B-10	A	3/4	GL	AO	O	C	Q* LT	CS LTJ	3.1.2 3.2.9 3.1.55	C	Reactor Coolant Pump Seal Leak-Off Return to Volume Control Tank	Active C
CVC-507	3	SH 2 F-15	B	3	GA	MO	C	AI	Q*	-	-	O	RWSP to Charging Pump Suction	Active O
CVC-508	2	SH 2 F-13	C	3	CK	SA	C	-	CV CVC	CS CS	3.1.6 3.2.20	O C	RWSP to Charging Pump Suction	Active O and C
BAM-141	3	SH 3 I-17	B	1	GL	AO	C	C	Q*	-	-	C	BA Normal Makeup Flow Control Valve	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (13 of 101)

VALVES FOR INSERVICE TESTING

System: Chemical And Volume Control System

Drawing Number: LOU-1564-G-168

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CVC-510	3	SH 2 G-15	B	3	GL	AO	C	C	Q*	-	-	C	BAM Pump discharge to VCT	Active C
CVC-184	2	SH 2 F-5	C	4	CK	SA	O	-	CVV	CS	3.2.19	C	VCT outlet check valve	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-106A	2	SH 3 B-4	A	24	B	AO	O	AI	Q* LT	-	-	O,C	RWSP Discharge Isolation	Active O and C
SI-106B	2	SH 3 B-3	A	24	B	AO	O	AI	Q* LT	-	-	O,C	RWSP Discharge Isolation	Active O and C
SI-107A	2	SH 3 D-4	A/C	24	CK	SA	O	-	CV CVC LT	DRRP DRRP LTR	3.1.60 3.1.73 3.1.74	O C	RWSP Discharge Check Quench Tank	Active O and C
SI-107B	2	SH 3 D-3	A/C	24	CK	SA	O	-	CV CVC LT	DRRP DRRP LTR	3.1.60 3.1.73 3.1.74	O C	RWSP Discharge Check Quench Tank	Active O and C
SI-1071A	2	SH 3 G-2	C	20	CK	SA	C	-	CV CVC	PRR CS	3.1.12 3.1.61	O C	LPSI Pump A Suction Check	Active O and C
SI-1071B	2	SH 3 K-2	C	20	CK	SA	C	-	CV CVC	PRR CS	3.1.12 3.1.61	O C	LPSI Pump B Suction Check	Active O and C
SI-108A	2	SH 3 G-3	C	20	CK	SA	C	-	CV CVC	PRR CS	3.1.12 3.1.61	O C	LPSI Pump A Suction Check	Active O and C
SI-108B	2	SH 3 K-3	C	20	CK	SA	C	-	CV CVC	PRR CS	3.1.12 3.1.61	O C	LPSI Pump B Suction Check	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (15 of 101)

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-116A	2	SH 3 G-7	C	2	CK	SA	C	-	CV	-	-	O	LPSI Pump A Minimum Flow Check	Active O
SI-116B	2	SH 3 H-8	C	2	CK	SA	C	-	CV	-	-	O	LPSI Pump B Minimum Flow Check	Active O
SI-1161A	2	SH 3 G-8	B	2	GA	SO	O	O	Q*	TNT	3.1.1	O,C	LPSI Pump A Minimum Flow Isolation	Passive O Active C
SI-1161B	2	SH 3 H-8	B	2	GA	SO	O	O	Q*	TNT	3.1.1	O,C	LPSI Pump B Minimum Flow Isolation	Passive O Active C
SI-120A	2	SH 3 D-8	B	4	GA	MO	O	AI	Q*	-	-	O,C	LPSI Pump A, HPSI Pumps A and A/B and CS Pump A Minimum Flow Isolation	Passive O Active C
SI-120B	2	SH 3 D-9	B	4	GA	MO	O	AI	Q*	-	-	O,C	LPSI Pump B, HPSI Pump B and CS Pump B Minimum Flow Isolation	Passive O Active C
SI-121A	2	SH 3 D-8	B	4	GA	MO	O	AI	Q*	-	-	O,C	LPSI Pump A, HPSI Pumps A and A/B and CS Pump A Minumum Flow Isolation	Passive O Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-121B	2	SH 3 D-9	B	4	GA	MO	O	AI	Q*	-	-	O,C	LPSI Pump B, HPSI Pump B and CS Pump B Minimum Flow Isolation	Passive O Active C
SI-122A	2	SH 3 G-8	C	8	CK	SA	C	-	CV	-	-	O	LPSI Pump A Discharge Check	Active O
SI-122B	2	SH 3 H-8	C	8	CK	SA	C	-	CV	-	-	O	LPSI Pump B Discharge Check	Active O
SI-125A	2	SH 3 G-10	B	10	GA	MO	C	AI	Q*	-	-	O,C	LPSI Pump A Discharge to Shutdown Cooling Heat Exchanger A	Passive C Active O
SI-125B	2	SH 3 I-10	B	10	GA	MO	C	AI	Q*	-	-	O,C	LPSI Pump B Discharge to Shutdown Cooling Heat Exchanger B	Passive C Active O
SI-129A	2	SH 3 G-11	B	10	B	AO	O	O	Q*	-	-	O,C	Shutdown Cooling Heat Exchanger A Bypass	Passive O Active C
SI-129B	2	SH 3 I-12	B	10	B	AO	O	O	Q*	-	-	O,C	Shutdown Cooling Heat Exchanger B Bypass	Passive O Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-135A	2	SH 2 C-4	B	8	GA	MO	C	AI	Q*	-	-	C	LPSI Pump A Recirculation	Active C
SI-135B	2	SH 2 B-2	B	8	GA	MO	C	AI	Q*	-	-	C	LPSI Pump B Recirculation	Active C
SI-138A	2	SH 2 I-3	B	6	GL	MO	C	AI	Q*	-	-	O	LPSI Header Discharge	Active O
SI-138B	2	SH 4 H-2	B	6	GL	MO	C	AI	Q*	-	-	O	LPSI Header Discharge	Active O
SI-139A	2	SH 2 E-3	B	6	GL	MO	C	AI	Q*	-	-	O	LPSI Header Discharge	Active O
SI-139B	2	SH 4 D-3	B	6	GL	MO	C	AI	Q*	-	-	O	LPSI Header Discharge	Active O
SI-142A	1	SH 2 I-6	AC	8	CK	SA	C	-	CV CVC LT	CS CS PIV	3.2.22 3.2.29 3.1.72	O C	LPSI Header Discharge	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-142B	1	SH 4 H-5	AC	8	CK	SA	C	-	CV CVC LT	CS CS PIV	3.2.22 3.2.29 3.1.72	O C	LPSI Header Discharge	Active O and C
SI-143A	1	SH 2 E-5	AC	8	CK	SA	C	-	CV CVC LT	CS CS PIV	3.2.22 3.2.29 3.1.72	O C	LPSI Header Discharge	Active O and C
SI-143B	1	SH 4 D-6	AC	8	CK	SA	C	-	CV CVC LT	CS CS PIV	3.2.22 3.2.29 3.1.72	O C	LPSI Header Discharge	Active O and C
SI-201A	2	SH 1 D-4	C	10	CK	SA	C	-	CV	PRR	3.1.12	O	HPSI Pump A Suction Check	Active O
SI-201B	2	SH 1 J-2	C	10	CK	SA	C	-	CV	PRR	3.1.12	O	HPSI Pump B Suction Check	Active O
SI-205A	2	SH 1 C-9	C	2	CK	SA	C	-	CV	-	-	O	HPSI Pump A Minimum Flow Check	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-205B	2	SH 1 E-10	C	2	CK	SA	C	-	CV	-	-	O	HPSI Pump B Minimum Flow Check	Active O
SI-205A/B	2	SH 1 C-9	C	2	CK	SA	C	-	CV	-	-	O	HPSI Pump A/B Minimum Flow Check	Active O
SI-207A	2	SH 1 D-10	C	4	CK	SA	C	-	CV CVC	PRR RR	3.1.14 3.1.65	O C	HPSI Pump A Discharge Check	Active O and C
SI-207B	2	SH 1 J-10	C	4	CK	SA	C	-	CV CVC	PRR RR	3.1.14 3.1.65	O C	HPSI Pump B Discharge Check	Active O and C
SI-207A/B	2	SH 1 F-10	C	4	CK	SA	C	-	CV CVC	PRR RR	3.1.14 3.1.65	O C	HPSI Pump A/B Discharge Check	Active O and C
SI-216	2	SH 1 E-12	C	4	CK	SA	C	-	CV	PRR	3.1.14	O	HPSI Pumps A and A/B Discharge Check	Active O
SI-219A	2	SH 1 E-13	B	4	GA	MO	O	AI	Q*	-	-	O,C	HPSI Pump A and A/B Discharge to HPSI Header A	Passive O Active C
SI-219B	2	SH 1 J-12	B	4	GA	MO	O	AI	Q*	-	-	O,C	HPSI Pump B Discharge to HPSI Header B	Passive O Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-225A	2	SH 4 E-3	B	2	GL	MO	C	AI	Q*	-	-	O	HPSI Header A Discharge	Active O
SI-225B	2	SH 4 G-3	B	2	GL	MO	C	AI	Q*	-	-	O	HPSI Header B Discharge	Active O
SI-226A	2	SH 4 L-2	B	2	GL	MO	C	AI	Q*	-	-	O	HPSI Header A Discharge	Active O
SI-226B	2	SH 4 J-2	B	2	GL	MO	C	AI	Q*	-	-	O	HPSI Header B Discharge	Active O
SI-227A	2	SH 2 F-3	B	2	GL	MO	C	AI	Q*	-	-	O	HPSI Header A Discharge	Active O
SI-227B	2	SH 2 H-3	B	2	GL	MO	C	AI	Q*	-	-	O	HPSI Header B Discharge	Active O
SI-228A	2	SH 2 M-2	B	2	GL	MO	C	AI	Q*	-	-	O	HPSI Header A Discharge	Active O
SI-228B	2	SH 2 J-2	B	2	GL	MO	C	AI	Q*	-	-	O	HPSI Header B Discharge	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-241	1	SH 4 F-6	AC	3	CK	SA	C	-	CV CVC LT	CSR CSR -	3.1.71 3.1.75 -	O C	HPSI Header Discharge Check	Active O and C
SI-242	1	SH 4 J-5	AC	3	CK	SA	C	-	CV CVC LT	CSR CSR -	3.1.71 3.1.75 -	O C	HPSI Header Discharge Check	Active O and C
SI-243	1	SH 2 G-6	AC	3	CK	SA	C	-	CV CVC LT	CSR CSR -	3.1.71 3.1.75 -	O C	HPSI Header Discharge Check	Active O and C
SI-244	1	SH 2 K-5	AC	3	CK	SA	C	-	CV CVC LT	CSR CSR -	3.1.71 3.1.75 -	O C	HPSI Header Discharge Check	Active O and C
SI-245	2	SH 1 D-9	C	2	CK	SA	C	-	CV	-	-	O	HPSI Pump A/B Minimum Flow Check	Active O
SI-301	1	SH 4 C-7	B	2	GA	AO	C	C	Q*	-	-	C	Drain, SIAS Closes	Active C
SI-302	1	SH 2 M-7	B	2	GA	AO	C	C	Q*	-	-	C	Drain, SIAS Closes	Active C
SI-303A	1	SH 4 H-8	B	1	GL	AO	C	C	Q*	-	-	C	Drain, SIAS Closes	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (22 of 101)

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-303B	1	SH 4 H-15	B	1	GL	AO	C	C	Q*	-	-	C	Drain, SIAS closes	Active C
SI-304A	1	SH 2 I-7	B	1	GL	AO	C	C	Q*	-	-	C	Drain, SIAS closes	Active C
SI-304B	1	SH 2 I-14	B	1	GL	AO	C	C	Q*	-	-	C	Drain, SIAS closes	Active C
SI-323A	2	SH 4 D-11	B	1	GL	SO	C	C	Q*	CS TNT	3.1.15 3.2.9 3.1.9	O C	Safety Injection Tank 1A Vent	Passive C Active O
SI-323B	2	SH 4 E-17	B	1	GL	SO	C	C	Q*	CS TNT	3.1.15 3.2.9 3.1.9	O C	Safety Injection Tank 1B Vent	Passive C Active O
SI-324A	2	SH 2 F-10	B	1	GL	SO	C	C	Q*	CS TNT	3.1.15 3.2.9 3.1.9	O C	Safety Injection Tank 2A Vent	Passive C Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-324B	2	SH 2 F-17	B	1	GL	SO	C	C	Q*	CS TNT	3.1.15 3.2.9 3.1.9	O C	Safety Injection Tank 2B Vent	Passive C Active O
SI-325A	2	SH 4 D-12	B	1	GL	SO	C	C	Q*	CS TNT	3.1.15 3.2.9 3.1.9	O C	Safety Injection Tank 1A Vent	Passive C Active O
SI-325B	2	SH 4 E-18	B	1	GL	SO	C	C	Q*	CS TNT	3.1.15 3.2.9 3.1.9	O C	Safety Injection Tank 1B Vent	Passive C Active O
SI-326A	2	SH 2 F-11	B	1	GL	SO	C	C	Q*	CS TNT	3.1.15 3.2.9 3.1.9	O C	Safety Injection Tank 2A Vent	Passive C Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-328	2	SH 2 F-17	B	1	GL	SO	C	C	Q*	CS TNT	3.1.15 3.2.9 3.1.9	O C	Safety Injection Tank 2B Vent	Passive C Active O
SI-329A	1	SH 4 H-10	AC	12	CK	SA	C	-	CV CVC LT	DRRP DRRP PIV	3.1.16 3.1.65 3.1.72	O C	Safety Injection Tank 1A Discharge Check	Active O and C
SI-329B	1	SH 4 H-17	AC	12	CK	SA	C	-	CV CVC LT	DRRP DRRP PIV	3.1.16 3.1.65 3.1.72	O C	Safety Injection Tank 1B Discharge Check	Active O and C
SI-330A	1	SH 2 I-9	AC	12	CK	SA	C	-	CV CVC LT	DRRP DRRP PIV	3.1.16 3.1.65 3.1.72	O C	Safety Injection Tank 2A Discharge Check	Active O and C
SI-330B	1	SH 2 I-16	AC	12	CK	SA	C	-	CV CVC LT	DRRP DRRP PIV	3.1.16 3.1.65 3.1.72	O C	Safety Injection Tank 2B Discharge Check	Active O and C
SI-335A	1	SH 4 I-12	AC	12	CK	SA	C	-	CV CVC LT	DRRP DRRP PIV	3.1.18 3.1.76 3.1.72	O C	LPSI, HPSI, and SIT Injection Check	Active O and C
SI-335B	1	SH 4 J-18	AC	12	CK	SA	C	-	CV CVC LT	DRRP DRRP PIV	3.1.18 3.1.76 3.1.72	O C	LPSI, HPSI, and SIT Injection Check	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-336A	1	SH 2 J-11	AC	12	CK	SA	C	-	CV	DRRP	3.1.18	O	LPSI, HPSI, and SIT Injection Check	Active O and C
									CVC LT	DRRP PIV	3.1.76 3.1.72	C		
SI-336B	1	SH 2 I-18	AC	12	CK	SA	C	-	CV	DRRP	3.1.18	O	LPSI, HPSI, and SIT Injection Check	Active O and C
									CVC LT	DRRP PIV	3.1.76 3.1.72	C		
SI-343	2	SH 4 M-5	A	2	GA	AO	C	C	Q*	-	-	C	SIT Drain to RWSP CIAS Closes, CTMT Isolation	Active C
									LT	LTJ	3.1.55			
SI-344	2	SH 3 B-15	A	2	GL	M	LC	-	LT	LTJ	3.1.55	C	SIT Drain to RWSP CTMT Isolation	Passive C
SI-401A	1	SH 2 B-11	A	14	GA	MO	C	AI	Q*	CS	3.1.19 3.2.9	O	Shutdown Cooling Suction from RCS	Passive C Active O
									LT	-	-	C		
SI-401B	1	SH 2 E-11	A	14	GA	MO	C	AI	Q*	CS	3.1.19 3.2.9	O	Shutdown Cooling Suction from RCS	Passive C Active O
									LT	-	-	C		

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-405A	1	SH 2 E-9	A	14	GA	HP	C	C	Q* LT	CS -	3.1.19 3.2.9 -	O C	Shutdown Cooling Suction from RCS	Passive C Active O
SI-405B	1	SH 2 B-9	A	14	GA	HP	C	C	Q* LT	CS -	3.1.19 3.2.9 -	O C	Shutdown Cooling Suction from RCS	Passive C Active O
SI-406A	2	SH 2 C-7	C	6x8	PR	SA	C	-	SRV	-	3.1.64	O,C	Shutdown Cooling Suction Relief	Active O and C
SI-406B	2	SH 2 D-6	C	6x8	PR	SA	C	-	SRV	-	3.1.64	O,C	Shutdown Cooling Suction Relief	Active O and C
SI-407A	2	SH 2 C-5	B	14	GA	MO	C	AI	Q*	-	-	O	Shutdown Cooling Suction from RCS	Active O
SI-407B	2	SH 2 D-4	B	14	GA	MO	C	AI	Q*	-	-	O	Shutdown Cooling Suction from RCS	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-412A	2	SH 3 F-15	B	10	GA	MO	C	AI	Q*	-	-	O,C	Shutdown Cooling Heat Exchanger A Discharge Isolation	Passive C Active O
SI-412B	2	SH 3 D-15	B	10	GA	MO	C	AI	Q*	-	-	O,C	Shutdown Cooling Heat Exchanger B Discharge Isolation	Passive C Active O
SI-415A	2	SH 3 G-15	B	10	B	MO	C	AI	Q*	-	-	O,C	Shutdown Cooling Flow Control	Active O and C
SI-415B	2	SH 3 L-16	B	10	B	MO	C	AI	Q*	-	-	O,C	Shutdown Cooling Flow Control	Active O and C
SI-502A	2	SH 1 B-13	B	3	GA	MO	C	AI	Q*	-	-	O	HPSI Discharge to RCS Hot Leg Isolation	Active O
SI-502B	2	SH 1 K-12	B	3	GA	MO	C	AI	Q*	-	-	O	HPSI Discharge to RCS Hot Leg Isolation	Active O
SI-506A	2	SH 1 B-14	B	3	GL	MO	C	AI	Q*	-	-	O,C	HPSI Discharge to RCS Hot Leg Flow Control	Passive C Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-506B	2	SH 1 K-13	B	3	GL	MO	C	AI	Q*	-	-	O,C	HPSI Discharge to RCS Hot Leg Flow Control	Passive C Active O
SI-510A	1	SH 4 B-6	AC	3	CK	SA	C	-	CV LT CVC	PRR - PRR	3.1.71 - 3.1.75	O C	HPSI Discharge to RCS Hot Leg Check	Active O and C
SI-510B	1	SH 2 N-5	AC	3	CK	SA	C	-	CV LT CVC	PRR - PRR	3.1.71 - 3.1.75	O C	HPSI Discharge to RCS Hot Leg Check	Active O and C
SI-512A	1	SH 4 B-10	AC	3	CK	SA	C	-	CV LT CVC	CSR - CSR	3.1.71 - 3.1.75	O C	HPSI Discharge to RCS Hot Leg Check	Active O and C
SI-512B	1	SH 2 N-8	AC	3	CK	SA	C	-	CV LT CVC	CSR - CSR	3.1.71 - 3.1.75	O C	HPSI Discharge to RCS Hot Leg Check	Active O and C
SI-6011	2	SH 1 L-3	B	1½	GL	SO	C	O	Q*	TNT	3.1.1	C	SIS Recirc. Sump Sampling Isolation CIAS Closes	Active C
SI-6012	2	SH 1 M-3	B	1½	GL	SO	C	O	Q*	TNT	3.1.1	C	SIS Recirc. Sump Sampling Isolation CIAS Closes	Active C
SI-602A	2	SH 1 J-3	B	24	B	MO	C	AI	Q*	-	-	O,C	SIS Sump Outlet Isolation. SIAS Closes, RAS opens.	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (29 of 101)

VALVES FOR INSERVICE TESTING

System: Safety Injection (SI)

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-602B	2	SH 1 K-3	B	24	B	MO	C	AI	Q*	-	-	O,C	SIS Sump Outlet Isolation. SIAS Closes RAS Opens.	Active O and C
SI-604A	2	SH 1 J-2	C	24	CK	SA	C	-	CV	DRR	3.1.21	O	SIS Sump Outlet Check	Active O
SI-604B	2	SH 1 K-2	C	24	CK	SA	C	-	CV	DRR	3.1.21	O	SIS Sump Outlet Check	Active O
SI-717A	3	SH 3 A-2	C	16	CK	SA	C	-	CV	ME	3.1.39	O	RWSP Vacuum Relief	Active O
SI-717B	3	SH 3 A-2	C	16	CK	SA	C	-	CV	ME	3.1.39	O	RWSP Vacuum Relief	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Safety Injection

Drawing Number: LOU-1564-G-167

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SI-307A	2	SH 4 G-9	B	2	GL	AO	C	C	Q*	-	-	C	SIT Fill Isolation	Active C
SI-307B	2	SH 4 G-15	B	2	GL	AO	C	C	Q*	-	-	C	SIT Fill Isolation	Active C
SI-308A	2	SH 2 H-8	B	2	GL	AO	C	C	Q*	-	-	C	SIT Fill Isolation	Active C
SI-308B	2	SH 2 H-14	B	2	GL	AO	C	C	Q*	-	-	C	SIT Fill Isolation	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Containment Spray (CS)

Drawing Number: LOU-1564-G-163

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CS-110A	2	I-5	C	2	CK	SA	C	-	CV	-	-	O	CS Pump A Minimum Flow Recirculation to RWSP	Active O
CS-110B	2	F-5	C	2	CK	SA	C	-	CV	-	-	O	CS Pump B Minimum Flow Recirculation to RWSP	Active O
CS-111A	2	J-5	C	10	CK	SA M	C	-	CV Q	- -	- -	O C	CS Pump A Discharge Check	Active O and C
CS-111B	2	F-5	C	10	CK	SA M	C	-	CV Q	- -	- -	O C	CS Pump B Discharge Check	Active O and C
CS-117A	2	K-9	C	10	CK	SA M	C	-	CV Q	- -	- -	O C	Shutdown Cooling Heat Exchanger A Discharge Check	Active O and C
CS-117B	2	G-9	C	10	CK	SA M	C	-	CV Q	- -	- -	O C	Shutdown Cooling Heat Exchanger B Discharge Check	Active O and C
CS-125A	2	H-12	B	10	GA	AO	C	O	Q*	- -	- -	O,C	CS Pump A Discharge to Header Isolation CSAS Opens.	Active O Passive C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (32 of 101)

VALVES FOR INSERVICE TESTING

System: Containment Spray (CS)

Drawing Number: LOU-1564-G-163

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CS-125B	2	G-12	B	10	GA	AO	C	O	Q*	-	-	O,C	CS Pump B Discharge to Header Isolation CSAS Opens.	Active O Passive C
CS-128A	2	H-13	C	10	CK	SA	C	-	CV	DRR	3.1.30	O	CS Pump A Discharge to Header Check	Active O
CS-128B	2	G-13	C	10	CK	SA	C	-	CV	DRR	3.1.30	O	CS Pump B Discharge to Header Check	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Emergency Feedwater (EFW)

Drawing Number: LOU-1564-G-153

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
EFW-204A	3	SH 4 L-8	C	1	CK	SA	C	-	CV	-	-	O	EFW Pump A Recirculation to CSP	Active O
EFW-204B	3	SH 4 L-13	C	1	CK	SA	C	-	CV	-	-	O	EFW Pump B Recirculation to CSP	Active O
EFW-204A/B	3	SH 4 L-11	C	1½	CK	SA	C	-	CV	-	-	O	EFW Pump A/B Recirculation to CSP	Active O
EFW-207A	3	SH 4 J-7	C	6	CK	SA	C	-	CV CVC	CS CS	3.1.22 3.2.14	O C	EFW Pump A Discharge Check to Steam Generators	Active O and C
EFW-207B	3	SH 4 J-12	C	6	CK	SA	C	-	CV CVC	CS CS	3.1.22 3.2.14	O C	EFW Pump B Discharge Check to Steam Generators	Active O and C
EFW-207A/B	3	SH 4 J-9	C	6	CK	SA	C	-	CV CVC	CS CS	3.1.23 3.2.14	O C	EFW Pump A/B Discharge Check to Steam Generators	Active O and C
EFW-2191A	3	SH 4 G-7	C	6	CK	SA	C	-	CV	CS	3.1.22	O	EFW Pump Discharge Check to Steam Generators	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Emergency Feedwater (EFW)

Drawing Number: LOU-1564-G-153

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
EFW-2191B	3	SH 4 G-12	C	6	CK	SA	C	-	CV	CS	3.1.22	O	EFW Pump Discharge Check to Steam Generators	Active O
EFW-223A	2	SH 4 C-9	B	4	GL	AO	C	O	Q	-	-	O,C	EFW Flow Control EFAS Opens, MSIS Closes	Active O and C
EFW-223B	2	SH 4 F-11	B	4	GL	AO	C	O	Q	-	-	O,C	EFW Flow Control EFAS Opens, MSIS Closes	Active O and C
EFW-224A	2	SH 4 C-11	B	4	GL	AO	C	O	Q	-	-	O,C	EFW Flow Control EFAS Opens, MSIS Closes	Active O and C
EFW-224B	2	SH 4 F-12	B	4	GL	AO	C	O	Q	-	-	O,C	EFW Flow Control EFAS Opens, MSIS Closes	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Emergency Feedwater (EFW)

Drawing Number: LOU-1564-G-153

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
EFW-228A	2	SH 4 B-11	B	4	GL	AO	C	O	Q*	-	-	O,C	EFW Flow Isolation EFAS Opens MSIS Closes	Active O and C
EFW-228B	2	SH 4 D-12	B	4	GL	AO	C	O	Q*	-	-	O,C	EFW Flow Isolation EFAS Opens MSIS Closes	Active O and C
EFW-229A	2	SH 4 B-9	B	4	GL	AO	C	O	Q*	-	-	O,C	EFW Flow Isolation EFAS Opens MSIS Closes	Active O and C
EFW-229B	2	SH 4 D-10	B	4	GL	AO	C	O	Q*	-	-	O,C	EFW Flow Isolation EFAS Opens MSIS Closes	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Feedwater (FW)

Drawing Number: LOU-1564-G-153

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
FW-166A	5	SH 4 B-5	B	6	GA	AO	O	C	Q*	CSP	3.2.23 3.2.9	C	Main Feedwater Control Bypass	Active C
FW-166B	5	SH 4 E-5	B	6	GA	AO	O	C	Q*	CSP	3.2.23 3.2.9	C	Main Feedwater Control Bypass	Active C
FW-173A	5	SH 4 C-5	B	16	ANG	AO	O	C	Q*	CSP	3.1.51 3.2.9	C	Main Feedwater Control	Active C
FW-173B	5	SH 4 G-5	B	16	ANG	AO	O	C	Q*	CSP	3.1.51 3.2.9	C	Main Feedwater Control	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Feedwater (FW)

Drawing Number: LOU-1564-G-153

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
FW-184A	2	SH 4 A-9	B	20	GA	HP	O	AI	Q*	CSP	3.1.26 3.2.9	C	Feedwater Isolation	Active C
FW-184B	2	SH 4 D-10	B	20	GA	HP	O	AI	Q*	CSP	3.1.26 3.2.9	C	Feedwater Isolation	Active C
FW-1763A	3	SH 4 C-7	C	1	CK	SA	C	-	CV CVC	- CS	3.2.15 3.2.15	O C	EFW Keep-full check	Active O and C
FW-1763B	3	SH 4 F-7	C	1	CK	SA	C	-	CV CVC	- CS	3.2.15 3.2.15	O C	EFW Keep-full check	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Feedwater

Drawing Number: LOU-1564-G-153

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
FW-181A	2	SH 4 A-9	C	20	CK	SA	O	-	CVV	CS	3.2.16	C	FW to SG 1	Active C
FW-181B	2	SH 4 D-10	C	20	CK	SA	O	-	CVV	CS	3.2.16	C	FW to SG 2	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Main Steam (MS)

Drawing Number: LOU-1564-G-151

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
MS-106A	2	SH 1 B-3	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-106B	2	SH 1 H-3	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-108A	2	SH 1 B-4	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-108B	2	SH 1 H-4	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-110A	2	SH 1 B-5	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-110B	2	SH 1 H-5	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-112A	2	SH 1 B-5	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-112B	2	SH 1 H-5	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Main Steam (MS)

Drawing Number: LOU-1564-G-151

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
MS-113A	2	SH 1 B-6	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-113B	2	SH 1 H-6	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-114A	2	SH 1 B-7	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-114B	2	SH 1 H-7	C	8x10x 10	PR	SA	C	-	SRV	-	3.1.64	O,C	Main Steam Safety	Active O and C
MS-116A	2	SH 1 B-8	B	8x12	ANG	AO	C	C	Q	-	-	O C	Main Steam Atmospheric Dump	Active O Passive C
MS-116B	2	SH 1 H-8	B	8x12	ANG	AO	C	C	Q	-	-	O C	Main Steam Atmospheric Dump	Active O Passive C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Main Steam (MS)

Drawing Number: LOU-1564-G-165

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
MS-119A	2	SH 3 C-17	B	2	GL	MO	C	AI	Q*	-	-	C	Drain	Active C
MS-119B	2	SH 3 F-18	B	2	GL	MO	C	AI	Q*	-	-	C	Drain	Active C
MS-120A	2	SH 3 B-17	B	2	GL	MO	O	AI	Q*	-	-	C	Drain	Active C
MS-120B	2	SH 3 E-18	B	2	GL	MO	O	AI	Q*	-	-	C	Drain	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Main Steam (MS)

Drawing Number: LOU-1564-G-151

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
MS-124A	2	SH 1 C-8	B	40	GA	HP	O	AI	Q*	CSP	3.1.29 3.2.9	C	Main Steam Isolation Valve (MSIV)	Active C
MS-124B	2	SH 1 H-8	B	40	GA	HP	O	AI	Q*	CSP	3.1.29 3.2.9	C	Main Steam Isolation Valve (MSIV)	Active C
MS-401A	2	SH 1 F-7	B	6	GA	MO	C	AI	Q*	-	-	O	Main Steam to EFW Pump A/B Turbine	Active O
MS-401B	2	SH 1 J-7	B	6	GA	MO	C	AI	Q*	-	-	O	Main Steam to EFW Pump A/B Turbine	Active O
MS-402A	3	SH 1 F-6	C	6	CK	SA	C	-	CV CVC	CSP CS	3.1.44 3.1.53	O C	Main Steam to EFW Pump A/B Turbine	Active O and C
MS-402B	3	SH 1 J-7	C	6	CK	SA	C	-	CV CVC	CSP CS	3.1.44 3.1.53	O C	Main Steam to EFW Pump A/B Turbine	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Emergency Generator Diesel Fuel (EGF)

Drawing Number: LOU-1564-G-164

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
EGF-109A	3	SH 1 J-4	C	2	CK	SA	C	-	CV	-	-	O	Diesel Oil Transfer Pump A Discharge Check	Active O
EGF-109B	3	SH 1 M-4	C	2	CK	SA	C	-	CV	-	-	O	Diesel Oil Transfer Pump B Discharge Check	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Emergency Generator Air (EGA)

Drawing Number: LOU-1564-G-164

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
EGA-136A	3	SH 2 I-2	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Air Dryer/Compressor Supply to Receiver A2	Active C
EGA-136B	3	SH 2 M-2	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Air Dryer/Compressor Supply to Receiver B2	Active C
EGA-137A	3	SH 2 G-2	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Air Dryer/Compressor Supply to Receiver A1	Active C
EGA-137B	3	SH 2 K-2	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Air Dryer/Compressor Supply to Receiver B1	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Emergency Generator Air (EGA)

Drawing Number: LOU-1564-G-164

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
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CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (45A of 101)

VALVES FOR INSERVICE TESTING

System: Chilled Water (CHW)

Drawing Number: LOU-1564-G-853 (S03)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CHW-114A	3	H-1	C	6	CK	SA	O	-	CV	-	-	O	Chilled Water Pump A Discharge Check	Active O
CHW-114B	3	H-14	C	6	CK	SA	O	-	CV	-	-	O	Chilled Water Pump B Discharge Check	Active O
CHW-114A/B	3	H-6	C	6	CK	SA	O	-	CV	-	-	O	Chilled Water Pump A/B Discharge Check	Active O
CHW-129A	3	J-3	B	3	GL	HO	O	O	Q	-	-	O	Chilled Water Pump A Bypass	Active O
CHW-129B	3	J-12	B	3	GL	HO	O	O	Q	-	-	O	Chilled Water Pump B Bypass	Active O
CHW-129A/B	3	J-8	B	3	GL	HO	O	O	Q	-	-	O	Chilled Water Pump A/B Bypass	Active O
CHW-135A	3	L-7	B	10	B	AO	O	C	Q*	-	-	C	Essential Chilled Water Train Separation	Active C
CHW-135B	3	L-8	B	10	B	AO	O	C	Q*	-	-	C	Essential Chilled Water Train Separation	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Chilled Water (CHW)

Drawing Number: LOU-1564-G-853 (S03)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTER-NATES	RELIEF REQUEST/ CLARIFI-CATIONS	SAFETY POSI-TION	FUNCTION	REMARKS
CHW-303	3	L-7	B	4	B	AO	O	C	Q*	-	-	C	Non-Essential Chilled Water Isolation	Active C
CHW-304	3	M-7	B	4	B	AO	O	C	Q*	-	-	C	Non-Essential Chilled Water Isolation	Active C
CHW-780	3	N-7	B	4	B	AO	O	C	Q*	-	-	C	Non-Essential Chilled Water Isolation	Active C
CHW-781	3	N-7	B	4	B	AO	O	C	Q*	-	-	C	Non-Essential Chilled Water Isolation	Active C
CHW-783A	3	M-6	B	10	B	AO	O	C	Q*	-	-	C	Essential Chilled Water Train Separation	Active C
CHW-783B	3	M-8	B	10	B	AO	O	C	Q*	-	-	C	Essential Chilled Water Train Separation	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Chilled Water (CHW)

Drawing Number: LOU-1564-G-853

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CHW-578	3	SH 6 I-14	B	2	GL	HO	O	O	Q	-	-	O	Chilled Water AH-30 (3A-SA)	Active O
CHW-887	3	SH 6 I-14	B	2	GL	HO	O	O	Q	-	-	O	Chilled Water AH-30 (3B-SB)	Active O
CHW-603	3	SH 6 A-19	B	4	GL	HO	O	O	Q	-	-	O	Chilled Water Return AH-12 (3A-SA)	Active O
CHW-919	3	SH 6 A-19	B	4	GL	HO	O	O	Q	-	-	O	Chilled Water Return AH-12 (3B-SB)	Active O
CHW-591	3	SH 6 E-19	B	4	GL	HO	O	O	Q	-	-	O	Chilled Water Return AH-25 (3A-SA)	Active O
CHW-900	3	SH 6 E-19	B	4	GL	HO	O	O	Q	-	-	O	Chilled Water Return AH-25 (3B-SB)	Active O
CHW-526	3	SH 6 D-5	B	1	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-3 (3A-SA)	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Chilled Water (CHW)

Drawing Number: LOU-1564-G-853

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CHW-827	3	SH 6 D-5	B	1	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-3 (3B-SB)	Active O
CHW-561	3	SH 6 D-5	B	1½	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-10 (3A-SA)	Active O
CHW-861	3	SH 6 D-5	B	1½	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-10 (3B-SB)	Active O
CHW-516	3	SH 6 D-5	B	1¾	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-17 (3A-SA)	Active O
CHW-818	3	SH 6 D-5	B	1¾	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-17 (3B-SB)	Active O
CHW-504	3	SH 6 D-5	B	1¾	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-18 (3A-SA)	Active O
CHW-811	3	SH 6 D-5	B	1¾	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-18 (3B-SB)	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Chilled Water (CHW)

Drawing Number: LOU-1564-G-853

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CHW-567	3	SH 6 D-5	B	1½	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-20 (3A-SAB)	Active 0
CHW-867	3	SH 6 D-5	B	1½	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-20 (3B-SAB)	Active 0
CHW-851	3	SH 6 D-5	B	2	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-21 (3B-SAB)	Active 0
CHW-510	3	SH 6 D-5	B	1¼	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-22 (3A-SAB)	Active 0
CHW-804	3	SH 6 D-5	B	1¼	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-22 (3B-SAB)	Active 0
CHW-554	3	SH 6 D-5	B	1	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-24 (3A-SA)	Active 0
CHW-874	3	SH 6 D-5	B	1	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-24 (3B-SB)	Active 0

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Chilled Water (CHW)

Drawing Number: LOU-1564-G-853

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CHW-534	3	SH 6 I-6	B	2	GL	HO	O	O	Q	-	-	O	Chilled Water Return AH-2 (3A-SA)	Active 0
CHW-542	3	SH 6 I-6	B	2	GL	HO	O	O	Q	-	-	O	Chilled Water Return AH-2 (3C-SA)	Active 0
CHW-844	3	SH 6 I-6	B	2	GL	HO	O	O	Q	-	-	O	Chilled Water Return AH-2 (3B-SB)	Active 0
CHW-836	3	SH 6 I-6	B	2	GL	HO	O	O	Q	-	-	O	Chilled Water Return AH-2 (3D-SB)	Active 0
CHW-611	3	SH 6 D-5	B	1	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-26 (3A-SA)	Active 0
CHW-911	3	SH 6 D-5	B	1	GL	AO	O	O	Q	-	-	O	Chilled Water Return AH-26 (3B-SB)	Active 0

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (51 of 101)

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)
Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CC-162	3	SH 1 C-7	C	2	CK	SA	C	-	CV	-	-	O	CCW Surge Tank Overflow Check	Active O
CC-114A	3	SH 2 I-12	B	20	B	AO	O	O	Q*	-	-	C	CCW Pumps Suction Header Isolation	Active C
CC-114B	3	SH 2 I-13	B	20	B	AO	O	O	Q*	-	-	C	CCW Pumps Suction Header Isolation	Active C
CC-115A	3	SH 2 I-12	B	20	B	AO	O	O	Q*	-	-	C	CCW Pumps Suction Header Isolation	Active C
CC-115B	3	SH 2 I-13	B	20	B	AO	O	O	Q*	-	-	C	CCW Pumps Suction Header Isolation	Active C
CC-123A	3	SH 2 E-12	C	20	CK	SA	O	-	CV CVC	- -	- -	O C	CCW Pump A Discharge Check	Active O and C
CC-123B	3	SH 2 D-13	C	20	CK	SA	O	-	CV CVC	- -	- -	O C	CCW Pump B Discharge Check	Active O and C
CC-123A/B	3	SH 2 E-12	C	20	CK	SA	O	-	CV	-	-	O	CCW Pump A/B Discharge Check	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)
Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CC-126A	3	SH 2 C-12	B	20	B	AO	O	O	Q*	-	-	C	CCW Pumps Discharge Header Isolation	Active C
CC-126B	3	SH 2 C-13	B	20	B	AO	O	O	Q*	-	-	C	CCW Pumps Discharge Header Isolation	Active C
CC-127A	3	SH 2 C-12	B	20	B	AO	O	O	Q*	-		C	CCW Pumps Discharge Header Isolation	Active C
CC-127B	3	SH 2 C-13	B	20	B	AO	O	O	Q*	-	-	C	CCW Pumps Discharge Header Isolation	Active C
CC-134A	3	SH 2 B-8	B	16	B	AO	C	AI	Q*	-	-	O,C	Dry Cooling Tower A Bypass	Active O and C
CC-134B	3	SH 5 B-7	B	16	B	AO	C	AI	Q*	-	-	O,C	Dry Cooling Tower B Bypass	Active O and C
CC-135A	3	SH 2 B-11	B	20	B	AO	O	AI	Q*	-	-	O,C	Dry Cooling Tower A Inlet Isolation	Active O and C
CC-135B	3	SH 5 B-5	B	20	B	AO	O	AI	Q*	-	-	O,C	Dry Cooling Tower B Inlet Isolation	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)

Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CC-181A	3	SH 2 B-5	C	20	CK	SA	O	-	CV CVC	- CS	- 3.2.25	O C	Dry Cooling Tower A Outlet Check	Active O and C
CC-181B	3	SH 5 B-11	C	20	CK	SA	O	-	CV CVC	- CS	- 3.2.25	O C	Dry Cooling Tower B Outlet Check	Active O and C
CC-200A	3	SH 2 I-8	B	16	B	AO	O	C	Q*	-	-	C	Non-Essential CCW Isolation and Essential CCW Train Separation	Active C
CC-200B	3	SH 2 I-10	B	16	B	AO	O	C	Q*	-	-	C	Non-Essential CCW Isolation and Essential CCW Train Separation	Active C
CC-301A	3	SH 6 B-4	B	6	B	AO	O	AI	Q*	-	-	C	Chiller Inlet Isolation	Active C
CC-301B	3	SH 6 B-6	B	6	B	AO	O	AI	Q*	-	-	C	Chiller Inlet Isolation	Active C
CC-302A	3	SH 6 B-4	C	6	CK	SA	O	-	CV	-	-	O	Chiller Inlet Check	Active O
CC-302B	3	SH 6 B-6	C	6	CK	SA	O	-	CV	-	-	O	Chiller Inlet Check	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)
Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
ACC-139A	3	SH 6 E-2	B	6	B	AO	C	AI	Q*	-	-	O	Chiller Discharge to Wet Tower A Isolation (Previously CC-320A)	Active O
ACC-139B	3	SH 6 G-2	B	6	P	AO	C	AI	Q*	-	-	O	Chiller Discharge to Wet Tower B Isolation (Previously CC-320B)	Active O
ACC-140A	3	SH 6 E-2	C	6	CK	SA	C	-	CV	-	-	O	Chiller Discharge to Wet Tower A Check (Previously CC-321A)	Active O
ACC-140B	3	SH 6 G-2	C	6	CK	SA	C	-	CV	-	-	O	Chiller Discharge to Wet Tower B Check (Previously CC-321B)	Active O
CC-322A	3	SH 6 E-3	B	6	B	AO	O	AI	Q*	-	-	C	Chiller Discharge to CCW Pump Suction Header	Active C
CC-322B	3	SH 6 D-9	B	6	B	AO	O	AI	Q*	-	-	C	Chiller Discharge to CCW Pump Suction Header	Active C
CC-323A	3	SH 6 D-3	C	6	CK	SA	O	-	CV	-	-	O	Chiller Discharge to CCW Pump Suction Header	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)
Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CC-323B	3	SH 6 D-9	C	6	CK	SA	O	-	CV	-	-	O	Chiller Discharge to CCW Pump Suction Header	Active O
CC-413A	3	SH 3 M-5	B	6	B	AO	C	O	Q	-	-	O	CCW from Diesel Generator to CCW Pump Suction Header	Active O
CC-413B	3	SH 3 L-10	B	6	B	AO	C	O	Q	-	-	O	CCW from Diesel Generator to CCW Pump Suction Header	Active O
CC-501	3	SH 2 L-9	B	12	B	AO	O	C	Q*	-	-	C	Non-Essential CCW Isolation	Active C
CC-565	3	SH 2 J-12	B	12	B	AO	O	C	Q*	-	-	C	Non-Essential CCW Isolation	Active C
CC-563	3	SH 2 J-12	B	16	B	AO	O	C	Q*	-	-	C	Non-Essential CCW Isolation	Active C
CC-641	2	SH 4 G-6	A	10	B	AO	O	O	Q* LT	CS LTJ	3.1.31 3.2.9 3.1.55	C	CCW to Reactor Coolant Pumps and CEDM's	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)
Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CC-710	2	SH 4 L-7	A	10	B	AO	O	O	Q* LT	CS LTJ	3.1.31 3.2.9 3.1.55	C	CCW to Reactor Coolant Pumps and CEDM's	Active C
CC-713	2	SH 1 D-1	A	10	B	AO	O	O	Q* LT	CS LTJ	3.1.31 3.2.9 3.1.55	C	CCW to Reactor Coolant Pumps and CEDM's	Active C
CC-727	3	SH 2 J-11	B	16	B	AO	O	C	Q*	-	-	C	Essential CCW Train Separation	Active C
CC-807A	2	SH 4 H-7	B	8	B	AO	O	O	Q*	-	-	O	CCW to CTMT Fan Cooler 3C. SIAS Opens	Active O
CC-807B	2	SH 4 H-16	B	8	B	AO	O	O	Q*	-	-	O	CCW to CTMT Fan Cooler 3B. SIAS Opens	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)
Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CC-808A	2	SH 4 H-11	B	8	B	AO	O	O	Q*	-	-	O	CCW to CTMT Fan Cooler 3A. SIAS Opens	Active O
CC-808B	2	SH 4 H-12	B	8	B	AO	O	O	Q*	-	-	O	CCW to CTMT Fan Cooler 3D. SIAS Opens	Active O
CC-822A	2	SH 4 H-9	B	8	B	AO	O	O	Q*	-	-	O	CCW from CTMT Fan Cooler 3A. SIAS Opens	Active O
CC-822B	2	SH 4 H-13	B	8	B	AO	O	O	Q*	-	-	O	CCW from CTMT Fan Cooler 3D. SIAS Opens	Active O
CC-823A	2	SH 4 H-9	B	8	B	AO	O	O	Q*	-	-	O	CCW from CTMT Fan Cooler 3C. SIAS Opens	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)

Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CC-823B	2	SH 4 H-14	B	8	B	AO	O	O	Q*	-	-	O	CCW from CTMT Fan Cooler 3B. SIAS opens.	Active O
CC-835A	3	SH 4 J-7	B	8	B	AO	O	O	Q	-	-	O	CCW Flow Controller from CTMT Fan Coolers	Active O
CC-835B	3	SH 4 J-10	B	8	B	AO	O	O	Q	-	-	O	CCW Flow Controller from CTMT Fan Coolers	Active O
CC-963A	3	SH 3 E-5	B	10	B	AO	C	O	Q*	-	-	O	CCW from Shutdown Heat Exchanger A. CSAS Opens	Active O
CC-963B	3	SH 3 H-6	B	10	B	AO	C	O	Q*	-	-	O	CCW from Shutdown Heat Exchanger B. SIAS Opens	Active O
ACC-108A	3	SH 2 G-4	C	16	CK	SA	C	-	CV	-	-	O	ACCW Pump A Discharge Check	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)
Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
ACC-108B	3	SH 5 G-11	C	16	CK	SA	C	-	CV	-	-	O	ACCW Pump B Discharge Check	Active O
ACC-112A	3	SH 6 B-3	B	6	B	AO	C	AI	Q*	-	-	O	ACCW Pump A Discharge to Chillers	Active O
ACC-112B	3	SH 6 B-8	B	6	B	AO	C	AI	Q*	-	-	O	ACCW Pump B Discharge to Chillers	Active O
ACC-113A	3	SH 6 B-3	C	6	CK	SA	C	-	CV	-	-	O	ACCW Pump A Discharge to Chillers	Active O
ACC-113B	3	SH 6 B-7	C	6	CK	SA	C	-	CV	-	-	O	ACCW Pump B Discharge to Chillers	Active O
ACC-126A	3	SH 2 G-7	B	12	B	AO	O	O	Q	-	-	O	ACCW Train A Temperature Controller	Active O
ACC-126B	3	SH 5 G-8	B	12	B	AO	O	O	Q	-	-	O	ACCW Train B Temperature Controller	Active O
CC-644	2	SH 4 F-6	AC	10	CK	SA	O	-	CVV LT	CS LTJ	3.2.18 3.1.55	C	CCW to Reactor Coolant Pumps and CEDM's	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (60 of 101)

VALVES FOR INSERVICE TESTING

System: Component Cooling Water (CC)
Including Auxiliary Component Cooling Water (ACC)
Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
ACC-114A	3	G-160 SH 6 I-12	B	6	B	M	LC	-	Q	-	-	O	ACCW Pump A to EFW Pumps Suction Header	Active O
ACC-114B	3	G-160 SH 6 I-12	B	6	B	M	LC	-	Q	-	-	O	ACCW Pump B to EFW Pumps Suction Header	Active O
ACC-116A	3	G-160 SH 6 I-13	B	6	GA	M	LC	-	Q	-	-	O C	ACCW Pump A to EFW Pumps Suction Header	Active O Passive C
ACC-116B	3	G-160 SH 6 I-13	B	6	GA	M	LC	-	Q	-	-	O C	ACCW Pump B to EFW Pumps Suction Header	Active O Passive C
CC-620	3	G-160 SH 4 K-3	B	12	B	AO	O	C	Q*	-	-	C	CCW Outlet from Fuel Pool HX	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Component Cooling Waste Including Auxiliary Component Cooling Water (ACC)

Drawing Number: LOU-1564-G-160

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CC-8081A	3	SH 1 L-10	C	6	CK	SA	C	-	CVV	-	-	C	Outage Ctmt Fan Cooler Supply A	Active C
CC-8051B	3	SH 1 L-11	C	6	CK	SA	C	-	CVV	-	-	C	Outage Ctmt Fan Cooler Supply B	Active C
CC-80312B	3	SH 4 J-12	C	1	CK	SA	C	-	CVV	-	-	C	CC Return From PAS	Active C
CC-8068	3	SH 4 L-7	C	1	CK	SA	C	-	CVV	-	-	C	CC Return From PAS	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Annulus Negative Pressure (ANP)

Drawing Number: LOU-1564-G-853 (S02)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
ANP-101	3	H-7	B	6	B	AO	O	C	Q*	TNT	3.1.1	C	Annulus to ANP Fans Suction	Active C
ANP-102	3	H-7	B	6	B	AO	O	C	Q*	TNT	3.1.1	C	Annulus to ANP Fans Suction	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Containment Atmospheric Purge (CAP)

Drawing Number: LOU-1564-G-853 (S02)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CAP-102	2	G-11	B	48	B	AO	C	C	Q*	-	-	C	Purge Supply to Containment	Active C
CAP-103	2	G-10	A	48	B	AO	C	C	Q* LT	- LTJ	- 3.1.55	C	Purge Supply to Containment. Ctmt Isolation	Active C
CAP-104	2	G-10	A	48	B	AO	C	C	Q* LT	- LTJ	- 3.1.55	C	Purge Supply to Containment. Ctmt Isolation	Active C
CAP-203	2	G-6	A	48	B	AO	C	C	Q* LT	- LTJ	- 3.1.55	C	Purge Exhaust from Containment. Ctmt Isolation	Active C
CAP-204	2	G-6	A	48	B	AO	C	C	Q* LT	- LTJ	- 3.1.55	C	Purge Exhaust from Containment. Ctmt Isolation	Active C
CAP-205	2	H-6	B	48	B	AO	C	C	Q*	-	-	C	Purge Exhaust from Containment	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Containment Atmospheric Release (CAR)

Drawing Number: LOU-1564-G-853 (S02)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CAR-101A	2	H-9	A	4	B	M	C	-	Q LT	- LTJ	- 3.1.55	O C	CAR Supply Isolation Ctmt Isolation	Active O Passive C
CAR-101B	2	H-9	A	4	B	M	C	-	Q LT	- LTJ	- 3.1.55	O C	CAR Supply Isolation Ctmt Isolation	Active O Passive C
CAR-102A	2	G-9	AC	4	CK	SA	C	-	CV CVC LT	CS ME LTJ	3.1.48 3.1.47 3.1.55	O C	CAR Supply Isolation Ctmt Isolation	Active O and C
CAR-102B	2	G-9	AC	4	CK	SA	C	-	CV CVC LT	CS ME LTJ	3.1.48 3.1.47 3.1.55	O C	CAR Supply Isolation Ctmt Isolation	Active O and C
CAR-200B	2	E-4	A	3	BL	AO	C	C	Q* LT	- LTJ	- 3.1.55	C	CAR Containment Pressure Reduction Isolation. Ctmt Isolation. CIAS closes.	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Containment Atmospheric Release (CAR)

Drawing Number: LOU-1564-G-853 (S02)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CAR-201A	2	E-4	A	4	B	MO	C	AI	Q* LT	- LTJ	- 3.1.55	O,C C	CAR Exhaust Isolation Ctmt Isolation. CIAS closes, but has override.	Active O and C
CAR-201B	2	E-4	A	4	B	MO	C	AI	Q* LT	- LTJ	- 3.1.55	O,C C	CAR Exhaust Isolation Ctmt Isolation. CIAS closes but has override.	Active O and C
CAR-202A	2	E-3	A	4	B	M	C	-	Q LT	- LTJ	- 3.1.55	O C	CAR Exhaust Isolation Ctmt Isolation	Active O Passive C
CAR-202B	2	E-3	A	4	BL	AO	C	C	Q* LT	- LTJ	- 3.1.55	O,C C	CAR Exhaust Isolation CTMT Isolation CIAS closes	Active O and C
CAR-204A	2	E-3	B	4	B	MO	C	AI	Q*	-	-	O,C	CAR Exhaust Isolation CIAS closes	Active O and C
CAR-204B	2	E-3	B	4	B	MO	C	AI	Q*	-	-	O,C	CAR Exhaust Isolation CIAS closes	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Containment Atmospheric Release

Drawing Number: LOU-1564-G853 (SO2)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CAR-203A	2	E-3	B	4	B	M	C	C	Q	-	-	O	CARS Exhaust fan Suction.	Active O
CAR-203B	2	I-4	B	4	B	M	C	C	Q	-	-	O	CARS Exhaust fan Suction	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Containment Vacuum Relief (CVR)

Drawing Number: LOU-1564-G-853 (S02)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CVR-101	2	E-10	A	24	B	AO	C	C	Q* LT	- LTJ	- 3.1.55	O C	Vacuum Relief Isolation CTMT Isolation Differential Pressure Opens.	Active O Passive C
CVR-102	2	E-10	AC	24	CK	SA	C	-	CV CVC LT	CS ME LTJ	3.1.49 3.1.47 3.1.55	O C	Vacuum Relief Check	Active O and C
CVR-201	2	H-8	A	24	B	AO	C	C	Q* LT	- LTJ	- 3.1.55	O C	Vacuum Relief Isolation CTMT Isolation Differential pressure opens.	Passive C Active O
CVR-202	2	H-8	AC	24	CK	SA	C	-	CV CVC LT	CS ME LTJ	3.1.49 3.1.47 3.1.55	O C	Vacuum Relief Check	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Containment Vacuum Relief (CVR)

Drawing Number: LOU-1564-B-431

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CVR-401A	2	SH 283S	B	½	GL	SO	O	C	Q*	TNT	3.1.1	C	Non-Essential Instrumentation Isolation	Active C
CVR-401B	2	SH 283S	B	½	GL	SO	O	C	Q*	TNT	3.1.1	C	Non-Essential Instrumentation Isolation	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIRE! NT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Control Room HVAC (HVC)

Drawing Number: LOU-1564-G-853 (S01)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
HVC-101	3	J-13	B	16	B	AO	O	C	Q*	-	-	C	Normal AH-12 Supply Isolation	Active C
HVC-102	3	J-13	B	16	B	AO	O	C	Q*	-	-	C	Normal AH-12 Supply Isolation	Active C
HVC-201A	3	J-11	B	8	B	MO	C	AI	Q*	-	-	O,C	Emergency AH-12 Supply Isolation	Active O and C
HVC-201B	3	J-11	B	8	B	MO	C	AI	Q*	-	-	O,C	Emergency AH-12 Supply Isolation	Active O and C
HVC-202A	3	J-11	B	8	B	MO	C	AI	Q*	-	-	O,C	Emergency AH-12 Supply Isolation	Active O and C
HVC-202B	3	J-11	B	8	B	MO	C	AI	Q*	-	-	O,C	Emergency AH-12 Supply Isolation	Active O and C
HVC-203A	3	J-11	B	8	B	MO	C	AI	Q*	-	-	O,C	Emergency S-8 Supply Isolation	Active O and C
HVC-203B	3	K-11	B	8	B	MO	C	AI	Q*	-	-	O,C	Emergency S-8 Supply Isolation	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (70 of 101)

VALVES FOR INSERVICE TESTING

System: Control Room HVAC (HVC)

Drawing Number: LOU-1564-G-853 (S01)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
HVC-204A	3	J-11	B	8	B	MO	C	AI	Q*	-	-	O,C	Emergency S-8 Supply Isolation	Active O and C
HVC-204B	3	K-11	B	8	B	MO	C	AI	Q*	-	-	O,C	Emergency S-8 Supply Isolation	Active O and C
HVC-306	3	J-17	B	12	B	AO	O	C	Q*	-	-	C	E-34 (3A and 3B) Discharge Isolation	Active C
HVC-307	3	J-17	B	12	B	AO	O	C	Q*	-	-	C	E-34 (3A and 3B) Discharge Isolation	Active C
HVC-313	3	I-14	B	12	B	AO	O	C	Q*	-	-	C	E-42 Discharge Isolation	Active C
HVC-314	3	I-14	B	12	B	AO	O	C	Q*	-	-	C	E-42 Discharge Isolation	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Reactor Auxiliary Building HVAC (HVR)

Drawing Number: LOU-1564-G-853 (S01)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
HVR-104	3	E-5	B	30	B	AO	O	C	Q*	-	-	C	Pipe Penetration Area Isolation	Active C
HVR-105	3	E-5	B	30	B	AO	O	C	Q*	-	-	C	Pipe Penetration Area Isolation	Active C
HVR-106	3	I-6	B	36	B	AO	O	C	Q*	-	-	C	Controlled Ventilation Area Isolation	Active C
HVR-107	3	I-6	B	36	B	AO	O	C	Q*	-	-	C	Controlled Ventilation Area Isolation	Active C
HVR-108	3	E-1	B	42	B	AO	O	C	Q*	-	-	C	Controlled Ventilation Area Isolation	Active C
HVR-109	3	D-1	B	42	B	AO	O	C	Q*	-	-	C	Controlled Ventilation Area Isolation	Active C
HVR-110	3	D-1	B	12	B	AO	O	C	Q*	-	-	C	Pipe Chase Area Isolation	Active C
HVR-111	3	D-1	B	12	B	AO	O	C	Q*	-	-	C	Pipe Chase Area Isolation	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Reactor Auxiliary Building HVAC (HVR)

Drawing Number: LOU-1564-G-853 (S01)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
HVR-301	3	I-5	B	18	B	AO	C	O	Q*	-	-	O	Controlled Ventilation Area Isolation	Active O
HVR-302	3	E-1	B	14	B	AO	C	O	Q*	-	-	O	Controlled Ventilation Area Isolation	Active O
HVR-304A	3	B-1	B	18	B	MO	C	AI	Q*	-	-	O	E-23 (3A) Suction Isolation	Active O
HVR-304B	3	A-1	B	18	B	MO	C	AI	Q*	-	-	O	E-23 (3B) Suction Isolation	Active O
HVR-313A	3	B-2	B	18	B	MO	C	AI	Q*	-	-	O	E-23 (3A) Suction Isolation	Active O
HVR-313B	3	A-2	B	18	B	MO	C	AI	Q*	-	-	O	E-23 (3B) Suction Isolation	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (73 of 101)

VALVES FOR INSERVICE TESTING

System: Shield Building Ventilation (SBV)

Drawing Number: LOU-1564-G-853 (S02)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SBV-101A	2	F-4	B	30	B	MO	C	AI	Q*	-	-	O	SBV Fan A Suction Isolation	Active O
SBV-101B	2	G-4	B	30	B	MO	C	AI	Q*	-	-	O	SBV Fan B Suction Isolation	Active O
SBV-110A	2	H-2	B	30	B	MO	C	AI	Q*	-	-	O	SBV Fan A Suction Isolation	Active O
SBV-110B	2	H-3	B	30	B	MO	C	AI	Q*	-	-	O	SBV Fan B Suction Isolation	Active O
SBV-112A	2	F-2	C	30	CK	SA	C	-	CV	-	-	O	SBV Fan A Discharge to Shield Building Check	Active O
SBV-112B	2	F-2	C	30	CK	SA	C	-	CV	-	-	O	SBV Fan B Discharge to Shield Building Check	Active O
SBV-113A	2	F-4	B	30	B	MO	C	AI	Q*	-	-	O,C	SBV Fan A Discharge to Shield Building Isolation	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Shield Building Ventilation (SBV)

Drawing Number: LOU-1564-G-853 (S02)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SBV-113B	2	F-4	B	30	B	MO	C	AI	Q*	-	-	O,C	SBV Fan B Discharge to Shield Building Isolation	Active O and C
SBV-114A	2	S01 D-16	B	30	B	MO	C	AI	Q*	-	-	O,C	SBV Fan A Discharge to Stack Isolation	Active O and C
SBV-114B	2	S01 D-18	B	30	B	MO	C	AI	Q*	-	-	O,C	SBV Fan B Discharge to Stack Isolation	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Instrument Air (IA)

Drawing Number: LOU-1564-G-166

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
IA-909	2	G-152 SH 4 B-11	A	2	GL	AO	O	C	Q☆ LT	CS LTJ	3.1.32 3.2.9 3.1.55	C	Containment Instrument Air Supply Isolation	Active C
IA-910	2	G-152 SH 6 L-12	AC	2	CK	SA	O	-	CVV LT	LTJ LTJ	3.1.33 3.1.55	C	Containment Instrument Air Supply Check	Active C
IA-573132	3	SH 2 G-8	AC	1	CK	SA	O	-	CVV LT	- -	- -	C	Instrument Air Supply to Nitrogen Header Check	Active C
IA-57212	3	SH 2 G-8	AC	1	CK	SA	O	-	CVV LT	- -	- -	C	Instrument Air Supply to Nitrogen Header Check	Active C
IA-520212	3	SH 2 G-8	AC	1	CK	SA	O	-	CVV LT	- -	- -	C	Instrument Air Supply to Nitrogen Header Check	Active C
IA-520242	3	SH 2 G-8	AC	1	CK	SA	O	-	CVV LT	- -	- -	C	Instrument Air Supply to Nitrogen Header Check	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Instrument Air (IA)

Drawing Number: LOU-1564-G-166

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
IA-552182	3	SH 2 G-8	AC	1	CK	SA	O	-	CVV LT	- -	- -	C	Instrument Air Supply to Nitrogen Header Check	Active C
IA-552202	3	SH 2 G-8	AC	1	CK	SA	O	-	CVV LT	- -	- -	C	Instrument Air Supply to Nitrogen Header Check	Active C
IA-90232	3	SH 2 G-8	AC	1	CK	SA	O	-	CVV LT	- -	- -	C	Instrument Air Supply to Nitrogen Header Check	Active C
IA-902112	3	SH 2 G-8	AC	1	CK	SA	O	-	CVV LT	- -	- -	C	Instrument Air Supply to Nitrogen Header Check	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Station Air (SA)

Drawing Number: LOU-1564-G-157

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SA-908	2	E-12	A	2	GA	M	LC	-	LT	LTJ	3.1.55	C	Containment Station Air Supply Isolation CTMT Isolation	Passive C
SA-909	2	D-12	AC	2	CK	SA	C	-	CVV LT	LTJ LTJ	3.1.35 3.1.55	C	Containment Station Air Supply Check CTMT Isolation	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Leak Rate Testing (LRT)

Drawing Number: LOU-1564-G-164

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
LRT-109	2	SH 1 N-12	A	10	GA	M	LC	-	LT	LTJ	3.1.55	C	Containment Leak Rate Test Valve CTMT Isolation	Passive C
LRT-201	2	SH 1 M-14	A	1	GL	M	LC	-	LT	LTJ	3.1.55	C	Integrated Leakage Rate Test (ILRT) Pressure Test Tap. CTMT Isolation	Passive C
LRT-202	2	SH 1 M-14	A	1	GL	M	LC	-	LT	LTJ	3.1.55	C	Integrated Leakage Rate Test (ILRT) Pressure Test Tap. CTMT Isolation	Passive C
LRT-203	2	SH 1 M-14	A	1	GL	M	LC	-	LT	LTJ	3.1.55	C	Controlled Leakage Rate Test Bleedoff. CTMT Isolation	Passive C
LRT-204	2	SH 1 M-14	A	1	GL	M	LC	-	LT	LTJ	3.1.55	C	Controlled Leakage Rate Test Bleedoff. CTMT Isolation	Passive C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Area Radiation Monitoring (ARM)

Drawing Number: LGD-1564-G-164

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
ARM-103	2	SH 2 J-15	A	3/4	GL	SO	O	C	Q* LT	TNT LTJ	3.1.1 3.1.55	C	Containment Radiation Monitor Isolation	Active C
ARM-104	2	SH 2 J-15	AC	3/4	CK	SA	O	-	CVV LT	LTJ LTJ	3.1.33 3.1.55	C	Containment Radition Monitor Check	Active C
ARM-109	2	SH 2 J-15	A	3/4	GL	SO	O	C	Q* LT	TNT LTJ	3.1.1 3.1.55	C	Containment Radiation Monitor Isolation	Active C
ARM-110	2	SH 2 J-15	A	3/4	GL	SO	O	C	Q* LT	TNT LTJ	3.1.1 3.1.55	C	Containment Radiation Monitor Isolation	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Fuel Pool Cooling and Purification (FS)

Drawing Number: LOU-1564-G-163

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
FS-405	2	H-13	A	3	GA	M	LC	-	LT	LTJ	3.1.55	C	Refueling Cavity Inlet Isolation	Passive C
FS-406	2	H-14	A	3	GA	M	LC	-	LT	LTJ	3.1.55	C	Refueling Cavity Inlet Isolation	Passive C
FS-415	2	I-14	A	6	D	M	LC	-	LT	LTJ	3.1.55	C	Refueling Cavity Drain Pump Discharge Isolation	Passive C
FS-416	2	I-13	A	6	D	M	LC	-	LT	LTJ	3.1.55	C	Refueling Cavity Drain Pump Discharge Isolation	Passive C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Gaseous Waste Management (GMW)

Drawing Number: LOU-1564-G-170

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
GWM-104	2	SH 2 F-7	A	1	D	AO	O	C	Q* LT	TNT LTJ	3.1.1 3.1.55	C	Reactor Coolant Drain Tank Vent to Gas Surge Tank	Active C
GWM-105	2	SH 2 F-7	A	1	D	AO	O	C	Q* LT	TNT LTJ	3.1.1 3.1.55	C	Reactor Coolant Drain Tank Vent to Gas Surge Tank	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Sump Pump (SP)

Drawing Number: LOU-1564-G-173

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SP-105	2	D-9	A	1½	D	AO	O	C	Q*	TNT	3.1.1	C	Containment Sump Pumps Discharge Isolation	Active C
									LT	LTJ	3.1.55			
SP-106	2	D-10	A	1½	D	AO	O	C	Q*	TNT	3.1.1	C	Containment Sump Pumps Discharge Isolation	Active C
									LT	LTJ	3.1.55			

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Boron Management (BM)

Drawing Number: LOU-1564-G-171

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
BM-109	2	SH 1 E-6	A	3	D	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	Reactor Drain Tank Discharge to Reactor Drain Tank Pump Suction	Active C
BM-110	2	SH 1 E-6	A	3	D	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	Reactor Drain Tank Discharge to Reactor Drain Tank Pump Suction	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Condensate Makeup & Storage (CMU)

Drawing Number: LOU-1564-G-161, LOU-1564-G-160, LOU-164-G-164

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
CMU-244	2	G-161 SH 2 E-12	A	1½	GL	M	LC	-	LT	LTJ	3.1.55	C	Condensate Supply to Containment. CTMT Isolation	Passive C
CMU-245	2	G-161 SH 2 E-12	AC	1½	CK	SA	C	-	CVV LT	LTJ LTJ	3.1.35 3.1.55	C	Condensate Supply to Containment	Active C
CMU-510A	3	G-160 SH 3 K-11	C	4	CK	SA	C	-	CVV	-	-	C	Condensate Supply to CHW	Active C
CMU-510B	3	G-160 SH 3 K-14	C	4	CK	SA	C	-	CVV	-	-	C	Condensate Supply to CHW	Active C
CMU-21312A	3	G-160 SH 3 L-8	C	1	CK	SA	C	-	CVV	-	-	C	Demin Water Supply to CC	Active C
CMU-21312B	3	G-160 SH 3 L-8	C	1	CK	SA	C	-	CVV	-	-	C	Demin Water Supply to CC	Active C
CMU-524A	3	G-164 SH 2 G-6	B	1	B	SO	C	O	Q	NST	3.1.68	C	Component Cooling Makeup to Diesel	Active C
CMU-524B	3	G-164 SH 2 L-6	B	1	B	SO	C	O	Q	NST	3.1.68	C	Component Cooling Makeup to Diesel	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

Attachment 6.5 (85 of 101)

VALVES FOR INSERVICE TESTING

System: Primary Makeup (PMU)

Drawing Number: LOU-1564-G-161, LOU-1564-G-168

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
PMU-151	2	SH 2 E-15	A	2	GL	M	LC	-	LT	LTJ	3.1.55	C	Primary Makeup Supply to Containment. Ctmt Isolation.	Passive C
PMU-152	2	SH 2 E-15	AC	2	CK	SA	C	-	CVV LT	LTJ LTJ	3.1.35 3.1.55	C	Primary Makeup Supply to Containment	Active C
PMU-146	3	SH 2 E-2	C	3	CK	SA	C	-	CVV	-	-	C	Primary Makeup Supply to VCT.	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Nitrogen Gas (NG)

Drawing Number: LOU-1564-G-166

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
NG-157	2	SH 1 F-9	A	1	GL	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	Nitrogen Supply to Containment	Active C
NG-158	2	SH 1 F-10	AC	1	CK	SA	C	-	CVV LT	- LTJ	- 3.1.55	C	Nitrogen Supply to Containment	Active C
NG-603	3	SH 2 E-5	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Nitrogen Accumulator Inlet Check	Active C
NG-604	3	SH 2 E-5	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Nitrogen Accumulator Inlet Check	Active C
NG-703	3	SH 2 E-5	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Nitrogen Accumulator Inlet Check	Active C
NG-704	3	SH 2 E-5	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Nitrogen Accumulator Inlet Check	Active C
NG-803	3	SH 2 E-5	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Nitrogen Accumulator Inlet Check	Active C
NG-804	3	SH 2 E-5	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Nitrogen Accumulator Inlet Check	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Nitrogen Gas (NG)

Drawing Number: LOU-1564-G-166

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
NG-903	3	SH 2 E-5	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Nitrogen Accumulator Inlet Check	Active C
NG-904	3	SH 2 E-5	AC	1	CK	SA	C	-	CVV LT	- -	- -	C	Nitrogen Accumulator Inlet Check	Active C
NG-609	3	SH 2 E-7	B	1	GL	SO	C	O	Q	NST	3.1.52	O	Nitrogen Supply to Header Isolation	Active O
NG-610	3	SH 2 E-7	B	1	GL	SO	C	O	Q	NST	3.1.52	O	Nitrogen Supply to Header Isolation	Active O
NG-709	3	SH 2 E-7	B	1	GL	SO	C	O	Q	NST	3.1.52	O	Nitrogen Supply to Header Isolation	Active O
NG-710	3	SH 2 E-7	B	1	GL	SO	C	O	Q	NST	3.1.52	O	Nitrogen Supply to Header Isolation	Active O
NG-809	3	SH 2 E-7	B	1	GL	SO	C	O	Q	NST	3.1.52	O	Nitrogen Supply to Header Isolation	Active O
NG-810	3	SH 2 E-7	B	1	GL	SO	C	O	Q	NST	3.1.52	O	Nitrogen Supply to Header Isolation	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Nitrogen Gas (NG)

Drawing Number: LOU-1564-G-166

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
NG-909	3	SH 2 E-7	B	1	GL	SO	C	O	Q	NST	3.1.52	O	Nitrogen Supply to Header Isolation	Active O
NG-910	3	SH 2 E-7	B	1	GL	SO	C	O	Q	NST	3.1.52	O	Nitrogen Supply to Header Isolation	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Nitrogen Gas (NG)

Drawing Number: LOU-1564-G-166

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
NG-617	3	SH 2 E-8	C	1	CK	SA	C	-	CV	CSP	3.2.28	O	Nitrogen Supply to Header Check	Active O
NG-618	3	SH 2 E-8	C	1	CK	SA	C	-	CV	CSP	3.2.28	O	Nitrogen Supply to Header Check	Active O
NG-717	3	SH 2 E-8	C	1	CK	SA	C	-	CV	CSP	3.2.28	O	Nitrogen Supply to Header Check	Active O
NG-718	3	SH 2 E-8	C	1	CK	SA	C	-	CV	CSP	3.2.28	O	Nitrogen Supply to Header Check	Active O
NG-817	3	SH 2 E-8	C	1	CK	SA	C	-	CV	CSP	3.2.28	O	Nitrogen Supply to Header Check	Active O
NG-818	3	SH 2 E-8	C	1	CK	SA	C	-	CV	CSP	3.2.28	O	Nitrogen Supply to Header Check	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Nitrogen Gas (NG)

Drawing Number: LOU-1564-G-166

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
NG-917	3	SH 2 E-8	C	1	CK	SA	C	-	CV	CSP	3.2.28	O	Nitrogen Supply to Header Check	Active O
NG-918	3	SH 2 E-8	C	1	CK	SA	C	-	CV	CSP	3.2.28	O	Nitrogen Supply to Header Check	Active O

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Hydrogen Recombiner & Analyzer (HRA)

Drawing Number: LOU-1564-B-430 (SP-01)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
HRA-101A	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Containment Dome Sample A	Active O and C
HRA-101B	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Containment Dome Sample B	Active O and C
HRA-102A	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Below Missile Shield Sample A	Active O and C
HRA-102B	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Below Missile Shield Sample B	Active O and C
HRA-103A	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Above Regenerative Heat Exchanger Sample A	Active O and C
HRA-103B	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Above Regenerative Heat Exchanger Sample B	Active O and C
HRA-104A	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Above Steam Generator #2 Compartment Sample A	Active O and C
HRA-104B	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Above Steam Generator #2 Compartment Sample B	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Hydrogen Recombiner & Analyzer (HRA)

Drawing Number: LOU-1564-B-430 (SP-01)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
HRA-105A	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Above Steam Generator #1 Compartment Sample A	Active O and C
HRA-105B	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Above Steam Generator #1 Compartment Sample B	Active O and C
HRA-106A	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Above Pressurizer Sample A	Active O and C
HRA-106B	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Above Pressurizer Sample B	Active O and C
HRA-109A	2	-	A	3/8	GL	SO	C	C	Q* LT	TNT LTJ	3.1.1 3.1.55	O,C	Inlet Header A Isolation (Upstream of Penetration). CTMT Isolation CIAS closes, has override.	Active O and C
HRA-109B	2	-	A	3/8	GL	SO	C	C	Q* LT	TNT LTJ	3.1.1 3.1.55	O,C	Inlet Header B Isolation (Upstream of Penetration). CTMT Isolation CIAS closes, has override.	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Hydrogen Recombiner & Analyzer (HRA)

Drawing Number: LOU-1564-B-430 (SP-01)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
HRA-110A	2	-	A	3/8	GL	SO	C	C	Q* LT	TNT LTJ	3.1.1 3.1.55	O,C	Inlet Header A Isolation (Downstream of Penetration). CTMT Isolation, CIAS closes, but has override.	Active O and C
HRA-110B	2	-	A	3/8	GL	SO	C	C	Q* LT	TNT LTJ	3.1.1 3.1.55	O,C	Inlet Header B Isolation (Downstream of Penetration). CTMT Isolation, CIAS closes, but has override.	Active O and C
HRA-126A	2	-	A	3/8	GL	SO	C	C	Q* LT	TNT LTJ	3.1.1 3.1.55	O,C	Containment Sample Return Isolation. CTMT Isolation, CIAS closes, but has override.	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Hydrogen Recombiner & Analyzer (HRA)

Drawing Number: LOU-1564-B-430 (SP-01)

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
HRA-126B	2	-	A	3/8	GL	SO	C	C	Q* LT	TNT LTJ	3.1.1 3.1.55	O,C C	Containment Sample Return Isolation. CTMT Isolation, CIAS closes, has override.	Active O and C
HRA-128A	2	-	AC	3/8	CK	SA	C	-	CV CVC LT	- LTJ LTJ	- 3.1.67 3.1.55	O C	Containment Sample Return Check	Active O and C
HRA-128B	2	-	AC	3/8	CK	SA	C	-	CV CVC LT	- LTJ LTJ	- 3.1.67 3.1.55	O C	Containment Sample Return Check	Active O and C
HRA-201A	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Annulus Sample A Inlet Isolation	Active O and C
HRA-201B	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Annulus Sample B Inlet Isolation	Active O and C
HRA-202A	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Annulus Sample A Return Isolation	Active O and C
HRA-202B	2	-	B	3/8	GL	SO	C	C	Q	- NST	3.2.8 3.1.38	O,C	Annulus Sample B Return Isolation	Active O and C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Primary Sampling (PSL)

Drawing Number: LOU-1564-G-165

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
PSL-105	2	SH 2 B-5	A	½	GL	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	RCS Loop 1 Hot Leg Sample	Active C
PSL-107	2	SH 2 B-6	A	½	GL	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	RCS Loop 1 Hot Leg Sample	Active C
PSL-203	2	SH 2 B-5	A	½	GL	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	Pressurizer Surge Line Sample	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Primary Sampling (PSL)

Drawing Number: LOU-1564-G-165

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
PSL-204	2	SH 2 B-6	A	½	GL	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	Pressurizer Surge Line Sample	Active C
PSL-303	2	SH 2 A-5	A	½	GL	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	Pressurizer Steam Sample	Active C
PSL-304	2	SH 2 A-6	A	½	GL	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	Pressurizer Steam Sample	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Secondary Sampling (SSL)

Drawing Number: LOU-1564-G-165

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SSL-8004A	2	SH 2 E-1	B	½	GA	AO	O	C	Q*	TNT	3.1.1	C	Steam Generator No. 1 Blowdown Sample Inside Containment Isolation (Previously PSL-404A)	Active C
SSL-8004B	2	SH 2 E-4	B	½	GA	AO	O	C	Q*	TNT	3.1.1	C	Steam Generator No. 2 Blowdown Sample Inside Containment Isolation (Previously PSL-404B)	Active C
SSL-8006A	2	SH 2 F-1	B	½	GA	AO	O	C	Q*	TNT	3.1.1	C	Steam Generator No. 1 Blowdown Sample Outside Containment Isolation (Previously PSL-406A)	Active C
SSL-8006B	2	SH 2 F-4	B	½	GA	AO	O	C	Q*	TNT	3.1.1	C	Steam Generator No. 2 Blowdown Sample Outside Containment Isolation (Previously PSL-406B)	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Secondary Sampling (SSL)

Drawing Number: LOU-1564-G-151

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
SSL-301A	2	SH 1 D-5	B	1	GL	AO	O	C	Q*	-	-	C	Main Steam Sample	Active C
SSL-301B	2	SH 1 I-5	B	1	GL	AO	O	C	Q*	-	-	C	Main Steam Sample	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Blowdown (BD)

Drawing Number: LOU-1564-G-164

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
BD-102A	2	SH 5 G-2	B	4	GA	AO	O	C	Q*	-	-	C	Steam Generator No. 1 Secondary Blowdown	Active C
BD-102B	2	SH 5 G-5	B	4	GA	AO	O	C	Q*	-	-	C	Steam Generator No. 2 Secondary Blowdown	Active C
BD-103A	2	SH 5 H-2	B	4	GA	AO	O	C	Q*	-	-	C	Steam Generator No. 1 Secondary Blowdown	Active C
BD-103B	2	SH 5 H-5	B	4	GA	AO	O	C	Q*	-	-	C	Steam Generator No. 2 Secondary Blowdown	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.

2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

VALVES FOR INSERVICE TESTING

System: Fire Protection (FP)

Drawing Number: LOU-1564-G-161

VALVE NUMBER	CC	LOCATION ON DWG	SECT XI VLV CAT	SIZE IN INCH	VALVE TYPE	ACT TYPE	NORM POSN	FAIL POSN	TEST REQMT	TEST ALTERNATES	RELIEF REQUEST/ CLARIFICATIONS	SAFETY POSITION	FUNCTION	REMARKS
FP-601A	2	SH 1 E-3	A	3	GL	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	Fire Protection Water Supply to Containment	Active C
FP-601B	2	SH 1 E-6	A	3	GL	AO	O	C	Q* LT	- LTJ	- 3.1.55	C	Fire Protection Water Supply to Containment	Active C
FP-602A	2	SH 1 E-3	AC	3	CK	SA	O	-	CVV LT	LTJ LTJ	3.1.35 3.1.55	C	Fire Protection Water Supply to Containment	Active C
FP-602B	2	SH 1 E-6	AC	3	CK	SA	O	-	CVV LT	LTJ LTJ	3.1.35 3.1.55	C	Fire Protection Water Supply to Containment	Active C

CC = CODE CLASS
ACT TYPE = ACTUATOR TYPE
NORM POSN = NORMAL POSITION
FAIL POSN = FAILURE POSITION
TEST REQMT = TEST REQUIREMENT

Notes:

1. Relief Request 3.1.56 applies to all valves which are stroke-time tested.
2. Relief Request 3.1.3 applies to all valves which are cold shutdown tested.

3.1 Requests for Relief from ASME Boiler and Pressure Vessel Code Section XI Valve Testing Requirements

3.1.1 Test Requirement

IWV-3413(b) requires that the stroke time of all power-operated valves shall be measured to the nearest second for stroke times of 10 seconds or less. IWV-3417 requires that on any one test of power-operated valves, an increase in stroke time of 50% or more from the previous test for valves with stroke times of 10 seconds or less, the test frequency shall be increased to once each month until corrective action is taken.

Basis for Relief

These valves have extremely short stroke times. Accurate measurement of these stroke times is not practical. In addition, the stroke times may vary from one test to another due to temperature and/or pressure variations.

Alternate Testing

These valves will be full-stroke tested. The stroke times will be measured to the nearest second and compared to the stroke time limit. Acceptance of the test will be based only on the stroke time limit and not on the "50%" criteria in IWV-3417. Valves that exceed their maximum stroke time limit of 2 seconds will be declared inoperable until corrective action is taken.

Comments

Relief granted per NRC SER dated February 7, 1989 for valves in Group A.

Relief granted per NRC Generic Letter 89-04 for valves in Group B.

Valves

Group A	RC-1014	RC-1015	RC-1017	RC-3183	ARM-103
	RC-3184	RC-3186	SI-1161A	SI-1161B	
	SI-6011	SI-6012	CVR-401A	CVR-401B	
	HRA-109A	HRA-109B	HRA-110A	HRA-110B	
	HRA-126A	HRA-126B	ARM-109	ARM-110	
Group B	ANP-101	ANP-102	GWM-104	GWM-105	SSL-8006A
	SP-105	SP-106	SSL-8004A	SSL-8004B	SSL-8006B

3.1.2 Test Requirement

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

Basis for Relief

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

Alternate Testing

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

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

RC-606
CVC-401

3.1.3 Test Requirement

IWV-3417(b) and IWV-3523 state that when corrective action is required as a result of tests made during cold shutdown, the condition shall be corrected before startup. A retest showing acceptable operation shall be run following any required corrective action before the valve is returned to service.

Basis for Relief

The plant Technical Specifications provide the requirements and plant conditions necessary for plant startup, i.e., mode changes.

Alternate Testing

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

Comments

Relief granted per NRC SER dated February 7, 1989.

3.1.4 This relief request was replaced with clarification 3.2.9 per NRC SER dated February 7, 1989.

3.1.5 This relief request has been deleted.

3.1.6 Test Requirement

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

Basis for Relief

Operability Testing (full or partial stroking) of this normally closed check valve per IWV-3520 requires flow verification utilizing the flow of concentrated boric acid to the suction of the Charging Pumps. During power operation, this flow verification would cause the injection of the boric acid into the Reactor Coolant System causing overboration and possibly causing a plant shutdown.

Alternate Testing

This valve will be full-stroke tested for operability at each cold shutdown with two Charging Pumps operating.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

BAM-115
BAM-135
CVC-508

3.1.7 Test Requirement

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

Basis for Relief

The operability testing (full stroke) of these valves during normal operation could jeopardize the charging function of the CVCS. Failure in a nonconservative (closed) position would eliminate the VCT as a source of RCS charging and possibly cause a plant shutdown. Pressurizer level control would be lost. In addition, the Regenerative Heat Exchanger would be subjected to unwanted thermal shock. The design of the valves will not facilitate a partial-stroke test.

Alternate Testing

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

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CVC-101
CVC-103
CVC-109
CVC-183

3.1.8 Test Requirement

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

Basis for Relief

The auxiliary pressurizer spray water temperature is approximately 140 degrees F. cooler than normal pressurizer spray. Operability testing (full stroke) of these normally closed valves during power operation would result in initiation of auxiliary pressurizer spray which would induce unnecessary thermal shock in the pressurizer and associated piping and nozzles. In addition, the introduction of this cooler water into the pressurizer will result in undesired primary pressure transients. The design of the valves will not facilitate a partial-stroke test.

Alternate Testing

The valves will be full-stroke tested for operability either during cold shutdown or during normal plant cooldown approaching cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CVC-216A
CVC-216B

3.1.9 Test Requirement

IWV-3413(b) requires that the stroke time of all power-operated valves shall be measured to the nearest second for stroke times of 10 seconds or less. IWV-3417 requires that on any one test of power-operated valves, an increase in stroke time of 50% or more from the previous test for valves with stroke times of 10 seconds or less, the test frequency shall be increased to once each month until corrective action is taken.

Basis for Relief

These solenoid-actuated valves have extremely short stroke times. Accurate measurement of these stroke times is not practical. In addition, the stroke times may vary from one test to another due to temperature and/or pressure variations.

Alternate Testing

These valves will be full-stroke exercised either during cold shutdown or during normal plant cooldown approaching cold shutdown. The stroke times will be measured to the nearest second and compared to the stroke time limit. Acceptance of the test will be based only on the stroke time limit and not on the "50%" criteria in IWV-3417.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CVC-216A	SI-323A	SI-324A	SI-325A	SI-326A
CVC-216B	SI-323B	SI-324B	SI-325B	SI-326B

3.1.10 Test Requirement

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

Basis for Relief

Operability testing (full or partial stroking) of these normally closed check valves per IWV-3520 requires flow verification utilizing the auxiliary pressurizer spray flow path. The auxiliary pressurizer spray water temperature is approximately 140 degrees F cooler that normal pressurizer spray. Operability testing of these check valves during power operation would induce unnecessary thermal shock in the pressurizer and associated piping and nozzles. In addition, the introduction of this cooler water into the pressurizer will result in undesired primary pressure transients.

Alternate Testing

The valves will be full-stroke tested for operability either during cold shutdown or during normal plant cooldown approaching cold shutdown with at least two Charging Pumps operating.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CVC-217A
CVC-217B

3.1.11 This relief request was deleted at NRC meeting, October 24, 1984.

3.1.12 Test Requirement

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

Basis for Relief

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

Alternate Testing

These valves will be partial-stroke exercised quarterly (coincident with pump testing) and full-stroke exercised during each refueling outage.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

SI-1071A	SI-201B
SI-1071B	SI-108A
SI-201A	SI-108B

3.1.13 This relief request has been replaced with clarification 3.2.22.

3.1.14 Test Requirement

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

Basis for Relief

The operability testing (full-stroke) of these normally-closed check valves per IWV-3520 requires flow verification into the RCS. These valves cannot be full-stroke exercised during power operation because the HPSI pumps cannot overcome RCS pressure. During power operation, partial stroking these valves, using HPSI flow into containment then back to the RWSP through a drain valve, would defeat the safety function of RCS Pressure Isolation Valves (PIV's). During cold shutdown, these valves cannot be full-stroke exercised because design flow cannot be verified through the valves unless all LOCA test conditions can be met (i.e., suction from the RWSP through two HPSI pumps to the RCS with the RCS at atmospheric pressure). Also, during cold shutdown, these valves cannot be partial-stroke exercised because such testing would induce unwanted thermal shock to the safety injection nozzles and piping. Partial-stroke exercising at cold shutdowns also increases the possibility of overpressurizing the RCS at low temperature.

Alternate Testing

These valves will be full-stroke exercised during each refueling outage, and partial-stroke exercised quarterly.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

SI-207A SI-207B SI-207A/B SI-216

3.1.15 Test Requirement

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

Basis for Relief

The operability testing of these valves during normal operation would cause a loss of system function. Stroking the valves would cause a decrease in safety injection tank (SIT) nitrogen pressure. The failure of one of these valves in a nonconservative (open) position would cause the associated SIT to become inoperable. Valve design does not facilitate partial-stroke testing.

Alternate Testing

These valves will be full-stroke tested for operability during each cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

SI-323A	SI-325A
SI-323B	SI-325B
SI-324A	SI-326A
SI-324B	SI-326B

3.1.16 Test Requirement

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

Basis for Relief

The operability testing of these normally closed check valves per IWV-3520 during normal operation or cold shutdown is not practical. During normal operation, these valves cannot be full-stroke exercised because the safety injection tanks (SIT's) cannot overcome RCS pressure. The valves cannot be partial-stroke exercised during normal operation without making the SIT's inoperable, thus placing the plant in an unsafe condition. During cold shutdown, these valves cannot be fully stroked without overpressurizing the RCS. During refueling outages, these valves cannot be full-stroke exercised at SIT operating pressure without possibly causing internal core damage due to excessive flow rates.

Alternate Testing

The SIT's have four discharge check valves. Three are spring-loaded and will be treated as one group. The other one is non-spring-loaded and will be treated as another group. One check valve from each group will be disassembled and manually exercised to its full-open position during each refueling outage on a staggered sampling basis. The two groups of check valves are as follows:

Group 1 (Spring-Loaded)	Group 2 (Non-Spring-Loaded)
SI-329A	SI-330A
SI-329B	
SI-330B	

These valves will be partial stroke exercised after re-assembly, and during cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

SI-329A SI-330A
SI-329B SI-330B

3.1.17 This relief request was deleted at NRC meeting, October 24, 1984.

3.1.18 Test Requirement

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

Basis for Relief

The operability testing (full or partial stroke) of these normally closed check valves per IWV-3520 during normal operation is not practical. During normal operation, these valves cannot be full-stroke exercised because neither the LPSI pumps, HPSI pumps nor safety injection tanks (SIT's) can overcome RCS pressure. Partial-stroking these valves during power operation using charging flow would induce unwanted thermal shock to safety injection nozzles and piping. During cold shutdown, these valves cannot be full-stroke tested unless all LOCA test conditions can be met. Fulfilling LOCA test conditions would require removing the Reactor Pressure Vessel (RPV) head. However, these valves are partial-stroke tested during each cold shutdown using normal shutdown cooling flow.

Alternate Testing

One check valve from the following group will be disassembled and manually exercised to its full-open position during each refueling outage on a staggered sampling basis:

SI-335A SI-336A
SI-335B SI-336B

These valves are partial stroked after reassembly and during cold shutdown.

Approval

Relief granted per NRC SER dated February 7, 1989

Valves

SI-335A
SI-335B
SI-336A
SI-336B

3.1.19 Test Requirement

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

Basis for Relief

The operability testing (full or partial stroke) of these valves during power operation cannot be accomplished because the valves are interlocked with an RCS pressure signal which prohibits the valves from opening at an RCS pressure greater than 400 psig.

Alternate Testing

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

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

SI-401A	SI-405A
SI-401B	SI-405B

3.1.20 This relief request has been deleted.

3.1.21 Test Requirement

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

Basis for Relief

The operability testing (full-stroke) of these normally closed check valves per IWV-3520 during power operation is not practical. Full stroke exercising requires flow verification from the SIS Sump through a HPSI pump into the RCS with the RCS at atmospheric conditions. During power operation and cold shutdowns, these test conditions cannot be met. During any mode of operation (including power operation, cold shutdown and refueling outages), the pumping of unknown-quality water into the RCS defeats the purpose of primary water chemistry controls and could cause violation of plant Technical Specifications. The only possible means of providing flow through these valves is through the check valve test connection. However, flow through the 3/4 inch test line only verifies a partial-stroke test. The small amount of water that could be pumped through the test connection would not prove operability nor increase plant safety.

Alternate Testing

One of these two check valves will be disassembled and manually exercised by hand to its full-open position at each refueling outage on a staggered sampling basis.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

SI-604A
SI-604B

3.1.22 Test Requirement

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

Basis for Relief

The only positive means of exercising (full-stroke) this normally closed check valve is by directing Emergency Feedwater (EFW) flow into the Steam Generators. The initiation of EFW during power operation would result in unwanted thermal shock to the secondary portions of the Steam Generators, including feedwater nozzles and associated piping up to and including the EFW-to-FW connection. An introduction of cold water into the secondary system will also cause power transients. Partial-stroke testing at power could be performed by providing EFW flow through the valve then through the drain/recirculation line back to the Condensate Storage Pool. However, such testing would cause the diversion of EFW flow from the intended flow path to a non-safety, non-seismic line assuming that EFW flow were then required due to a plant condition change.

Alternate Testing

After leaving cold shutdown and prior to entering Mode 2 (Startup), EFW flow will be directed through the valve at the design flow rate of the EFW system. Verification of this flow through the valve will provide assurance that the valve has opened sufficiently to perform its function (full-stroke).

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

EFW-207A EFW-2191A
EFW-207B EFW-2191B

3.1.23 Test Requirement

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

Basis for Relief

The only positive means of exercising (full or partial stroke) this normally closed check valve is by directing Emergency Feedwater (EFW) flow into the Steam Generators. The initiation of EFW during power operation would result in unwanted thermal shock to the secondary portions of the Steam Generators, including feedwater nozzles and associated piping up to and including the EFW-to-FW connection. An introduction of cold water into the secondary system will also cause power transients. The operation of the Turbine-driven EFW pump during cold shutdowns is not possible because steam for the turbine is not available. Partial-stroke testing at power could be performed by providing EFW flow through the valve then through the drain/recirculation line back to the Condensate Storage Pool. However, such testing would cause the diversion of EFW flow from the intended flow path to a non-safety, non-seismic line assuming that EFW flow were then required due to a plant condition change.

Alternate Testing

EFW flow will be directed through the valve at the design flow rate of the EFW system during a mode of operation after leaving cold shutdown and prior to entering Mode 2 (Startup) in which steam is available. Verification of this flow through the valve will provide assurance that the valve has opened sufficiently to perform its function (full-stroke).

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

EFW-207A/B

3.1.24 This relief request has been deleted.

3.1.25 This relief request was deleted during NRC conference call, November 20, 1984.

3.1.26 Test Requirement

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

Basis for Relief

The safety function of these valves is to prevent the loss of EFW by closing. The operability testing (full stroke) of these valves during normal operation is not practical. Full-stroke exercising requires an interruption of feedwater to the Steam Generators which would result in a plant shutdown.

Alternate Testing

These valves will be partial-stroke tested (10% stroke) for operability quarterly and full-stroke tested during each cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

FW-184A
FW-184B

3.1.27 This relief replaced with Clarification 3.2.24.

3.1.28 This relief request was deleted at NRC meeting, October 24, 1984.

3.1.29 Test Requirement

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

Basis for Relief

The operability testing (full-stroke) of these normally open valves during power operation is not practical. Full stroking the valve will cause a plant shutdown.

Alternate Testing

These valves will be partial stroke tested (10% stroke) for operability quarterly and full stroke tested during each cold shutdown.

Approval

Relief granted per NRC SER dated February 7, 1989.

Valves

MS-124A
MS-124B

3.1.30 Test Requirement

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

Basis for Relief

The operability testing (full or partial stroke) of these normal closed check valves per IWV-3520 during power operation cold shutdown is not practical. Stroking these valves with flow could require the spraying of containment resulting in unnecessary equipment damage. Valve disassembly (manual full-stroke) during power operation is not practical because the valves are inside containment. During cold shutdown, valve disassembly would require draining a portion of the system which is beyond the scope of cold shutdown testing. An air test for flow verification would require either draining a portion of the system or risking the possibility of wetting equipment inside containment. Therefore, the air test is impractical. In general, performing any test during power operation which lowers the water level in the spray header below +149.5 feet MSL elevation places the plant under a Limiting Condition for Operation (LCO) and may result in a plant shutdown.

Alternate Testing

One of these two check valves will be disassembled and manually exercised by hand to its full-open position at each refueling outage on a staggered sampling basis.

Comments

Relief granted per NRC SER dated February 9, 1989.

Valves

SI-128A
SI-128B

3.1.31 Test Requirement

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

Basis for Relief

The operability testing (full stroke) of these valves during normal operation would jeopardize the RCP cooling function. Cycling of the valves would interrupt the CCW supply to the reactor coolant pumps. Also, the failure of the valves in a nonconservative position during the cycling test would result in a loss of the system function. The design of the valves does not facilitate a partial-stroke test.

Alternate Testing

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

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CC-641
CC-710
CC-713

3.1.32 Test Requirement

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

Basis for Relief

The operability testing (full stroke) of this valve during normal operation would cause an interruption of instrument air supply to instruments and equipment within containment. Also, a failure in a nonconservative position during a cycling test would cause a complete loss of instrument air supply to the containment. The loss of Instrument Air to Containment would cause the Letdown Isolation Valves, CVC-101 and CVC-103, to fail closed. These CVC valves are not stroked closed during power operation, as explained in relief request 3.1.7. Therefore, this Instrument Air Isolation valve cannot be stroked closed at power. The design of the valve will not facilitate a partial-stroke test.

Alternate Testing

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

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

IA-909

3.1.33 Test Requirement

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

Basis for Relief

Due to plant design, it is not practical to verify by any positive means, neither directly nor indirectly, the operability of this normally open check valves per the requirements of IWV-3522(a).

Alternate Testing

Valve closure will be verified during the performance of the leak-rate tests at each refueling outage.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

ARM-104 IA-910

3.1.34 This relief request was deleted per NRC dated February 7, 1989.

3.1.35 Test Requirement

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

Basis for Relief

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

Alternate Testing

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

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CMU-245	FP-602B
PMU-152	SA-909
FP-602A	

3.1.36 This relief request was deleted at NRC meeting, October 24, 1984. Valves NG-161 A & B and NG-165 A & B were also deleted from this Test Plan.

3.1.37 This relief request has been deleted.

3.1.38 Test Requirement

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

Basis for Relief

No physical means exists to measure the stroke times of these solenoid-operated valves. These valves do not have position indicators. In addition, the stems are not visible from the exterior of the valves. Also, there is no critical limit on the stroke time. Valve design does not facilitate partial-stroke testing.

Alternate Testing

Verification of normal sample flow thrcugh the appropriate Hydrogen Analyzer demonstrates that the valves move from a closed to an open position.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

HRA-101A	HRA-105A
HRA-101B	HRA-105B
HRA-102A	HRA-106A
HRA-102B	HRA-106B
HRA-103A	HRA-201A
HRA-103B	HRA-201B
HRA-104A	HRA-202A
HRA-104B	HRA-202B

3.1.39 Test Requirement

IWV-3522(b) requires that for normally-closed check valves that are stroked without flow, a mechanical exerciser shall be used and the torque values must be within certain limits.

Basis for Relief

Due to valve design, a mechanical exerciser cannot be used.

Alternate Testing

These valves will be manually exercised by hand to their full-open position quarterly.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

SI-717A
SI-717B

3.1.40 This relief request has been deleted.

3.1.41 Test Requirement

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

Basis for Relief

The operability testing (full or partial stroking) of this check valve during normal operation requires that all charging flow be diverted from the normal flow path through this valve. Failure of this valve in a nonconservative (closed) position causes charging to be secured, thereby putting the plant in an undesirable and potentially unsafe condition. In addition, the securing of charging flow will cause a rapid temperature increase in the Regenerative and Letdown heat exchangers and associated piping, possibly inducing thermal shock. Also, securing of charging flow with charging pump(s) running will cause the lifting of the safety valves on the discharge of the charging pump(s), thereby increasing the possibility of gas binding the pump(s).

Alternate Testing

This check valve will be full-stroke tested for operability at each cold shutdown with at least two Charging Pumps operating.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CVC-219

3.1.42 Test Requirement

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

Basis for Relief

Operability testing (full-stroke) of these normally-closed valves during power operation would cause a loss of reactor coolant which would produce unwanted pressure and level changes in the Reactor Coolant System. These pilot-operated solenoid valves, which are installed with RCS pressure under the pilot disc, have historically have a "burping" problem at other nuclear plants. With the RCS pressurized, opening either valve produces a pressure surge in the line which causes the other valve to pop open, thereby opening a line from the RCS to the Quench Tank. The valves can generally be closed after flow stabilizes in the vent line.

Operability testing (full-stroke) during cold shutdown with the RCS pressurized produces the same effects as testing at power except that the amount of water lost would be less. Plant Technical Specification 4.4.10, which is based on NUREG-0737 and Generic Letter No. 83-37, requires that these valves be stroked and flow be verified at least once per 18 months during cold shutdown or refueling. Testing these valves more frequently, such as during each cold shutdown with the RCS pressurized, produces some undesirable effects. For example, the water and gases vented from the RCS to the Quench Tank are contaminated with radioactive material. Routinely venting the RCS would cause an increase in radiation and contamination levels inside containment, particularly if the Quench Tank rupture disc pressure is exceeded. In addition, due to valve design, routinely opening these valves greatly increases the probability of them sticking open which will overfill the Quench Tank and dump contaminated water on the containment floor. However, these valves can be safely exercised during cold shutdown if the RCS is depressurized. Valve design does not facilitate partial-stroke testing.

Alternate Testing

The valves will be full-stroke tested for operability during each cold shutdown if the Reactor Coolant System is depressurized below 200 psia. Otherwise, these valves will be full stroked at cold shutdown or refueling at least once per 18 months per plant Technical Specification 4.4.10.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

RC-1014
RC-1015
RC-1017
RC-3183
RC-3184
RC-3186

3.1.43 The Relief Request was deleted.

3.1.44 Test Requirement

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

Basis for Relief

The operability testing (full-stroke) of these normally-closed check valves per IWV-3520 during power operation is not practical. Full-stroke exercising requires verification of full-design steam flow from the Main Steam line to the EFW Pump A/B Turbine. Full flow of steam through these lines and valves cannot be obtained unless the EFW Pump A/B is delivering full design flow of water to the Steam Generators. During power operation, the EFW Pump A/B can be operated only in the minimum recirculation mode.

Alternate Testing

During power operation, steam for the EFW Pump A/B quarterly test will be supplied through one of these valves. Then the other valve will be used to supply steam. Acceptable pump tests verify that each check valve partially strokes. These check valves will be full-stroke tested for operability while the EFW Pump A/B provides design flow to the Steam Generators after leaving cold shutdown and prior to entering Mode 2 (Startup).

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

MS-402A
MS-402B

3.1.45 This relief request was deleted during NRC conference call, November 20, 1984.

3.1.46 Test Requirement

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

Basis for Relief

The operability testing (full stroke) of these normally-open valves during power operation could cause a loss of system function. The design of the Feedwater System is such that in the event of a Reactor Trip Override (RTO) the Main Feedwater Control valves close and these Main Feedwater Control Bypass valves go to a position that allows a flow equal to 5% of normal Main Feedwater. This reduced flow rate causes a gradual cool-down of the primary systems. Failure of one of these Bypass valves in a nonconservative (closed) position coincident with an RTO would require initiation of Emergency Feedwater flow to the Steam Generators which is undesirable because of thermal shock and power transients.

Partial stroking of these valves at power also possibly produces undesired power transients.

Alternate Testing

These valves will be full-stroke tested during each cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

FW-166A
FW-166B

3.1.47 Test Requirement

IWV-3522(b) requires that for normally-closed check valves that are stroked without flow, a mechanical exerciser shall be used and the torque values must be within certain limits.

Basis for Relief

Due to valve design, a mechanical exerciser cannot be used.

Alternate Testing

These valves will be manually exercised by hand to their full-open position during each cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CAR-102A
CAR-102B
CVR-102
CVR-202

3.1.48 Test Requirement

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

Basis for Relief

The CAR system is designed for post-accident containment-dilution and, as such, is not designed for operation while the unit is at power. (This system is a back-up system to the Hydrogen Recombiners.) In addition, operability testing (full or partial stroke) of these normally-closed check valves per IWV-3520 requires flow verification utilizing the CAR make-up fans with the manual butterfly valves open. Since the isolation valves in line with these check valves do not receive a CIAS, there exists a possible unmonitored radiation release path should a Containment Isolation occur while the testing was in progress. Manual stroking of the check valves at power could place the plant in an unsafe condition. Failure of one of these check valves in a nonconservative (open) position would negate the double Containment Isolation valve principle.

Alternate Testing

These check valves will be manually full-stroked for operability during each cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CAR-102A
CAR-102B

3.1.49 Test Requirement

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

Basis for Relief

Operability testing (full or partial stroke) of these normally-closed check valves per IWV-3520 requires flow verification from the Annulus into the Containment. The Annulus would have to be pressurized to accomplish any flow test. The Annulus is required by plant Technical Specifications to be maintained at a vacuum. Therefore, flow testing requires that the plant routinely exceed Technical Specification limits. Manual stroking of the check valves at power could place the plant in an unsafe condition. Failure of one of these check valves in a nonconservative (open) position would negate the double Containment Isolation valve principle.

Alternate Testing

These check valves will be manually full-stroked for operability during each cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

CVR-102
CVR-202

3.1.50 This relief request was deleted.

3.1.51 Test Requirement

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

Basis for Relief

The safety function of these valves is to prevent the loss of EFW by closing. The operability testing (full stroke) of these valves during normal operation is not practical. Full-stroke exercising requires an interruption of feedwater to the Steam Generators which would result in a plant shutdown.

Alternate Testing

These valves will be partial-stroke tested for operability during the course of normal plant operations, although the frequency cannot be specified as stated in IWV-3414. They will be full-stroked tested during each cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

FW-173A
FW-173B

3.1.52 Test Requirement

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

Basis for Relief

No physical means exists to measure the stroke times of these soleniod-operated valves. These valves do not have position indicators. In addition, the stems are not visible from the exterior of the valves. Also, there is no critical limit on the stroke time. Valve design does not facilitate partial-stroke testing.

Alternate Testing

Verification of flow from the appropriate Nitrogen Accumulator demonstrates that the valve moves from a closed to an open position.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

NG-609	NG-809
NG-610	NG-810
NG-709	NG-909
NG-710	NG-910

3.1.53 Test Requirement

Exercise check valves to the position required to fulfill their safety function at lease once every three (3) months.

Basis for Relief

One of the Safety functions of these check valves, MS-402A and MS-402B, is to close in the event of a Main Steam Line Break (MSLB) with valves MS-401A and MS-401B open. If a MSLB occurs, both MS-401A and MS-401B go fully open and remain there. The check valve closest to the broken line must hold Main Steam pressure from the unaffected Steam Generator and prevent the diversion of Main Steam flow away from the EFW Pump A/B Turbine. Testing of these check valves to verify that they are closed and capable of holding pressure requires that the downstream side of the checks be pressurized and the upstream side be vented to atmosphere with MS-401A and MS-401B open. This cannot be performed during normal power operation since the upstream side is pressurized with Main Steam.

Alternate Testing

These check valves will be pressure tested with air to verify they are closed and capable of holding pressure with the upstream side vented to atmosphere. This testing will be performed during each cold shutdown.

Comments

Relief granted per NRC SER dated February 7, 1989.

Valves

MS-402A
MS-402B

3.1.54 This Relief Request deleted per NRC SER dated February 7, 1989. Pressure regulating valves NG-611, NG-612, NG-711, NG-712, NG-811, NG-812, NG-911, NG-912 were deleted from program per NRC SER dated February 7, 1989.

3.1.55 Test Requirement

IWV-3421 through IWV-3425, and IWV-3427(b)

Basis for Relief

Leak test procedures and requirements for containment isolation valves specified in 10CFR 50, Appendix J are equivalent to the requirements of IWV-3421 through IWV-3425. Based upon input from many utilities and review of testing data at some plants, the NRC staff has determined that the usefulness of IWV-3427(b) does not justify the burden of complying with the requirements (see Generic Letter 89-04).

Alternate Testing

Containment isolation valves will be tested using 10 CFR 50, Appendix J. The analysis of leakage rates and corrective action requirements of IWV-3426 and IWV-3427 (a) will be followed.

Comments

ef granted per Generic Letter 89-04.

3.1.56 Test Requirement

IWV-3417(a) requires that:

"If, for power operated valves, an increase in stroke time of 25% or more from the previous test for valves with full-stroke times greater than 10 seconds or 50% or more for valves with full-stroke times less than or equal to 10 seconds is observed, test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed."

Basis for Relief

Comparing stroke times to the previous value fails to identify slowly degrading valves for increased testing and observation. Comparing stroke time data to a valve reference value provides a better analysis of stroke times. The valve reference value is an average stroke time when the valve is known to be in good condition and operating properly. Significant deviations from this reference value will require increased testing and surveillance.

Alternate Testing

A reference stroke time value will be established based on the average stroke time when the valve is known to be in good condition and operating properly.

If, for power operated valves, an increase in stroke time of 25% or more from the reference value for valves with full-stroke times greater than 10 seconds or 50% or more for valves with full-stroke times less than or equal to 10 seonds is observed, the test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed.

Comments

Relief granted per NRC SER dated March 1, 1991.

Additionally, for valves with full-stroke times less than or equal to 10 seconds, approval is granted by NRC Generic Letter 89-04.

3.1.57 Deleted

3.1.58 Deleted

3.1.59 Deleted

3.1.60 Test Requirement

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

Basis for Relief

Operability testing (full stroke at maximum accident flow) of these normally closed check valves per IWV-3520 requires 7785 gpm total flow. Obtaining this flow requires running a CS, a HPSI and a LPSI pump. The CS pump can run in the recirc mode at the required flow rate. The required HPSI and LPSI flow rates can only be obtained by injection to the RCS with the RCS at atmospheric pressure (ie with the head off). Injection of combined HPSI and LPSI flow to the RCS with the head off could damage the core.

Alternate Testing

One check valve from the following group will be disassembled, manually exercised to its full open position and have accessible internals visually inspected for worn or corroded parts during each refueling on a staggered basis.

SI-107A
SI-107B

The valves are partial stroke exercised quarterly, and after reassembly. In the event the disassembled valve is not capable of being full stroke exercised, or there is binding or failure of the valve internals, the remaining valves in that group will also be disassembled, inspected, and manually full stroke exercised during the same outage.

Comments

Relief approval granted per NRC Generic Letter 89-04.

Valves

SI-107A
SI-107B

3.1.61 Test Requirement

Exercise check valves for operability at least once every three months. For check valves which perform a safety function in the open and closed position, exercise the valves open; then verify closure.

Basis for Relief

The check valves are on the LPSI A and B pump suctions from the RWSP. In the closed position they prevent diversion of shutdown cooling flow. Each check valve is in series with a second outboard (from shutdown cooling) check valve. There are no vents, drains or test connections between the two check valves. Therefore, the valves cannot be individually tested closed. Also verification of check valve closure requires the system be in the shutdown cooling mode (in cold shutdown).

Alternate Testing

Each group of two check valves in series will be verified closed as a set during each cold shutdown. The valves are full or partial stroked open prior to closure verification as applicable (See Relief Request 3.1.12 for open exercising limitations).

Comments

Relief granted per NRC SER dated August 19, 1992, with the provision that SI-1071A and SI-1071B are identified in the IST program as having both an open and closed safety function, and that both valves in each pair are declared inoperable should they fail the backflow test.

Valves

SI-108A	SI-1071A
SI-108B	SI-1071B

3.1.62 Test Requirement

IWV-3521 requires that "check valves shall be exercised at least once every 3 months . . . . " IWV-3522(a) requires that "Valves . . . . whose function is to prevent reversed flow shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow."

Basis for Relief

These valves perform a safety function in both the open and closed positions.

As previously discussed in the Basis for Relief for Relief Request 3.1.14, the operability testing (full-stroke) of these check valves' open safety function can only be accomplished by directing full HPSI pump flow into the RCS. No other flow path exists which could achieve the required HPSI pump flow rate. These valves cannot be full-stroke exercised during power operation because the HPSI pumps cannot overcome RCS pressure to provide flow into the RCS. Partial stroke exercising at power is possible through a flow path to the RWSP through a drain valve. However, the capacity of this flow path is insufficient to full stroke the subject check valves. During cold shutdown, the RCS is on shutdown cooling (SDC). Pressurizing the SDC system with full HPSI flow increases the possibility of low temperature, overpressure concerns. Therefore, the required flow can only be achieved during refueling outages, when the Reactor Vessel head is removed.

Since these valves can only be exercised to the full open position during each refueling outage, the requirement to verify that the disk travel to the seat from the open position can only be performed during each refueling outage.

Alternate Testing

These valves will be part-stroke exercised open and then verified to close quarterly.

These valves will be full-stroke exercised and then verified to close during each refueling outage.

Comments

In accordance with NRC SER January 11, 1993, Relief is not required.

Valves

SI-207A SI-207B SI-207AB

3.1.63 Deleted

3.1.64 Test Requirement

Test safety and relief valve setpoints in accordance with ASME PTC 25.3-1976. Paragraph 3.02 of PTC 25.3 requires a test supervisor with a formal education in thermodynamics and fluid mechanics. Additionally the test supervisor shall have at least two years practical experience in fluid flow measurement and have had experience in test supervision.

Basis for Relief

No fluid flow measurement is required by ASME PTC 25.3-1976 to test safety and relief valve setpoints in order to assure operational readiness. Experience in fluid flow measurement is not applicable to safety or relief valve testing performed as required by ASME Section XI. Designating a test supervisor with at least two years practical experience in fluid flow measurement would be a hardship with no compensating increase in the level of quality or safety.

Alternate Testing

All safety and relief valve tests required by ASME Section XI are performed as required. Test supervisors will have formal education in thermodynamics and fluid mechanics and experience in test supervision.

Comments

Relief granted per NRC SER dated August 19, 1992, with the following provision: "the test supervisors either are degreed engineers who have formal training in fluid mechanics and thermodynamics or meet the requirements outlined in the September 1977 Addendum to PTC 25.3-1976. The licensee's Category "C" relief valve testing should meet the remaining applicable requirements of PTC 25.3-1976. This relief request relates specifically to periodic setpoint testing. Testing of new valves must be in accordance with PTC 25.3-1976 requirements. Alternatively, the licensee may propose implementation of OM-1-1981 which is referenced in the 1986 Edition of ASME Section XI."

Valves

RC-317A	MS-108A	MS-113A
RC-317B	MS-108B	MS-113B
SI-406A	MS-110A	MS-114A
SI-406B	MS-110B	MS-114B
MS-106A	MS-112A	
MS-106B	MS-112B	

3.1.65 Test Requirement

IWV-3521 requires that "check valves shall be exercised at least once every 3 months..." IWV-3522 (a) requires that valves "...whose function is to prevent reversed flow shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow." Additionally, in response to Question 24 in the Minutes of the Public Meetings on Generic Letter 89-04 the NRC noted that "If a valve performs a safety function in both the open and the closed positions, however, the code requires that the valve be exercised to the open position and then verified to close."

Basis for Relief

These valves perform a safety function in both the open and closed position.

As previously discussed in the Basis for Relief for Relief Request 3.1.16, the operability testing of these normally closed check valves during normal operation or cold shutdown is not practical. During normal operation, these valves cannot be full stroke exercised because the safety injection tanks (SITs) cannot overcome RCS pressure. The valves cannot be partial stroke exercised during normal operation without making the SITs inoperable, thus placing the plant in an unsafe condition. During cold shutdown, these valves cannot be fully stroked without over pressurizing the RCS. During refueling outages, these valves cannot be full stroke exercised at SIT operating pressure without possibly causing internal core damage due to excessive flow rates. No other flow path exists with sufficient capacity to full stroke exercise these valves. These valves are disassembled and manually exercised to the full open position during each refueling outage on a sampling basis.

Proving that the disk travels to the seat promptly upon cessation or reversal of flow can only be accomplished after the valve is exercised open. Since these valves are exercised to the full open position only during refueling outages on a sampling basis, then they can only be exercised closed during refueling outages on a sampling basis.

Alternate Testing

The SITs have four discharge check valves. Three are spring-loaded and will be treated as one group. The other one is non-spring-loaded and will be treated as another group. One check valve from each group will be disassembled and manually exercised to its full open and full closed position during each refueling outage on a staggered sampling basis. The two groups of check valves are as follows:

Group 1 (Spring-Loaded)	Group 2 (Non-Spring-Loaded)
SI-329A	SI-330A
SI-329B	
SI-330B	

These valves will be partial stroke exercised open and closed after reassembly, and during cold shutdown.

Comments

This section will be updated upon receipt of a SER from the NRC.

Valves

SI-329A SI-329B SI-330A SI-330B

3.1.66 Deleted

3.1.67 Test Requirement

Exercise check valves to the closed position quarterly.

Basis for Relief

These valves perform a containment isolation safety function in the closed position. These valves have no position indicators, and have no observable moving parts that could be used to verify valve closure. These valves discharge through instrument tubing into the containment atmosphere. Therefore, it is not possible to verify closure of these valves by any means other than a leak rate test. Leakage testing of these valves can only be performed inside containment. At power, the containment is a high radiation area, and high ambient temperatures necessitate limited stay times for personnel protection. Access to the containment at power is strictly limited. Thus, exercising these valves closed at power is impractical due to the inaccessibility of the valves.

Alternate Testing

Verification of valve closure will be performed by local leak rate testing during cold shutdown and at each refueling outage.

Comments

This section will be updated upon receipt of a SER from the NRC.

Valves

HRA-128A HRA-128B

3.1.68 Test Requirement

The stroke time of all power operated valves shall be measured to the nearest second.

Basis for Relief

No means exists to measure the stroke times of these solenoid operated valves. These valves have no position indicators, and no external parts which can be used to detect valve movement. Non-intrusive testing using ultrasonic or magnetic detection of disk position does reveal disk motion, but due to the small size of the disk, and the small disk travel, this cannot be correlated to full stroke time with the required accuracy and repeatability to be useful for stroke time trending. Acoustic emission of the disk against the seat can be used to detect the completion of the valve stroke, but the only indication of the beginning of the valve stroke is a computer point indication of power to the valve. However, the computer samples this point only once per second, and indicates only in the control room. This information would then be relayed to the diesel room to start timing, and the operator would then detect an acoustic emission and stop timing. However, due to the long computer sampling rate, delays in relaying information to the diesel room, and the short stroke time of the valve, this method would lack the required accuracy and repeatability, and would not provide any useful information about the valve stroke time.

Additionally, these valves are not designed for routine disassembly and inspection. The valves are sealed with a very small weld. Valve disassembly requires that the weld be removed, and subsequently rewelded. Due to the small size of the weld, this is a painstaking, tedious operation.

Alternate Testing

Demonstration of valve exercising will be performed by monitoring changes in the diesel generator standpipe quarterly and after valve reassembly. Valve stroke time will not be measured.

Comments

This section will be updated upon receipt of a SER from the NRC.

Valves

CMU-524A CMU-524B

3.1.69 Test Requirement

Per IWV-3412 and IWV-3522 valves which are not full stroke exercised quarterly shall be full stroke exercised during cold shutdown.

Basis for Relief

Numerous cold shutdowns of relatively short duration may occur between refueling outages. Inservice testing requirements should not be allowed to govern the length of relatively short cold shutdowns.

Additionally, sufficient advanced notice is required to make scheduling arrangements, appropriate valve line-ups, and system adjustments prior to testing. Cold shutdowns may occur with little or no advanced notice.

Alternate Testing

Valve exercising during cold shutdown shall commence within 48 hr. of achieving cold shutdown, and continue until all testing is complete or the plant is ready to return to power. For extended outages, testing need not be commenced in 48 hr. provided all valves required to be tested during cold shutdown will be tested prior to plant startup. However, it is not the intent of Inservice Testing to keep the plant in cold shutdown in order to complete cold shutdown testing.

Comments

Relief granted per NRC SER dated August 19, 1992, provided the requirements of OM-10 relative to cold shutdown testing are incorporated.

3.1.70 Deleted

3.1.71 Test Requirement

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

Basis for Relief

The operability testing (full-stroke) of these normally-closed check valves per IWV-3520 requires flow verification into the RCS. These valves cannot be full-stroke exercised during power operation because the HPSI pumps cannot overcome RCS pressure. During power operation, partial stroking these valves, using HPSI flow into containment then back to the RWSP through a drain valve, would defeat the safety function of RCS Pressure Isolation Valves (PIV's). During cold shutdown, these valves cannot be full-stroke exercised because design flow cannot be verified through the valves unless all LOCA test conditions can be met (i.e., suction from the RWSP through HPSI pumps to the RCS with the RCS at atmospheric pressure).

Alternate Testing

These valves will be full-stroke exercised during each refueling outage, and partial stroke exercised during cold shutdown. SI-510A and SI-510B will be partial stroke exercised quarterly.

Comments

Relief granted per NRC SER dated August 19, 1992.

Valves

SI-241	SI-243	SI-510A	SI-512A
SI-242	SI-244	SI-510B	SI-512B

3.1.72 Test Requirements

IWV-3427(b), Corrective Action

Basis for Relief

These valves perform a safety function in the closed direction as Reactor Coolant System Pressure Isolation Valves. Waterford 3 Technical Specification 3/4.4.5.2 contains detailed requirements for valve leak rate testing of Pressure Isolation Valves, including test frequency and corrective action.

Alternate Testing

Valve leak rate testing and corrective actions will be performed in accordance with Technical Specifications 3/4.4.5.2.

Comments

Relief granted per NRC SER dated August 19, 1992.

Valves

SI-142A	SI-142B
SI-143A	SI-143B
SI-329A	SI-329B
SI-330A	SI-330B
SI-335A	SI-335B
SI-336A	SI-336B

3.1.73 Test Requirement

IWV-3521 requires that "check valves shall be exercised at least once every 3 months . . . " IWV-3522(a) requires that "Valves . . . whose function is to prevent reversed flow shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow."

Basis for Relief

These valves are in the outlet of the Refueling Water Storage Pool (RWSP), and provide a suction source for the Safety Injection and Containment Spray pumps in the open direction. These valves perform a safety function in the closed direction as a backup to the RWSP Outlet Valves (air operated valves) after the pumps suction is shifted to the containment sump. These valves prevent flow from the containment sump to the RWSP should the RWSP Outlet Valves fail to close on a Recirculation Actuation Signal.

These valves are installed in a vertical section of piping, and are normally held open by gravity. Therefore, the valves do not close upon the cessation of flow. The valves are in the suction path of the Safety Injection and Containment Spray pumps, and no flow path exists which could establish reverse flow through these valves. An attempt was made to direct a temporary source of flow through a piping vent; however, the flow achieved through the 1 inch vent was not sufficient to overcome the gravity acting on the 24 inch check valve to stroke it closed. The valves have no external operators, and cannot be accessed without valve disassembly.

Alernate Testing

One check valve from the following group will be disassembled, manually exercised to its full closed position, and have accesible internals visually inspected for worn or corroded parts during each refueling on a staggered basis.

SI-107A
SI-107B

The valves are partial stroke exercised open quarterly, and after reassembly. In the event the disassembled valve is not capable of being full stroke exercised, or there is binding or failure of the valve internals, the remaining valves in that group will also be disassembled, inspected, and manually full stroke exercised during the same outage.

Comments

Upon receipt of approval of this Relief Request, this comments section will be updated to identify the approval document.

Valves

SI-107A
SI-107B

3.1.74 Test Requirement

IWV-3422 requires that Category A valves shall be leak tested at least once every 2 years.

Basis for Relief

These valves are in the outlet of the Refueling Water Storage Pool (RWSP), and provide a suction source for the Safety Injection and Containment Spray pumps in the open direction. These valves perform a safety function in the closed direction as a backup to the RWSP Outlet Valves (air operated valves) after the pumps suction is shifted to the containment sump. These valves prevent flow from the containment sump to the RSWP should the RWSP Outlet Valves fail to close on a Recirculation Actuation Signal.

The valves are installed in a vertical section of piping, and are normally held open by gravity. Therefore, the valves do not close upon the cessation of flow. The valves are in the suction path of the Safety Injection and Containment Spray pumps, and no flow path exists which could establish reverse flow through these valves. An attempt was made to direct a temporary source of flow through a piping vent; however, the flow achieved through the 1 inch vent was not sufficient to overcome the gravity acting on the 24 inch check valve to stroke it closed. The valves have no external operators to move the valves closed for leak testing.

Relief Request 3.1.73 addresses alternative testing (disassembly and inspection on a sampling basis during each refueling) for exercising the subject valves in the closed direction. This Relief Request is for relief from the frequency requirements of IWV-3422 only.

Alternate Testing

One check valve from the following group will be removed and leak rate tested on a test stand during each refueling outage on a staggered basis.

SI-107A
SI-107B

The valves are partial stroke exercised open quarterly, and after reassembly. In the event the disassembled valve is not capable of being full stroke exercised, or there is binding or failure of the valve internals, the remaining valves in that group will also be disassembled, inspected, manually full stroke exercised, and leak rate tested during the same outage.

Comments

Upon receipt of approval of this Relief Request, this comments section will be updated to identify the approval document.

Valves

SI-107A
SI-107B

3.1.75 Test Requirement

IWV-3521 requires that "check valves shall be exercised at least once every 3 months..." IWV-3522 (a) requires that valves "...whose function is to prevent reversed flow shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow." Additionally, in response to Question 24 in the Minutes of the Public Meetings on Generic Letter 89-04 the NRC noted that "If a valve performs a safety function in both the open and the closed positions, however, the code requires that the valve be exercised to the open position and then verified to close."

Basis for Relief

These valves perform a safety function in both the open and closed position.

As previously discussed in the Basis for Relief for Relief Request 3.1.71, the operability testing (full stroke) of these normally closed check valves requires flow verification into the RCS. These valves cannot be full stroke exercised during power operation because the HPSI pumps cannot overcome RCS pressure. During power operation, partial stroking these valves using HPSI flow into containment then back to the RWSP through a drain valve, would defeat the safety function of RCS Pressure Isolation Valves (PIVs). During cold shutdown, these valves cannot be full stroke exercised because design flow cannot be verified through the valves unless all LOCA test conditions can be met (i.e. suction from the RWSP through HPSI pumps to the RCS with the RCS at atmospheric pressure). These valves are full stroke exercised during each refueling outage.

Proving that the disk travels to the seat promptly upon cessation or reversal of flow can only be accomplished after the valve is exercised open. Since these valves are exercised to the full open position only during refueling outages, then they can only be exercised closed during refueling outages.

Alternate Testing

These valves will be full stroke exercised open and closed during each refueling outage, and will be verified closed after a partial stroke open during cold shutdown. SI-510A and SI-510B will be verified closed after a partial stroke open quarterly. Additionally, SI-512A and SI-512B are monitored continuously by Control Room personnel through the use of control board pressure indicators and annunciators which verify that the valves remain closed.

Comments

This section will be updated upon receipt of a SER from the NRC.

Valves

SI-241	SI-242	SI-243	SI-244
SI-510A	SI-510B	SI-512A	SI-512B

3.1.76 Test Requirement

IWV-3521 requires that "check valves shall be exercised at least once every 3 months..." IWV-3522 (a) requires that valves "...whose function is to prevent reversed flow shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow." Additionally, in response to Question 24 in the Minutes of the Public Meetings on Generic Letter 89-04 the NRC noted that "If a valve performs a safety function in both the open and the closed positions, however, the code requires that the valve be exercised to the open position and then verified to close."

Basis for Relief

These valves perform a safety function in both the open and closed position.

As previously discussed in the Basis for Relief for Relief Request 3.1.18, the operability testing (full or partial stroke) of these normally closed check valves in the open direction during normal operation is not practical. During normal operation, these valves cannot be full stroke exercised because neither the LPSI pumps, HPSI pumps, nor the Safety Injection Tanks (SITs) can overcome RCS pressure. Partial stroke exercising these valves during power operation using charging flow would induce unwanted thermal shock to safety injection nozzles and piping. During cold shutdown, these valves cannot be full stroke tested unless all LOCA test conditions can be met. Fulfilling LOCA test conditions would require removing the Reactor Pressure Vessel head. During refueling outages, these valves cannot be full stroke exercised at LOCA test conditions without possibly causing internal core damage due to excessive flow rates. These valves are disassembled and manually exercised to the full open position during each refueling outage on a sampling basis.

Alternate Testing

One check valve from the following group will be disassembled and manually exercised to its full open and full closed position during each refueling outage on a staggered sampling basis:

SI-335A SI-335B SI-336A SI-336B

These valves are partial stroke exercised open and closed after reassembly and during cold shutdown. Additionally, these valves are monitored continuously by Control Room personnel through the use of control board pressure indicators and annunciators which verify that the valves remain closed.

Comments

This section will be updated upon receipt of a SER from the NRC.

Valves

SI-335A SI-335B SI-336A SI-336B

3.2 Clarification of Valve Testing Methods

3.2.1 This clarification deleted.

3.2.2 This clarification deleted.

3.2.3 This clarification deleted.

3.2.4 This clarification deleted. Replaced with Relief Request 3.1.24.

3.2.5 This clarification deleted.

3.2.6 This clarification deleted. Replaced with Relief Request 3.1.44.

3.2.7 This clarification deleted.

3.2.8 Code Requirement

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

Test Method

Operability testing of these valves will be accomplished quarterly. However, these valves do not have position indicators to provide direct evidence of stem movement. Instead, the disk movement shall be demonstrated by verifying normal sample flow through the appropriate Hydrogen Analyzer. Establishment of normal sample flow demonstrates that the valves move to perform their function. The reclosure of each valve will be demonstrated by verification of the "low flow" alarm on the appropriate Hydrogen Analyzer.

Valves

HRA-101A	HRA-104A	HRA-201A
HRA-101B	HRA-104B	HRA-201B
HRA-102A	HRA-105A	HRA-202A
HRA-102B	HRA-105B	HRA-202B
HRA-103A	HRA-106A	
HRA-103B	HRA-106B	

3.2.9 Code Requirement

IWV-3417(a) gives increased frequency testing criteria for valves experiencing an increase in stroke time until corrective action is taken.

Test Method

For valves identified as being tested only during cold shutdown or refueling outages, these valves will be repaired or the plant placed in a condition which allows monthly testing until corrective action is taken.

3.2.10 Code Requirement

IWV-3412 requires exercising the valves to their safety position for operability at least once every three months.

Cold Shutdown Justification

The pressurizer spray valves are sized such that fully opening the valves depressurizes the RCS at a rate greater than the pressurizer heaters can offset. Fully opening the valve(s) results in unwanted pressure transients. The valves are partial stroked quarterly and full stroked during cold shutdowns.

This alternate test method is per IWV-3412.

Valves

RC-301A
RC-301B

3.2.11 Deleted.

3.2.12 Deleted.

3.2.13 Code Requirement

IWV-3410 requires exercising the valves to their safety position for operability at least once every three months.

Cold Shutdown Justification

Operability testing of these normally open valves during power operation is not practical. The importance of maintaining the valves open during power operation is such that the valves are locked open with all power to the valves locked out. Failure of the valves in the closed position (non-conservative for power operation) would require a plant shutdown. The valves are full stroke exercised during cold shutdowns.

Valves

SI-331A	SI-331B
SI-332A	SI-332B

3.2.14 Code Requirement

IWV-3522 requires exercising valves to their safety position at least once every three months. For check valves which perform a safety function in the open and closed position, exercise the valves open; then verify closure.

Cold Shutdown Justification - Closed Position

These valves must be exercised open prior to being exercised to the closed position. As documented in Relief Request 3.1.23, exercising the valves open during power operations is impractical. The valves are verified closed after exercising open after leaving cold shutdown and prior to entering Mode 2 (startup).

Valves

EFW-207A
EFW-207B
EFW-207A/B

3.2.15 Code Requirement

IWV-3522 requires exercising valves to their safety position at least once every three months. For check valves which perform a safety function in the open and closed position, exercise the valves open; then verify closure.

Test Method - Open Position

These check valves are not required to fully open in performing their safety function. They are in an orificed feedwater (FW) to emergency feedwater (EFW) bypass flow path and must open sufficiently to assure the emergency feedwater piping remains full. The amount of flow from FW to EFW is limited by the orifice (not the check valve). The valves are verified to be open to the extent required to perform their safety function as follows:

a) FW is in service supplying FW to the steam generators.
b) EFW pumps are not operating.
c) The pressure in the EFW piping is monitored by temporary installed calibrated pressure gages.
d) The EFW piping pressure is bled off and the the bleedoff path closed.
e) Pressure increase in the EFW piping to FW pressure verifies the valve performs its open position safety function.

This test is performed at the required three month frequency.

Cold Shutdown Justification - Closed Position

Verification of valve closure can only be performed with the FW pumps turned off. This would require plant shutdown. CLosure verification is performed during cold shutdowns when FW is secured.

Valves

FW-1763A
FW-1763B

3.2.16 Code Requirement

IWV-3522 requires exercising check valves for operability at least once every three months. For check valves which perform a safety function only in the closed position, verify check valves are closed at least once every three months.

Cold Shutdown Justification

Verifying these normally open check valves closed during normal operation is impractical. FW would have to be secured and EFW flow directed to the Steam Generators to verify check valve closure. This would require plant shutdown. The valves are verified closed during a mode of operation after leaving cold shutdown and prior to entering Mode 2 (startup).

Valves

FW-181A
FW-181B

3.2.17 Deleted.

3.2.18 Code Requirement

IWV-3522 requires exercising check valves for operability at least once every three (3) months. For check valves which perform a safety function only in the closed position, verify check valves are closed at least once every three (3) months.

Cold Shutdown Justification

Verifying this normally open check valve closed during normal operation is impractical. This valve is open to provide cooling water to the Reactor Coolant Pumps (RCP). To test this valve in the closed direction would require that the RCPs are secured. This would require the plant to be shutdown. The valve will be verified closed during cold shutdown.

Valves

CC-644

3.2.19 Test Requirement

IWV-3522 requires exercising check valves for operability at least once every three months. For check valves which, perform a safety function only in the closed position, verify check valves are closed at least once every three months.

Cold Shutdown Justification

Verifying closure of this valve during normal operation requires securing charging and letdown, resulting in a loss of pressurizer level control, and would subject the system to an undesirable thermal cycle. The valve is verified closed during cold shutdowns.

Valves

CVC-184

3.2.20 Test Requirement

IWV-3522 requires exercising valves to their safety position at least once every three months. For check valves which perform a safety function in the open and closed position, exercise the valves open; then verify closure.

Cold Shutdown Justification

The valve must be exercised open prior to being exercised to the closed position. As documented in Relief Request 3.1.6, exercising the valve open during power operation is impractical. The valve is verified closed during cold shutdowns.

Valves

CVC-508

3.2.21 Test Requirement

IWV-3522 requires exercising check valves for operability at least once every three months. For check valves which perform a safety function in the open and closed position, exercise the valves open; then verify closure.

Cold Shutdown Justification - Closed

Closure verification during normal operation is impractical. These valves are in the normal charging flow path to the RCS. Verifying closure of these valves requires securing charging and letdown, resulting in an undesirable thermal cycle of the system, and a loss of pressurizer level control.

Valves

CVC-221A
CVC-221B

3.2.22 Test Requirement

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

Cold Shutdown Justification

The operability testing (full-stroke) of these normally closed check valves per IWV-3520 requires flow verification from LPSI into the RCS. These valves cannot be full-stroke exercised during power operation because the LPSI pump cannot overcome RCS pressure. Partial-stroking these valves, using flow into containment, then back to the RWSP through a drain valve, would defeat the safety function of RCS Pressure Isolation Valves.

Valves

SI-142A SI-143A
SI-142B SI-143B

3.2.23 Code Requirement

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

Cold Shutdown Justification

Exercising these valves (full stroke) during power operations would cause undesirable secondary and primary plant transients that could lead to a plant trip. These valves will be partial stroke exercised quarterly, and full stroke exercised during cold shutdown.

Valves

FW-166A FW-166B

3.2.24 Deleted

3.2.25 Code Requirement

IWV-3522 requires exercising check valves for operability at least once every three months. For check valves which perform a safety function in the open and closed position, exercise valves open, then verify closure.

Cold Shutdown Justification - Closed Position

Verifying these normally open check valves closed during normal operation is impractical. Closure verification requires isolating the dry cooling tower and establishing cooling tower bypass flow. Closure is verified by installing a test gage and depressurizing upstream of the check valve. However, during normal operations the design heat load exceeds the design heat removal capacity of the CCW heat exchanger and ACCW system alone. Therefore, isolation of the dry cooling tower for the length of time required to verify check valve closure could result in undesirable CCW temperature transients.

Valves

CC-181A
CC-181B

3.2.26 Code Requirement

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

Cold Shutdown Justification

Operability testing (full stroke) of these check valves per IWV-3520 requires flow verification utilizing the emergency boration flow path to the suction of the Charging Pumps with at least two Charging Pumps in operation. During power operation, this flow would cause the injection of concentrated boric acid into the Reactor Coolant System causing over boration and possibly causing a plant shutdown. The valves can be partial-stroke exercised by verifying flow from the BAM Tanks to the RWSP. The flow capacity of this flow path is insufficient to full stroke these valves. The valves will be partial stroke exercised quarterly, and full stroke exercised at cold shutdown.

Valves

BAM-129A
BAM-129B

3.2.27 Deleted

3.2.28 Test Requirement

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

Cold Shutdown Justification

These valves are in the discharge piping from the nitrogen accumulators to the air operated valve actuators on safety related valves. Each accumulator feeds several valve actuators.

These valves have no position indicators and no observable moving parts to verify that the valve has moved to the full open position. Non-intrusive testing using ultrasonic measurements of disk position cannot be used because the high frequency sound will not travel through a gas. Non-intrusive testing using magnetic detection of disk position does reveal disk motion, but due to the small size of the disk, and the small disk travel this cannot be correlated to full open disk position with the required accuracy and repeatability to be considered a positive indication. Acoustic emission of a back tap cannot be used to verify full open position since the valve emits no back tap due to an installed spring which assists the valve in closure.

No vent path exists which could be used to achieve the maximum accident flow through the check valve. The only vent on the header is orificed to limit flow through the vent. Full stroke exercising these valves by obtaining maximum accident flow requires simultaneous operation of each air operated valve fed by the accumulator. Simultaneous actuation of numerous safety related valves could cause an undesirable system disruption. Additionally, the simultaneous operation of numerous valves by several operators creates an increased risk of human error considered unacceptable at power.

These valves will be partial stroke exercised quarterly, and full stroke exercised during cold shutdown.

Valves

NG-617	NG-618	NG-717	NG-718
NG-817	NG-818	NG-917	NG-918

3.2.29 Test Requirement

IWV-3521 requires that "check valves shall be exercised at least once every 3 months ... " IWV-3522(a) requires that valves"... whose function is to prevent reversed flow shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow." Additionally, in response to Question 24 in the Minutes of the Public Meetings on Generic Letter 89-04 the NRC noted that "If a valve performs a safety function in both the open and the closed positions, however, the Code requires that the valve be exercised to the open position and then verified to close."

Cold Shutdown Justification

These valves perform a safety function in both the open and closed position.

As previously discussed in Clarification 3.2.22, the operability testing (full stroke) of these normally closed check valves in the open direction requires flow verification from LPSI into the RCS. These valves cannot be full stroke exercised during power operation because the LPSI pump cannot overcome RCS pressure. Partial stroke exercising these valves using flow into containment, then back to the RWSP through a drain valve, would defeat the safety function of RCS Pressure Isolation Valves. Thus, these valves are full stroke exercised open during cold shutdown.

Proving that the disk travels to the seat promptly upon cessation or reversal of flow can only be accomplished after the valve is exercised open. Since these valves are exercised open only during cold shutdown, then they can only be exercised closed during cold shutdown.

Valves

SI-142A SI-142B SI-143A SI-143B