WBN2Public Resource

From: Boyd, Desiree L [dlboyd@tva.gov]
Sent: Wednesday, April 04, 2012 3:12 PM
To: Epperson, Dan; Poole, Justin; Raghavan, Rags; Milano, Patrick; Campbell, Stephen
Cc: Arent, Gordon; Hamill, Carol L; Boyd, Desiree L
Subject: TVA letter to NRC_04-4-12_2-PTI-013-01 and 2-PTI-062-01 transmittal to NRC
Attachments: 04-4-12_2-PTI-013-01 and 2-PTI-062-01 transmittal to NRC_Final.pdf

Please see attached TVA letter that was sent to the NRC today.

Thank You,

~*~*~*~*~*~*~*~*~*~*~*~

Désireé L. Boyd
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Hearing Identifier: Watts_Bar_2_Operating_LA_Public
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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Unit 2
NRC Docket No. 50-391

Subject: Watts Bar Nuclear Plant (WBN) Unit 2 - Submittal of Pre-op Test Instructions

The following approved WBN Unit 2 Pre-op Test Instructions (PTIs) are enclosed:

PTI NUMBER	Rev.	TITLE
2-PTI-013-01	0	Fire Detection
2-PTI-062-01	0	Charging and Letdown Logic Test

If you have any questions, please contact Pete Olson at (423) 365-3294.

Respectfully,

R. A. Hruby, Jr.

Raymond A. Hruby, Jr.
General Manager, Technical Services
Watts Bar Unit 2

Enclosures

cc (Enclosures):

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WATTS BAR NUCLEAR PLANT
UNIT 2 PREOPERATIONAL TEST

TITLE: Fire Detection

Instruction No: 2-PTI-13-01
Revision No: 0

PREPARED BY: Joe Wooten _____ DATE: 11/15/11
PRINT NAME / SIGNATURE

REVIEWED BY: W. Ryan Lisa _____ DATE: 11-15-11
PRINT NAME / SIGNATURE

INSTRUCTION APPROVAL

JTG MEETING No: 2-12-007
JTG CHAIRMAN: _____ DATE: 3/29/12
APPROVED BY : _____ DATE: 3/29/12
PREOPERATIONAL STARTUP MANAGER

TEST RESULTS APPROVAL

JTG MEETING No: _____
JTG CHAIRMAN: _____ DATE: _____
APPROVED BY : _____ DATE: _____
PREOPERATIONAL STARTUP MANAGER

Revision Log

Revision or Change Number	Effective Date	Affected Page Numbers	Description of Revision/Change
0000	3/29/12	ALL	Initial issue.

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1.0 INTRODUCTION

1.1 Test Objectives

The objective of this PTI is to test components and zones of the Fire Detection System, which were not tested during Unit 1 (U1) Pre-operational/Startup Testing and shall be placed into service for operation of both U1 and Unit 2 (U2). This test will demonstrate the operability of those identified components in accordance with design requirements as performed through approved Fire Operating Requirement Instructions (FORs) and Work Orders (WOs).

1.2 Scope

Test the proper functioning of detection devices to actuate the Automatic Fire Protection System (FPS), alert the appropriate control location, and initiate Fire Alarms. The boundaries of this test are limited to existing and recently added Fire Detection Components in the Unit 2 Reactor Building (RB), Annulus, and Containment Purge Air Filter areas.

2.0 REFERENCES

2.1 Performance References

A. SMP-9.0, Conduct of Test

B. Fire Operating Requirement Instructions

1. 0-FOR-13-609, 6 Month Fire Detection Test Panel L609
2. 0-FOR-13-611,6 Month Fire Detection Test Panel L611
3. 0-FOR-13-611-I, Shutdown Test of Panel L611 Inaccessible Zones
4. 0-FOR-13-627, 6 Month Fire Detection Test Panel L627
5. 0-FOR-13-636, 18 Month Fire Detection and Suppression Test For Panel L636
6. 0-FOR-13-637, 18 Month Fire Detection and Suppression Test For Panel L637
7. 0-FOR-13-638,18 Month Fire Detection and Suppression Test For Panel L638

C. NPG-SPP-18.4.6, Control of Fire Protection Impairments

2.2 Developmental References

A. Unit 2 Final Safety Analysis Report - Amendment 107

1. Section 9.5.1
2. Chapter 14 - Table 14.2-1, Sheet 14 of 89

B. Drawings

1. Logic/Control

a. 2-47W611-13-1, Rev. 0, Electrical Logic Diagram Fire Detection System

b. 2-47W611-13-2, Rev. 0, Electrical Logic Diagram Fire Detection System

c. 2-47W611-13-4, Rev. 0, Electrical Logic Diagram Fire Detection System

2.2 Developmental References (continued)

d. 2-47W611-13-5, Rev. 0, Electrical Logic Diagram Fire Detection System, DRA 52332-27, Rev. 0, DRA 52332-27, Rev. 0, DRA 54655-030, Rev. 0, DRA 52332-044, Rev. 0

e. 2-47W611-13-6, Rev. 0, Electrical Logic Diagram Fire Detection System, DRA 54655-044, Rev. 0

f. 2-47W611-13-7, Rev. 0, Electrical Logic Diagram Fire Detection System

2. Electrical

a. 2-47W600-248, Rev. 0, Electrical Instruments and Controls, DRA 52332-47, Rev. 0

b. 47W600-250, Rev. H, Electrical Instruments and Controls

c. 2-47W600-256, Rev. 0, Electrical Instruments and Controls, DRA 54655-29, Rev. 0, DRA 54655-42, Rev. 0, 54655-43, Rev. 0

d. 2-45W600-26-8, Rev. 0, Wiring Diagram High Press. Fire Protection Sys

e. 2-45W600-26-9, Rev. 0, Wiring Diagram High Press. Fire Protection Sys

f. 2-45W600-26-10, Rev. 1, Wiring Diagram High Press. Fire Protection Sys

g. 2-45W760-26-5, Rev. 0, Wiring Diagram High Press. Fire Protection Sys

h. 45W1699-24, Rev. K, Wiring Diagrams CO2 Fire Prot System Conn Diagram Sheet 24

i. 45W1699-25, Rev. K, Wiring Diagrams CO2 Fire Prot System Conn Diagram Sheet 25

j. 45W1699-27, Rev. YY, Wiring Diagrams CO2 Fire Prot System Conn Diagram Sheet 27

k. 45W1699-29, Rev. AC, Wiring Diagrams CO2 Fire Prot System Conn Diagram Sheet 29

l. 45W1699-33, Rev. R, Wiring Diagrams CO2 Fire Prot System Conn Diagram Sheet 33

2.2 Developmental References (continued)

m. 45W1699-35, Rev. D, Wiring Diagrams CO2 Fire Prot System Conn Diagram Sheet 35

n. 45W1699-40, Rev. K, Wiring Diagrams CO2 Fire Prot System Conn Diagram Sheet 40

o. 45W1699-41, Rev. L, Wiring Diagrams Fire Protection System Connection Diagram Sheet 41

p. 45W1699-47, Rev. L, Fire detection/Protection Sys Conn Diagram Sheet 47

q. 45W1699-52, Rev. L, Wiring Diagrams Fire Protection System Connection Diagram Sheet 52

r. 45W1699-54, Rev. F, Wiring Diagrams Fire Protection System Connection Diagram Sheet 54

s. 45W1699-55, Rev. G, Wiring Diagrams Fire Protection System Connection Diagram Sheet 55

t. 45N2694-1, Rev. L, Wiring Diagrams HP Fire Prot Aux Relay Panel 2-R-79 Connection Diagrams Sheet 1

u. 45N2694-2, Rev. G, Wiring Diagrams HP Fire Prot Aux Relay Panel 2-R-79 Connection Diagrams Sheet 2

v. 45N2694-3, Rev. J, Wiring Diagrams HP Fire Prot Aux Relay Panel 2-R-79 Connection Diagrams Sheet 3

w. 45N2694-4, Rev. F, Wiring Diagrams HP Fire Prot Aux Relay Panel 2-R-79 Connection Diagrams Sheet 4

3. Flow Diagrams

a. 2-47W850-7, Rev. 3, Flow Diagram Fire Protection

b. 2-47W850-9, Rev. 2, Flow Diagram Fire Protection

c. 2-47W850-13, Rev. 0, Flow Diagram Fire Protection

2.2 Developmental References (continued)

C. Documents

1. MI-13.105, Fire Detection Replacement Sensitivity Check, and/or Smoke Check, Rev. 3
2. 2-TSD-13-1, Rev. 2, Fire Detection System Testing
3. 0-FOR-13-609, Rev. 6, 6 Month Fire Detection Test Panel L609
4. 0-FOR-13-611, Rev. 0, 6 Month Fire Detection Test Panel L611
5. 0-FOR-13-611-I, Rev. 0 (draft), Shutdown Test of Panel L611 Inaccessible Zones
6. 0-FOR-13-627, Rev. 7, 6 Month Fire Detection Test Panel L627
7. 0-FOR-13-636, Rev. 9, 18 Month Fire Detection and Suppression Test For Panel L636
8. 0-FOR-13-637, Rev. 8, 18 Month Fire Detection and Suppression Test For Panel L637
9. 0-FOR-13-638, Rev. 7, 18 Month Fire Detection and Suppression Test For Panel L638
10. TVA Fire Protection Report, Part II, 11/30/2011
11. System Descriptions
    a. WBN2-13-4002, Rev 1, Fire Detection
    b. WBN2-26-4002, Rev 1, High Pressure Fire Protection

3.0 PRECAUTIONS AND LIMITATIONS

A. The Fire Detection System testing must be coordinated with Unit 1 to mitigate any adverse conditions.

B. Support from Fire Operations will be needed for panel and detector testing; including but not limited to placing jumpers.

C. Standard precautions shall be followed for working around energized electrical equipment in accordance with TVA Safety Procedure 1021.

D. Steps may be repeated if all components cannot be tested in a step. However, if the test has been exited, prerequisite steps must be re-verified and a Chronological Test Log (CTL) entry made.

E. Discrepancies between component ID tags and the description in a procedure/instruction do not require a Test Deficiency Notice, TDN, in accordance with SMP-14.0, if the UNIDs match, exclusive of place-keeping zeros and train designators (e.g. 2-HS-31-468 vs. 2-HS-031-0468) and the noun description is sufficient to identify the component. If the component label needs to be changed, a Tag Request Form (TR Card) should be processed in accordance with TI-12.14. Make an entry in the CTL and continue testing.

F. All wires removed/lifted from a terminal shall be identified and taped or covered with an insulator to prevent personnel or equipment hazard and possible spurious initiations. The wires should be grouped together and labeled with the work implementing document number that required them to be lifted if left unattended.

G. Problems identified during the test shall be annotated on the CTL from SMP-9.0 including a description of the problem, the procedure step when/where the problem was identified, corrective action steps taken to resolve the problem, and the number of the corrective action document, if one was required.

H. Observe all Radiation Protection (RP) requirements when working in or near radiological areas.

I. All open problems are to be tracked by a corrective action document and entered on the appropriate system punchlist.

J. Ensure there are no adverse effects to the operation of Unit 1 structures, systems, or components.

K. Test personnel will coordinate with Unit 1 Operations when manipulating Unit 1 equipment if required.

Date _____

4.0 PREREQUISITE ACTIONS

NOTE
Prerequisite steps may be performed in any order unless otherwise stated and should be completed as close in time as practicable to the start of the instruction subsection to which they apply.

4.1 Preliminary Actions

[1] **EVALUATE** open items in the Open Watts Bar Integrated Task Equipment List (WITEL) **AND**

ENSURE that they will NOT adversely affect the test performance and results. _____

[2] **ENSURE** changes to the references listed on Appendix A have been reviewed and determined NOT to adversely affect the test performance. _____

[3] **VERIFY** current revisions and change paper for referenced drawings has been reviewed and determined NOT to adversely affect the test performance, **AND**

ATTACH documentation of current drawing revision numbers and change paper that were reviewed to the data package. _____

[4] **VERIFY** the test/performance copy of this Preoperational Test Instruction (PTI) is the current revision including any change notices and, as needed, each test person assisting in this test has the current revision and any change notices. _____

[5] **ENSURE** outstanding Design Change Notices (DCNs), Engineering Document Construction Releases (EDCRs) or Temporary Alterations (TAs) do not adversely impact testing, **AND**

ATTACH documentation of DCNs, EDCRs, and TAs that were reviewed to the data package. _____

[6] **ENSURE** required Component Testing has been completed prior to start of test. _____

[7] **ENSURE** special environmental conditions are available for testing if required. _____

Date _____

4.1 Preliminary Actions (continued)

[8] **ENSURE** the following tests have been submitted to JTG for concurrence.

A. 0-FOR-13-611, 6 Month Fire Detection Test Panel L611 (Subsection 6.1).

JTG Meeting # _____ _____

B. 0-FOR-13-611-I, Shutdown Test of Panel L611 Inaccessible Zones (Subsection 6.1).

JTG Meeting # _____ _____

C. 0-FOR-13-609, 6 Month Fire Detection Test Panel L609 (Subsection 6.2).

JTG Meeting # _____ _____

D. 0-FOR-13-627, 6 Month Fire Detection Test Panel L627 (Subsection 6.3).

JTG Meeting # _____ _____

E. 0-FOR-13-636, 18 Month Fire Detection and Suppression Test For Panel L636 (Subsection 6.4).

JTG Meeting # _____ _____

F. 0-FOR-13-637, 18 Month Fire Detection and Suppression Test For Panel L637 (Subsection 6.5).

JTG Meeting # _____ _____

G. 0-FOR-13-638, 18 Month Fire Detection and Suppression Test For Panel L638 (Subsection 6.6).

JTG Meeting # _____ _____

[9] **CONDUCT** a pretest briefing with Test and Operations personnel in accordance with SMP-9.0. _____

Date _____

4.1 Preliminary Actions (continued)

[10] **ENSURE** communications are available for areas where testing is to be conducted. _____

[11] **VERIFY** plant instruments, listed on Appendix C: Permanent Plant Instrumentation Log, are placed in service and are within their calibration interval.

Subsection 6.1 _____

Subsection 6.2 _____

Subsection 6.3 _____

Subsection 6.4 _____

Subsection 6.5 _____

Subsection 6.6 _____

[12] **ENSURE** components contained within the boundaries of this test are under the jurisdictional control of Preoperational Startup Engineering (PSE) and/or Plant Operations. _____

[13] **ENSURE** a review of outstanding Clearances has been coordinated with Operations for impact to the test performance, **AND**

RECORD in Appendix B: Temporary Condition Log, if required. _____

[14] **OBTAIN** copies of the applicable forms from the latest revision of SMP-9.0 **AND**

ATTACH to this PTI for use during the performance of this PTI.

_____

Date _____

4.1 Preliminary Actions (continued)

[15] **VERIFY** Measuring and Test Equipment (M&TE) required for test performance has been (as required) filled, vented, placed in service, and recorded on M&TE Log.

Subsection 6.1 _____

Subsection 6.2 _____

Subsection 6.3 _____

Subsection 6.4 _____

Subsection 6.5 _____

Subsection 6.6 _____

[16] **VERIFY** M&TE calibration due dates will support the completion of this test performance.

Subsection 6.1 _____

Subsection 6.2 _____

Subsection 6.3 _____

Subsection 6.4 _____

Subsection 6.5 _____

Subsection 6.6 _____

[17] **PERFORM** a pretest walkdown on equipment to be tested to ensure no conditions exist that will impact test performance. _____

[18] **REVIEW** preventive maintenance for system/components covered by this test **AND**

VERIFY no conditions exist that will impact test performance. _____

[19] **ENSURE** Fire Detection Program Disks have been revised and programmed to include zones within the U2 boundary.

Reference W.O. # _____. _____

Date _____

4.2 Special Tools, Measuring and Test Equipment, Parts, and Supplies

[1] **ENSURE** the following equipment is available: _____

- Temporary hand-held jumper. Other needed equipment is listed in the FOR tests

[2] **ENSURE** appropriate M&TE (per the FOR tests) is available and within their calibration dates, **AND**

RECORD the M&TE data on SMP-9.0: Measuring and Test Equipment (M&TE) Log. _____

4.3 Field Preparations

[1] **ENSURE** scaffolding and platforms have been erected, as needed. _____

[2] **ENSURE** electrical power supplies to detectors and panels have been aligned. _____

[3] **CONTACT** the Fire Protection engineer to program Control Room Console 0-M-29 for Unit 2 testing. _____

[4] **PERFORM** the following:

- Subsection 6.1 - **ISOLATE** the sprinklers/spray nozzles supplied by 2-FCV-26-219 and 2-FCV-26-223 (Reactor Bldg el 702.78', U2 Reactor Bldg Annulus cable tray interaction). _____
- Subsection 6.2 - **ISOLATE** the sprinklers supplied by 2-FCV-26-155 (Containment Purge Air Exhaust Filters & Fans through 0-XS-13-148A/B/D/E). _____
- Subsection 6.4 - **ISOLATE** the sprinklers supplied by 2-FCV-26-155 (Containment Purge Air Exhaust Filters & Fans through zones 100/101). _____
- Subsection 6.5 - **ISOLATE** the spray nozzles supplied by 2-FCV-26-219 (U2 Reactor Bldg el 702.78'). _____
- Subsection 6.6 - **ISOLATE** the sprinklers supplied by 2-FCV-26-223 (U2 Reactor Bldg Annulus cable tray interaction). _____

Date _____

4.3 Field Preparations (continued)

[5] **OBTAIN** an approved Fire Protection Impairment Form per NPG-SPP-18.4.6 for each of the following Subsections.

- Subsection 6.1 - de-energize the Fire Pump Separation Relays. _____

Date _____

4.4 Approvals and Notifications

[1] **OBTAIN** permission of the Preoperational Startup Manager to start the test.

_____ _____

Preoperational Startup Manager Signature Date

[2] Fire Detection System operations are under the jurisdiction of Unit 1 Operations and the Fire Protection Unit. **CONFIRM** with Unit 1 Operations and the Fire Protection Unit that the Fire Detection System is in service to the extent necessary to support performance of this test.

_____ _____

Fire Ops Signature Date

_____ _____

U1 US/SRO/SM Signature Date

[3] **OBTAIN** the Unit 2 Supervisor's (US/SRO) or Shift Manager's (SM) authorization to start the test.

_____ _____

U2 US/SRO/SM Signature Date

5.0 ACCEPTANCE CRITERIA

Steps which determine Acceptance Criteria are designated by **[Acc Crit]** next to the signature/initial blank,

Testing of the following Components satisfies all Acceptance Criteria:

COMPONENT(S)	CRITERIA	VERIFICATION STEPS
0-XS-13-191A, B, D, and E	Zone 353, Alarm Only (Indicator Lights and Audible)	Step 6.1[6]
0-XS-13-193A, B, D, and E	Zone 355, Alarm Only (Indicator Lights and Audible)	Step 6.1[6]
0-TS-13-195C, D	Zone 358	Step 6.1[4] and 6.1[6], 6.3[4]
0-TS-13-195A, B	Zone 359	Step 6.1[4] and 6.1[6], 6.3[4]
0-TS-13-197C, D	Zone 362	Step 6.1[4] and 6.1[6], 6.3[4]
0-TS-13-197A, B	Zone 363	Step 6.1[4] and 6.1[6], 6.3[4]
0-TS-13-199C, D	Zone 366	Step 6.1[4] and 6.1[6], 6.3[4]
0-TS-13-199A, B,	Zone 367	Step 6.1[4] and 6.1[6], 6.3[4]
0-TS-13-201C, D	Zone 370	Step 6.1[4] and 6.1[6], 6.3[4]
0-TS-13-201A, B,	Zone 371	Step 6.1[4] and 6.1[6], 6.3[4]
0-XS-13-203A, D, F, H, K, M, P, R, T, V, X, Z, AB, AE, AG, AJ, AL, AN, AQ, AR	Zone 374	Step 6.1[6], 6.3[4]
0-XS-13-203B, E, G, J, L, N, Q, S, U, W, Y, AA, AD, AF, AH, AK, AM, AP, AS	Zone 375	Step 6.1[6], 6.3[4]

5.0 ACCEPTANCE CRITERIA (continued)

0-XS-13-304A, D, F, G, J, L, N, Q, S, U , V, W, X, Y, Z, AA, AN	Zone 459	Step 6.1[6], 6.3[4]
0-XS-13-304B, E, H, K, M, P, R, T, AB, AD, AE, AF, AG, AH, AJ, AK, AL, AM,	Zone 460	Step 6.1[6], 6.3[4]
0-XS-148A, D	Zone 100, fan shutdown	Step 6.2[4], 6.3[4]
0-XS-148B, E	Zone 101, fan shutdown	Step 6.2[4], 6.3[4]
Zones 100 and 101	Actuate 2-FCV-26-155, Start fire pump	Step 6.4[4], 6.3[4]
0-PS-26-158	Zone 311, Alarm to 2-FCV-26-155 (Indicator Lights and Audible)	Step 6.2[4], 6.3[4]
2-ZS-26-242, 245	Zone 445, Alarm Only - U2 Annulus Isolation Valve Closed - Train A (Indicator Lights and Audible)	Step 6.2[4]
2-ZS-26-241, 244	Zone 446, Alarm Only - U2 Annulus Isolation Valve Closed - Train B (Indicator Lights and Audible)	Step 6.2[4]
2-PS-26-222	Zone 376, Alarm Only - 2-FCV-26-219 - RCPs U2-Open (Indicator Lights and Audible)	Step 6.3[4]
2-PIS-26-310	Zone 376, Alarm Only (Trouble Signal for Header Leak) - 2-FCV-26-219 - RCPs U2-Open (Indicator Lights and Audible)	Step 6.3[4]
2-PS-26-226	Zone 377, Alarm Only - 2-FCV-26-223 - Annulus Cables U2-Open (Indicator Lights and Audible)	Step 6.3[4]
2-PIS-26-309	Zone 377, Alarm Only (Trouble Signal for Header Leak) - 2-FCV-26-223 - Annulus Cables U2-Open (Indicator Lights and Audible)	Step 6.3[4]

5.0 ACCEPTANCE CRITERIA (continued)

2-PS-26-234	Zone 379, Alarm Only - 2-FCV-26-231 - Annulus SP U2 Open (Indicator Lights and Audible)	Step 6.3[4]
2-PS-26-230	Zone 380, Alarm Only - 2-FCV-26-227 - RB Containment SP U2 Open (Indicator Lights and Audible)	Step 6.3[4]
Zones 358, 359,	Actuate 2-FCV-26-219, start fire pump	Steps 6.5[4], 6.1[4] and 6.1[6], 6.3[4]
Zones 362, 363	Actuate 2-FCV-26-219, start fire pump	Steps 6.5[4], 6.1[4] and 6.1[6], 6.3[4]
Zones 366, 367	Actuate 2-FCV-26-219, start fire pump	Steps 6.5[4], 6.1[4] and 6.1[6], 6.3[4]
Zones 370, 371	Actuate 2-FCV-26-219, start fire pump	Steps 6.5[4], 6.1[4] and 6.1[6], 6.3[4]
Zones 374, 375	Actuate 2-FCV-26-223, start fire pump	Step 6.6[4]
Zones 459, 460	Actuate 2-FCV-26-223, start fire pump	Step 6.6[4]

Date _____

6.0 PERFORMANCE

NOTE
Subsections 6.1 through 6.6 may be performed in any order.

6.1 Fire Detection Panel 0-L-611 Testing

[1] **VERIFY** applicable prerequisites have been completed. _____

[2] **VERIFY** Control Room Console 0-M-29 is programmed for U2 testing. _____

[3] **PERFORM** applicable/required steps of 0-FOR-13-611, 6 Month Fire Detection Test Panel L611, for the respective components listed in Section 5.0 of this PTI. _____

[4] **VERIFY** 0-FOR-13-611, 6 Month Fire Detection Test Panel L611, has satisfactorily met all acceptance criteria for the respective components listed in Section 5.0 of this PTI. **[Acc Crit]** _____

[5] **PERFORM** applicable/required steps of 0-FOR-13-611-I, Shutdown Test of Panel L611 Inaccessible Zones, for the respective components listed in Section 5.0 of this PTI. _____

[6] **VERIFY** 0-FOR-13-611-I, Shutdown Test of Panel L611 Inaccessible Zones, has satisfactorily met all acceptance criteria for the respective components listed in Section 5.0 of this PTI. **[Acc Crit]** _____

[7] **ENSURE** all Trouble and Alarm Lamps are not lit. _____

Date _____

6.1 Fire Detection Panel 0-L-611 Testing (continued)

NOTE

0-M-29 will show Troubles OUT when Alarms come IN, and Troubles IN when Alarms go OUT.

[8] **REPEAT** the following steps for each zone listed in Table 6.1-1. (Dwgs 2-45W600-26-9, -10)

A. **LIFT** the black and white leads from the listed points. _____

B. **VERIFY** the zone and panel Trouble lamps are lit. _____

C. **PLACE** the Alarm Silence Switch to OPERATED. _____

D. Momentarily **JUMPER** the lifted black lead to the point the white lead was lifted from as shown on Table 6.1-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed addresses are in. _____

E. **RESET** the panel **AND**,

VERIFY the zone Alarm Lamps are not lit. _____

F. Momentarily **JUMPER** the lifted white lead to the point the black lead was lifted from as shown on Table 6.1-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed addresses are in. _____

G. **RESET** the panel **AND**,

VERIFY the zone and panel Alarm Lamps are not lit, the zone and panel Trouble Lamps are lit, and the listed addresses are out. _____

H. **PLACE** the Alarm Silence Switch in NORMAL. _____

I. **LAND** the leads lifted in Step 6.1[8]A. _____

_____
CV

Date _____

6.1 Fire Detection Panel 0-L-611 Testing (continued)

J. **VERIFY** the zone and panel Trouble Lamps are not lit. _____

Table 6.1-1

ZONE	ZA-30 NO.	LIFT BLACK FROM	LIFT WHITE FROM	JUMPER BLACK TO	JUMPER WHITE TO	ADDRESSES	Perf. by	CV
353	1	pt 7	pt 2	pt 2	pt 7	1D33 & 1D64	_____	_____
355	1	pt 10	pt 5	pt 5	pt 10	1D33 & 1D63	_____	_____
358	2	pt 7	pt 2	pt 2	pt 7	1D33 & 1D62	_____	_____
359	2	pt 10	pt 5	pt 5	pt 10	1D33 & 1D61	_____	_____
362	3	pt 7	pt 2	pt 2	pt 7	1D33 & 1D60	_____	_____
363	3	pt 10	pt 5	pt 5	pt 10	1D33 & 1D59	_____	_____
366	4	pt 7	pt 2	pt 2	pt 7	1D33 & 1D58	_____	_____
367	4	pt 10	pt 5	pt 5	pt 10	1D33 & 1D57	_____	_____
370	5	pt 7	pt 2	pt 2	pt 7	1D33 & 1D56	_____	_____
371	5	pt 10	pt 5	pt 5	pt 10	1D33 & 1D55	_____	_____
374	6	pt 7	pt 2	pt 2	pt 7	1D33 & 1D54	_____	_____
375	6	pt 10	pt 5	pt 5	pt 10	1D33 & 1D53	_____	_____
459	7	pt 7	pt 2	pt 2	pt 7	1D33 & 1D52	_____	_____
460	7	pt 10	pt 5	pt 5	pt 10	1D33 & 1D51	_____	_____

Date _____

6.1 Fire Detection Panel 0-L-611 Testing (continued)

[9] The following steps will test the ZA-30 modules wired to the Zones tested in this section:

A. Referring to Table 6.1-2 and using the hand held jumper, **TOUCH** the listed point to ground **AND**,

VERIFY Panel 0-L-611 Trouble Lamp is LIT. _____

B. **REMOVE** the Chassis Ground Disconnect (Point 6 on CP-30). (First Zone only) _____

_____
CV

C. **VERIFY** the Panel 0-L-611 Panel Trouble Lamp is Not LIT. _____

D. **REPLACE** the Chassis Ground Disconnect. (First Zone only) _____

_____
CV

E. **REMOVE** the hand held jumper **AND**,

VERIFY the Panel 0-L-611 Panel Trouble Lamp is Not LIT. _____

Date _____

6.1 Fire Detection Panel 0-L-611 Testing (continued)

Table 6.1-2

ZA-30	Zone	Point	Step A Initial/Date	Step B Initial/Date	Step C Initial/Date	Step E Initial/Date
1	353	8				
1	355	9		N/A	N/A	
2	358	8		N/A	N/A	
2	359	9		N/A	N/A	
3	362	8		N/A	N/A	
3	363	9		N/A	N/A	
4	366	8		N/A	N/A	
4	367	9		N/A	N/A	
5	370	8		N/A	N/A	
5	371	9		N/A	N/A	
6	374	8		N/A	N/A	
6	375	9		N/A	N/A	
7	459	8		N/A	N/A	
7	460	9		N/A	N/A	

F. **REMOVE** the cover from the CP-30 module. _____

_____
CV

G. **SHORT** CP-30 point 8 to ground **AND**,

VERIFY Panel 0-L-611 Trouble Lamp is LIT. _____

H. **REMOVE** the short **AND**,

VERIFY the Panel Trouble Lamp is NOT LIT. _____

Date _____

6.1 Fire Detection Panel 0-L-611 Testing (continued)

I. **REPLACE** the cover on the CP-30 module. _____

_____ CV

[10] **ATTACH** completed copies of 0-FOR-13-611 and 0-FOR-13-611-I, to this PTI. _____

[11] **RE-PROGRAM** Control Room Console 0-M-29 to Unit 1 configuration. (N/A if any other sections of this test will be performed immediately after this section) _____

6.2 Fire Detection Panel 0-L-609 Testing

[1] **VERIFY** applicable prerequisites have been completed. _____

[2] **VERIFY** Control Room Console 0-M-29 is programmed for U2 testing. _____

[3] **PERFORM** applicable/required steps of 0-FOR-13-609, 6 Month Fire Detection Test Panel L609, for the respective components listed in Section 5.0 of this PTI. _____

[4] **VERIFY** 0-FOR-13-609, 6 Month Fire Detection Test Panel L609, has satisfactorily met all acceptance criteria for the respective components listed in Section 5.0 of this PTI. **[Acc Crit]** _____

[5] **ENSURE** all Trouble and Alarm Lamps are not lit. _____

Date _____

6.2 Fire Detection Panel 0-L-609 Testing (continued)

NOTE

0-M-29 will show Troubles OUT when Alarms come IN, and Troubles IN when Alarms go OUT.

[6] **REPEAT** the following steps for each zone listed in Table 6.2-1. (Dwg 2-45W600-26-8)

A. **LIFT** the black and white leads from the listed points. _____

B. **VERIFY** the zone and panel Trouble lamps are lit. _____

C. **PLACE** the Alarm Silence Switch to OPERATED. _____

D. Momentarily **JUMPER** the lifted black lead to the point the white lead was lifted from as shown on Table 6.2-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed addresses are in. _____

E. **RESET** the panel **AND**,

VERIFY the zone Alarm Lamps are not lit. _____

F. Momentarily **JUMPER** the lifted white lead to the point the black lead was lifted from as shown on Table 6.2-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed addresses are in. _____

G. **RESET** the panel **AND**,

VERIFY the zone and panel Alarm Lamps are not lit, the zone and panel Trouble Lamps are lit, and the listed addresses are out. _____

H. **PLACE** the Alarm Silence Switch in NORMAL. _____

I. **LAND** the leads lifted in Step 6.2[6]A. _____

_____
CV

J. **VERIFY** the zone and panel Trouble Lamps are not lit. _____

Date _____

6.2 Fire Detection Panel 0-L-609 Testing (continued)

Table 6.2-1

ZONE	ZA-30 NO.	LIFT BLACK FROM	LIFT WHITE FROM	JUMPER BLACK TO	JUMPER WHITE TO	ADDRESSES	Perf. by	CV
100	1	pt 7	pt 2	pt 2	pt 7	2C33 & 2C64	_____	_____
101	1	pt 10	pt 5	pt 5	pt 10	2C33 & 2C63	_____	_____
311	5	pt 10	pt 5	pt 5	pt 10	2C33 & 2C55	_____	_____
445	6	pt 10	pt 5	pt 5	pt 10	2C33 & 2C53	_____	_____
446	7	pt 7	pt 2	pt 2	pt 7	2C33 & 2C52	_____	_____

[7] The following steps will test the ZA-30 modules wired to the Zones tested in this section:

A. Referring to Table 6.2-2 and using the hand held jumper, **TOUCH** the listed point to ground **AND**,

VERIFY Panel 0-L-609 Trouble Lamp is LIT. _____

B. **REMOVE** the Chassis Ground Disconnect (Point 6 on CP-30). (First Zone only) _____

_____
CV

C. **VERIFY** the Panel 0-L-609 Panel Trouble Lamp is Not LIT. _____

D. **REPLACE** the Chassis Ground Disconnect. (First Zone only) _____

_____
CV

E. **REMOVE** the hand held jumper **AND**,

VERIFY the Panel 0-L-609 Panel Trouble Lamp is Not LIT. _____

Date _____

6.2 Fire Detection Panel 0-L-609 Testing (continued)

Table 6.2-2

ZA-30	Zone	Point	Step A Initial/Date	Step B Initial/Date	Step C Initial/Date	Step E Initial/Date
1	100	8				
1	101	9		N/A	N/A	
5	311	9		N/A	N/A	
6	445	9		N/A	N/A	
7	446	8		N/A	N/A	

[8] **ATTACH** a completed copy of 0-FOR-13-609 to this PTI. _____

[9] **RE-PROGRAM** Control Room Console 0-M-29 to Unit 1 configuration. (N/A if any other sections of this test will be performed immediately after this section) _____

Date _____

6.3 Fire Detection Panel 0-L-627 Testing

[1] **VERIFY** applicable prerequisites have been completed. _____

[2] **VERIFY** Control Room Console 0-M-29 is programmed for U2 testing. _____

[3] **PERFORM** applicable/required steps of 0-FOR-13-627, 6 Month Fire Detection Test Panel L627, for the respective components listed in Section 5.0 of this PTI. _____

[4] **VERIFY** 0-FOR-13-627, 6 Month Fire Detection Test Panel L627, has satisfactorily met all acceptance criteria for the respective components listed in Section 5.0 of this PTI. **[Acc Crit]** _____

[5] **ENSURE** all Trouble and Alarm Lamps are not lit. _____

NOTE

0-M-29 will show Troubles OUT when Alarms come IN, and

Troubles IN when Alarms go OUT.

[6] **REPEAT** the following steps for each zone listed in Table 6.3-1.

A. **LIFT** the black and white leads from the listed points. _____

B. **VERIFY** the zone and panel Trouble lamps are lit. _____

C. **PLACE** the Alarm Silence Switch to OPERATED. _____

D. Momentarily **JUMPER** the lifted black lead to the point the white lead was lifted from as shown on Table 6.3-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed addresses are in. _____

E. **RESET** the panel **AND**,

VERIFY the zone Alarm Lamps are not lit. _____

Date _____

6.3 Fire Detection Panel 0-L-627 Testing (continued)

F. Momentarily **JUMPER** the lifted white lead to the point the black lead was lifted from as shown on Table 6.3-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed addresses are in. _____

G. **RESET** the panel **AND**,

VERIFY the zone and panel Alarm Lamps are not lit, the zone and panel Trouble Lamps are lit, and the listed addresses are out. _____

H. **PLACE** the Alarm Silence Switch in NORMAL. _____

I. **LAND** the leads lifted in Step 6.3[6]A. _____

_____
CV

J. **VERIFY** the zone and panel Trouble Lamps are not lit. _____

Table 6.3-1

ZONE	ZA-30 NO.	LIFT BLACK FROM	LIFT WHITE FROM	JUMPER BLACK TO	JUMPER WHITE TO	ADDRESSES	Perf. by	CV
376	6	pt 7	pt 2	pt 2	pt 7	2B65 & 2B86	_____	_____
377	6	pt 10	pt 5	pt 5	pt 10	2B65 & 2B85	_____	_____
379	7	pt 7	pt 2	pt 2	pt 7	2B65 & 2B84	_____	_____
380	7	pt 10	pt 5	pt 5	pt 10	2B65 & 2B83	_____	_____

Date _____

6.3 Fire Detection Panel 0-L-627 Testing (continued)

[7] The following steps will test the ZA-30 modules wired to the Zones tested in this section:

A. Referring to Table 6.3-2 and using the hand held jumper, **TOUCH** the listed point to ground **AND**,

VERIFY Panel 0-L-627 Trouble Lamp is LIT. _____

B. **REMOVE** the Chassis Ground Disconnect (Point 6 on CP-30). (First Zone only) _____

_____ CV

C. **VERIFY** the Panel 0-L-627 Panel Trouble Lamp is Not LIT. _____

D. **REPLACE** the Chassis Ground Disconnect. (First Zone only) _____

_____ CV

E. **REMOVE** the hand held jumper **AND**,

VERIFY the Panel 0-L-627 Panel Trouble Lamp is Not LIT. _____

Table 6.3-2

ZA-30	Zone	Point	Step A Initial/Date	Step B Initial/Date	Step C Initial/Date	Step E Initial/Date
6	376	8				
6	377	9		N/A	N/A	
7	379	8		N/A	N/A	
7	380	9		N/A	N/A	

[8] **ATTACH** a completed copy of 0-FOR-13-627 to this PTI. _____

[9] **RE-PROGRAM** Control Room Console 0-M-29 to Unit 1 configuration. (N/A if any other sections of this test will be performed immediately after this section) _____

Date _____

6.4 Fire Detection Panel 0-L-636 Testing

[1] **VERIFY** applicable prerequisites have been completed. _____

[2] **VERIFY** Control Room Console 0-M-29 is programmed for U2 testing. _____

[3] **PERFORM** applicable/required steps of 0-FOR-13-636, 18 Month Fire Detection and Suppression Test for Panel L636, for the respective components listed in Section 5.0 of this PTI. _____

[4] **VERIFY** 0-FOR-13-636, 18 Month Fire Detection and Suppression Test for Panel L636, has satisfactorily met all acceptance criteria for the respective components listed in Section 5.0 of this PTI. **[Acc Crit]** _____

[5] **ENSURE** all Trouble and Alarm Lamps are not lit. _____

NOTE

0-M-29 will show Troubles OUT when Alarms come IN, **AND**

Troubles IN when Alarms go OUT.

[6] **REPEAT** the following steps for each zone listed in Table 6.4-1.

A. **LIFT** the black and white leads from the listed points. _____

B. **VERIFY** the zone and panel Trouble lamps are lit. _____

C. **PLACE** the Alarm Silence Switch to OPERATED. _____

D. Momentarily **JUMPER** the lifted black lead to the point the white lead was lifted from as shown on Table 6.4-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed address is in. _____

E. **RESET** the panel **AND**,

VERIFY the zone Alarm Lamps are not lit. _____

Date _____

6.4 Fire Detection Panel 0-L-636 Testing (continued)

F. Momentarily **JUMPER** the lifted white lead to the point the black lead was lifted from as shown on Table 6.4-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed address is in. _____

G. **RESET** the panel **AND**,

VERIFY the zone and panel Alarm Lamps are not lit, the zone and panel Trouble Lamps are lit, and the listed address is out. _____

H. **PLACE** the Alarm Silence Switch in NORMAL. _____

I. **LAND** the leads lifted in Step 6.4[6]A. _____

_____
CV

J. **VERIFY** the zone and panel Trouble Lamps are not lit. _____

Table 6.4-1

ZONE	ZA-30 NO.	LIFT BLACK FROM	LIFT WHITE FROM	JUMPER BLACK TO	JUMPER WHITE TO	ADDRESSES	Perf. by	CV
603	2	pt 10	pt 5	pt 5	pt 10	1F68	_____	_____

[7] The following steps will test the ZA-30 modules wired to the Zones tested in this section:

A. Referring to Table 6.4-2 and using the hand held jumper, **TOUCH** the listed point to ground **AND**,

VERIFY Panel 0-L-636 Trouble Lamp is LIT. _____

B. **REMOVE** the Chassis Ground Disconnect (Point 6 on CP-30). _____

_____
CV

C. **VERIFY** the Panel 0-L-636 Panel Trouble Lamp is Not LIT. _____

Date _____

6.4 Fire Detection Panel 0-L-636 Testing (continued)

D. **REPLACE** the Chassis Ground Disconnect. _____

_____ CV

E. **REMOVE** the hand held jumper **AND**,

VERIFY the Panel 0-L-636 Panel Trouble Lamp is Not LIT. _____

Table 6.4-2

ZA-30	Zone	Point	Step A Initial/Date	Step B Initial/Date	Step C Initial/Date	Step E Initial/Date
2	603	9				

[8] **ATTACH** a completed copy of 0-FOR-13-636 to this PTI. _____

[9] **RE-PROGRAM** Control Room Console 0-M-29 to Unit 1 configuration. (N/A if any other sections of this test will be performed immediately after this section) _____

6.5 Fire Detection Panel 0-L-637 Testing

[1] **VERIFY** applicable prerequisites have been completed. _____

[2] **VERIFY** Control Room Console 0-M-29 is programmed for U2 testing. _____

[3] **PERFORM** applicable/required steps of 0-FOR-13-637: 18 Month Fire Detection and Suppression Test for Panel L637, for the respective components listed in Section 5.0 of this PTI. _____

[4] **VERIFY** 0-FOR-13-637 18 Month Fire Detection and Suppression Test for Panel L637, has satisfactorily met all acceptance criteria for the respective components listed in Section 5.0 of this PTI. **[Acc Crit]** _____

[5] **ENSURE** all Trouble and Alarm Lamps are not lit. _____

Date _____

6.5 Fire Detection Panel 0-L-637 Testing (continued)

NOTE
0-M-29 will show Troubles OUT when Alarms come IN, and Troubles IN when Alarms go OUT.

[6] **REPEAT** the following steps for each zone listed in Table 6.5-1.

A. **LIFT** the black and white leads from the listed points. _____

B. **VERIFY** the zone and panel Trouble lamps are lit. _____

C. **PLACE** the Alarm Silence Switch to OPERATED. _____

D. Momentarily **JUMPER** the lifted black lead to the point the white lead was lifted from as shown on Table 6.5-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed address is in. _____

E. **RESET** the panel **AND**,

VERIFY the zone Alarm Lamps are not lit. _____

F. Momentarily **JUMPER** the lifted white lead to the point the black lead was lifted from as shown on Table 6.5-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed address is in. _____

G. **RESET** the panel **AND**,

VERIFY the zone and panel Alarm Lamps are not lit, the zone and panel Trouble Lamps are lit, and the listed address is out. _____

H. **PLACE** the Alarm Silence Switch in NORMAL. _____

I. **LAND** the leads lifted in Step 6.5[6]A. _____

_____
CV

J. **VERIFY** the zone and panel Trouble Lamps are not lit. _____

Date _____

6.5 Fire Detection Panel 0-L-637 Testing (continued)

Table 6.5-1

ZONE	ZA-30 NO.	LIFT BLACK FROM	LIFT WHITE FROM	JUMPER BLACK TO	JUMPER WHITE TO	ADDRESSES	Perf. by	CV
624	5	pt 7	pt 2	pt 2	pt 7	1F89	_____	_____

[7] The following steps will test the ZA-30 modules wired to the Zones tested in this section:

A. Referring to Table 6.5-2 and using the hand held jumper, **TOUCH** the listed point to ground **AND**,

VERIFY Panel 0-L-637 Trouble Lamp is LIT. _____

B. **REMOVE** the Chassis Ground Disconnect (Point 6 on CP-30). _____

_____ CV

C. **VERIFY** the Panel 0-L-637 Panel Trouble Lamp is Not LIT. _____

D. **REPLACE** the Chassis Ground Disconnect. _____

_____ CV

E. **REMOVE** the hand held jumper **AND**,

VERIFY the Panel 0-L-637 Panel Trouble Lamp is Not LIT. _____

Date _____

6.5 Fire Detection Panel 0-L-637 Testing (continued)

Table 6.5-2

ZA-30	Zone	Point	Step A Initial/Date	Step B Initial/Date	Step C Initial/Date	Step E Initial/Date
5	624	8				

[8] **ATTACH** a completed copy of 0-FOR-13-637 to this PTI. _____

[9] **RE-PROGRAM** Control Room Console 0-M-29 to Unit 1 configuration. (N/A if any other sections of this test will be performed immediately after this section) _____

Date _____

6.6 Fire Detection Panel 0-L-638 Testing

[1] **VERIFY** applicable prerequisites have been completed. _____

[2] **VERIFY** Control Room Console 0-M-29 is programmed for U2 testing. _____

[3] **PERFORM** applicable/required steps of 0-FOR-13-638: 18 Month Fire Detection and Suppression Test for Panel L638, for the respective components listed in Section 5.0 of this PTI. _____

[4] **VERIFY** 0-FOR-13-638 18 Month Fire Detection and Suppression Test for Panel L638, has satisfactorily met all acceptance criteria for the respective components listed in Section 5.0 of this PTI. **[Acc Crit]** _____

[5] **ENSURE** all Trouble and Alarm Lamps are not lit. _____

NOTE

0-M-29 will show Troubles OUT when Alarms come IN, and

Troubles IN when Alarms go OUT.

[6] **REPEAT** the following steps for each zone listed in Table 6.6-1.

A. **LIFT** the black and white leads from the listed points. _____

B. **VERIFY** the zone and panel Trouble lamps are lit. _____

C. **PLACE** the Alarm Silence Switch to OPERATED. _____

D. Momentarily **JUMPER** the lifted black lead to the point the white lead was lifted from as shown on Table 6.6-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed address is in. _____

E. **RESET** the panel **AND**,

VERIFY the zone Alarm Lamps are not lit. _____

Date _____

6.6 Fire Detection Panel 0-L-638 Testing (continued)

F. Momentarily **JUMPER** the lifted white lead to the point the black lead was lifted from as shown on Table 6.6-1 **AND**,

VERIFY the zone and panel Alarm Lights are lit, the zone and panel Trouble Lights are not lit, and the listed address is in. _____

G. **RESET** the panel **AND**,

VERIFY the zone and panel Alarm Lamps are not lit, the zone and panel Trouble Lamps are lit, and the listed address is out. _____

H. **PLACE** the Alarm Silence Switch in NORMAL. _____

I. **LAND** the leads lifted in Step 6.6[6]A. _____

_____
CV

J. **VERIFY** the zone and panel Trouble Lamps are not lit. _____

Table 6.6-1

ZONE	ZA-30 NO.	LIFT BLACK FROM	LIFT WHITE FROM	JUMPER BLACK TO	JUMPER WHITE TO	ADDRESSES	Perf. by	CV
633	1	pt 10	pt 5	pt 5	pt 10	2F82	_____	_____

Date _____

6.6 Fire Detection Panel 0-L-638 Testing (continued)

[7] The following steps will test the ZA-30 modules wired to the Zones tested in this section:

A. Referring to Table 6.6-2 and using the hand held jumper, **TOUCH** the listed point to ground **AND**,

VERIFY Panel 0-L-638 Trouble Lamp is LIT. _____

B. **REMOVE** the Chassis Ground Disconnect (Point 6 on CP-30). _____

_____
CV

C. **VERIFY** the Panel 0-L-638 Panel Trouble Lamp is Not LIT. _____

D. **REPLACE** the Chassis Ground Disconnect. _____

_____
CV

E. **REMOVE** the hand held jumper **AND**,

VERIFY the Panel 0-L-638 Panel Trouble Lamp is Not LIT. _____

Table 6.6-2

ZA-30	Zone	Point	Step A Initial/Date	Step B Initial/Date	Step C Initial/Date	Step E Initial/Date
1	633	9				

[8] **ATTACH** a completed copy of 0-FOR-13-638 to this PTI. _____

[9] **RE-PROGRAM** Control Room Console 0-M-29 to Unit 1 configuration. (N/A if any other sections of this test will be performed immediately after this section) _____

Date _____

7.0 POST-PERFORMANCE ACTIVITIES

[1] **NOTIFY** the Unit 2 US/SRO of the test completion and system alignment. _____

[2] **NOTIFY** Unit 1 Operations of the test completion and system alignment. _____

[3] **VERIFY** that post-test calibration of M&TE used to record quantitative acceptance criteria has been satisfactorily performed and the results **RECORDED** on M&TE Log in SMP-9.0 _____

[4] **VERIFY** that post-test calibration of permanent plant instruments used to record quantitative acceptance criteria has been satisfactorily performed **AND,**

RECORD the results in Appendix C: Permanent Plant Instrumentation Log. _____

8.0 RECORDS

A. Quality Assurance Records

Complete PTI Test Package

B. Non-Quality Assurance Records

None

Appendix A
(Page 1 of 1)

TEST PROCEDURES/INSTRUCTIONS REFERENCE REVIEW

NOTES

1) Additional copies of this table may be made as necessary.
2) Initial and date indicates review has been completed for impact.

PROCEDURE/ INSTRUCTION	REVISION/CHANGES	IMPACT Yes/No	INITIAL AND DATE. (N/A for no change)
FSAR, Section 9.5.1 Table 14.2-1, Sheet 14 of 89			
MI-13.105			
WBN2-13-4002			
WBN2-26-4002			
0-FOR-13-609			
0-FOR-13-611			
0-FOR-13-611-I			
0-FOR-13-627			
0-FOR-13-636			
0-FOR-13-637			
0-FOR-13-638			
SOI-13.01			
2-TSD-13-01			
TVA Fire Protection Report, Part II			
NPG-SPP-18.4.6			

Appendix B
(Page 1 of 1)

TEMPORARY CONDITION LOG

Date _____

NOTE

These steps will be N/A'd if no temporary condition existed. Additional copies of this table may be made as necessary.

ITEM No.	TEMPORARY CONDITION DESCRIPTION	PERFORMED		RETURNED TO NORMAL	
		Step No.	Performed By/Date CV By/Date	Step No.	Returned By/Date CV By/Date

Appendix C
(Page 1 of 6)

PERMANENT PLANT INSTRUMENTATION LOG

Date _____

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED[1]	PLACED IN SERVICE[1]	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE[2]	POST-TEST CALIBRATION ACCEPTABLE[2] INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
0-XS-13-148A							
0-XS-13-148B							
0-XS-13-148D							
0-XS-13-148E							
0-PS-26-158							
0-PS-26-222							
0-PIS-26-310							
0-PS-26-226							
0-PIS-26-309							
0-PS-26-234							
0-PS-26-230							
0-ZS-26-241							
0-ZS-26-242							
0-ZS-26-244							
0-ZS-26-245							
0-XS-13-191A							
0-XS-13-191B							
0-XS-13-191D							
0-XS-13-191E							

Appendix C
(Page 2 of 6)

Date _____

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED[1]	PLACED IN SERVICE[1]	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE[2]	POST-TEST CALIBRATION ACCEPTABLE[2] INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
0-XS-13-193A							
0-XS-13-193B							
0-XS-13-193D							
0-XS-13-193E							
0-TS-13-195A							
0-TS-13-195B							
0-TS-13-195C							
0-TS-13-195D							
0-TS-13-197A							
0-TS-13-197B							
0-TS-13-197C							
0-TS-13-197D							
0-TS-13-199A							
0-TS-13-199B							
0-TS-13-199C							
0-TS-13-199D							
0-TS-13-201A							
0-TS-13-201B							
0-TS-13-201C							
0-TS-13-201D							

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Date _____

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED[1]	PLACED IN SERVICE[1]	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE[2]	POST-TEST CALIBRATION ACCEPTABLE[2] INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
0-XS-13-203A							
0-XS-13-203D							
0-XS-13-203F							
0-XS-13-203H							
0-XS-13-203K							
0-XS-13-203M							
0-XS-13-203P							
0-XS-13-203R							
0-XS-13-203T							
0-XS-13-203V							
0-XS-13-203X							
0-XS-13-203Z							
0-XS-13-203AB							
0-XS-13-203AE							
0-XS-13-203AG							
0-XS-13-203AJ							
0-XS-13-203AL							
0-XS-13-203AN							
0-XS-13-203AQ							
0-XS-13-203AR							

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INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED[1]	PLACED IN SERVICE[1]	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE[2]	POST-TEST CALIBRATION ACCEPTABLE[2] INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
0-XS-13-203B							
0-XS-13-203E							
0-XS-13-203G							
0-XS-13-203J							
0-XS-13-203L							
0-XS-13-203N							
0-XS-13-203Q							
0-XS-13-203S							
0-XS-13-203U							
0-XS-13-203W							
0-XS-13-203Y							
0-XS-13-203AA							
0-XS-13-203AD							
0-XS-13-203AF							
0-XS-13-203AH							
0-XS-13-203AK							
0-XS-13-203AM							
0-XS-13-203AP							
0-XS-13-203AS							
0-XS-13-304A							

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Date _____

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED[1]	PLACED IN SERVICE[1]	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE[2]	POST-TEST CALIBRATION ACCEPTABLE[2] INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
0-XS-13-304D							
0-XS-13-304F							
0-XS-13-304G							
0-XS-13-304J							
0-XS-13-304L							
0-XS-13-304N							
0-XS-13-304Q							
0-XS-13-304S							
0-XS-13-304B							
0-XS-13-304E							
0-XS-13-304H							
0-XS-13-304K							
0-XS-13-304M							
0-XS-13-304P							
0-XS-13-304R							
0-XS-13-304T							
0-XS-13-304U							
0-XS-13-304V							
0-XS-13-304W							
0-XS-13-304X							

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Date _____

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	FILLED AND VENTED[1]	PLACED IN SERVICE[1]	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE[2]	POST-TEST CALIBRATION ACCEPTABLE[2] INITIAL/DATE
		INIT/DATE	INIT/DATE	YES	NO		
0-XS-13-304Y							
0-XS-13-304Z							
0-XS-13-304AA							
0-XS-13-304AN							
0-XS-13-304AB							
0-XS-13-304AD							
0-XS-13-304AE							
0-XS-13-304AF							
0-XS-13-304AG							
0-XS-13-304AH							
0-XS-13-304AJ							
0-XS-13-304AK							
0-XS-13-304AL							
0-XS-13-304AM							

[1] These items may be initialed and dated by personnel performing the task. Instrumentation not required to be filled and vented may be identified as Not Applicable. (N/A)

[2] May be identified as Not Applicable (N/A) if instrument was not used to verify/record quantitative acceptance criteria data.

WATTS BAR NUCLEAR PLANT
UNIT 2 PREOPERATIONAL TEST

TITLE: Charging and Letdown Logic Test

Instruction No: 2-PTI-062-01

Revision No: 000

PREPARED BY: Ross Horvat / Ross Horvat DATE: 7-27-11
PRINT NAME / SIGNATURE

REVIEWED BY: JOHN GRANT / [signature] DATE: 7-27-2011
PRINT NAME / SIGNATURE

INSTRUCTION APPROVAL

JTG MEETING No: _____

JTG CHAIRMAN: [signature] DATE: 3/29/12

APPROVED BY : [signature] DATE: 3/29/12
PREOPERATIONAL STARTUP MANAGER

TEST RESULTS APPROVAL

JTG MEETING No: _____

JTG CHAIRMAN: _____ DATE: _____

APPROVED BY : _____ DATE: _____
PREOPERATIONAL STARTUP MANAGER

Revision Log

Revision or Change Number	Effective Date	Affected Page Numbers	Description of Revision/Change
0	3/29/12	All	Initial revision based on U1 PTI-062-01

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1.0 INTRODUCTION

1.1 Test Objectives

NOTE
The Centrifugal Charging Pumps and Chemical and Volume Control System flow performance and flow associated controls/responses will be verified in 2-PTI-063-01 and 2-PTI-063-03 and 2-PTI-062-03

A. To verify the operability of the Charging and Letdown portions of the Chemical and Volume Control System for its normal operating functions.

B. To ensure system components such as breakers, valves, relays, instrumentation and controls, and applicable alarms function correctly to meet their design requirements.

1.2 Scope

A. Verify Chemical and Volume Control System (CVCS) (Sys 062) components function according to design requirements and required safety functions.

B. Ensure proper operation of CVCS motor operated valves under static conditions.

C. Ensure proper operation of CVCS motor operated valves interlocks.

D. Ensure proper operation of the Centrifugal Charging Pump (CCP) 6.9kV breakers.

E. Ensure proper operation of CVCS air operated valves under static conditions.

F. Ensure proper operation of Transfer Switch alarms.

G. Ensure proper operation of CVCS component status alarms.

Date _____

2.0 REFERENCES

2.1 Performance References

A. SMP-9.0, CONDUCT OF TEST.

B. TI-300, ELECTRICAL ARC FLASH PERSONAL PROTECTIVE EQUIPMENT & PROTECTION BOUNDARY MATRICES

2.2 Developmental References

A. Final Safety Analysis Report

1. FSAR, Chapter 14 Table 14.2-1 Sheet 18 and 19, Amendment 107.

B. Drawings

1. Mechanical Diagrams

a. 2-47W809-1, Rev 6, Flow Diagram, Chemical & Volume Control System

DRA 52945-009, Rev-1

b. 2-47W809-2, Rev 4, Flow Diagram, Chemical & Volume Control System (Boron Recovery)

c. 2-47W848-4, Rev 1, Mechanical Flow Diagram Control Air

d. 2-47W848-5, Rev 3, Mechanical Flow Diagram Control Air

e. 2-47W848-6, Rev 3, Mechanical Flow Diagram Control Air

f. 2-47W848-9, Rev 2, Mechanical Flow Diagram Control Air

g. 2-47W859-4, Rev 6, Mechanical Flow Diagram Component Cooling System

h. 2-47W600-147, Rev 0, Electrical Instruments And Controls

i. 2-47W600-311, Rev 0, Electrical Instruments and Controls.

j. 2-47W600-290, Rev 0, Electrical Instruments and Controls.

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2.2 Developmental References (continued)

2. Electrical Diagrams

   a. 2-47W610-62-1, Rev 2, Electrical Control Diagram, Chemical & Volume Control Sys

      DRA 52378-457, Rev 1

      DRA 52671-6, Rev 1

   b. 2-47W610-62-2, Rev 4, Electrical Control Diagram, Chemical & Volume Control Sys

      DRA 52378-458, Rev 1

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      DRA 52671-10, Rev 1

      DRA 52671-11, Rev 1

      DRA 52671-12, Rev 1

      DRA 52671-14, Rev 1

      DRA 52671-15, Rev 0

      DRA 53421-53, Rev 0

      DRA 53421-70, Rev 0

      DRA 53421-425, Rev 0

      DRA 53580-610, Rev 0

      DRA 52624-3, Rev 0

   c. 2-47W610-62-3, Rev 0, Electrical Control Diagram, Chemical & Volume Control S/ys

      DRA 52945-30, Rev 0

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2.2 Developmental References (continued)

d. 2-47W610-62-4, Rev 2, Electrical Control Diagram, Chemical & Volume Control Sys

e. 2-47W610-68-5, Rev 1, Electrical Control Diagram Reactor Coolant System

f. 2-47W610-70-2, Rev 2, Electrical Control Diagram Component Cooling Water System

DRA 53654-64, Rev 0

g. 2-45W600-62-1, Rev 1, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

DRA 52453-119, Rev 0

h. 2-45W600-62-2, Rev 0, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

DRA 52453-120, Rev 0

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i. 2-45W600-62-3, Rev 0, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

DRA 52378-245, Rev 1

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DRA 52378-249, Rev 0

DRA 52378-194, Rev 0

j. 2-45W600-62-4, Rev 0, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

DRA 52378-136, Rev 0

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2.2 Developmental References (continued)

k. 2-45W600-62-5, Rev 1, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

DRA 52378-137, Rev 0

DRA 52671-86, Rev 1

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l. 2-45W600-57-1, Rev 1, Wiring Diagram, Separation & Misc Aux Relays Schematic Diagrams

m. 2-45W600-57-2, Rev 0, Wiring Diagram, Separation & Misc Aux Relays Schematic Diagrams SH-2

n. 2-45W600-57-3, Rev 2, Wiring Diagram, Separation & Misc Aux Relays Schematic Diagrams

o. 2-45W600-57-4, Rev 1, Wiring Diagram, Separation & Misc Aux Relays Schematic Diagrams

DRA 52671-72, Rev 0

p. 2-45W600-57-15, Rev 0, Wiring Diagram, Separation & Misc Aux Relays Schematic Diagrams

DRA 52378-242, Rev 1

DRA 52378-244, Rev 0

q. 2-45W600-57-20, Rev 3, Wiring Diagram Separation Misc Aux Relays Schematic Diagrams

r. 2-45W600-57-21, Rev 0, Wiring Diagram Separation Misc Aux Relays Schematic Diagrams

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2.2 Developmental References (continued)

s. 2-45W600-57-22, Rev 1, Wiring Diagram Separation & Misc Aux Relays Schematic Diagrams

t. 2-45W600-70, Rev 0, Wiring Diagram, Component Cooling System Schematic Diagrams

DRA 52453-137, Rev 0

u. 2-45W600-55-18, Rev 0, Wiring Diagram Annunciator System Key Diagram Panel 6C & 6F

52630-07-115, Rev 0

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v. 2-45B601-55-65 Rev 0, 2-L-10 PANEL

DRA 52355-40, Rev 1

w. 2-45W760-62-1, Rev 2, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

x. 2-45W760-62-2, Rev 1, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

53287-89, Rev 2

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y. 2-45W760-62-3, Rev 0, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

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2.2 Developmental References (continued)

z. 2-45W760-62-5, Rev 0, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

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aa. 2-45W760-62-6, Rev 1, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

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bb. 2-45W760-62-7, Rev 1, Wiring Diagrams, Chemical & Volume Control Sys Schematic Diagrams

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cc. 2-45W760-62-8, Rev 0, Wiring Diagrams Chemical & Volume Control Sys Schematic Diagrams

dd. 2-45W760-30-20, Rev 1, Wiring Diagrams Ventilating System Schematic Diagrams

DRA 53290-51, Rev 1

DRA 53290-67, Rev 1

ee. 2-45W760-270-2, Rev 1, WIRING DIAGRAM MISCELLANEOUS SYSTEM SCHEMATIC DIAGRAM

DRA 53287-150, Rev 3

ff. 1-45W760-55-1A, Rev 14, Wiring Diagram Annunciator System Schematic Diagrams

gg. 1-45W760-55-2A, Rev 12, Wiring Diagram Annunciator System Schematic Diagrams

DRA 52630-07-136, Rev 0

hh. 2-45W724-3, Rev 0, Wiring Diagram, 6900 Shutdown Board 2A-A Single Line

DRA 53580-566, Rev 0

ii. 2-45W724-4, Rev 0, Wiring Diagram, 6900 Shutdown Board 2B-B Single Line

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jj. 2-45W751-1, Rev 2, Wiring Diagram, 480V React MOV Bd 2A1-A Single Line SH-1

DRA 54851-133, Rev 0

kk. 2-45W751-2, Rev 0, Wiring Diagram, 480V React MOV Bd 2A1-A Single Line SH-2

DRA 54851-134, Rev 0

ll. 2-45W751-7, Rev 1, Wiring Diagram, 480V React MOV Bd 2B1-B Single Line SH-1

DRA 54851-139, Rev 0

DRA 54870-112, Rev 0

mm. 2-45W751-8, Rev 1, Wiring Diagram, 480V Reactor MOV Bds 2B1-B & 2B1-B SH-2

DRA 53292-93, Rev 1

DRA 54851-140, Rev 0

nn. 2-45W751-9, Rev 0, Wiring Diagrams 480V Reac Mov BD 2B1-B Single Line SH-3

oo. 2-45W756-1, Rev 1, Wiring Diagrams 480V Cont & Aux Bldg VT BD 2A1-A - Single Line SH-1

pp. 2-45W756-5, Rev 0, Wiring Diagrams 480V Cont & Aux Bldg VT BD 2B1-B - Single Line SH-1

qq. 45N703-3, Rev 22, Wiring Diagrams, 125V Vital Battery Board III Single Line Sheet 3

rr. 45N703-4, Rev 18, Wiring Diagrams, 125V Vital Battery Board IV Single Line Sheet 4

ss. 45W703-7, Rev 19, Wiring Diagrams 125V Vital Btry Board III Pnl 4 Connection Diagram Sheet 7

DRA 53421-225, Rev 0

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tt. 45W703-8, Rev 20, Wiring Diagrams 125V Vital Btry Board Iv Pnl 4 Connection Diagram Sheet 8

DRA 53421-226, Rev 0

uu. 45N706-1, Rev 20, Wiring Diagrams, 120V Vital Inst Pwr Bds 1-I & 2-I Connection Diagram Sheet 1

vv. 45B2766-4F, Rev 7, 480V Reac Mov BD 2A1-A Conn Diag - Compt 4F SH 1

ww. 45B2766-4F-2, Rev 1, 480V Reac Mov BD 2A1-A Conn Diag - Compt 4F SH 2

xx. 45B2766-7A, Rev 6, Wiring Diagram 480V Reactor Mov BD 2A1-A Conn Diag - Compt 7A

DRA 53287-15, Rev 1

yy. 45B2766-7B, Rev 5, Wiring Diagram 480v Reactor Mov BD 2a1-A Conn Diag - Compt 7B

DRA 53287-16, Rev 1

zz. 45B2768-7A, Rev 5, Wiring Diagram 480v Reactor Mov BD 2b1-B Conn Diag - Compt 7A

DRA 53292-6, Rev 1

aaa. 45N2644-6, Rev 9, Wiring Diagrams Unit Control Boards-Panel 2-M-5 Connection Diagrams-Sheet 6

DRA 52362-13, Rev 1

DRA 52453-23, Rev 0

bbb. 45N2645-4, Rev 10, Wiring Diagrams Unit Control Board - Panel 2-M-6 Connection Diagrams - Sheet 4

ccc. 45N2645-9, Rev 12, Wiring Diagrams Unit Control Board Panel 2-M-6 Connection Diagrams Sheet 9

ddd. 45N2676-4, Rev 16, Wiring Diagrams Solid State Protection Sys Train A Connection Diagram SH-4

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eee. 45N2676-5, Rev 10, Wiring Diagrams Solid State Protection Sys Train A Connection Diagram SH-5

fff. 45N2676-7, Rev 7, Wiring Diagrams, Solid State Protection Sys Train A Connection Diagram SH-7

ggg. 45N2677-4, Rev 18, Wiring Diagrams Solid State Protection Sys Train B Connection Diagram SH-4

hhh. 45N2677-5, Rev 9, Wiring Diagrams Solid State Protection Sys Train B Connection Diagram SH-5

iii. 45N2677-7, Rev 7, Wiring Diagrams, Solid State Protection Sys Train B Connection Diagram SH-7

jjj. 45N2680-3, Rev 9, Wiring Diagram Nsss Aux Relay Panel 2-R-54 Connection Diagrams SH-3

kkk. 2-45W2656-2, Rev 0, Wiring Diagrams Unit Control Board Panel 2-M-21 Connection Diagram Sheet 2

lll. 2-47A615-0, Rev 1, Integrated Computer System Terminations And I/O List

mmm. 2-45B655-1B, Rev 1, Main Control Room Annunciator Inputs Window Box XA-55-1B

nnn. 2-45B655-6F, Rev 0, Main Control Room Annunciator Inputs Window Box XA-55-6F

DRA 52630-07-92, Rev 0

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3. Vendor Drawings

a. 08F802403-FD-2600-1, CVCS EXCESS LETDOWN FLOW HAND STATION, Rev 4

b. 08F802403-FD-2600-3, CVCS EXCESS LTDN FLOW HAND STATION FACEPLATE LAYOUT, Rev 2

c. 08F802403-FD-2603-1, CVCS SIGNAL VALIDATION VOLUME CONTROL TANK, Rev 5

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2.2 Developmental References (continued)

d. 08F802403-FD-2603-2, CVCS SIGNAL VALIDATION VOLUME CONTROL TANK, Rev 4

e. 08F802403-FD-2604-4, CVCS VOLUME CONTROL TANK LEVEL HAND STATION INTERFACE FACEPLATE LAYOUT, Rev 3

f. 08F802403-FD-2604-3, CVCS VOLUME CONTROL TANK LEVEL HAND STATION INTERFACE, Rev 3

g. 08F802403-FD-2605-1, CVCS CHARGING FLOW TO PRESSURIZER, Rev 6

h. 08F802403-FD-2605-5, CVCS CHARGE FLOW TO PRESSURIZER HAND STATION INTERFACE FACEPLATE LAYOUT, Rev 2

i. 08F802403-FD-2606-3, CVCS RHR LETDOWN HAND STATION FACEPLATE LAYOUT, Rev 2

j. 08F802403-FD-2607-1, CVCS LETDOWN HEAT EXCHANGER PRESSURE, Rev 4

k. 08F802403-FD-2607-5, CVCS LETDOWN HEAT EXCHANGER HAND STATION INTERFACE FACEPLATE LAYOUT, Rev 2

l. 08F802403-FD-2608-1, CVCS LETDOWN HX TEMPERATURE OUTLET, Rev 5

m. 08F802403-FD-2608-5, CVCS LETDOWN HX TEMPERATURE OUTLET HAND STATION INTERFACE FACEPLATE LAYOUT, Rev 2

n. 08F802403-FD-2622-1, CVCS BORIC ACID TANK MISC, Rev 4

o. 08F802403-FD-2955-3, CVCS EXCESS LTDN FLOW HAND STATION FACEPLATE LAYOUT ACR A, Rev 2

p. 08F802403-FD-2956-3, CVCS LETDOWN HX OUTLET TEMP HAND STATION FACEPLATE LAYOUT ACR B, Rev 2

q. 08F802403-FD-2957-1, CVCS HAND STATION LETDOWN HEAT EXCHANGER PRESSURE ACR B, Rev 3

r. 08F802403-FD-2957-3, CVCS LETDOWN PRESSURE HAND STATION FACEPLATE LAYOUT ACR B, Rev 2

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2.2 Developmental References (continued)

s. 08F802403-FD-2957-4, CVCS LETDOWN HEAT EXCHANGER PRESSURE ACR A, Rev 2

t. 08F802403-FD-2958-1, CVCS HAND STATION RHR LETDOWN FLOW ACR A , Rev 2

u. 08F802403-FD-2958-3, CVCS RHR LETDOWN FLOW HAND STATION ACR A, Rev 2

v. 08F802403-FD-2961-1, CVCS CHARGING FLOW CTRL HAND INTERFACE ACR B, Rev 5

w. 08F802403-FD-2961-3, CVCS CHARGING FLOW CTRL HAND INTERFACE ACR B, Rev 3

x. 08F802403-FD-2962-1, CVCS VCT LEVEL CONTROL HAND STATION ACR A, Rev 4

y. 08F802403-FD-2962-3, CVCS VCT LEVEL CONTROL HAND STATION FACEPLATE LAYOUT ACR A, Rev 3

z. 08F802403-FD-2962-4, CVCS VOLUME CONTROL TANK ACR A, Rev 4

4. Contract Drawings

a. Contract 54114-1

(1) 7246D11-17, Rev 14, SSPS INTERCONNECTION DIAGRAM

DRA 53122-148, Rev 0

(2) 7246D11-22, Rev 12, SSPS INTERCONNECTION DIAGRAM

(3) 7246D11-23, Rev 7, SSPS INTERCONNECTION DIAGRAM

b. 5411401

(1) LO48590-1, LUBE OIL PIPING, Rev 1B

DCA 36615-27 Rev 0

Date _____

2.2 Developmental References (continued)

C. Documents

1. System Descriptions

   a. WBN2-62-4001, Rev 1, CHEMICAL AND VOLUME CONTROL SYSTEM.

   b. WBN2-63-4001, Rev 1, SAFETY INJECTION SYSTEM

   c. 2-TSD-62-1, Rev 1, Chemical And Volume Control System Charging and Letdown Logic Test.

   d. 2-TSD-88-5, Rev 1, Containment isolation System.

Date _____

3.0 PRECAUTIONS, AND LIMITATIONS

A. Standard precautions shall be followed for working around energized electrical equipment in accordance with TVA Safety Manual Procedure 1021.

B. Steps may be repeated if all components cannot be tested in a step. However, if the test has been exited, prerequisite steps must be re-verified and a Chronological Test Log (CTL) entry made.

C. Discrepancies between component ID tags and the description in a procedure/instruction if the UNIDs match, exclusive of place keeping zeros and train designators and the noun description is sufficient to identify the component. This condition does not require a TDN in accordance SMP-14.0. If the component label needs to be changed, a Tag Request Form (TR Card) should be processed in accordance with TI-12.14. Make an entry in the CTL and continue testing.

D. All wires removed/lifted from a terminal shall be identified and taped or covered with an insulator to prevent personnel or equipment hazard and possible spurious initiations. The wires should be grouped together and labeled with the work implementing document number that required them to be lifted if left unattended.

E. All open problems are to be tracked by a corrective action document and entered on the appropriate system punchlist.

F. Problems identified during the test shall be annotated on the Chronological Test Log (CTL) from SMP-9.0 including a description of the problem, the procedure step when/where the problem was identified, corrective action steps taken to resolve the problem, and the number of the corrective action document, if one was required.

G. Observe all Radiation Protection (RP) requirements when working in or near radiological areas.

H. Ensure there are no adverse effects to the operation of Unit 1 structures, systems, or components.

I. Test personnel will coordinate with Unit 1 Operations when manipulating Unit 1 equipment.

J. System water chemistry is within system specifiable parameters especially for fluids supplied from external sources.

Date _____

3.0 PRECAUTIONS, AND LIMITATIONS (continued)

K. During the performance of this procedure visual observation of piping and components is required. This includes steady state and transient operations with visual confirmation that vibration is not excessive.

L. If the vibration is determined to be excessive the Test Engineer shall initiate a Test Deficiency Notice (TDN).

M. Permission from Operations shall be obtained prior to entry to Logic Panels.

N. Fuse control shall be in accordance with SMP-6.0 FUSE Verification Program. If multiple fuses will concurrently be in the uninstalled position, each fuse shall be bagged and tagged for identification immediately after removal from the circuit. If fuse(s) will be in the uninstalled position for more than one shift, each fuse shall be bagged, tagged, and locked in a secure location.

Date _____

4.0 PREREQUISITE ACTIONS

NOTE
Preliminary action steps may be performed in any order with Test Directors approval.

4.1 Preliminary Actions

[1] **EVALUATE** open items in Watts Bar Integrated Task Equipment List (WITEL), **AND**

ENSURE they will NOT adversely affect the test performance and results. _____

[2] **ENSURE** changes to the references listed on Appendix A, have been reviewed, and determined NOT to adversely affect the test performance. _____

[3] **VERIFY** current revisions and change paper for referenced drawings has been reviewed and determined NOT to adversely affect the test performance, **AND**

ATTACH documentation of current drawing revision numbers and change paper that were reviewed to the data package. _____

[4] **ENSURE** special environmental conditions are available for testing if required. _____

[5] **ENSURE** outstanding Design Change Notices (DCN's), Engineering Document Construction Release (EDCR's) or Temporary Alterations (TA's) do NOT adversely impact testing, **AND**

ATTACH documentation of DCN's, EDCR's and TA's that were reviewed to the data package. _____

[6] **ENSURE** required Component Testing has been completed prior to start of test. _____

[7] **ENSURE** all piping supports required for testing are installed and adjusted as required. _____

Date _____

4.1 Preliminary Actions (continued)

[8] **ENSURE** communications are available for areas where testing is to be conducted. _____

[9] **VERIFY** the test/performance copy of this Preoperational Test Instruction (PTI) is the current revision and as needed, each test person assisting in this test has the current revision. _____

[10] **OBTAIN** copies of the applicable forms from the latest revision of SMP-9.0, **AND**

ATTACH to this PTI for use during the performance of this PTI. _____

[11] **VERIFY** Measuring and Test Equipment (M&TE) required for test performance has been (as required) filled, vented, place in service and recorded on Measuring and Test Equipment Log. _____

[12] **VERIFY** Measuring and Test Equipment (M&TE) calibration due dates will support the completion of this test performance. _____

[13] **ENSURE** components contained within the boundaries of this test are under the jurisdictional control of Preoperational Startup Engineering (PSE) and/or Plant Operations. _____

[14] **PERFORM** a pretest walkdown on equipment to be tested to ensure no conditions exist that will impact test performance. _____

[15] **CONDUCT** a pretest briefing with Test and Operations personnel in accordance with SMP-9.0. _____

[16] **VERIFY** the following support systems are in service to the extent necessary to support testing:

A. System 32, Control Air System - to supply control air to Air Operated Valves. _____

B. System 55, Annunciator System - to indicate system 62 component status. _____

[17] **REVIEW** preventive maintenance for system/components covered by this test, **AND**

VERIFY no conditions exist that will impact test performance. _____

Date _____

4.2 Special Tools, Measuring and Test Equipment, Parts, and Supplies

[1] Ensure the following equipment is available: _____

- Jumpers, (Grabber Type with Insulated Boots)
- Jumpers, (Momentary hand-held contact)
- Jumper, (Single Pole Single Throw Switch)

[2] **ENSURE** the following M&TE or equivalent is available and within their calibration due dates, **AND**

RECORD the M&TE data on SMP-9.0, Measuring and Test equipment (M&TE) Log. _____

- Stopwatch.
- Digital Multimeter (200-200M ohm/ 2%+1).
- Function Calibrator
- Pressure Source (4)

4.3 Field Preparations

NOTE

When installing fuses in the following steps the blown fuse indicator must be oriented towards the annunciator circuit.

[1] **ENSURE** that communications are available for areas where testing is to be conducted. _____

[2] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD IV fuses(2)
0-FU-236-4/D21 (2-FCV-62-54) _____

B. 125V DC VITAL BAT BD IV fuses(2)
0-FU-236-4/E21 (2-FCV-62-54) _____

Date _____

4.3 Field Preparations (continued)

[3] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD IV fuses(2)
0-FU-236-4/D5 (2-FCV-62-55) _____

B. 125V DC VITAL BAT BD IV fuses(2)
0-FU-236-4/E5 (2-FCV-62-55) _____

Subsection 6.2

[4] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD IV fuses(2)
0-FU-236-4/A8 (2-FCV-62-59) _____

B. 125V DC VITAL BAT BD IV fuses(2)
0-FU-236-4/B8 (2-FCV-62-59) _____

Subsection 6.4

[5] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2)
0-FU-236-3/D17 (2-FCV-62-9) _____

B. 125V DC VITAL BAT BD III fuses(2)
0-FU-236-3/E17 (2-FCV-62-9) _____

Subsection 6.5

[6] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD IV fuses(2)
0-FU-236-4/D18 (2-FCV-62-22) _____

B. 125V DC VITAL BAT BD IV fuses(2)
0-FU-236-4/E18 (2-FCV-62-22) _____

Subsection 6.6

Date _____

4.3 Field Preparations (continued)

[7] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/D2 (2-FCV-62-35) _____

B. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/E2 (2-FCV-62-35) _____

Subsection 6.7

[8] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD IV fuses(2) 0-FU-236-4/D19 (2-FCV-62-48) _____

B. 125V DC VITAL BAT BD IV fuses(2) 0-FU-236-4/E19 (2-FCV-62-48) _____

Subsection 6.8

[9] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/D14 (2-FCV-62-53) _____

B. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/E14 (2-FCV-62-53) _____

Subsection 6.9

[10] **ENSURE** the following Fuses are installed:

A. RX MOV BD 2B1-B fuses(2) 2-FU-213-B16/31N (2-FCV-62-61) _____

B. RX MOV BD 2B1-B fuses(2) 2-FU-213-B16/31A (2-FCV-62-61) _____

C. RX MOV BD 2B1-B fuses(2) 2-FU-213-B16/32 (2-FCV-62-61) _____

Subsection 6.10

[11] **VERIFY** ICS points FD 2216 and FD 2217 are available to test. _____

Subsection 6.10

Date _____

4.3 Field Preparations (continued)

[12] **VERIFY** CISP Panel 2-XX-55-6F available to support test. _____

Subsection 6.10

[13] **ENSURE** the following Fuses are installed:

A. RX MOV BD 2A1-A fuses(2) 2-FU-213-A17/1N (2-FCV-62-91) _____

B. RX MOV BD 2A1-A fuses(2) 2-FU-213-A17/1A (2-FCV-62-91) _____

Subsection 6.11

[14] **VERIFY** ICS points FD 2067 and FD 2068 are available to test. _____

Subsection 6.11

[15] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/A5 (2-FCV-62-84) _____

B. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/B5 (2-FCV-62-84) _____

Subsection 6.12

[16] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD IV fuses(2) 0-FU-236-4/A3 (2-FCV-62-85) _____

B. 125V DC VITAL BAT BD IV fuses(2) 0-FU-236-4/B3 (2-FCV-62-85) _____

Subsection 6.13

[17] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/A1 (2-FCV-62-86) _____

B. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/B1 (2-FCV-62-86) _____

Subsection 6.14

Date _____

4.3 Field Preparations (continued)

[18] **ENSURE** the following Fuses are installed:

A. RX MOV BD 2A1-A fuses(2) 2-FU-213-A17/11A (2-FCV-62-90) _____

B. RX MOV BD 2A1-A fuses(2) 2-FU-213-A17/11N (2-FCV-62-90) _____

Subsection 6.16

[19] **ENSURE** the following Fuses are installed:

A. RX MOV BD 2B1-B fuses(2) 2-FU-213-B17/1N (2-FCV-62-91) _____

B. RX MOV BD 2B1-B fuses(2) 2-FU-213-B17/1A (2-FCV-62-91) _____

Subsection 6.17

[20] **ENSURE** 120V AC Vital Inst PWR BD 2-I Breaker 4 is ON _____

Subsection 6.18

[21] **ENSURE** the following Fuses are installed:

A. 2-FU-278-M5/A1 (2-FCV-62-93). _____

B. 2-FU-278-M5/2 (2-FCV-62-93). _____

Subsection 6.18

Date _____

4.3 Field Preparations (continued)

[22] **ENSURE** the following Fuses are installed:

A. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11N (2-LCV-62-132) _____

B. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11A (2-LCV-62-132) _____

C. RX MOV BD 2A1-A fuses(2) 2-FU-213-A19/1N (2-LCV-62-135) _____

D. RX MOV BD 2A1-A fuses(2) 2-FU-213-A19/1A (2-LCV-62-135) _____

E. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1N (2-LCV-62-133) _____

F. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1A (2-LCV-62-133) _____

G. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/11N (2-LCV-62-136) _____

H. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/11A (2-LCV-62-136) _____

I. REACTOR PROT PANEL 2-R-54 fuses(2-Total) 2-FU-99-R54/L11&L12 _____

J. REACTOR PROT PANEL 2-R-55 fuses(2-Total) 2-FU-99-R55/L9&L10 _____

K. AUX CONTROL ROOM PANEL 2-L-10 fuses(2-Total) 2-FU-278-L10-J7/J8 _____

L. AUX CONTROL ROOM PANEL 2-L-10 fuses(2-Total) 2-FU-278-L10-K5/K6 _____

M. AUX CONTROL ROOM PANEL 2-L-11A fuses(2-Total) 2-FU-278-L11A-H13/H14

N. AUX CONTROL ROOM PANEL 2-L-11A fuses(2-Total) 2-FU-278-L11A-H15/H16 _____

Date _____

4.3 Field Preparations (continued)

O. AUX CONTROL ROOM PANEL 2-L-11B fuses(2-Total) 2-FU-278-L11B-H13/H14 _____

P. AUX CONTROL ROOM PANEL 2-L-11B fuses(2-Total) 2-FU-278-L11B-H15/H16 _____

Subsection 6.19

[23] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/C19 (2-FCV-62-1228) _____

B. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11N (2-LCV-62-132) _____

C. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11A (2-LCV-62-132) _____

Subsection 6.20

Date _____

4.3 Field Preparations (continued)

[24] **ENSURE** the following Fuses are installed:

A. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11N (2-LCV-62-132) _____

B. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11A (2-LCV-62-132) _____

C. RX MOV BD 2A1-A fuses(2) 2-FU-213-A19/1N (2-LCV-62-135) _____

D. RX MOV BD 2A1-A fuses(2) 2-FU-213-A19/1A (2-LCV-62-135) _____

E. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1N (2-LCV-62-133) _____

F. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1A (2-LCV-62-133) _____

G. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/11N (2-LCV-62-136) _____

H. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/11A (2-LCV-62-136) _____

I. REACTOR PROT PANEL 2-R-54 fuses(2-Total) 2-FU-99-R54/L11&L12 _____

J. REACTOR PROT PANEL 2-R-55 fuses(2-Total) 2-FU-99-R55/L9&L10 _____

K. AUX CONTROL ROOM PANEL 2-L-10 fuses(2-Total) 2-FU-278-L10-J7/J8 _____

L. AUX CONTROL ROOM PANEL 2-L-10 fuses(2-Total) 2-FU-278-L10-K5/K6 _____

M. AUX CONTROL ROOM PANEL 2-L-11A fuses(2-Total) 2-FU-278-L11A-H13/H14 _____

N. AUX CONTROL ROOM PANEL 2-L-11A fuses(2-Total) 2-FU-278-L11A-H15/H16 _____

Date _____

4.3 Field Preparations (continued)

O. AUX CONTROL ROOM PANEL 2-L-11B fuses(2-Total) 2-FU-278-L11B-H13/H14 _____

P. AUX CONTROL ROOM PANEL 2-L-11B fuses(2-Total) 2-FU-278-L11B-H15/H16 _____

Subsection 6.21

[25] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD IV fuses(2) 0-FU-236-50/C50 (2-FCV-62-1229) _____

B. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1N (2-LCV-62-133) _____

C. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1A (2-LCV-62-133) _____

Subsection 6.22

[26] **ENSURE** the following Fuses are installed:

A. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11N (2-LCV-62-132) _____

B. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11A (2-LCV-62-132) _____

C. RX MOV BD 2A1-A fuses(2) 2-FU-213-A19/1N (2-LCV-62-135) _____

D. RX MOV BD 2A1-A fuses(2) 2-FU-213-A19/1A (2-LCV-62-135) _____

E. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1N (2-LCV-62-133) _____

F. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1A (2-LCV-62-133) _____

G. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/11N (2-LCV-62-136) _____

H. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/11A (2-LCV-62-136) _____

Date _____

4.3 Field Preparations (continued)

I. REACTOR PROT PANEL 2-R-54 fuses(2-Total) 2-FU-99-R54/L11&L12 _____

J. REACTOR PROT PANEL 2-R-55 fuses(2-Total) 2-FU-99-R55/L9&L10 _____

K. AUX CONTROL ROOM PANEL 2-L-10 fuses(2-Total) 2-FU-278-L10-J7/J8 _____

L. AUX CONTROL ROOM PANEL 2-L-10 fuses(2-Total) 2-FU-278-L10-K5/K6 _____

M. AUX CONTROL ROOM PANEL 2-L-11A fuses(2-Total) 2-FU-278-L11A-H13/H14 _____

N. AUX CONTROL ROOM PANEL 2-L-11A fuses(2-Total) 2-FU-278-L11A-H15/H16 _____

O. AUX CONTROL ROOM PANEL 2-L-11B fuses(2-Total) 2-FU-278-L11B-H13/H14 _____

P. AUX CONTROL ROOM PANEL 2-L-11B fuses(2-Total) 2-FU-278-L11B-H15/H16 _____

Subsection 6.23

[27] **ENSURE** the following Fuses are installed:

A. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11N (2-LCV-62-132) _____

B. RX MOV BD 2A1-A fuses(2) 2-FU-213-A18/11A (2-LCV-62-132) _____

C. RX MOV BD 2A1-A fuses(2) 2-FU-213-A19/1N (2-LCV-62-135) _____

D. RX MOV BD 2A1-A fuses(2) 2-FU-213-A19/1A (2-LCV-62-135) _____

E. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1N (2-LCV-62-133) _____

F. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/1A (2-LCV-62-133) _____

Date _____

4.3 Field Preparations (continued)

G. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/11N (2-LCV-62-136) _____

H. RX MOV BD 2B1-B fuses(2) 2-FU-213-B18/11A (2-LCV-62-136) _____

I. REACTOR PROT PANEL 2-R-54 fuses(2-Total) 2-FU-99-R54/L11&L12 _____

J. REACTOR PROT PANEL 2-R-55 fuses(2-Total) 2-FU-99-R55/L9&L10 _____

K. AUX CONTROL ROOM PANEL 2-L-10 fuses(2-Total) 2-FU-278-L10-J7/J8 _____

L. AUX CONTROL ROOM PANEL 2-L-10 fuses(2-Total) 2-FU-278-L10-K5/K6 _____

M. AUX CONTROL ROOM PANEL 2-L-11A fuses(2-Total) 2-FU-278-L11A-H13/H14 _____

N. AUX CONTROL ROOM PANEL 2-L-11A fuses(2-Total) 2-FU-278-L11A-H15/H16 _____

O. AUX CONTROL ROOM PANEL 2-L-11B fuses(2-Total) 2-FU-278-L11B-H13/H14 _____

P. AUX CONTROL ROOM PANEL 2-L-11B fuses(2-Total) 2-FU-278-L11B-H15/H16 _____

Subsection 6.24

Date _____

4.3 Field Preparations (continued)

[28] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/A3 (2-FCV-62-69) _____

B. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/B3 (2-FCV-62-69) _____

C. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/A6 (2-FCV-62-72) _____

D. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/B6 (2-FCV-62-72) _____

E. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/A7 (2-FCV-62-73) _____

F. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/B7 (2-FCV-62-73) _____

G. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/A8 (2-FCV-62-74) _____

H. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/B8 (2-FCV-62-74) _____

I. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/A9 (2-FCV-62-70) _____

J. 125V DC VITAL BAT BD III fuses (2) 0-FU-236-3/B9 (2-FCV-62-70) _____

Subsection 6.25

[29] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/A1 (2-FCV-62-86) _____

Subsection 6.26

Date _____

4.3 Field Preparations (continued)

[30] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD IV fuses(2) 0-FU-236-4/A2 (2-FCV-62-77) _____

B. 125V DC VITAL BAT BD IV fuses(2) 0-FU-236-4/B2 (2-FCV-62-77) _____

Subsection 6.27

[31] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/A2 (2-FCV-62-79) _____

B. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/B2 (2-FCV-62-79) _____

Subsection 6.29

[32] **PERFORM** the following at Local Panel 2-L-27 (A9/U El 737'):

A. **CLOSE** 2-ISIV-62-335C, Isol VLV to 2-PT-62-81. _____

B. **REMOVE** Calibration Fitting Cap, **AND**

DOCUMENT in Appendix B _____

C. **INSTALL** pressure source connected to 2-PT-62-81 Calibration Fitting, **AND**

DOCUMENT in Appendix B _____

D. **SET** Pressure to approximately 200 psig _____

Subsection 6.30

[33] **VERIFY** VCT (Volume Control Tank) level ≥ 15% and ≤ 90% as indicated on 2-LI-62-129A at Panel 2-M-6. _____

Subsection 6.32

Date _____

4.3 Field Preparations (continued)

[34] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/A4 (2-LCV-62-118) _____

B. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/B4 (2-LCV-62-118) _____

Subsection 6.32

[35] **ENSURE** the following Fuses are installed:

A. 125V DC VITAL BAT BD III fuses(2) 0-FU-236-3/D2 (2-FCV-62-35) _____

Subsection 6.33

[36] **ENSURE** the following Fuses are installed:

A. RX MOV BD 2B1-B fuses (2) 2-FU-213-B19/1A (2-FCV-62-138) _____

B. RX MOV BD 2B1-B fuses (2) 2-FU-213-B19/1N (2-FCV-62-138) _____

Subsection 6.34

Date _____

4.3 Field Preparations (continued)

[37] **ENSURE** the following Fuses are installed:

A. 6.9kV Shutdown BD 2A-A fuses(2) 2-FU-211-A18/1N (2A-A Charging Pump) _____

B. 6.9kV Shutdown BD 2A-A fuses(2) 2-FU-211-A18/2N (2A-A Charging Pump) _____

C. 6.9kV Shutdown BD 2A-A fuses(2) 2-FU-211-A18/3N (2A-A Charging Pump) _____

D. 6.9kV Shutdown BD 2A-A fuses(2) 2-FU-211-A18/1A (2A-A Charging Pump) _____

E. 6.9kV Shutdown BD 2A-A fuses(2) 2-FU-211-A18/2A (2A-A Charging Pump) _____

F. 6.9kV Shutdown BD 2A-A fuses(2) 2-FU-211-A18/3A (2A-A Charging Pump) _____

G. RX MOV BD 2A1-A fuses(2) 2-FU-213-A13/41 (2A-A AUX OIL PUMP) _____

H. CONT & AUX BLDG VT BD 2A1-A fuses(2) 2-FU-214-A110/1 (CCP 2A-A ROOM COOLER FAN) _____

Subsection 6.35

[38] **ENSURE** that key for 2-PNL-211-B-B is obtained. _____

Subsection 6.35

Subsection 6.36

[39] **ENSURE** that key for 2-PNL-211-A-A, panel 4 is obtained. _____

Subsection 6.35

Subsection 6.36

[40] **ENSURE** The following:

A. 2-BKR-74-10 is Racked Down and seismically restrained. _____

B. 2-BKR-63-10 is Racked Down and seismically restrained. _____

Subsection 6.35

Date _____

4.3 Field Preparations (continued)

[41] **ENSURE** the following Fuses are installed:

A. 6.9kV Shutdown BD 2B-B fuses(2) 2-FU-211-B18/1N (2B-B Charging Pump) _____

B. 6.9kV Shutdown BD 2B-B fuses(2) 2-FU-211-B18/2N (2B-B Charging Pump) _____

C. 6.9kV Shutdown BD 2B-B fuses(2) 2-FU-211-B18/3N (2B-B Charging Pump) _____

D. 6.9kV Shutdown BD 2B-B fuses(2) 2-FU-211-B18/1A (2B-B Charging Pump) _____

E. 6.9kV Shutdown BD 2B-B fuses(2) 2-FU-211-B18/2A (2B-B Charging Pump) _____

F. 6.9kV Shutdown BD 2B-B fuses(2) 2-FU-211-B18/3A (2B-B Charging Pump) _____

G. RX MOV BD 2B1-B fuses(2) 2-FU-213-B14/31 (2B-B AUX OIL PUMP) _____

H. CONT & AUX BLDG VT BD 2B1-B fuses(2) 2-FU-214-B110/1 (CCP 2B-B ROOM COOLER FAN) _____

Subsection 6.36

[42] **ENSURE** The following:

A. 2-BKR-74-20 is Racked Down and seismically restrained. _____

B. 2-BKR-63-15 is Racked Down and seismically restrained. _____

Subsection 6.36

[43] **ENSURE** the following FTA switch is ON and insulating screws have been removed:

	Annunciator	2-M-21	Terminal Block	Switch	
A.	149-A	V/Rear	06	SW08	_____

Subsection 6.37

Date _____

4.3 Field Preparations (continued)

[44] **ENSURE** the following FTA switch is ON and insulating screws have been removed:

	Annunciator	2-M-21	Terminal Block	Switch	
A.	150-A	V/Rear	06	SW09	_____

Subsection 6.38

[45] **ENSURE** the following FTA switch is ON and insulating screws have been removed:

	Annunciator	2-M-21	Terminal Block	Switch	
A.	149-C	V/Rear	06	SW03	_____

Subsection 6.39

[46] **ENSURE** the following FTA switch is ON and insulating screws have been removed:

	Annunciator	2-M-21	Terminal Block	Switch	
A.	150-C	V/Rear	06	SW04	_____

Subsection 6.40

[47] **ENSURE** the following FTA switch is ON and insulating screws have been removed:

	Annunciator	2-M-21	Terminal Block	Switch	
A.	148-B	V/Rear	06	SW10	_____

Subsection 6.41

[48] **ENSURE** the following FTA switch is ON and insulating screws have been removed:

	Annunciator	2-M-21	Terminal Block	Switch	
A.	148-C	V/Rear	06	SW17	_____

Subsection 6.42

Date _____

4.3 Field Preparations (continued)

[49] **ENSURE** the following FTA switches are ON and insulating screws have been removed:

	Annunciator	2-M-21	Terminal Block	Switch	
A.	131-F	V/Rear	05	SW66	_____
B.		V/Rear	05	SW73	_____
C.		V/Rear	05	SW80	_____
D.		V/Rear	05	SW87	_____
E.		V/Rear	05	SW94	_____

Subsection 6.43

Date _____

4.4 Approvals and Notifications

[1] **OBTAIN** permission of the Preoperational Startup Manager to start the test.

_____	_____
Preoperational Startup Manager Signature	Date

[2] **OBTAIN** the Unit 2 Supervisor's (US/SRO) or Shift Manager's (SM) authorization.

_____	_____
U2 US/SRO/SM Signature	Date

Date _____

5.0 ACCEPTANCE CRITERIA

A. The following Valves Fail OPEN:

Valve Number	Verification Step
2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716]	6.5[25], 6.5[29]
2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716]	6.6[25], 6.6[29]
2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702]	6.7[25], 6.7[29]
2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716]	6.8[25], 6.8[29]
2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716]	6.13[25], 6.13[29]
2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716]	6.14[25], 6.14[29]
2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700]	6.18[27]
2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737]	6.28[29]
2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737]	6.30[20]
2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692]	6.15[22]

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

B. The following Valves Fail CLOSED:

Valve Number	Verification Step
2-FCV-62-53, RCP 1 Seal Bypass Flow [AZ305 708]	6.9[27], 6.9[31]
2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729]	6.1[34], 6.1[38]
2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702]	6.2[26], 6.2[30]
2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716]	6.3[21]
2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713]	6.31[17]
2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716]	6.12[33], 6.12[37]
2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716]	6.25[154], 6.25[158]
2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716]	6.25[176], 6.25[180]
2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702]	6.25[45], 6.25[198]
2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702]	6.25[62], 6.25[214]
2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702]	6.25[79], 6.25[232]
2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702]	6.26[24], 6.26[12]
2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713]	6.27[24], 6.27[39]

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

2-FCV-62-125, VCT VENT TO WDS [AUX 713]	6.33[15], 6.33[19]
2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757]	6.20[21], 6.20[25]
2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713]	6.22[21], 6.22[25]

C. Verify the following valves fail to the VCT:

Valve Number	Verification Step
2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713]	6.29[30], 6.29[35]
2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713]	6.32[78], 6.32[82]

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

D. 2-FCV-62-59 fails to the Seal Water Heat Exchanger (6.4[23], 6.4[27])

E. The following valves close on a Containment Isolation ∅A Signal:

Valve Number	Verification Step
2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726]	6.10[20]
2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713]	6.11[20]
2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702]	6.25[34]
2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702]	6.25[51]
2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702]	6.25[68]
2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702]	6.26[16]
2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713]	6.27[15]

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

F. The Following Valves Open/ Close on a Safety Injection Signal:

Valve Number	Action	Verification Step
2-FCV-62-90, CVCS CHARGING HEADER ISOLATION	CLOSE	6.16[16]
2-FCV-62-91, CHARGING FLOW ISO VLV	CLOSE	6.16[16]
2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL	CLOSE	6.19[36]
2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL	CLOSE	6.21[36]
2-LCV-62-135, CHARGING PUMP FLOW RWST	OPEN	6.23[25]
2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION	OPEN	6.24[25]

G. 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] OPENS on Pressurizer High Signal (Step 6.12[23])

H. 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] Electrical stop engages prior to the mechanical stop. (Step 6.18[11])

I. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] has the following Auto Responses:

1. Closes on Pressurizer Level Low Signal. (Step 6.25[19])

2. Can not be opened or closed unless all of 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702], -73, and -74 are FULLY CLOSED. (Steps 6.25[82], 6.25[97], 6.25[129], 6.25[133], 6.25[137])

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

J. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] has the following Auto Responses:

1. Closes on Pressurizer Level Low Signal. (Step 6.25[23])

2. Can not be OPENED or CLOSED unless all of 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702], 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702], and 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] are FULLY CLOSED. (Steps 6.25[83], 6.25[97], 6.25[130], 6.25[134], 6.25[138])

K. 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] has the following Auto Responses:

1. Closes on Pressurizer Level less than or equal to Low Set Point. (Step 6.25[254])

2. Closes when 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] or 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] is not FULLY OPEN. (Steps 6.25[242], 6.25[248])

L. 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] has the following Auto Responses:

1. Closes on Pressurizer Level less than or equal to Low Set Point. (Step 6.25[254])

2. Closes when 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] or 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] is not FULLY OPEN. (Steps 6.25[242], 6.25[248])

M. 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] has the following Auto Responses:

1. Closes on Pressurizer Level less than or equal to Low Set Point. (Step 6.25[254])

2. Closes when 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] or 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] is not FULLY OPEN. (Steps 6.25[242], 6.25[248])

N. 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] diverts Letdown Flow to the Volume Control Tank on High Letdown Flow Temperature. (Step 6.29[13])

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

O. 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] modulates to control Letdown pressure. (Step 6.30[18]A, 6.30[23]A)

P. 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] modulates to split letdown flow between to VCT and HUT to maintain VCT level within normal operating band. (Step 6.32[72], 6.32[73])

Q. 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] fully diverts flow when Volume Control Tank level is greater than High Set Point. (Step 6.32[20], 6.32[32])

R. 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] has the following Auto Responses:

1. Modulates to control discharge temperature of Letdown heat. (Step 6.28[25]A, 6.28[26]A)

2. Valve operates when signals are received from 2-HIC-62-78A and 2-HIC-62-78C (Step 6.28[7], 6.28[16])

3. Valve control is interrupted on high temperature signal from 2-TIS-62-79 (Step 6.28[11], 6.28[19])

S. The following valves close when Volume Control Tank level is less than Low Low Level Set Point and 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] or 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] are FULLY OPEN:

1. 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] (Steps 6.19[48], 6.19[61], 6.19[73], 6.19[79])

2. 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] (Steps 6.21[48], 6.21[61], 6.21[73], 6.21[79])

T. 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] position is controlled by 2-HS-62-1228 in conjunction with 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] position. (Step 6.20[9])

U. 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] position is controlled by 2-HS-62-1229 in conjunction with 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] position. (Step 6.22[9])

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

V. 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] has the following Auto Responses**:**

1. Opens when VCT level at Low Low Level. (Steps 6.23[35], 6.23[59])

2. Opens when 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] starts to Close. (Step 6.23[42])

W. 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] has the following Auto Responses:

1. Opens when VCT level at Low Low Level. (Steps 6.24[35], 6.24[59])

2. Opens when 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] starts to Close. (Step 6.24[42])

X. The following Windows on CISP illuminate Green for Closed and Red for Open.

Valve Number	Subsection Number
2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713]	6.11
2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702]	6.25
2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702]	6.25
2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702]	6.25
2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702]	6.26
2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713]	6.27

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

Y. The following valves meet their required stroke times as listed below

Valve Number	Direction & **Acc Crit**	Step Number
2-FCV-62-9	5 sec.< closure time ≤ 10 sec.	6.5[23]
2-FCV-62-22	5 sec.< closure time ≤ 10 sec.	6.6[23]
2-FCV-62-35	5 sec.< closure time ≤ 10 sec.	6.7[23]
2-FCV-62-48	5 sec.< closure time ≤ 10 sec.	6.8[23]
2-FCV-62-53	5 sec.< closure time ≤ 10 sec.	6.9[24]
2-FCV-62-54	5 sec.< closure time ≤ 10 sec.	6.1[31]
2-FCV-62-55	5 sec.< closure time ≤ 10 sec.	6.2[23]
2-FCV-62-59	5 sec.< closure time ≤ 10 sec.	6.4[21]
2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726]	closure time ≤ 10 sec.	6.10[43]
2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713]	closure time ≤ 10 sec.	6.11[45]
2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716]	5 sec.< closure time ≤ 10 sec.	6.25[150]
2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716]	5 sec.< closure time ≤ 10 sec.	6.25[172]
2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702]	1 sec. < closure time ≤ 10 sec.	6.25[194]
2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702]	1 sec. < closure time ≤ 10 sec.	6.25[210]

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

Valve Number	Direction & **Acc Crit**	Step Number
2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702]	1 sec. < closure time ≤ 10 sec.	6.25[228]
2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702]	1 sec. < closure time ≤ 10 sec.	6.26[28]
2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713]	5 sec.< closure time ≤ 10 sec.	6.27[45]
2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713]	5 sec.< closure time ≤ 10 sec.	6.29[25]
2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716]	5 sec.< closure time ≤ 10 sec.	6.12[30]
2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716]	5 sec.< closure time ≤ 10 sec.	6.13[23]
2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716]	5 sec.< closure time ≤ 10 sec.	6.14[23]
2-FCV-62-90	closure time ≤ 10 sec.	6.16[45]
2-FCV-62-91	closure time ≤ 10 sec.	6.17[45]
2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713]	closure time ≤ 10 sec.	6.19[105]
2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757]	closure time < 10 sec.	6.20[17]

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

Valve Number	Direction & **Acc Crit**	Step Number
2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713]	closure time ≤ 10 sec.	6.21[105]
2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713]	closure time < 10 sec.	6.22[17]
2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702]	opening time ≤ 15 sec.	6.23[79]
2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696]	opening time ≤ 15 sec.	6.24[79]

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

Z. Air operated valves and Motor operated valves operate properly from all applicable control stations, verifiying that indicating lights annunciators, and status, and monitoring system inputs are functioning correctly.

Verify that CVCS Automatic Valves properly respond to input signals

Valve Number	Subsection Number
2-FCV-62-54	6.1
2-FCV-62-55	6.2
2-FCV-62-56	6.3
2-FCV-62-59	6.4
2-FCV-62-9	6.5
2-FCV-62-22	6.6
2-FCV-62-35	6.7
2-FCV-62-48	6.8
2-FCV-62-53	6.9
2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726]	6.10
2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713]	6.11
2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716]	6.12
2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716]	6.13
2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716]	6.14

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

Valve Number	Subsection Number
2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692]	6.15
2-FCV-62-90	6.16
2-FCV-62-91	6.17
2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700]	6.18
2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713]	6.19
2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757]	6.20
2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713]	6.21
2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713]	6.22
2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702]	6.23
2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696]	6.24

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

Valve Number	Subsection Number
2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716]	6.25
2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716]	6.25
2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702]	6.25
2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702]	6.25
2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702]	6.25
2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702]	6.26
2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713]	6.27
2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737]	6.28
2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713]	6.29
2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737]	6.30

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

Valve Number	Subsection Number
2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713]	6.31
2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713]	6.32
2-FCV-62-125, VCT VENT TO WDS [AUX 713]	6.33
2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713]	6.34

AA. CCPs operate properly from all applicable control stations, verifying that indicating lights, transfer switches, annunciators, and status monitoing system inputs are functioning correctly.

CCP annunciators indicate motror tripout.

Verify CCPs respond correctly to input signals.

Pump Number	Subsection Number
2-PMP-62-108	6.35
2-PMP-62-104	6.36

Date _____

6.0 PERFORMANCE

NOTES

1) The subsections of this procedure may be performed in any order unless stated otherwise in the subsection.
2) During performance of this procedure, verification of valve position will be made by observing the valve position indicator on the valve or valve stem and then verifying the appropriate indicating lights reflect the correct valve position.
3) In this procedure, valve stroke time is determined by measuring with a stopwatch to the nearest second, the time span between changing the handswitch position until the "Travel From" position indicating light goes OFF and from beginning to end of motion locally.
4) The stroke time Acceptance Criteria will be measured at the control switch position indication lights unless indicated otherwise.
5) When positioning hand switches in this procedure, the switch does not have to be held in position unless specified.

Date _____

6.1 2-FCV-62-54 - Excess Letdown Isolation Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-4/217 125V DC VITAL BAT BD IV breaker 217 — CLOSED _____

0-BKR-236-4/218, 125V DC VITAL BAT BD IV breaker 218 — CLOSED _____

[3] **ENSURE** the following control switch positions:

2-HS-62-54A	2-M-5	CLOSE	_____
2-HS-62-54C	2-L-10	CLOSE	_____
2-XS-62-54	2-L-11B	NORMAL	_____
2-SW-62-54	JB5168 (Batt BD Rm II)	ON	_____

[4] **VERIFY** locally 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] is CLOSED. _____

[5] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-54A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-54C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[6] **PLACE** 2-HS-62-54C in OPEN, **AND**

VERIFY locally 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] remains CLOSED. _____

Date _____

6.1 2-FCV-62-54 - Excess Letdown Isolation Valve (continued)

[7] **PLACE** 2-HS-62-54A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated location:

2-HS-62-54A	2-M-5	Red - ON	_____
		Green - ON	_____

[8] **VERIFY** locally 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] OPENS. _____

[9] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-54A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-54C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[10] **PLACE** 2-HS-62-54C in CLOSE, **AND**

VERIFY locally 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] remains OPEN. _____

[11] **PLACE** 2-HS-62-54A in CLOSE, **AND**

VERIFY locally 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] CLOSES. _____

[12] **PLACE** 2-XS-62-54, EXCESS LETDOWN ISO VLV, in AUX. _____

Date _____

6.1 2-FCV-62-54 - Excess Letdown Isolation Valve (continued)

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-54A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-54C	2-L-10	Red - OFF	_____
		Green - ON	_____

[14] **PLACE** 2-HS-62-54A in OPEN, **AND**

VERIFY locally 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] remains CLOSED. _____

[15] **PLACE** 2-HS-62-54C in OPEN, **AND**

VERIFY locally 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] OPENS. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-54A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-54C	2-L-10	Red - ON	_____
		Green - OFF	_____

[17] **PLACE** 2-HS-62-54A in CLOSE, **AND**

VERIFY 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] remains OPEN. _____

[18] **PLACE** 2-HS-62-54C in CLOSE, **AND**

VERIFY 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] CLOSES. _____

[19] **PLACE** 2-XS-62-54, EXCESS LETDOWN ISO VLV, in NOR. _____

Date _____

6.1 2-FCV-62-54 - Excess Letdown Isolation Valve (continued)

[20] **PLACE** 2-HS-62-54A in OPEN, **AND**

VERIFY 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] OPENS. _____

[21] **PLACE** 2-SW-62-54 in OFF, **AND**

VERIFY 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] CLOSES. _____

[22] **VERIFY** 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] will NOT OPEN using 2-HS-62-54A, EXCESS LETDOWN ISO VLV. _____

[23] **PLACE** 2-XS-62-54, EXCESS LETDOWN ISO VLV, in AUX. _____

[24] **VERIFY** 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] will NOT OPEN using 2-HS-62-54C. _____

[25] **PLACE** 2-XS-62-54, EXCESS LETDOWN ISO VLV, in NOR. _____

[26] **PLACE** 2-HS-62-54A in CLOSE _____

[27] **PLACE** 2-SW-62-54 in ON _____

Date _____

6.1 2-FCV-62-54 - Excess Letdown Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[28] **PLACE** 2-HS-62-54A in OPEN, **AND**

TIME 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] OPEN. _____

[29] **RECORD** 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] OPEN stroke time.

A. MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

B. LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.1 2-FCV-62-54 - Excess Letdown Isolation Valve (continued)

[30] **PLACE** 2-HS-62-54A to CLOSE, **AND**

TIME 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] closure. _____

[31] **RECORD** 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] CLOSE stroke time.

A. MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

B. LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[32] **PLACE** 2-HS-62-54A to OPEN _____

[33] **CLOSE** the air supply valve, 2-ISV-32-3649, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-54, [AZ135 702] **AND**

OPEN PREG petcock for valve 2-FCV-62-54, EXCESS LETDOWN ISOLATION VALVE. _____

[34] **VERIFY** valve 2-FCV-62-54, EXCESS LETDOWN ISOLATION VALVE CLOSES. (**Acc Crit**) _____

Date _____

6.1 2-FCV-62-54 - Excess Letdown Isolation Valve (continued)

[35] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3649, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-54, [AZ135 702]. _____

[36] **VERIFY** valve 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] OPENS. _____

[37] **REMOVE** fuse 0-FU-236-4/D21 (2-FCV-62-54), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[38] **VERIFY** valve 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[39] **REINSTALL** fuse 0-FU-236-4/D21 (2-FCV-62-54), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[40] **VERIFY** valve 2-FCV-62-54, EXCESS LETDOWN ISO VLV, [AZ125 729] OPENS. _____

[41] **PLACE** 2-HS-62-54A to CLOSE. _____

[42] **VERIFY** successful completion of Subsection 6.1 (**Acc Crit**). _____

Date _____

6.2 2-FCV-62-55 - Excess Letdown Isolation Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-4/217, 125V DC VITAL BAT BD IV breaker 217 — CLOSED _____

0-BKR-236-4/218, 125V DC VITAL BAT BD IV breaker 218 — CLOSED _____

[3] **ENSURE** the following control switch positions:

2-HS-62-55A	2-M-5	CLOSE	_____
2-HS-62-55C	2-L-10	CLOSE	_____
2-XS-62-55	2-L-11B	NOR	_____

[4] **VERIFY** locally 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] is CLOSED. _____

[5] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-55A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-55C	2-L-10	Red - OFF	_____
		Green - OFF	_____

Date _____

6.2 2-FCV-62-55 - Excess Letdown Isolation Valve (continued)

[6] **PLACE** 2-HS-62-55C in OPEN, **AND**

VERIFY locally 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] remains CLOSED. _____

[7] **PLACE** 2-HS-62-55A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-55A	2-M-5	Red - ON	_____
		Green - ON	_____

[8] **VERIFY** locally 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] OPENS. _____

[9] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-55A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-55C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[10] **PLACE** 2-HS-62-55C in CLOSE, **AND**

VERIFY locally 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] remains OPEN. _____

[11] **PLACE** 2-HS-62-55A in CLOSE, **AND**

VERIFY locally 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] CLOSES. _____

[12] **PLACE** 2-XS-62-55 in AUX. _____

Date _____

6.2 2-FCV-62-55 - Excess Letdown Isolation Valve (continued)

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-55A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-55C	2-L-10	Red - OFF	_____
		Green - ON	_____

Date _____

6.2 2-FCV-62-55 - Excess Letdown Isolation Valve (continued)

[14] **PLACE** 2-HS-62-55A in OPEN, **AND**

VERIFY locally 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] remains CLOSED. _____

[15] **PLACE** 2-HS-62-55C in OPEN, **AND**

VERIFY locally 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] OPENS. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-55A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-55C	2-L-10	Red - ON	_____
		Green - OFF	_____

[17] **PLACE** 2-HS-62-55A in CLOSE, **AND**

VERIFY 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] remains OPEN. _____

[18] **PLACE** 2-HS-62-55C in CLOSE, **AND**

VERIFY 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] CLOSES. _____

[19] **PLACE** 2-XS-62-55 in NOR. _____

Date _____

6.2 2-FCV-62-55 - Excess Letdown Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[20] **OPEN** 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] using 2-HS-62-55A. _____

TIME 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] OPEN _____

[21] **RECORD** 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.2 2-FCV-62-55 - Excess Letdown Isolation Valve (continued)

[22] **PLACE** 2-HS-62-55A to CLOSE, **AND**

TIME 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] closure. _____

[23] **RECORD** 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[24] **PLACE** 2-HS-62-55A to OPEN. _____

[25] **CLOSE** the air supply valve 2-ISV-32-3664, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-55, [AZ108 716] **AND**

OPEN PREG petcock for valve 2-FCV-62-55, EXCESS LETDOWN ISOLATION VALVE. _____

[26] **VERIFY** valve 2-FCV-62-55, EXCESS LETDOWN ISOLATION VALVE CLOSES. (**Acc Crit**) _____

Date _____

6.2 2-FCV-62-55 - Excess Letdown Isolation Valve (continued)

[27] **CLOSE** PREG petcock **AND**

OPEN the air supply valve 2-ISV-32-3664, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-55, [AZ108 716]. _____

[28] **VERIFY** valve 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] OPENS. _____

[29] **REMOVE** fuse 0-FU-236-4/D5 (2-FCV-62-55), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[30] **VERIFY** valve 2-FCV-62-55, EXCESS LETDOWN ISOLATION VALVE CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[31] **REINSTALL** fuse 0-FU-236-4/D5 (2-FCV-62-55), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[32] **VERIFY** valve 2-FCV-62-55, EXCESS LETDOWN ISO VLV, [AZ125 702] OPENS. _____

[33] **PLACE** 2-HS-62-55A to CLOSE. _____

[34] **VERIFY** successful completion of Subsection 6.2 (**Acc Crit**). _____

Date _____

6.3 2-FCV-62-56 - Excess Letdown Flow Control Valve

NOTE

The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** Prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

2-HIC-62-56A (2-M-5)	OUTPUT=0%	_____
2-HIC-62-56C (2-L-10)	OUTPUT=0%	_____

[3] **ENSURE** the following Foxboro Control Processors are Energized and Available:

PROCESSOR	COMPOUND	
W212CP	W2VCTANKA	_____
W213CP	W2VCTANK	_____
W214CP	W2ACRVCTANK	_____

[4] **ENSURE** The following Control Element status:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____
W214CP	W2ACRVCTANK	2LS0620129CB	0	_____

[5] **ENSURE** 2-XS-62-56 (2-L-11A) in NOR. _____

Date _____

6.3 2-FCV-62-56 - Excess Letdown Flow Control Valve (continued)

[6] **ENSURE** locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] is CLOSED. _____

[7] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-56A (2-M-5) until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] goes to FULL OPEN. _____

[8] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-56A (2-M-5) until output indicator reads approximately 50, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] goes to approximately MID-POSITION. _____

[9] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-56A (2-M-5) until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] goes to FULL CLOSED. _____

[10] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-56C (2-L-10) until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] remains CLOSED. _____

[11] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-56C (2-L-10) until output indicator reads approximately 0.

[12] **PLACE** 2-XS-62-56 (2-L-11A) in AUX. _____

[13] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-56A until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] remains CLOSED. _____

[14] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-56C until output indicator reads approximately 50, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] moves to approximately MID-POSITION. _____

Date _____

6.3 2-FCV-62-56 - Excess Letdown Flow Control Valve (continued)

[15] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-56C until indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] goes to FULL OPEN. _____

[16] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-56A until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] remains OPEN. _____

[17] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-56C (2-L-10) until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] goes to FULL CLOSED. _____

[18] **PLACE** 2-XS-62-56 (2-L-11A) in NOR. _____

[19] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-56A (2-M-5) until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] goes to FULL OPEN. _____

[20] **CLOSE** the air supply valve, 2-ISV-32-3665, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-56, [AZ108 716]. _____

[21] **OPEN** PREG petcock for valve 2-FCV-62-56, EXCESS LETDOWN ISOLATION VALVE, **AND** _____

VERIFY valve 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] CLOSES. (**Acc Crit**) _____

[22] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3665, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-56, [AZ108 716]. _____

[23] **VERIFY** valve 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] OPENS. _____

Date _____

6.3 2-FCV-62-56 - Excess Letdown Flow Control Valve (continued)

[24] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-56A until indicator reads approximately 0. _____

[25] **VERIFY** locally 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] is CLOSED. _____

[26] **VERIFY** successful completion of Subsection 6.3 (**Acc Crit**). _____

Date _____

6.4 2-FCV-62-59 - Excess Letdown Diversion Flow Control Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-4/310, 125V DC VITAL BAT BD IV breaker 310 — CLOSED _____

0-BKR-236-4/311, 125V DC VITAL BAT BD IV breaker 311 — CLOSED _____

[3] **ENSURE** the following control switch positions:

2-HS-62-59A	2-M-5	NORM	_____
2-HS-62-59C	2-L-10	NOR	_____
2-XS-62-59	2-L-11B	NOR	_____

[4] **VERIFY** locally 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] is positioned for flow to the Seal Water Heat Exchanger (plug up). _____

[5] **PLACE** 2-HS-62-59C in DIVERT, **AND**

VERIFY locally 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] does NOT position to the Reactor Coolant Drain Tank (RCDT) (REMAINS plug up). _____

[6] **PLACE** 2-HS-62-59A in DIVERT, **AND**

VERIFY locally 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] positions to the RCDT (**plug down**). _____

Date _____

6.4 2-FCV-62-59 - Excess Letdown Diversion Flow Control Valve (continued)

[7] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-59A	2-M-5	Red (SEAL RET)- OFF	_____
		Red (RCDT) - ON	_____
2-HS-62-59C	2-L-10	Red (SEAL RET)- OFF	_____
		Red (RCDT) - OFF	_____

[8] **PLACE** 2-HS-62-59C in NORMAL, **AND**

VERIFY locally 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] does NOT position to the Seal Water Heat Exchanger (REMAINS **plug down**). _____

[9] **PLACE** 2-HS-62-59A in NORMAL, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-59A	2-M-5	Red (SEAL RET)- ON	_____
		Red (RCDT) - ON	_____

[10] **VERIFY** locally 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] positions to the Seal Water Heat Exchanger (plug up). _____

[11] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-59A	2-M-5	Red (SEAL RET)- ON	_____
		Red (RCDT) - OFF	_____
2-HS-62-59C	2-L-10	Red (SEAL RET)- OFF	_____
		Red (RCDT) - OFF	_____

Date _____

6.4 2-FCV-62-59 - Excess Letdown Diversion Flow Control Valve (continued)

[12] **PLACE** 2-XS-62-59 in AUX. _____

[13] **PLACE** 2-HS-62-59A in DIVERT, **AND**

VERIFY locally 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] does NOT position to the RCDT (REMAINS plug up). _____

[14] **PLACE** 2-HS-62-59C in DIVERT, **AND**

VERIFY locally 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] positions to the RCDT (**plug down**). _____

[15] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-59A	2-M-5	Red (SEAL RET)- OFF	_____
		Red (RCDT) - OFF	_____
2-HS-62-59C	2-L-10	Red (SEAL RET)- OFF	_____
		Red (RCDT) - ON	_____

[16] **PLACE** 2-HS-62-59A in NORMAL, **AND**

VERIFY locally 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] does NOT position to the Seal Water Heat Exchanger (REMAINS **plug down**). _____

[17] **PLACE** 2-HS-62-59C in NORMAL, **AND**

VERIFY locally 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] positions to the Seal Water Heat Exchanger (plug up). _____

Date _____

6.4 2-FCV-62-59 - Excess Letdown Diversion Flow Control Valve (continued)

[18] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-59A	2-M-5	Red (SEAL RET)- OFF	_____
		Red (RCDT) - OFF	_____
2-HS-62-59C	2-L-10	Red (SEAL RET)- ON	_____
		Red (RCDT) - OFF	_____

[19] **PLACE** 2-XS-62-59 in NOR. _____

Date _____

6.4 2-FCV-62-59 - Excess Letdown Diversion Flow Control Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Red (RCDT) light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[20] **PLACE** 2-HS-62-59A in DIVERT, **AND**

TIME 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] stroke time to DIVERT. _____

[21] **RECORD** 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] stroke time to DIVERT.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.4 2-FCV-62-59 - Excess Letdown Diversion Flow Control Valve (continued)

[22] **CLOSE** the air supply valve, 2-ISV-32-3572, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-59 [AZ115 702], **AND**

OPEN PREG petcock for valve 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE. _____

[23] **VERIFY** valve 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] positions to the Seal Water Heat Exchanger (plug up). (**Acc Crit**) _____

[24] **CLOSE** PREG petcock **AND**

OPEN the air supply valve 2-ISV-32-3572, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-59 [AZ115 702]. _____

[25] **VERIFY** 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] positions to the RCDT. (**plug down**) _____

[26] **REMOVE** fuse 0-FU-236-4/A8 (2-FCV-62-59), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[27] **VERIFY** valve 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] positions to the Seal Water Heat Exchanger (plug up). (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[28] **REINSTALL** fuse 0-FU-236-4/A8 (2-FCV-62-59), **AND**

DOCUMENT in Appendix B. _____

_____
CV

Date _____

6.4 2-FCV-62-59 - Excess Letdown Diversion Flow Control Valve (continued)

[29] **VERIFY** 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] positions to the RCDT. (**plug down**) _____

[30] **PLACE** 2-HS-62-59A in NORMAL, **AND**

TIME 2-FCV-62-59, EXCESS LETDOWN DIVERSION FLOW CONTROL VALVE, [AZ120 702] stroke time _____

[31] **RECORD** 2-FCV-62-56, EXCESS LETDOWN FLOW CONT, [AZ120 716] stroke time to NORMAL.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[32] **VERIFY** successful completion of Subsection 6.4 (**Acc Crit**). _____

Date _____

6.5 2-FCV-62-9 - RCP 1 Seal Return Flow

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/217 125V DC VITAL BAT BD III breaker 217 — CLOSED _____

0-BKR-236-3/218 125V DC VITAL BAT BD III breaker 218 — CLOSED _____

[3] **ENSURE** the following control switch positions:

2-HS-62-9A	2-M-5	CLOSE	_____
2-HS-62-9C	2-L-10	CLOSE	_____
2-XS-62-9	2-L-11A	NOR	_____

[4] **VERIFY** locally 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], is CLOSED. _____

[5] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-9A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-9C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[6] **PLACE** 2-HS-62-9C in OPEN, **AND**

VERIFY locally 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], remains CLOSED. _____

Date _____

6.5 2-FCV-62-9 - RCP 1 Seal Return Flow (continued)

[7] **PLACE** 2-HS-62-9A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-9A	2-M-5	Red - ON	_____
		Green - ON	_____

[8] **VERIFY** locally 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], OPENS. _____

[9] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-9A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-9C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[10] **PLACE** 2-HS-62-9C in CLOSE, **AND**

VERIFY locally 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], remains OPEN. _____

[11] **PLACE** 2-HS-62-9A in CLOSE, **AND**

VERIFY locally 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], CLOSES. _____

[12] **PLACE** 2-XS-62-9 in AUX. _____

Date _____

6.5 2-FCV-62-9 - RCP 1 Seal Return Flow (continued)

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-9A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-9C	2-L-10	Red - OFF	_____
		Green - ON	_____

[14] **PLACE** 2-HS-62-9A in OPEN, **AND**

VERIFY locally 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], remains CLOSED. _____

[15] **PLACE** 2-HS-62-9C in OPEN, **AND**

VERIFY locally 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], OPENS. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-9A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-9C	2-L-10	Red - ON	_____
		Green - OFF	_____

[17] **PLACE** 2-HS-62-9A in CLOSE, **AND**

VERIFY 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], remains OPEN. _____

[18] **PLACE** 2-HS-62-9C in CLOSE, **AND**

VERIFY 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], CLOSES. _____

[19] **PLACE** 2-XS-62-9 in NOR. _____

Date _____

6.5 2-FCV-62-9 - RCP 1 Seal Return Flow (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[20] **OPEN** 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], using 2-HS-62-9A, **AND**

TIME 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], RCP 1 Seal Return Flow, OPEN. _____

[21] **RECORD** 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.5 2-FCV-62-9 - RCP 1 Seal Return Flow (continued)

[22] **PLACE** 2-HS-62-9A to CLOSE, **AND**

TIME 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], closure. _____

[23] **RECORD** 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[24] **CLOSE** the air supply valve 2-ISV-32-3629, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-9 [AZ050 702], **AND**

OPEN PREG petcock for valve 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716]. _____

[25] **VERIFY** valve 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716] OPENS (**Acc Crit**) _____

Date _____

6.5 2-FCV-62-9 - RCP 1 Seal Return Flow (continued)

[26] **CLOSE** PREG petcock **AND**

OPEN the air supply valve 2-ISV-32-3629, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-9 [AZ050 702]. _____

[27] **VERIFY** valve 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], CLOSES. _____

[28] **REMOVE** fuse 0-FU-236-3/D17 (2-FCV-62-9), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[29] **VERIFY** valve 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], OPENS. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[30] **REINSTALL** fuse 0-FU-236-3/D17 (2-FCV-62-9), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[31] **VERIFY** valve 2-FCV-62-9, RCP 1 Seal Return Flow [AZ050 716], CLOSES. _____

[32] **PLACE** 2-HS-62-9A in OPEN. _____

[33] **VERIFY** successful completion of Subsection 6.5 (**Acc Crit**). _____

Date _____

6.6 2-FCV-62-22 - RCP 2 Seal Return Flow

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-4/217 125V DC VITAL BAT BD IV breaker 217 — CLOSED _____

0-BKR-236-4/218 125V DC VITAL BAT BD IV breaker 218 — CLOSED _____

[3] **ENSURE** the following control switch positions:

2-HS-62-22A	2-M-5	CLOSE	_____
2-HS-62-22C	2-L-10	CLOSE	_____
2-XS-62-22	2-L-11B	NOR	_____

[4] **VERIFY** locally 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], is CLOSED. _____

[5] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-22A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-22C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[6] **PLACE** 2-HS-62-22C in OPEN, **AND**

VERIFY locally 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], remains CLOSED. _____

Date _____

6.6 2-FCV-62-22 - RCP 2 Seal Return Flow (continued)

[7] **PLACE** 2-HS-62-22A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-22A	2-M-5	Red - ON	_____
		Green - ON	_____

[8] **VERIFY** locally 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], OPENS. _____

[9] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-22A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-22C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[10] **PLACE** 2-HS-62-22C in CLOSE, **AND**

VERIFY locally 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], remains OPEN. _____

[11] **PLACE** 2-HS-62-22A in CLOSE, **AND**

VERIFY locally 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], CLOSES. _____

[12] **PLACE** 2-XS-62-22 in AUX. _____

Date _____

6.6 2-FCV-62-22 - RCP 2 Seal Return Flow (continued)

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-22A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-22C	2-L-10	Red - OFF	_____
		Green - ON	_____

[14] **PLACE** 2-HS-62-22A in OPEN, **AND**

VERIFY locally 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], remains CLOSED. _____

[15] **PLACE** 2-HS-62-22C in OPEN, **AND**

VERIFY locally 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], OPENS. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-22A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-22C	2-L-10	Red - ON	_____
		Green - OFF	_____

[17] **PLACE** 2-HS-62-22A in CLOSE, **AND**

VERIFY 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], remains OPEN. _____

[18] **PLACE** 2-HS-62-22C in CLOSE, **AND**

VERIFY 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], CLOSES. _____

[19] **PLACE** 2-XS-62-22 in NOR. _____

Date _____

6.6 2-FCV-62-22 - RCP 2 Seal Return Flow (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[20] **PLACE** 2-HS-62-22A to OPEN, **AND**

TIME 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], OPEN. _____

[21] **RECORD** 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.6 2-FCV-62-22 - RCP 2 Seal Return Flow (continued)

[22] **PLACE** 2-HS-62-22A to CLOSE, **AND**

TIME 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], closure. _____

[23] **RECORD** 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[24] **CLOSE** the air supply valve 2-ISV-32-3652, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-22 [AZ130 702], **AND**

OPEN PREG petcock for valve 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716]. _____

[25] **VERIFY** valve 2-FCV-62-22, RCP 3 Seal Return Flow [AZ227 716] OPENS. (**Acc Crit**) _____

Date _____

6.6 2-FCV-62-22 - RCP 2 Seal Return Flow (continued)

[26] **CLOSE** PREG petcock, **AND**

OPEN the air supply valve 2-ISV-32-3652, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-22 [AZ130 702]. _____

[27] **VERIFY** valve 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], CLOSES. _____

[28] **REMOVE** fuse 0-FU-236-4/D18 (2-FCV-62-22), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[29] **VERIFY** valve 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], OPENS. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[30] **REINSTALL** fuse 0-FU-236-4/D18 (2-FCV-62-22), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[31] **VERIFY** valve 2-FCV-62-22, RCP 2 Seal Return Flow [AZ227 716], CLOSES. _____

[32] **PLACE** 2-HS-62-22A in OPEN. _____

[33] **VERIFY** successful completion of Subsection 6.6 (**Acc Crit**). _____

Date _____

6.7 2-FCV-62-35 - RCP 3 Seal Return Flow

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/217 125V DC VITAL BAT BD III breaker 217 — CLOSED _____

0-BKR-236-3/218 125V DC VITAL BAT BD III breaker 218 — CLOSED _____

[3] **ENSURE** the following control switch positions:

2-HS-62-35A	2-M-5	CLOSE	_____
2-HS-62-35C	2-L-10	CLOSE	_____
2-XS-62-35	2-L-11A	NOR	_____

[4] **VERIFY** locally 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], is CLOSED. _____

[5] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-35A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-35C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[6] **PLACE** 2-HS-62-35C in OPEN, **AND**

VERIFY locally 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], remains CLOSED. _____

Date _____

6.7 2-FCV-62-35 - RCP 3 Seal Return Flow (continued)

[7] **PLACE** 2-HS-62-35A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-35A	2-M-5	Red - ON	_____
		Green - ON	_____

[8] **VERIFY** locally 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], OPENS. _____

[9] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-35A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-35C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[10] **PLACE** 2-HS-62-35C in CLOSE, **AND**

VERIFY locally 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], remains OPEN. _____

[11] **PLACE** 2-HS-62-35A in CLOSE, **AND**

VERIFY locally 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], CLOSES. _____

[12] **PLACE** 2-XS-62-35 in AUX. _____

Date _____

6.7 2-FCV-62-35 - RCP 3 Seal Return Flow (continued)

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-35A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-35C	2-L-10	Red - OFF	_____
		Green - ON	_____

[14] **PLACE** 2-HS-62-35A in OPEN, **AND**

VERIFY locally 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], remains CLOSED. _____

[15] **PLACE** 2-HS-62-35C in OPEN, **AND**

VERIFY locally 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], OPENS. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-35A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-35C	2-L-10	Red - ON	_____
		Green - OFF	_____

[17] **PLACE** 2-HS-62-35A in CLOSE, **AND**

VERIFY 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], remains OPEN. _____

[18] **PLACE** 2-HS-62-35C in CLOSE, **AND**

VERIFY 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], CLOSES. _____

[19] **PLACE** 2-XS-62-35 in NOR. _____

Date _____

6.7 2-FCV-62-35 - RCP 3 Seal Return Flow (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[20] **OPEN** 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], using 2-HS-62-35A.

TIME 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], OPEN. _____

[21] **RECORD** 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.7 2-FCV-62-35 - RCP 3 Seal Return Flow (continued)

[22] **PLACE** 2-HS-62-35A to CLOSE, **AND**

TIME 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], closure. _____

[23] **RECORD** 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[24] **CLOSE** the air supply valve, 2-ISV-32-3597, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-35 [AZ220 702], **AND**

OPEN PREG petcock for valve 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702]. _____

[25] **VERIFY** valve 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], OPENS. (**Acc Crit**) _____

Date _____

6.7 2-FCV-62-35 - RCP 3 Seal Return Flow (continued)

[26] **CLOSE** PREG petcock, **AND**

OPEN the air supply valve, 2-ISV-32-3597, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-35 [AZ220 702]. _____

[27] **VERIFY** valve 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], CLOSES. _____

[28] **REMOVE** fuse 0-FU-236-3/D2 (2-FCV-62-35), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[29] **VERIFY** valve 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], OPENS. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[30] **REINSTALL** fuse 0-FU-236-3/D2 (2-FCV-62-35), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[31] **VERIFY** valve 2-FCV-62-35, RCP 3 Seal Return Flow [AZ227 702], CLOSES. _____

[32] **PLACE** 2-HS-62-35A in OPEN. _____

[33] **VERIFY** successful completion of Subsection 6.7 (**Acc Crit**). _____

Date _____

6.8 2-FCV-62-48 - RCP 4 Seal Return Flow

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-4/217 125V DC VITAL BAT BD IV breaker 217	CLOSED	_____
0-BKR-236-4/218 125V DC VITAL BAT BD IV breaker 218	CLOSED	_____

[3] **ENSURE** the following control switch positions:

2-HS-62-48A	2-M-5	CLOSE	_____
2-HS-62-48C	2-L-10	CLOSE	_____
2-XS-62-48	2-L-11B	NOR	_____

[4] **VERIFY** locally 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], is CLOSED. _____

[5] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-48A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-48C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[6] **PLACE** 2-HS-62-48C in OPEN, **AND**

VERIFY locally 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], remains CLOSED. _____

Date _____

6.8 2-FCV-62-48 - RCP 4 Seal Return Flow (continued)

[7] **PLACE** 2-HS-62-48A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-48A	2-M-5	Red - ON	_____
		Green - ON	_____

[8] **VERIFY** locally 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], OPENS. _____

[9] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-48A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-48C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[10] **PLACE** 2-HS-62-48C in CLOSE, **AND**

VERIFY locally 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], remains OPEN. _____

[11] **PLACE** 2-HS-62-48A in CLOSE, **AND**

VERIFY locally 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], CLOSES. _____

[12] **PLACE** 2-XS-62-48 in AUX. _____

Date _____

6.8 2-FCV-62-48 - RCP 4 Seal Return Flow (continued)

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-48A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-48C	2-L-10	Red - OFF	_____
		Green - ON	_____

[14] **PLACE** 2-HS-62-48A in OPEN, **AND**

VERIFY locally 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], remains CLOSED. _____

[15] **PLACE** 2-HS-62-48C in OPEN, **AND**

VERIFY locally 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], OPENS. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-48A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-48C	2-L-10	Red - ON	_____
		Green - OFF	_____

[17] **PLACE** 2-HS-62-48A in CLOSE, **AND**

VERIFY 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], remains OPEN. _____

[18] **PLACE** 2-HS-62-48C in CLOSE, **AND**

VERIFY 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], CLOSES. _____

[19] **PLACE** 2-XS-62-48 in NOR. _____

Date _____

6.8 2-FCV-62-48 - RCP 4 Seal Return Flow (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[20] **OPEN** 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], using 2-HS-62-48A.

TIME 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], OPEN. _____

[21] **RECORD** 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.8 2-FCV-62-48 - RCP 4 Seal Return Flow (continued)

[22] **PLACE** 2-HS-62-48A to CLOSE, **AND**

TIME 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], closure. _____

[23] **RECORD** 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[24] **CLOSE** the air supply valve, 2-ISV-32-3536, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-48 [AZ322 702], **AND**

OPEN PREG petcock for valve 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716]. _____

[25] **VERIFY** valve 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], OPENS. (**Acc Crit**) _____

Date _____

6.8 2-FCV-62-48 - RCP 4 Seal Return Flow (continued)

[26] **CLOSE** PREG petcock **AND**

OPEN the air supply valve 2-ISV-32-3536, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-48 [AZ322 702]. _____

[27] **VERIFY** valve 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], CLOSES. _____

[28] **REMOVE** fuse 0-FU-236-4/D19 (2-FCV-62-48), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[29] **VERIFY** valve 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], OPENS. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[30] **REINSTALL** fuse 0-FU-236-4/D19 (2-FCV-62-48), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[31] **VERIFY** valve 2-FCV-62-48, RCP 4 Seal Return Flow [AZ210 716], CLOSES. _____

[32] **PLACE** 2-HS-62-48A in OPEN. _____

[33] **VERIFY** successful completion of Subsection 6.8 (**Acc Crit**). _____

Date _____

6.9 2-FCV-62-53 - RCP 1 Seal Bypass Flow

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/217 125V DC VITAL BAT BD III breaker 217	CLOSED	_____
0-BKR-236-3/218 125V DC VITAL BAT BD III breaker 218	CLOSED	_____

[3] **ENSURE** the following control switch positions:

2-HS-62-53A	2-M-5	CLOSE	_____
2-HS-62-53C	2-L-10	CLOSE	_____
2-XS-62-53 L	2-L-11A	NOR	_____

[4] **VERIFY** locally 2-FCV-62-53, RCP 1 Seal Bypass Flow [AZ305 708], is CLOSED. _____

[5] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-53A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-53C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[6] **PLACE** 2-HS-62-53C in OPEN, **AND**

VERIFY locally 2-FCV-62-53 remains CLOSED. _____

[7] **PLACE** 2-HS-62-53A in OPEN, **AND**

VERIFY locally 2-FCV-62-53 OPENS. _____

Date _____

6.9 2-FCV-62-53 - RCP 1 Seal Bypass Flow (continued)

[8] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-53A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-53C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[9] **PLACE** 2-HS-62-53C in CLOSE. _____

[10] **VERIFY** locally 2-FCV-62-53 remains OPEN. _____

[11] **PLACE** 2-HS-62-53A in CLOSE, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-53A	2-M-5	Red - ON	_____
		Green - ON	_____

[12] **VERIFY** locally 2-FCV-62-53 CLOSES.

[13] **PLACE** 2-XS-62-53 in AUX. _____

[14] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-53A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-53C	2-L-10	Red - OFF	_____
		Green - ON	_____

[15] **PLACE** 2-HS-62-53A in OPEN, **AND**

VERIFY locally 2-FCV-62-53 remains CLOSED. _____

Date _____

6.9 2-FCV-62-53 - RCP 1 Seal Bypass Flow (continued)

[16] **PLACE** 2-HS-62-53C in OPEN, **AND**

VERIFY locally 2-FCV-62-53 OPENS. _____

[17] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-53A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-53C	2-L-10	Red - ON	_____
		Green - OFF	_____

[18] **PLACE** 2-HS-62-53A in CLOSE, **AND**

VERIFY 2-FCV-62-53 remains OPEN. _____

[19] **PLACE** 2-HS-62-53C in CLOSE, **AND**

VERIFY 2-FCV-62-53 CLOSES. _____

[20] **PLACE** 2-XS-62-53 in NOR. _____

Date _____

6.9 2-FCV-62-53 - RCP 1 Seal Bypass Flow (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[21] **OPEN** 2-FCV-62-53 using 2-HS-62-53A. _____

TIME 2-FCV-62-53 OPEN. _____

[22] **RECORD** 2-FCV-62-53 OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.9 2-FCV-62-53 - RCP 1 Seal Bypass Flow (continued)

[23] **PLACE** 2-HS-62-53A to CLOSE, **AND**

TIME 2-FCV-62-53 closure. _____

[24] **RECORD** 2-FCV-62-53 CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[25] **PLACE** 2-HS-62-53A to OPEN. _____

[26] **CLOSE** the air supply valve, 2-ISV-32-3524, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-53 [AZ315 702], **AND**

OPEN PREG petcock for valve 2-FCV-62-53, RCP 4 Seal Return Flow. _____

[27] **VERIFY** valve 2-FCV-62-53, RCP 4 Seal Return Flow CLOSES. (**Acc Crit**) _____

Date _____

6.9 2-FCV-62-53 - RCP 1 Seal Bypass Flow (continued)

[28] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3524, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-53 [AZ315 702] _____

[29] **VERIFY** valve 2-FCV-62-53 OPENS**.** _____

[30] **REMOVE** fuse 0-FU-236-3/D14 (2-FCV-62-53), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[31] **VERIFY** valve 2-FCV-62-53 CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[32] **REINSTALL** fuse 0-FU-236-3/D14 (2-FCV-62-53), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[33] **VERIFY** valve 2-FCV-62-53 OPENS. _____

[34] **PLACE** 2-HS-62-53A in CLOSE. _____

[35] **VERIFY** successful completion of Subsection 6.9 (**Acc Crit**). _____

Date _____

6.10 2-FCV-62-61 - Seal Return Flow Isolation Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

2-BKR-62-61, RX MOV BD 2B1-B Breaker in Compt. 6D	OPEN	_____

[3] **ENSURE** the following conditions:

2-HS-62-61A	2-M-5	A AUTO after CLOSE	_____
2-HS-62-61C	480V Reactor MOV BD 2B1-B Bk 6D	NORMAL	_____
2-XS-62-61	480V Reactor MOV BD 2B1-B Bk 6D	NOR	_____

[4] **VERIFY** ICS point FD2216 displays “CTRL PWR OFF”. _____

[5] **CLOSE** Breaker 6D on 480V Reactor MOV BD 2B1-B. _____

[6] **VERIFY** locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] is CLOSED. _____

[7] **VERIFY** ICS point FD2217 displays “NOT OPE”. _____

[8] **VERIFY** ICS point FD2216 displays “CTRL PWR ON”. _____

Date _____

6.10 2-FCV-62-61 - Seal Return Flow Isolation Valve (continued)

[9] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-61A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-XX-62-6F	CISP Window 63	Red - OFF	_____
		Green - ON	_____
2-HS-62-61C	480V Reactor MOV BD 2B1-B Bk 6D	Red - OFF	_____
		Green - ON	_____

[10] **PLACE** 2-HS-62-61C in OPEN, **AND**

VERIFY locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] remains CLOSED. _____

[11] **PLACE** 2-HS-62-61A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-61A	2-M-5	Red - ON	_____
		Green - ON	_____

[12] **VERIFY** the following:

A. Red "motor energized" light is ON on 480V Reactor MOV BD 2B1-B, Breaker 6D while 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] is moving. _____

B. 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] is OPEN locally. _____

Date _____

6.10 2-FCV-62-61 - Seal Return Flow Isolation Valve (continued)

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-61A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-XX-62-6F	CISP Window 63	Red - ON	_____
		Green - OFF	_____
2-HS-62-61C	480V Reactor MOV BD 2B1-B Bk 6D	Red - ON	_____
		Green - OFF	_____

[14] **VERIFY** ICS point FD2217 displays “OPEN”. _____

[15] **PERFORM** the following at Panel 2-R-53:

A. **VERIFY** white test lamp 037 is Illuminated. _____

B. **PLACE** Handswitch S810, Containment Isolation Phase A, in PUSH TO TEST. _____

C. **VERIFY** white test lamp 037 is EXTINGUISHED. _____

D. **PUSH** and release Handswitch S810. _____

E. **MOMENTARILY PUSH** White test lamp 037 and verify lamp is Illuminated. _____

[16] **MOMENTARILY PLACE** a jumper across TB638 points 5 to 6 (field side) in R-51 to simulate a Phase A Containment Isolation. _____

_____
CV

[17] **VERIFY** locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] remains OPEN. _____

[18] **MOMENTARILY PLACE** switch S821, RESET in the RESET position at Panel 2-R-53. _____

Date _____

6.10 2-FCV-62-61 - Seal Return Flow Isolation Valve (continued)

[19] **MOMENTARILY PLACE** a jumper across TB638 points 5 to 6 (field side) in R-51 to simulate a Phase A Containment Isolation. _____

_____
CV

[20] **VERIFY** locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] goes CLOSED. (**Acc Crit**) _____

[21] **OPEN** 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] using 2-HS-62-61A. _____

[22] **PLACE** 2-HS-62-61C in CLOSE, **AND**

VERIFY locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] remains OPEN. _____

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[23] **PERFORM** the following:

A. **PLACE** 2-HS-62-61A in CLOSE. _____

B. **PLACE** 2-HS-62-61A in OPEN when both Red and Green lights are ON. _____

C. **VERIFY** locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] CLOSES. _____

[24] **PLACE** 2-XS-62-61 in AUX. _____

[25] **PLACE** 2-HS-62-61A in OPEN, **AND**

VERIFY locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] remains CLOSED. _____

Date _____

6.10 2-FCV-62-61 - Seal Return Flow Isolation Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[26] **PERFORM** the following:

A. **PLACE** 2-HS-62-61C in OPEN. _____

B. **MOMENTARILY PLACE** 2-HS-62-61C in CLOSE**, THEN**

RETURN to OPEN while both Red and Green lights are ON. _____

C. **VERIFY** locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] OPENS. _____

[27] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-61A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-XX-62-6F	CISP Window 63	Red - OFF	_____
		Green - OFF	_____
2-HS-62-61C	480V Reactor MOV BD 2B1-B Bk 6D	Red - ON	_____
		Green - OFF	_____

[28] **PLACE** 2-HS-62-61A in CLOSE, **AND**

VERIFY locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] remains OPEN. _____

[29] **PLACE** 2-HS-62-61C in CLOSE, **AND**

VERIFY locally 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] CLOSES. _____

Date _____

6.10 2-FCV-62-61 - Seal Return Flow Isolation Valve (continued)

[30] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-61A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-XX-62-6F	CISP Window 63	Red - OFF	_____
		Green - OFF	_____
2-HS-62-61C	480V Reactor MOV BD 2B1-B Bk 6D	Red - OFF	_____
		Green - ON	_____

[31] **OPEN** 2-BKR-62-61 in Compt. 6D of 480V Reactor MOV BD 2B1-B. _____

WARNING

Arc Flash PPE per TI-300 will be required for step 6.10[32].

[32] **MANUALLY TRIP** the thermal overload for 2-BKR-62-61 at 480V Reactor MOV BD 2B1-B, COMPT 6D. _____

[33] **CLOSE** 2-BKR-62-61 in Compt. 6D of 480V Reactor MOV Bd 2B1-B. _____

[34] **PLACE** 2-HS-62-61C in OPEN, **AND**

VERIFY 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] remains CLOSED. _____

[35] **DEPRESS and HOLD** the armature of relay K1 in back of Panel 16D on 480V Reactor MOV BD 2B1-B to simulate Overload Bypass. _____

VERIFY 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] OPENS. _____

[36] **RELEASE** K1 relay armature. _____

Date _____

6.10 2-FCV-62-61 - Seal Return Flow Isolation Valve (continued)

[37] **MOMENTARILY DEPRESS** TOL RESET button on 2-BKR-62-61 in Compt. 6D of 480V Reactor MOV Bd 2B1-B. _____

[38] **PLACE** 2-HS-62-61C in CLOSE, **AND**

VERIFY 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] CLOSES. _____

[39] **PLACE** 2-XS-62-61 in NOR. _____

Date _____

6.10 2-FCV-62-61 - Seal Return Flow Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[40] **OPEN** 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] using 2-HS-62-61A, **AND**

TIME 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] OPEN. _____

[41] **RECORD** 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.10 2-FCV-62-61 - Seal Return Flow Isolation Valve (continued)

[42] **PLACE** 2-HS-62-61A to CLOSE, **AND**

TIME 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] closure. _____

[43] **RECORD** 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit)** Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[44] **VERIFY** successful completion of Subsection 6.10 (**Acc Crit**). _____

Date _____

6.11 2-FCV-62-63 - Seal Return Flow Isolation Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

2-BKR-62-63, RX MOV BD 2A1-A Breaker in Compt. 7A	OPEN	_____

[3] **ENSURE** the following conditions:

2-HS-62-63A	2-M-5	A AUTO after CLOSE	_____
2-HS-62-63C	480V Reactor MOV BD 2A1-A Bk 7A	NORMAL	_____
2-XS-62-63	480V Reactor MOV BD 2A1-A Bk 7A	NOR	_____

[4] **VERIFY** ICS point FD2067 displays “CTRL PWR OFF”. _____

[5] **CLOSE** Breaker 7A on 480V Reactor MOV BD 2A1-A. _____

[6] **VERIFY** ICS point FD2067 displays “CTRL PWR ON”. _____

[7] **VERIFY** locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] is CLOSED. _____

[8] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-63A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-XX-62-6E	CISP Window 63	Red - OFF	_____
		Green - ON	_____
2-HS-62-63C	480V Reactor MOV BD 2A1-A Bk 7A	Red - OFF	_____
		Green - ON	_____

Date _____

6.11 2-FCV-62-63 - Seal Return Flow Isolation Valve (continued)

[9] **VERIFY** ICS point FD2068 displays “NOT OPE”. _____

[10] **PLACE** 2-HS-62-63C in OPEN, **AND**

VERIFY locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] remains CLOSED. _____

[11] **PLACE** 2-HS-62-63A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-63A	2-M-5	Red - ON	_____
		Green - ON	_____

[12] **VERIFY** the following:

A. Red "motor energized" light is ON on 480V Reactor MOV BD 2A1-A, Breaker 7A while 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] is moving. _____

B. 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] is OPEN locally. _____

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-63A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-XX-62-6E	CISP Window 63	Red - ON	_____
		Green - OFF	_____
2-HS-62-63C	480V Reactor MOV BD	Red - ON	_____
	2A1-A Bk 7A	Green - OFF	_____

[14] **VERIFY** ICS point FD2068 displays “OPEN”. _____

Date _____

6.11 2-FCV-62-63 - Seal Return Flow Isolation Valve (continued)

[15] **PERFORM** the following at Panel 2-R-52:

A. **VERIFY** white test lamp 037 is Illuminated. _____

B. **PLACE** Handswitch S810, Containment Isolation Phase A, in PUSH TO TEST. _____

C. **VERIFY** white test lamp 037 is EXTINGUISHED. _____

D. **PUSH** and release Handswitch S810. _____

E. **MOMENTARILY PUSH** White test lamp 037 and verify lamp is Illuminated. _____

[16] **MOMENTARILY PLACE** a jumper across TB638 points 5 to 6 (field side) in R-48 to simulate a Phase A Containment Isolation. _____

_____
CV

[17] **VERIFY** locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] remains OPEN. _____

[18] **MOMENTARILY PLACE** switch S821, RESET in the RESET position at Panel 2-R-52. _____

[19] **MOMENTARILY PLACE** a jumper across TB638 points 5 to 6 (field side) in R-48 to simulate a Phase A Containment Isolation. _____

_____
CV

[20] **VERIFY** locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] goes CLOSED. (**Acc Crit**) _____

[21] **OPEN** 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] using 2-HS-62-63A. _____

[22] **PLACE** 2-HS-62-63C in CLOSE, and

VERIFY locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] remains OPEN. _____

Date _____

6.11 2-FCV-62-63 - Seal Return Flow Isolation Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[23] **PERFORM** the following:

A. **PLACE** 2-HS-62-63A in CLOSE. _____

B. **PLACE** 2-HS-62-63A in OPEN when both Red and Green lights are ON. _____

C. **VERIFY** locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] CLOSES. _____

[24] **PLACE** 2-XS-62-63 in AUX. _____

[25] **PLACE** 2-HS-62-63A in OPEN, and

VERIFY locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] remains CLOSED. _____

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[26] **PERFORM** the following:

A. **PLACE** 2-HS-62-63C in OPEN. _____

B. **MOMENTARILY PLACE** 2-HS-62-63C in CLOSE **THEN**

RETURN to OPEN while both Red and Green lights are ON. _____

C. **VERIFY** locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] OPENS. _____

Date _____

6.11 2-FCV-62-63 - Seal Return Flow Isolation Valve (continued)

[27] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-63A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-XX-62-6E	CISP Window 63	Red - OFF	_____
		Green - OFF	_____
2-HS-62-63C	480V Reactor MOV BD 2A1-A Bk 7A	Red - ON	_____
		Green - OFF	_____

[28] **PLACE** 2-HS-62-63A in CLOSE, **AND**

VERIFY locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] remains OPEN. _____

[29] **PLACE** 2-HS-62-63C in CLOSE, **AND**

VERIFY locally 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] CLOSES. _____

[30] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-63A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-XX-62-6E	CISP Window 63	Red - OFF	_____
		Green - OFF	_____
2-HS-62-63C	480V Reactor MOV BD 2A1-A Bk 7A	Red - OFF	_____
		Green - ON	_____

[31] **OPEN** breaker in Compt. 7A of 480V Reactor MOV Bd 2A1-A. _____

Date _____

6.11 2-FCV-62-63 - Seal Return Flow Isolation Valve (continued)

WARNING

Arc Flash PPE per TI-300 will be required for step 6.11[32]

[32] **MANUALLY TRIP** the thermal overload for 2-BKR-62-63 at 480V Reactor MOV BD 2A1-A, COMPT 7A. _____

[33] **CLOSE** breaker in Compt. 7A of 480V Reactor MOV BD 2A1-A. _____

[34] **PLACE** 2-HS-62-63C in OPEN, **AND**

VERIFY 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] remains CLOSED. _____

[35] **DEPRESS and HOLD** the armature of relay K1 in back of Panel 4F on 480V Reactor MOV BD 2A1-A to simulate Overload Bypass. _____

[36] **VERIFY** 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] OPENS. _____

[37] **RELEASE** K1 relay armature. _____

[38] **MOMENTARILY DEPRESS** TOL RESET button on 2-BKR-62-63 in Compt. 7A of 480V Reactor MOV BD 2A1-A. _____

[39] **PLACE** 2-HS-62-63C in CLOSE, **AND**

VERIFY 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] CLOSES. _____

[40] **PLACE** 2-HS-62-63C in NORMAL.

[41] **PLACE** 2-XS-62-63 in NOR. _____

Date _____

6.11 2-FCV-62-63 - Seal Return Flow Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[42] **OPEN** 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] using 2-HS-62-63A.

TIME 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] open _____

[43] **RECORD** 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.11 2-FCV-62-63 - Seal Return Flow Isolation Valve (continued)

[44] **PLACE** 2-HS-62-63A to CLOSE, **AND**

TIME 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] close. _____

[45] **RECORD** 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[46] **VERIFY** successful completion of Subsection 6.11 (**Acc Crit**). _____

Date _____

6.12 2-FCV-62-84 - Charging Flow to Reactor Coolant System Spray

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/310, 125V DC VITAL BAT BD III breaker 310	CLOSED	_____
0-BKR-236-3/311, 125V DC VITAL BAT BD III breaker 311	CLOSED	_____

[3] **ENSURE** the following control switch positions:

2-HS-62-84A	2-M-6	CLOSE	_____
2-HS-62-84C	2-L-10	CLOSE	_____
2-XS-62-84	2-L-11A	NOR	_____

[4] **PERFORM** the following at a Foxboro Workstation:

A. **SELECT** Control Processor W214CP using FOXPRO SELECT in Engineering environment. _____

B. **LOCATE** and OPEN Control Compound W2ACR1MISC68. _____

C. **SELECT** Cout Block 2PS0680336C. _____

D. **TOGGLE** screen to Engineering Environment **AND**, **ENSURE** output indicates 0. _____

[5] **VERIFY** locally 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] is CLOSED. _____

Date _____

6.12 2-FCV-62-84 - Charging Flow to Reactor Coolant System Spray (continued)

[6] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-84A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-HS-62-84C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[7] **PLACE** 2-HS-62-84C in OPEN, **AND**

VERIFY locally 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] remains CLOSED. _____

[8] **PLACE** 2-HS-62-84A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-84A	2-M-6	Red - ON	_____
		Green - ON	_____

[9] **VERIFY** locally 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] OPENS. _____

[10] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-84A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-HS-62-84C	2-L-10	Red - OFF	_____
		Green - OFF	_____

Date _____

6.12 2-FCV-62-84 - Charging Flow to Reactor Coolant System Spray (continued)

[11] **VERIFY** ICS point FD9037 displays “NOT CLS”. _____

[12] **PLACE** 2-HS-62-84C in CLOSE, **AND**

VERIFY locally 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] remains OPEN. _____

[13] **PLACE** 2-HS-62-84A in CLOSE, **AND**

VERIFY locally 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] CLOSES. _____

[14] **VERIFY** ICS point FD9037 displays “CLOSED”. _____

[15] **PLACE** 2-XS-62-84 in AUX. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-84A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-84C	2-L-10	Red - OFF	_____
		Green - ON	_____

[17] **PLACE** 2-HS-62-84A in OPEN, **AND**

VERIFY locally 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] remains CLOSED. _____

[18] **PLACE** 2-HS-62-84C in OPEN, **AND**

VERIFY locally 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] OPENS. _____

Date _____

6.12 2-FCV-62-84 - Charging Flow to Reactor Coolant System Spray (continued)

[19] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-84A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-84C	2-L-10	Red - ON	_____
		Green - OFF	_____

[20] **PLACE** 2-HS-62-84A in CLOSE, **AND**

VERIFY 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] remains OPEN. _____

[21] **PLACE** 2-HS-62-84C in P AUTO, **AND**

VERIFY 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] CLOSES (no high pressurizer pressure signal present). _____

[22] **PERFORM** the following at a Foxboro Workstation:

A. **TOGGLE** A/M to M (Manual) at Cout element 2PS0680336C. _____

B. **SELECT** output indicator as noted by highlighted border. _____

C. **SELECT** TOGGLE to change output state to 1. _____

[23] **VERIFY** 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] OPENS. (**Acc Crit**) _____

[24] **PLACE** 2-HS-62-84C in CLOSE, **AND**
VERIFY 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] CLOSES. _____

[25] **PERFORM** the following at a Foxboro Workstation:

A. **TOGGLE** A/M to A (Auto) at Cout element 2PS0680336C. _____

B. **ENSURE** output indicates 0. _____

Date _____

6.12 2-FCV-62-84 - Charging Flow to Reactor Coolant System Spray (continued)

[26] **PLACE** 2-XS-62-84 in NOR. _____

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[27] **OPEN** 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] using 2-HS-62-84A, **AND**

TIME 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716]. _____

[28] **RECORD** 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.12 2-FCV-62-84 - Charging Flow to Reactor Coolant System Spray (continued)

[29] **PLACE** 2-HS-62-84A to CLOSE, **AND**

TIME 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] closure. _____

[30] **RECORD** 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[31] **PLACE** 2-HS-62-84A to OPEN. _____

[32] **CLOSE** the air supply valve, 2-ISV-32-3658, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-84 [AZ133 716], **AND**

OPEN PREG petcock for valve 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716], CHARGING FLOW TO RCS SPRAY. _____

Date _____

6.12 2-FCV-62-84 - Charging Flow to Reactor Coolant System Spray (continued)

[33] **VERIFY** valve 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] CLOSES. (**Acc Crit**) _____

[34] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3658, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-84 [AZ133 716]. _____

[35] **VERIFY** valve 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] OPENS. _____

[36] **REMOVE** fuse 0-FU-236-3/B5 (2-FCV-62-84), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[37] **VERIFY** valve 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[38] **REINSTALL** fuse 0-FU-236-3/B5 (2-FCV-62-84), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[39] **VERIFY** valve 2-FCV-62-84, CHARGING FLOW TO RCS SPRAY [AZ130 716] OPENS. _____

[40] **PLACE** 2-HS-62-84A in CLOSE. _____

[41] **VERIFY** successful completion of Subsection 6.12 (**Acc Crit**). _____

Date _____

6.13 2-FCV-62-85 - Charging Flow to Reactor Coolant Loop 1

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-4/310, 125V DC VITAL BAT BD IV breaker 310	CLOSED	_____
0-BKR-236-4/311, 125V DC VITAL BAT BD IV breaker 311	CLOSED	_____

[3] **ENSURE** the following control switch positions:

2-HS-62-85A	2-M-6	CLOSE	_____
2-HS-62-85C	2-L-10	CLOSE	_____
2-XS-62-85	2-L-11B	NOR	_____

[4] **VERIFY** locally 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] is CLOSED. _____

[5] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-85A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-HS-62-85C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[6] **PLACE** 2-HS-62-85C in OPEN, **AND**

VERIFY locally 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] remains CLOSED. _____

Date _____

6.13 2-FCV-62-85 - Charging Flow to Reactor Coolant Loop 1 (continued)

[7] **PLACE** 2-HS-62-85A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-85A	2-M-6	Red - ON	_____
		Green - ON	_____

[8] **VERIFY** locally 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] OPENS. _____

[9] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-85A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-HS-62-85C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[10] **PLACE** 2-HS-62-85C in CLOSE, **AND**

VERIFY locally 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] remains OPEN. _____

[11] **PLACE** 2-HS-62-85A in CLOSE, **AND**

VERIFY locally 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] CLOSES. _____

[12] **PLACE** 2-XS-62-85 in AUX. _____

Date _____

6.13 2-FCV-62-85 - Charging Flow to Reactor Coolant Loop 1 (continued)

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-85A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-85C	2-L-10	Red - OFF	_____
		Green - ON	_____

[14] **PLACE** 2-HS-62-85A in OPEN, **AND**

VERIFY locally 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] remains CLOSED. _____

[15] **PLACE** 2-HS-62-85C in OPEN, **AND**
VERIFY locally 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] OPENS. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-85A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-85C	2-L-10	Red - ON	_____
		Green - OFF	_____

[17] **PLACE** 2-HS-62-85A in CLOSE, **AND**

VERIFY 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] remains OPEN. _____

[18] **PLACE** 2-HS-62-85C in CLOSE, **AND**

VERIFY 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] CLOSES. _____

[19] **PLACE** 2-XS-62-85 in NOR. _____

Date _____

6.13 2-FCV-62-85 - Charging Flow to Reactor Coolant Loop 1 (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[20] **OPEN** 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] using 2-HS-62-85A. _____

TIME 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] open. _____

[21] **RECORD** 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] OPEN str*oke time.*

MCR _____ *seconds*

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.13 2-FCV-62-85 - Charging Flow to Reactor Coolant Loop 1 (continued)

[22] **PLACE** 2-HS-62-85A to CLOSE, **AND**

TIME 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] closure. _____

[23] **RECORD** 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[24] **CLOSE** the air supply valve, 2-ISV-32-3657, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-85 [AZ130 716], **AND**

OPEN PREG petcock for valve 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716], CHARGING FLOW TO RCS CL LOOP 1. _____

[25] **VERIFY** valve 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] OPENS. **(Acc Crit)** _____

Date _____

6.13 2-FCV-62-85 - Charging Flow to Reactor Coolant Loop 1 (continued)

[26] **CLOSE** PREG petcock, **AND**

OPEN the air supply valve, 2-ISV-32-3657, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-85. [AZ130 716] _____

[27] **VERIFY** valve 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] CLOSES. _____

[28] **REMOVE** fuse 0-FU-236-4/A3 (2-FCV-62-85), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[29] **VERIFY** valve 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] OPENS. **(Acc Crit)** _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[30] **REINSTALL** fuse 0-FU-236-4/A3 (2-FCV-62-85), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[31] **VERIFY** valve 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716] CLOSES. _____

[32] **PLACE** 2-HS-62-85A in OPEN _____

[33] **VERIFY** successful completion of Subsection 6.13 (**Acc Crit**). _____

Date _____

6.14 2-FCV-62-86 - Charging Flow to Reactor Coolant Loop 4

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/311 125V DC VITAL BAT BD III breaker 311 CLOSED _____

0-BKR-236-3/310 125V DC VITAL BAT BD III breaker 310 CLOSED _____

[3] **ENSURE** the following control switch positions:

2-HS-62-86A	2-M-6	CLOSE	_____
2-HS-62-86C	2-L-10	CLOSE	_____
2-XS-62-86	2-L-11A	NOR	_____

[4] **VERIFY** locally 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] is CLOSED. _____

[5] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-86A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-HS-62-86C	2-L-10	Red - OFF	_____
		Green - OFF	_____

Date _____

6.14 2-FCV-62-86 - Charging Flow to Reactor Coolant Loop 4 (continued)

[6] **PLACE** 2-HS-62-86C in OPEN, **AND**

VERIFY locally 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] remains CLOSED. _____

[7] **PLACE** 2-HS-62-86A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-86A	2-M-6	Red - ON	_____
		Green - ON	_____

[8] **VERIFY** locally 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] OPENS. _____

[9] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-86A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-HS-62-86C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[10] **PLACE** 2-HS-62-86C in CLOSE, **AND**

VERIFY locally 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] remains OPEN. _____

[11] **PLACE** 2-HS-62-86A in CLOSE, **AND**

VERIFY locally 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] CLOSES. _____

Date _____

6.14 2-FCV-62-86 - Charging Flow to Reactor Coolant Loop 4 (continued)

[12] **PLACE** 2-XS-62-86 in AUX. _____

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-86A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-86C	2-L-10	Red - OFF	_____
		Green - ON	_____

[14] **PLACE** 2-HS-62-86A in OPEN, **AND**

VERIFY locally 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] remains CLOSED. _____

[15] **PLACE** 2-HS-62-86C in OPEN, **AND**

VERIFY locally 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] OPENS. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-86A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-86C	2-L-10	Red - ON	_____
		Green - OFF	_____

[17] **PLACE** 2-HS-62-86A in CLOSE, **AND**

VERIFY 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] remains OPEN. _____

[18] **PLACE** 2-HS-62-86C in CLOSE, **AND**

VERIFY 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] CLOSES. _____

Date _____

6.14 2-FCV-62-86 - Charging Flow to Reactor Coolant Loop 4 (continued)

[19] **PLACE** 2-XS-62-86 in NOR. _____

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[20] **OPEN** 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] using 2-HS-62-86A.

TIME 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] open. _____

[21] **RECORD** 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.14 2-FCV-62-86 - Charging Flow to Reactor Coolant Loop 4 (continued)

[22] **PLACE** 2-HS-62-86A to CLOSE, **AND**

TIME 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] closure. _____

[23] **RECORD** 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[24] **CLOSE** the air supply valve, 2-ISV-32-3656, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-86 [AZ129 716], **AND**

OPEN PREG petcock for valve 2-FCV-62-85, CVCS NORMAL CHARGING FLOW CONTROL [AZ130 716], CHARGING FLOW TO RCS CL LOOP 4. _____

[25] **VERIFY** valve 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] OPENS. (**Acc Crit**) _____

Date _____

6.14 2-FCV-62-86 - Charging Flow to Reactor Coolant Loop 4 (continued)

[26] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3656, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-86 [AZ129 716] _____

[27] **VERIFY** valve 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] CLOSES. _____

[28] **REMOVE** fuse 0-FU-236-3/A1 (2-FCV-62-86), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[29] **VERIFY** valve 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] OPENS. _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[30] **REINSTALL** fuse 0-FU-236-3/A1 (2-FCV-62-86), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[31] **VERIFY** valve 2-FCV-62-86, CHARGING FLOW RCS CL LOOP 4 [AZ130 716] CLOSES. _____

[32] **VERIFY** successful completion of Subsection 6.14 (**Acc Crit**). _____

Date _____

6.15 2-FCV-62-89 - Charging Flow Control Valve

[1] **VERIFY** Prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

Foxboro Control Processors W205CP & W214CP	ENERGIZED & AVAILABLE	_____
2-HIC-62-89A (2-M-5)	OUTPUT =100%	_____
2-HIC-62-89C (2-L-10)	OUTPUT =0%	_____

[3] **ENSURE** 2-XS-62-89 (2-L-11A) in NOR. _____

[4] **ENSURE** locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] is CLOSED. _____

[5] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-89A until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] goes to FULLY OPEN. _____

[6] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-89C (2-L-10) until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] remains OPEN. _____

[7] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-89A until output indicator reads 50, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] goes to approximately MID-POSITION. _____

[8] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-89A until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] goes to FULLY CLOSED. _____

Date _____

6.15 2-FCV-62-89 - Charging Flow Control Valve (continued)

[9] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-89C (2-L-10) until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] remains CLOSED. _____

[10] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-89C until output indicator reads approximately 100. _____

[11] **PLACE** 2-XS-62-89 (2-L-11A) in AUX. _____

[12] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-89C until indicator reads 50, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] moves to approximately MID-POSITION. _____

[13] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-89C until indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] goes to FULLY OPEN. _____

[14] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-89A (2-M-5) until indicator reads approximately 0. _____

[15] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-89A until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] remains OPEN. _____

[16] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-89C until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] goes to FULLY CLOSED. _____

Date _____

6.15 2-FCV-62-89 - Charging Flow Control Valve (continued)

[17] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-89A (2-M-5) until indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692] remains CLOSED. _____

[18] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-89A until output indicator reads approximately 100**.** _____

[19] **ENSURE** 2-XS-62-89 (2-L-11A) in NOR. _____

[20] **CLOSE** the air supply valve, 2-ISV-32915, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-89 _____

[21] **OPEN** PREG petcock for valve 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692], CHARGING FLOW CONTROL VALVE, **AND**

[22] **VERIFY** valve 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692], CHARGING FLOW CONTROL VALVE, OPENS**.** (**Acc Crit**) _____

[23] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32915, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-89. _____

[24] **VERIFY** valve 2-FCV-62-89, CVCS CHARGING HEADER RCP SEAL INJ FLOW CNTL [A4U 692], CHARGING FLOW CONTROL VALVE, CLOSES _____

[25] **VERIFY** successful completion of Subsection 6.15 (**Acc Crit**). _____

Date _____

6.16 2-FCV-62-90 - Charging Flow Isolation Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

2-BKR-62-90, RX MOV BD 2A1-A Breaker in Compt. 7B	OPEN	_____

[3] **ENSURE** the following control switch positions:

2-HS-62-90A	2-M-6	A AUTO after CLOSE	_____
2-HS-62-90C	480V Reactor MOV BD 2A1-A Bk 7B	NORMAL	_____
2-XS-62-90	480V Reactor MOV BD 2A1-A Bk 7B	NOR	_____

[4] **VERIFY** ICS point FD2071 displays “PWR OFF”. _____

[5] **CLOSE** Breaker 7B on 480V Reactor MOV BD 2A1-A. _____

[6] **VERIFY** ICS point FD2071 displays “PWR ON”. _____

[7] **VERIFY** locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] is CLOSED. _____

[8] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-90A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-HS-62-90C	480V Reactor MOV BD 2A1-A Bk 7B	Red - OFF	_____
		Green - ON	_____

[9] **VERIFY** ICS point FD2104 displays “NOT OPEN”. _____

Date _____

6.16 2-FCV-62-90 - Charging Flow Isolation Valve (continued)

[10] **PLACE** 2-HS-62-90C in OPEN, **AND**

VERIFY locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] remains CLOSED. _____

[11] **PLACE** 2-HS-62-90A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-90A	2-M-6	Red - ON	_____
		Green - ON	_____
Red "motor energized" light	480V Reactor MOV BD 2A1-A, Breaker 7B	Red - ON	_____

[12] 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] is OPEN locally. _____

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-90A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-HS-62-90C	480V Reactor MOV BD 2A1-A Bk 7B	Red - ON	_____
		Green - OFF	_____

[14] **VERIFY** ICS point FD2104 displays “OPEN”. _____

[15] **MOMENTARILY PLACE** a jumper across TB602 points 7 to 8 field side in R-48 to simulate a SI.

_____

_____
CV

Date _____

6.16 2-FCV-62-90 - Charging Flow Isolation Valve (continued)

[16] **VERIFY** locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] goes CLOSED. (**Acc Crit**) _____

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[17] **PERFORM** the following:

A. **PLACE** 2-HS-62-90A in OPEN. _____

B. **PLACE** 2-HS-62-90A in CLOSE when both Red and Green lights are ON. _____

C. **VERIFY** locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] OPENS. _____

[18] **PLACE** 2-HS-62-90C in CLOSE, **AND**

VERIFY locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] remains OPEN. _____

[19] **PLACE** 2-HS-62-90A in CLOSE, **AND**

VERIFY locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] CLOSES. _____

[20] **VERIFY** ICS point FD2104 displays “NOT OPE”. _____

[21] **PLACE** 2-XS-62-90 in AUX. _____

[22] **PLACE** 2-HS-62-90A in OPEN, **AND**

VERIFY locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] remains CLOSED. _____

[23] **PLACE** 2-HS-62-90C in OPEN, **AND**

VERIFY locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] OPENS. _____

Date _____

6.16 2-FCV-62-90 - Charging Flow Isolation Valve (continued)

[24] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-90A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-90C	480V Reactor MOV BD 2A1-A Bk 7B	Red - ON	_____
		Green - OFF	_____

[25] **MOMENTARILY PLACE** a jumper across TB602 points 7 to 8 (field side) in R-48 (to simulate an SI), and _____

_____
CV

[26] **VERIFY** locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] remains OPEN. _____

[27] **PLACE** 2-HS-62-90A in CLOSE, and

VERIFY locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] remains OPEN. _____

Date _____

6.16 2-FCV-62-90 - Charging Flow Isolation Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[28] **PERFORM** the following:

A. **PLACE** 2-HS-62-90C in CLOSE. _____

B. **MOMENTARILY PLACE** 2-HS-62-90C in OPEN, **THEN**

RETURN to CLOSE while both Red and Green lights are ON. _____

C. **VERIFY** locally 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] CLOSES. _____

[29] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-90A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-90C	480V Reactor MOV BD 2A1-A Bk 7B	Red - OFF	_____
		Green - ON	_____

[30] **OPEN** breaker in Compt. 7B of 480V Reactor MOV BD 2A1-A. _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step 6.16[31].

[31] **MANUALLY TRIP** the thermal overload for 2-BKR-62-90 at 480V Reactor MOV BD 2A1-A, COMPT 7B. _____

Date _____

6.16 2-FCV-62-90 - Charging Flow Isolation Valve (continued)

[32] **CLOSE** breaker in Compt. 7B of 480V Reactor MOV BD 2A1-A. _____

[33] **PLACE** 2-HS-62-90C in OPEN, **AND**

VERIFY 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] remains CLOSED. _____

[34] **DEPRESS and HOLD** the armature of relay K1 in back of Panel 4F on 480V Reactor MOV BD 2A1-A to simulate Overload Bypass. _____

[35] **VERIFY** 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] OPENS. _____

[36] **RELEASE** K1 relay armature. _____

[37] **PLACE** 2-HS-62-90C in CLOSE, **AND**

VERIFY 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] remains OPEN. _____

[38] **MOMENTARILY DEPRESS** TOL RESET button on 2-BKR-62-90 at 480V Reactor MOV BD 2A1-A, COMPT 7B. _____

[39] **VERIFY** 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] CLOSES. _____

[40] **PLACE** 2-HS-62-90C in NORMAL _____

[41] **PLACE** 2-XS-62-90 in NOR. _____

Date _____

6.16 2-FCV-62-90 - Charging Flow Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[42] **OPEN** 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] using 2-HS-62-90A.

TIME 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] OPEN time _____

[43] **RECORD** 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.16 2-FCV-62-90 - Charging Flow Isolation Valve (continued)

[44] **PLACE** 2-HS-62-90A to CLOSE, **AND**

TIME 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] close time. _____

[45] **RECORD** 2-FCV-62-90, CVCS CHARGING HEADER ISOLATION [A11W 725] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[46] **VERIFY** successful completion of Subsection 6.16 (**Acc Crit**). _____

Date _____

6.17 2-FCV-62-91 - Charging Flow Isolation Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

2-BKR-62-91, RX MOV BD 2B1-B Breaker in Compt. 7A	OPEN	_____

[3] **ENSURE** the following control switch positions:

2-HS-62-91A	2-M-6	A AUTO after CLOSE	_____
2-HS-62-91C	480V Reactor MOV BD 2B1-B Bk 7A	NORMAL	_____
2-XS-62-91	480V Reactor MOV BD 2B1-B Bk 7A	NOR	_____

[4] **VERIFY** ICS point FD2220 displays “PWR OFF”. _____

[5] **CLOSE** Breaker 7A on 480V Reactor MOV BD 2B1-B. _____

[6] **VERIFY** ICS point FD2220 displays “PWR ON”. _____

[7] **VERIFY** locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] is CLOSED. _____

[8] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-91A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-HS-62-91C	480V Reactor MOV BD	Red - OFF	_____
	2B1-B Bk 7A	Green - ON	_____

[9] **VERIFY** ICS point FD2211 displays “NOT OPEN”. _____

Date _____

6.17 2-FCV-62-91 - Charging Flow Isolation Valve (continued)

[10] **PLACE** 2-HS-62-91C in OPEN, **AND**

VERIFY locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] remains CLOSED. _____

[11] **PLACE** 2-HS-62-91A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-91A	2-M-6	Red - ON	_____
		Green - ON	_____

[12] **VERIFY** the following:

A. Red "motor energized" light is ON on 480V Reactor MOV BD 2B1-B, Breaker 7A while 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] is moving _____

B. 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] is OPEN locally. _____

[13] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-91A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-HS-62-91C	480V Reactor MOV BD	Red - ON	_____
	2B1-B Bk 7A	Green - OFF	_____

[14] **VERIFY** ICS point FD2211 displays “OPEN”. _____

Date _____

6.17 2-FCV-62-91 - Charging Flow Isolation Valve (continued)

[15] **MOMENTARILY PLACE** a jumper across TB602 points 7 to 8 (field side) in R-51 to simulate a SI. _____

_____
CV

[16] **VERIFY** locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] goes CLOSED. (**Acc Crit**) _____

[17] **VERIFY** locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] remains CLOSED. _____

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[18] **PERFORM** the following:

A. **PLACE** 2-HS-62-91A in OPEN. _____

B. **PLACE** 2-HS-62-91A in CLOSE when both Red and Green lights are ON. _____

C. **VERIFY** locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] OPENS. _____

[19] **PLACE** 2-HS-62-91C in CLOSE, **AND**

VERIFY locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] remains OPEN. _____

[20] **PLACE** 2-HS-62-91A in CLOSE, **AND**

VERIFY locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] CLOSES. _____

[21] **PLACE** 2-XS-62-91 in AUX. _____

[22] **PLACE** 2-HS-62-91A in OPEN, **AND**

VERIFY locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] remains CLOSED. _____

Date _____

6.17 2-FCV-62-91 - Charging Flow Isolation Valve (continued)

[23] **PLACE** 2-HS-62-91C in OPEN, **AND**

VERIFY locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] OPENS. _____

[24] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-91A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-91C	480V Reactor MOV BD	Red - ON	_____
	2B1-B Bk 7A	Green - OFF	_____

[25] **MOMENTARILY PLACE** a jumper across TB602 points 7 to 8 (field side) in R-51 to simulate a SI, **AND** _____

_____
CV

[26] **VERIFY** locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] remains OPEN. _____

[27] **PLACE** 2-HS-62-91A in CLOSE, and

VERIFY locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] remains OPEN. _____

Date _____

6.17 2-FCV-62-91 - Charging Flow Isolation Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[28] **PERFORM** the following:

A. **PLACE** 2-HS-62-91C in CLOSE _____

B. **MOMENTARILY PLACE** 2-HS-62-91C in OPEN, **THEN**

RETURN to CLOSE while both Red and Green lights are ON. _____

C. **VERIFY** locally 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] CLOSES.

[29] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-91A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-91C	480V Reactor MOV BD	Red - OFF	_____
	2B1-B Bk 7A	Green - ON	_____

[30] **OPEN** breaker in Compt. 7A of 480V Reactor MOV BD 2B1-B. _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step 6.17[31].

[31] **MANUALLY TRIP** the thermal overload for 2-BKR-62-91 at 480V Reactor MOV BD 2B1-B, COMPT 7A. _____

[32] **CLOSE** breaker in Compt. 7A of 480V Reactor MOV Bd 2B1-B. _____

Date _____

6.17 2-FCV-62-91 - Charging Flow Isolation Valve (continued)

[33] **PLACE** 2-HS-62-91C in OPEN, **AND**

VERIFY 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] remains CLOSED. _____

[34] **DEPRESS and HOLD** the armature of relay K1 in back of Panel 16D on 480V Reactor MOV BD 2B1-B to simulate Overload Bypass. _____

[35] **VERIFY** 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] OPENS. _____

[36] **RELEASE** K1 relay armature. _____

[37] **PLACE** 2-HS-62-91C in CLOSE, **AND** _____

[38] **MOMENTARILY DEPRESS** TOL RESET button on 2-BKR-62-91 at 480V Reactor MOV BD 2B1-B, COMPT 7A. _____

[39] **VERIFY** 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] CLOSES. _____

[40] **PLACE** 2-HS-62-91C in NORMAL. _____

[41] **PLACE** 2-XS-62-91 in NOR. _____

Date _____

6.17 2-FCV-62-91 - Charging Flow Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[42] **OPEN** 2-FCV-62-91, CHARGING FLOW ISO VLV using 2-HS-62-91A. _____

TIME 2-FCV-62-91, CVCS CHARGING HEADER ISOLATION OPEN time _____

[43] **RECORD** 2-FCV-62-91, CHARGING FLOW ISO VLV OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.17 2-FCV-62-91 - Charging Flow Isolation Valve (continued)

[44] **PLACE** 2-HS-62-91A to CLOSE, **AND**

TIME 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] closure. _____

[45] **RECORD** 2-FCV-62-91, CHARGING FLOW ISO VLV [A11W 725] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[46] **VERIFY** successful completion of Subsection 6.17 (**Acc Crit**). _____

Date _____

6.18 2-FCV-62-93 - Charging Header Flow Control Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

Foxboro Control Processors W213CP & W215CP	ENERGIZED & AVAILABLE	_____

[3] **ENSURE** the following control switch positions:

2-XS-62-93	2-L-11B	NOR	_____
2-HIC-62-93A	2-M-5	MAN/OUTPUT = 100%	_____
2-FC-62-93A	R-18	AUTO/REMOTE	_____
2-HIC-62-93B	L-112	MANUAL/OUTPUT = 100%	_____
2-HIC-62-93C	2-L-10	OUTPUT=100	_____
2-BYIV-62-93B, 2-F2-M-62-93E BYPASS VALVE [A11U 700]	L-112	NORMAL	_____

NOTE

Pneumatic relay 2-F2-M-62-93E is provided to ensure minimum flow loading to 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] to prevent total closure, Test steps checking CLOSED position will credit minimum position as FULL CLOSED.

[4] **ENSURE** locally 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] is CLOSED. _____

[5] **VERIFY** Indicator 2-XI-62-93 (2-M-5) - Red Light ON. _____

[6] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-93A until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] OPENS _____

Date _____

6.18 2-FCV-62-93 - Charging Header Flow Control Valve (continued)

[7] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-93A until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] CLOSES _____

[8] **LOWER** 2-HIC-62-93B (L-112) until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] FULLY OPENS. _____

[9] **RAISE** 2-HIC-62-93B (L-112) until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] CLOSES. _____

[10] **PLACE** 2-BYIV-62-93B, 2-F2-M-62-93E BYPASS VALVE [A11U 700] in the Bypass postion _____

[11] **VERIFY** that valve 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] travels FULL CLOSED. (**Acc Crit**) _____

[12] **PLACE** 2-BYIV-62-93B, 2-F2-M-62-93E BYPASS VALVE [A11U 700] in the Normal postion _____

[13] **VERIFY** that valve 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] returns to the CLOSED postion. _____

Date _____

6.18 2-FCV-62-93 - Charging Header Flow Control Valve (continued)

[14] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-93A until output indicator reads approximately 0, **AND**

VERIFY locally the 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] remains CLOSED. _____

[15] **PLACE** 2-XS-62-93 in AUX. _____

[16] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-93C until output indicator reads approximately 0, **AND**

VERIFY locally the 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] remains CLOSED. _____

[17] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-93C until output indicator reads approximately 100. _____

[18] **VERIFY** locally 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] can be operated from 2-HIC-62-93B (L-112) by opening valve using the 2-HIC-62-93B control dial. _____

[19] **CLOSE** 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] using the 2-HIC-62-93B control dial. _____

[20] **PLACE** 2-HIC-62-93B (L-112) selector switch in AUTO. _____

[21] **VERIFY** XI-62-93 (2-M-5) - Red Light OFF. _____

[22] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-93C until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] FULLY OPENS. _____

[23] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-93A until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] remains OPEN. _____

Date _____

6.18 2-FCV-62-93 - Charging Header Flow Control Valve (continued)

[24] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-93C control dial setting until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] CLOSES. _____

[25] **PLACE** 2-XS-62-93 in NOR. _____

[26] **CLOSE** the air supply valve, 2-ISV-32919, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-93, **AND**

OPEN PREG petcock for valve 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700]. _____

[27] **VERIFY** valve 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] OPENS. (**Acc Crit**) _____

[28] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-919, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-93 _____

[29] **VERIFY** valve 2-FCV-62-93, CVCS CHARGING HEADER FLOW / PZR LEVEL CONTROL [A11U 700] CLOSES. _____

[30] **VERIFY** successful completion of Subsection 6.18 (**Acc Crit**). _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve

NOTES

1) Energizing and deenergizing bistables in this subsection will cause high and low VCT level alarms.
2) A digital Multimeter will be needed to determine if relays are energized or deenergized.
3) The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** prerequisites for this subsection have been completed. _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[2] **ENSURE** the following component alignment:

2-BKR-62-132, RX MOV BD 2A1-A Breaker in Compt. 8B	OPEN	_____
2-BKR-62-135, RX MOV BD 2A1-A Breaker in Compt. 9A	CLOSED	_____
2-BKR-62-133, RX MOV BD 2B1-B Breaker in Compt. 8A	CLOSED	_____
2-BKR-62-136, RX MOV BD 2B1-B Breaker in Compt. 8B	CLOSED	_____
120V AC VITAL INST PWR BD 2-I breaker 6	CLOSED	_____
120V AC VITAL INST PWR BD 2-I breaker 10	CLOSED	_____
120V AC VITAL INST PWR BD 2-II breaker 11	CLOSED	_____
120V AC VITAL INST PWR BD 2-III breaker 29	CLOSED	_____
120V AC VITAL INST PWR BD 2-III breaker 31	CLOSED	_____
120V AC VITAL INST PWR BD 2-IV breaker 37	CLOSED	_____
120V AC VITAL INST PWR BD 2-IV breaker 40	CLOSED	_____

[3] **ENSURE** the following Foxboro Control Processors are Energized and Available:

A. W212CP _____

B. W213CP _____

C. W214CP _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[4] **ENSURE** The following Control Element status:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____
W214CP	W2ACRVCTANK	2LS0620129CB	0	_____

[5] **ENSURE** the following valves are CLOSED:

A. 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] _____

B. 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[6] **ENSURE** the following control switch positions.

2-HS-62-132A	2-M-5	A AUTO after CLOSE	_____
2-HS-62-132C	480V Reactor MOV BD 2A1-A Bk 8B	P AUTO	_____
2-XS-62-132	480V Reactor MOV BD 2A1-A Bk 8B	NORMAL	_____
2-XS-62-133	480V Reactor MOV BD 2B1-B Bk 8A	NORMAL	_____
2-XS-62-135	480V Reactor MOV BD 2A1-A Bk 9A	NORMAL	_____
2-XS-62-136	480V Reactor MOV BD 2B1-B Bk 8B	NORMAL	_____
2-HS-62-133A	2-M-5	A AUTO	_____
2-HS-62-104A	2-M-5	PULL-TO-LOCK	_____
2-HS-62-108A	2-M-5	PULL-TO-LOCK	_____

[7] **VERIFY** ICS point LD2005 displays “PWR OFF”. _____

[8] **CLOSE** Breaker 8B on 480V Reactor MOV BD 2A1-A. _____

[9] **VERIFY** ICS point LD2005 displays “PWR ON”. _____

[10] **ENSURE** locally 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] is CLOSED. _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[11] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-132A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-132C	480V Reactor MOV BD	Red - OFF	_____
	2A1-A Bk 8B	Green - ON	_____

[12] **PLACE** 2-HS-62-132C in OPEN, **AND**

VERIFY locally 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains CLOSED. _____

[13] **RETURN** 2-HS-62-132C to P AUTO. _____

[14] **PLACE** 2-HS-62-132A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-132A	2-M-5	Red - ON	_____
		Green - ON	_____
Red "motor energized" light	480V Reactor MOV BD 2A1-A, Breaker 8B	Red - ON	_____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[15] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] is OPEN locally. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-132A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-132C	480V Reactor MOV BD	Red - ON	_____
	2A1-A Bk 8B	Green - OFF	_____

[17] **VERIFY** ICS point LD2006 displays “OPEN”. _____

[18] **PLACE** 2-HS-62-132C in CLOSE, **AND**

VERIFY locally 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

[19] **RETURN** 2-HS-62-132C to P AUTO. _____

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[20] **PERFORM** the following:

A. **PLACE** 2-HS-62-132A in CLOSE. _____

B. **PLACE AND**

RELEASE 2-HS-62-132A in OPEN when both Red and Green lights are ON. _____

C. **VERIFY** locally 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] CLOSES. _____

[21] **VERIFY** ICS point LD2006 displays “NOT OPN”. _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[22] **OPEN** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] using 2-HS-62-132A. _____

[23] **PLACE** 2-XS-62-132 in AUX. _____

[24] **PLACE** 2-HS-62-132A in CLOSE, **AND**

VERIFY locally 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

[25] **PLACE** 2-HS-62-132C in CLOSE, **AND**

VERIFY locally 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] CLOSES. _____

[26] **VERIFY** the following indicator light conditions at the designated locations:

A.	2-HS-62-132A	2-M-5	Red - OFF	_____
			Green - OFF	_____
B.	2-HS-62-132C	480V Reactor MOV BD	Red - OFF	_____
		2A1-A Bk 8B	Green - ON	_____

[27] **PLACE** 2-HS-62-132A in OPEN, **AND**

VERIFY locally 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains CLOSED. _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[28] **PERFORM** the following:

A. **PLACE** 2-HS-62-132C in OPEN. _____

B. **MOMENTARILY PLACE** 2-HS-62-132C in CLOSE**, THEN**

RETURN to OPEN while both Red and Green lights are ON. _____

C. **VERIFY** locally 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] OPENS. _____

[29] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-132A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-132C	480V Reactor MOV BD	Red - ON	_____
	2A1-A Bk 8B	Green - OFF	_____

[30] **PLACE** 2-HS-62-132C in P AUTO. _____

[31] **PLACE** 2-XS-62-132 in NOR. _____

[32] **ENSURE** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] is CLOSED. _____

[33] **MOMENTARILY PLACE** a jumper across TB602 points 9 to 10 (field side) in R-48 to simulate a SI. _____

_____
CV

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[34] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

[35] **OPEN** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A, **AND**

RELEASE 2-HS-62-135A to A AUTO. _____

[36] **MOMENTARILY PLACE** a jumper across TB602 points 9 to 10 (field side) in R-48 to simulate a SI. _____

_____
CV

[37] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] goes CLOSED. (**Acc Crit**) _____

[38] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains CLOSED. _____

[39] **PLACE** 2-HS-62-132A in OPEN, **AND**

VERIFY 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] OPENS. _____

[40] **PLACE** 2-HS-62-132A in A-P AUTO _____

[41] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

[42] **VERIFY** the following Separation Relays and Bistables are in condition indicated:

LB185BX (D-9)	Panel R-58	DEENERGIZED	_____
LB185BXA (D-3)	Panel 2-R-54	DEENERGIZED	_____

[43] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[44] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	0

_____

[45] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W213CP	W2VCTANK	2LS0620130B	1

_____

[46] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

NOTE

The following two steps verify 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] response to a VCT Low Low Level signal.

[47] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

[48] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] CLOSES. (**Acc Crit**) _____

[49] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	0
W213CP	W2VCTANK	2LS0620130B	0

_____

_____

[50] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains CLOSED. _____

[51] **OPEN** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] by placing 2-HS-62-132A in OPEN. _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[52] **CLOSE** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A. _____

[53] **OPEN** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] using 2-HS-62-136A, **AND**

RELEASE to 2-HS-62-136A to A AUTO. _____

[54] **PLACE** 2-HS-62-132A in A-P AUTO.

[55] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

[56] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

[57] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	0

_____

[58] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W213CP	W2VCTANK	2LS0620130B	1

_____

[59] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

[60] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

[61] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] CLOSES. (**Acc Crit**) _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[62] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____

[63] **OPEN** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] using 2-HS-62-132A. _____

[64] **PLACE** 2-HS-62-132A in A-P AUTO. _____

[65] **MOMENTARILY PLACE** a jumper across TB602 points 9 to 10 (field side) in R-48 to simulate a SI. _____

_____
CV

[66] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] goes CLOSED. _____

[67] **OPEN** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] using 2-HS-62-132A. _____

[68] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W214CP	W2ACRVCTANK	2LS0620129CB	1	_____

[69] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

[70] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W214CP	W2ACRVCTANK	2LS0620129CB	0	_____

[71] **PLACE** 2-XS-62-132 in AUX. _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[72] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	1

_____

[73] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] CLOSES. (**Acc Crit**) _____

[74] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	0

_____

[75] **OPEN** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] from 2-HS-62-132C, **AND**

RETURN the switch to P AUTO. _____

[76] **OPEN** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A. _____

[77] **CLOSE** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] using 2-HS-62-136A. _____

[78] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	1

_____

[79] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] CLOSES. (**Acc Crit**) _____

[80] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	0

_____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[81] **OPEN** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] from 2-HS-62-132C, **AND**

RETURN the switch to P AUTO. _____

[82] **MOMENTARILY PLACE** a jumper across TB602 points 9 to 10 (field side) in R-48 to simulate a SI. _____

_____
CV

[83] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

[84] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	1	_____
W213CP	W2VCTANK	2LS0620130B	1	_____

[85] **PLACE** 2-HS-62-132A in A-P AUTO, **AND**

VERIFY 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

[86] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____

[87] **RETURN** 2-HS-62-132A to A AUTO. _____

[88] **CLOSE** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A. _____

[89] **CLOSE** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] using 2-HS-62-132C. _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[90] **OPEN** breaker in Compt. 8B of 480V Reactor MOV BD 2A1-A. _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step 6.19[91].

[91] **MANUALLY TRIP** the thermal overload for 2-BKR-62-132 at 480V Reactor MOV BD 2A1-A, COMPT 8B. _____

[92] **CLOSE** breaker in Compt. 8B of 480V Reactor MOV BD 2A1-A. _____

[93] **PLACE** 2-HS-62-132C in OPEN, and

VERIFY 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains CLOSED. _____

[94] **DEPRESS and HOLD** the armature of relay K2 in back of Panel 4F on 480V Reactor MOV BD 2A1-A to simulate Overload Bypass. _____

[95] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] OPENS. _____

[96] **RELEASE** K2 relay armature. _____

[97] **PLACE** 2-HS-62-132C in CLOSE, **AND**

VERIFY 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] remains OPEN. _____

[98] **MOMENTARILY DEPRESS** TOL RESET button on 2-BKR-62-132 at 480V Reactor MOV BD 2A1-A, COMPT 8B. _____

[99] **VERIFY** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] CLOSES. _____

[100] **PLACE** 2-HS-62-132C in P AUTO. _____

[101] **PLACE** 2-XS-62-132 in NOR. _____

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Red light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[102] **OPEN** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] using 2-HS-62-132A.

TIME 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] OPEN _____

[103] **RECORD** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.19 2-LCV-62-132 - Volume Control Tank Outlet Isolation Valve (continued)

[104] **PLACE** 2-HS-62-132A to CLOSE, **AND**

TIME 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] closure _____

[105] **RECORD** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[106] **VERIFY** successful completion of Subsection 6.19 (**Acc Crit**). _____

Date _____

6.20 2-FCV-62-1228 - Volume Control Tank Vent Outlet Isolation

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** Sub Section 6.19 is completed prior to performance of this subsection. _____

[3] **ENSURE** the following component alignment:

0-BKR-236-3/312, 125V DC VITAL BAT BD III breaker 312 CLOSED _____

2-BKR-62-132, RX MOV BD 2A1-A Breaker in Compt. 8B CLOSED _____

[4] **ENSURE** 2-HS-62-1228 (JB8025-A in BATT BD III room) is in the ON position. _____

NOTE

2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] only opens when 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] begins to move open. Therefore, 2-HS-62-132 will be used to open 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757].

[5] **ENSURE** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] is CLOSED. _____

[6] **VERIFY** locally 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] is CLOSED. _____

[7] **VERIFY** the following 2-XI-62-1228A&B lights on 2-M-5 (located above 2-HS-62-132A):

A. Green light is ON. _____

B. Red light is OFF. _____

Date _____

6.20 2-FCV-62-1228 - Volume Control Tank Vent Outlet Isolation (continued)

[8] **OPEN** 2-LCV-62-132 using 2-HS-62-132A, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

A. Green light is ON. _____

B. Red light is ON. _____

[9] **VERIFY** locally 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] is OPEN. (**Acc Crit**) _____

[10] **VERIFY** the following 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] lights on 2-M-5:

A. Green light is OFF. _____

B. Red light is ON. _____

[11] **PLACE** 2-HS-62-1228 in OFF. _____

[12] **VERIFY** locally 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] is CLOSED. _____

[13] **VERIFY** the following lights on 2-M-5:

A. Green light is OFF. _____

B. Red light is OFF. _____

[14] **PLACE** 2-HS-62-1228 in ON. _____

[15] **VERIFY** 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] is OPEN. _____

Date _____

6.20 2-FCV-62-1228 - Volume Control Tank Vent Outlet Isolation (continued)

NOTES

1) Remote Timing begins as soon as dual indication is shown at 2-XI-62-1228A&B (2-M-5) and continues until the Red light for 2-XI-62-1228A&B goes OFF.

2) Timing locally is from the sound of air exhausting at 2-FSV-62-1228 to the end of motion.

[16] **PLACE** 2-HS-62-132A to CLOSE, **AND**

TIME closure of 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757]. _____

[17] **RECORD** 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] CLOSE stroke time**.**

MCR _____ seconds

(**Acc Crit**) Less than 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Less than 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.20 2-FCV-62-1228 - Volume Control Tank Vent Outlet Isolation (continued)

NOTES

1) Remote Timing begins as soon as dual indication is shown at 2-XI-62-1228A&B (2-M-5) and continues until the Green light for 2-XI-62-1228A&B goes OFF.

2) Timing locally is from the sound of air exhausting at 2-FSV-62-1228 to the end of motion.

[18] **PLACE** 2-HS-62-132A to OPEN, **AND**

TIME open of 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757]. _____

[19] **RECORD** 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] OPEN stroke time**.**

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.20 2-FCV-62-1228 - Volume Control Tank Vent Outlet Isolation (continued)

[20] **CLOSE** the air supply valve, 2-ISV-32-4956, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-1228, **AND**

OPEN PREG petcock for valve 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757]. _____

[21] **VERIFY** valve 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] CLOSES. (**Acc Crit**) _____

[22] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-4956, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-1228 _____

[23] **VERIFY** valve 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] OPENS. _____

[24] **REMOVE** fuse 0-FU-236-3/C19 (2-FCV-62-1228), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[25] **VERIFY** valve 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[26] **REINSTALL** fuse 0-FU-236-3/C19 (2-FCV-62-1228), **AND**

DOCUMENT in Appendix B. _____

_____
CV

VERIFY valve 2-FCV-62-1228, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 757] OPENS. _____

Date _____

6.20 2-FCV-62-1228 - Volume Control Tank Vent Outlet Isolation (continued)

[27] **PLACE** 2-HS-62-132A to CLOSE. _____

[28] **VERIFY** successful completion of Subsection 6.20 (**Acc Crit**). _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve

NOTES

1) Energizing and deenergizing bistables in this subsection will cause high and low VCT level alarms.
2) A digital Multimeter will be needed to determine if relays are energized or deenergized.
3) The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** prerequisites for this subsection have been completed. _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[2] **ENSURE** the following component alignment:

2-BKR-62-132, RX MOV BD 2A1-A Breaker in Compt. 8B	CLOSED	_____
2-BKR-62-135, RX MOV BD 2A1-A Breaker in Compt. 9A	CLOSED	_____
2-BKR-62-133, RX MOV BD 2B1-B Breaker in Compt. 8A	OPEN	_____
2-BKR-62-136, RX MOV BD 2B1-B Breaker in Compt. 8B	CLOSED	_____
120V AC VITAL INST PWR BD 2-I breaker 6	CLOSED	_____
120V AC VITAL INST PWR BD 2-I breaker 10	CLOSED	_____
120V AC VITAL INST PWR BD 2-II breaker 11	CLOSED	_____
120V AC VITAL INST PWR BD 2-III breaker 29	CLOSED	_____
120V AC VITAL INST PWR BD 2-III breaker 31	CLOSED	_____
120V AC VITAL INST PWR BD 2-IV breaker 37	CLOSED	_____
120V AC VITAL INST PWR BD 2-IV breaker 40	CLOSED	_____

[3] **ENSURE** the following Foxboro Control Processors are Energized and Available:

A. W212CP _____

B. W213CP _____

C. W214CP _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[4] **ENSURE** The following Control Element status:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____
W214CP	W2ACRVCTANK	2LS0620129CB	0	_____

[5] **ENSURE** the following valves are CLOSED:

A. 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702]. _____

B. 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696]. _____

[6] **ENSURE** the following control switch positions:

2-HS-62-133A	2-M-5	A AUTO after CLOSE	_____
2-HS-62-133C	480V Reactor MOV BD 2B1-B Bk 8A	P AUTO	_____
2-XS-62-132	480V Reactor MOV BD 2A1-A Bk 8B	NORMAL	_____
2-XS-62-133	480V Reactor MOV BD 2B1-B Bk 8A	NORMAL	_____
2-XS-62-135	480V Reactor MOV BD 2A1-A Bk 9A	NORMAL	_____
2-XS-62-136	480V Reactor MOV BD 2B1-B Bk 8B	NORMAL	_____
2-HS-62-132A	2-M-5	A AUTO	_____
2-HS-62-104A	2-M-5	PULL-TO-LOCK	_____
2-HS-62-108A	2-M-5	PULL-TO-LOCK	_____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[7] **VERIFY** ICS point LD2009 displays “PWR OFF”. _____

[8] **CLOSE** Breaker 8A on 480V Reactor MOV BD 2B1-B. _____

[9] **VERIFY** ICS point LD2009 displays “PWR ON”. _____

[10] **ENSURE** locally 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] is CLOSED. _____

[11] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-133A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-133C	480V Reactor MOV BD	Red - OFF	_____
	2B1-B Bk 8A	Green - ON	_____

[12] **PLACE** 2-HS-62-133C in OPEN, **AND**

VERIFY locally 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains CLOSED. _____

[13] **RETURN** 2-HS-62-133C to P AUTO. _____

[14] **PLACE** 2-HS-62-133A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-133A	2-M-5	Red - ON	_____
		Green - ON	_____
Red "motor energized" light	480V Reactor MOV BD 2B1-B, Breaker 8A	Red - ON	_____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[15] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] is OPEN locally. _____

[16] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-133A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-133C	480V Reactor MOV BD	Red - ON	_____
	2B1-B Bk 8A	Green - OFF	_____

[17] **VERIFY** ICS point LD2010 displays “OPEN”. _____

[18] **PLACE** 2-HS-62-133C in CLOSE, **AND**

VERIFY locally 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

[19] **RETURN** 2-HS-62-133C to P AUTO. _____

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[20] **PERFORM** the following:

A. **PLACE** 2-HS-62-133A in CLOSE. _____

B. **PLACE AND RELEASE** 2-HS-62-133A in OPEN when both Red and Green lights are ON. _____

C. **VERIFY** locally 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] CLOSES. _____

[21] **VERIFY** ICS point LD2010 displays “NOT OPE”. _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[22] **OPEN** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] using 2-HS-62-133A. _____

[23] **PLACE** 2-XS-62-133 in AUX. _____

[24] **PLACE** 2-HS-62-133A in CLOSE, **AND**

VERIFY locally 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

[25] **PLACE** 2-HS-62-133C in CLOSE, **AND**

VERIFY locally 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] CLOSES. _____

[26] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-133A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-133C	480V Reactor MOV BD	Red - OFF	_____
	2B1-B Bk 8A	Green - ON	_____

[27] **PLACE** 2-HS-62-133A in OPEN, **AND**

VERIFY locally 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains CLOSED. _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[28] **PERFORM** the following:

A. **PLACE** 2-HS-62-133C in OPEN. _____

B. **MOMENTARILY PLACE** 2-HS-62-133C in CLOSE**, THEN**

RETURN to OPEN while both Red and Green lights are ON. _____

C. **VERIFY** locally 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] OPENS. _____

[29] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-133A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-133C	480V Reactor MOV BD	Red - ON	_____
	2B1-B Bk 8A	Green - OFF	_____

[30] **PLACE** 2-HS-62-133C in P AUTO. _____

[31] **PLACE** 2-XS-62-133 in NOR. _____

[32] **ENSURE** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] is CLOSED. _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[33] **MOMENTARILY PLACE** a jumper across TB602 points 9 to 10 (field side) in R-51 to simulate a SI. _____

_____
CV

[34] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

[35] **OPEN** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A, **AND**

RELEASE TO A AUTO. _____

[36] **MOMENTARILY PLACE** a jumper across TB602 points 9 to 10 (field side) in R-51 to simulate a SI. _____

_____
CV

[37] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] goes CLOSED. (**Acc Crit**) _____

[38] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains CLOSED. _____

[39] **PLACE** 2-HS-62-133A in OPEN, **AND**

VERIFY 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] OPENS. _____

[40] **PLACE** 2-HS-62-133A in A-P AUTO _____

[41] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[42] **VERIFY** the following Separation Relays and Bistables are in condition indicated:

LB185BX (D-9)	Panel R-58	DEENERGIZED	_____
LB185BXB (C-5)	Panel 2-R-55	DEENERGIZED	_____

[43] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

[44] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____

[45] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W213CP	W2VCTANK	2LS0620130B	1	_____

[46] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

NOTE

The following two steps verify 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] response to a VCT Low Low Level signal.

[47] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	1	_____

[48] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] CLOSES. (**Acc Crit**) _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[49] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____

[50] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains CLOSED. _____

[51] **OPEN** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] by placing 2-HS-62-133A in OPEN. _____

[52] **CLOSE** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A. _____

[53] **OPEN** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] using 2-HS-62-136A, **AND**

RELEASE TO A AUTO. _____

[54] **PLACE** 2-HS-62-133A in A-P AUTO. _____

[55] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	1	_____

[56] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

[57] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[58] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W213CP	W2VCTANK	2LS0620130B	1

_____

[59] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

[60] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

[61] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] CLOSED. (**Acc Crit**) _____

[62] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	0
W213CP	W2VCTANK	2LS0620130B	0

_____

_____

[63] **OPEN** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] using 2-HS-62-133A. _____

[64] **PLACE** 2-HS-62-133A in A-P AUTO. _____

[65] **MOMENTARILY PLACE** a jumper across TB602 points 9 to 10 (field side) in R-51 to simulate a SI _____

_____
CV

[66] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] goes CLOSED. _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[67] **OPEN** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] using 2-HS-62-133A. _____

[68] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	1

_____

[69] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN**.** _____

[70] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	0

_____

[71] **PLACE** 2-XS-62-133 in AUX. _____

[72] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	1

_____

[73] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] has CLOSED. (**Acc Crit**) _____

[74] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	0

_____

[75] **OPEN** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] from 2-HS-62-133C.

RETURN 2-HS-62-133C to P AUTO. _____

[76] **OPEN** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A. _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[77] **CLOSE** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] using 2-HS-62-136A. _____

[78] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	1

_____

[79] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] has CLOSED. (**Acc Crit**) _____

[80] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	0

_____

[81] **OPEN** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] from 2-HS-62-133C, **AND**

RETURN 2-HS-62-133C to P AUTO. _____

[82] **MOMENTARILY PLACE** a jumper across TB602 points 9 to 10 (field side) in R-51 to simulate a SI. _____

_____
CV

[83] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

[84] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1
W213CP	W2VCTANK	2LS0620130B	1

_____

_____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[85] **PLACE** 2-HS-62-133A in A-P AUTO, **AND**

VERIFY 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

[86] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____

[87] **RETURN** 2-HS-62-133A to A AUTO. _____

[88] **CLOSE** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] using 2-HS-62-133C. _____

[89] **CLOSE** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A. _____

[90] **OPEN** breaker in Compt. 8A of 480V Reactor MOV BD 2B1-B. _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step 6.21[91].

[91] **MANUALLY TRIP** the thermal overload for 2-BKR-62-133 at 480V Reactor MOV BD 2B1-B, COMPT 8A. _____

[92] **CLOSE** breaker in Compt. 8A of 480V Reactor MOV BD 2B1-B. _____

[93] **PLACE** 2-HS-62-133C in OPEN, **AND**

VERIFY 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains CLOSED. _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

[94] **DEPRESS and HOLD** the armature of relay K2 in back of Panel 16D on 480V Reactor MOV BD 2B1-B to simulate Overload Bypass. _____

[95] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] OPENS. _____

[96] **RELEASE** K2 relay armature. _____

[97] **PLACE** 2-HS-62-133C in CLOSE, **AND**

VERIFY 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] remains OPEN. _____

[98] **MOMENTARILY DEPRESS** TOL RESET button on 2-BKR-62-133 at 480V Reactor MOV BD 2B1-B, COMPT 8A. _____

[99] **VERIFY** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] CLOSES. _____

[100] **PLACE** 2-HS-62-133C in P AUTO. _____

[101] **PLACE** 2-XS-62-133 in NOR. _____

Date _____

6.21 2-LCV-62-133 - Volume Control Tank Outlet Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Red light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[102] **OPEN** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL using 2-HS-62-133A.

TIME 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL OPEN. _____

[103] **RECORD** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

[104] **PLACE** 2-HS-62-133A to CLOSE, **AND**

TIME 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] closure. _____

[105] **RECORD** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit)** Less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[106] **VERIFY** successful completion of Subsection 6.21 (**Acc Crit**). _____

Date _____

6.22 2-FCV-62-1229 - Volume Control Tank Vent Outlet Isolation (continued)

6.22 2-FCV-62-1229 - Volume Control Tank Vent Outlet Isolation

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** Sub Section 6.21 is completed prior to performance of this subsection. _____

[3] **ENSURE** the following component alignment:

0-BKR-236-4/311, 125V DC VITAL BAT BD IV breaker 311 CLOSED _____

RX MOV BD 2B1-B Breaker in Compt. 8A CLOSED _____

[4] **ENSURE** 2-HS-62-1229 (JB8026-B in BATT BD IV room) is in the ON position. _____

NOTE

2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] only opens when 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] begins to move open. Therefore, 2-HS-62-133 will be used to open 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713].

[5] **ENSURE** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] is CLOSED. _____

[6] **VERIFY** locally 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] is CLOSED. _____

[7] **VERIFY** the following lights on 2-XI-62-1229A&B 2-M-5 (located above 2-HS-62-133A):

A. Green light is ON. _____

B. Red light is OFF. _____

Date _____

6.22 2-FCV-62-1229 - Volume Control Tank Vent Outlet Isolation (continued)

[8] **OPEN** 2-FCV-62-133 using 2-HS-62-133A, **AND** while 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] is in mid-position,

VERIFY the following indicator light conditions for 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713]:

A. Green light is ON. _____

B. Red light is ON. _____

[9] **VERIFY** locally 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] is OPEN. (**Acc Crit**) _____

[10] **VERIFY** the following 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] lights on 2-M-5:

A. Green light is OFF. _____

B. Red light is ON. _____

[11] **PLACE** 2-HS-62-1229 in OFF. _____

[12] **VERIFY** locally 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] is CLOSED. _____

[13] **VERIFY** the following 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] lights on 2-M-5:

A. Green light is OFF. _____

B. Red light is OFF. _____

[14] **PLACE** 2-HS-62-1229 in ON. _____

[15] **VERIFY** 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] is OPEN. _____

Date _____

6.22 2-FCV-62-1229 - Volume Control Tank Vent Outlet Isolation (continued)

NOTES

1) Remote Timing begins as soon as dual indication is shown at 2-XI-62-1229A&B (2-M-5) and continues until the Red light for 2-XI-62-1229A&B goes OFF.
2) Timing locally is from the sound of air exhausting at 2-FSV-62-1229 to the end of motion.

[16] **PLACE** 2-HS-62-133A to CLOSE, **AND**

TIME closure of 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713]. _____

[17] **RECORD** 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] CLOSE stroke time.

. MCR _____ seconds

(**Acc Crit**) Less than 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Less than 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.22 2-FCV-62-1229 - Volume Control Tank Vent Outlet Isolation (continued)

NOTES

1) Remote Timing begins as soon as dual indication is shown at 2-XI-62-1229A&B (2-M-5) and continues until the Green light for 2-XI-62-1229A&B goes OFF.

2) Timing locally is from the sound of air exhausting at 2-FSV-62-1229 to the end of motion.

[18] **PLACE** 2-HS-62-133B to OPEN, **AND**

TIME open of 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713]. _____

[19] **RECORD** 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] OPEN stroke time**.**

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.22 2-FCV-62-1229 - Volume Control Tank Vent Outlet Isolation (continued)

[20] **CLOSE** the air supply valve, 2-ISV-32-4957, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-1229, **AND**

OPEN PREG petcock for valve 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713]. _____

[21] **VERIFY** valve 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] CLOSES. (**Acc Crit**) _____

[22] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-4957, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-1229 _____

[23] **VERIFY** valve 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] OPENS. _____

[24] **REMOVE** fuse 0-FU-236-4/C50, **AND**

DOCUMENT in Appendix B. _____

_____
CV

[25] **VERIFY** valve 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[26] **REINSTALL** fuse 0-FU-236-4/C50, **AND**

DOCUMENT in Appendix B. _____

_____
CV

VERIFY valve 2-FCV-62-1229, FIRE SAFE SHUTDOWN ISOL VALVE FROM VOL CONTRL TANK [AUX 713] OPENS. _____

Date _____

6.22 2-FCV-62-1229 - Volume Control Tank Vent Outlet Isolation (continued)

[27] **PLACE** 2-HS-62-132A to CLOSE. _____

[28] **VERIFY** successful completion of Subsection 6.22 (**Acc Crit**). _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve

NOTES

1) Energizing and deenergizing bistables in this subsection will cause high and low VCT level alarms.
2) The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** prerequisites for this subsection have been completed. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[2] **ENSURE** the following component alignment:

2-BKR-62-132, RX MOV BD 2A1-A Breaker in Compt. 8B	CLOSED	_____
2-BKR-62-135, RX MOV BD 2A1-A Breaker in Compt. 9A	OPEN	_____
2-BKR-62-133, RX MOV BD 2B1-B Breaker in Compt. 8A	CLOSED	_____
2-BKR-62-136, RX MOV BD 2B1-B Breaker in Compt. 8B	CLOSED	_____
120V AC VITAL INST PWR BD 2-I breaker 6	CLOSED	_____
120V AC VITAL INST PWR BD 2-I breaker 10	CLOSED	_____
120V AC VITAL INST PWR BD 2-II breaker 11	CLOSED	_____
120V AC VITAL INST PWR BD 2-III breaker 29	CLOSED	_____
120V AC VITAL INST PWR BD 2-III breaker 31	CLOSED	_____
120V AC VITAL INST PWR BD 2-IV breaker 37	CLOSED	_____
120V AC VITAL INST PWR BD 2-IV breaker 40	CLOSED	_____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[3] **ENSURE** the following control switch positions:

2-HS-62-135A	2-M-5	A AUTO after CLOSE	_____
2-HS-62-135C	480V Reactor MOV BD 2A1-A Bk 9A	P AUTO	_____
2-XS-62-132	480V Reactor MOV BD 2A1-A Bk 8B	NORMAL	_____
2-XS-62-133	480V Reactor MOV BD 2B1-B Bk 8A	NORMAL	_____
2-XS-62-135	480V Reactor MOV BD 2A1-A Bk 9A	NORMAL	_____
2-XS-62-136	480V Reactor MOV BD 2B1-B Bk 8B	NORMAL	_____
2-HS-62-133A	2-M-5	A AUTO	_____
2-HS-62-104A	2-M-5	PULL-TO-LOCK	_____
2-HS-62-108A	2-M-5	PULL-TO-LOCK	_____

[4] **ENSURE** the following Foxboro Control Processors are Energized and Available:

A. W212CP _____

B. W213CP _____

C. W214CP _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[5] **ENSURE** The following Control Element status:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____
W214CP	W2ACRVCTANK	2LS0620129CB	0	_____

[6] **VERIFY** ICS point LD2007 displays “PWR OFF”. _____

[7] **CLOSE** Breaker 9A on 480V Reactor MOV BD 2A1-A. _____

[8] **VERIFY** ICS point LD2007 displays “PWR ON”. _____

[9] **ENSURE** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] is OPEN with 2-HS-62-133A left in A AUTO. _____

[10] **ENSURE** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] is CLOSED. _____

[11] **VERIFY** the following indicator light condition at the designated locations:

2-HS-62-135A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-135C	480V Reactor MOV BD	Red - OFF	_____
	2A1-A Bk 9A	Green - ON	_____

[12] **PLACE** 2-HS-62-135C in OPEN, **AND**

VERIFY locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains CLOSED. _____

[13] **RETURN** 2-HS-62-135C to P AUTO. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[14] **PLACE** 2-HS-62-135A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-135A	2-M-5	Red - ON	_____
		Green - ON	_____

[15] **VERIFY** the following:

A. Red "motor energized" light is ON on 480V Reactor MOV BD 2A1-A, Breaker 9A while 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] is moving. _____

B. 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] is OPEN **LOCALLY**. _____

[16] **VERIFY** the following indicator light condition at the designated locations:

2-HS-62-135A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-135C	480V Reactor MOV BD	Red - ON	_____
	2A1-A Bk 9A	Green - OFF	_____

[17] **VERIFY** ICS point LD2008 displays “NOT CLS”. _____

[18] **CLOSE** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A, **AND**

VERIFY locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] is CLOSED. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[19] **PERFORM** the following:

A. **PLACE** 2-HS-62-135A in OPEN. _____

B. **PLACE** 2-HS-62-135A in CLOSE when both Red and Green lights are ON. _____

C. **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] OPENS. _____

[20] **PLACE** 2-HS-62-135C in CLOSE, **AND**

VERIFY locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains OPEN. _____

[21] **RETURN** 2-HS-62-135C to P AUTO. _____

[22] **PLACE** 2-HS-62-135A in CLOSE, **AND**

VERIFY locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] CLOSES. _____

[23] **VERIFY** ICS point LD2008 displays “CLOSED”. _____

[24] **MOMENTARILY PLACE** a jumper across TB603 points 11 to 12 (field side) in R-48 to simulate a SI. _____

_____
CV

[25] **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] goes OPEN. (**Acc Crit**) _____

[26] **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains OPEN. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[27] **PLACE** 2-HS-62-135A in CLOSE, **AND**

VERIFY locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] CLOSES. _____

[28] **PLACE** 2-HS-62-135A in A-P AUTO _____

[29] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

[30] **VERIFY** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains CLOSED. _____

[31] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	0

_____

[32] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W213CP	W2VCTANK	2LS0620130B	1

_____

[33] **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains CLOSED. _____

[34] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

[35] **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] OPENS. (**Acc Crit**) _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[36] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____

[37] **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains OPEN. _____

[38] **CLOSE** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A. _____

[39] **PLACE** 2-HS-62-135A in A-P AUTO. _____

[40] **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains CLOSED. _____

[41] **PLACE** 2-HS-62-133A to CLOSE. _____

[42] **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] starts to **OPEN** while 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] is closing. (**Acc Crit**) _____

[43] **OPEN** 2-LCV-62-133, VCT OUTLET ISO VLV LEVEL CONTROL [A13U 713] using 2-HS-62-133A. _____

[44] **CLOSE** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] using 2-HS-62-135A. _____

[45] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W214CP	W2ACRVCTANK	2LS0620129CB	1	_____

[46] **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains CLOSED. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[47] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W214CP	W2ACRVCTANK	2LS0620129CB	0	_____

[48] **PLACE** 2-XS-62-135 in AUX. _____

[49] **PLACE** 2-HS-62-135A in OPEN, **AND**

VERIFY locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains CLOSED. _____

[50] **PLACE** 2-HS-62-135C in OPEN, **AND**

VERIFY locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] OPENS. _____

[51] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-135A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-135C	480V Reactor MOV BD	Red - ON	_____
	2A1-A Bk 9A	Green - OFF	_____

[52] **PLACE** 2-HS-62-135A in CLOSE, **AND**

VERIFY locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains OPEN. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[53] **PERFORM** the following:

A. **PLACE** 2-HS-62-135C in CLOSE. _____

B. **MOMENTARILY PLACE** 2-HS-62-135C in OPEN, **THEN**

RETURN to CLOSE while both Red and Green lights are ON. _____

C. **VERIFY** locally 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] CLOSES. _____

[54] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-135A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-135C	480V Reactor MOV BD	Red - OFF	_____
	2A1-A Bk 9A	Green - ON	_____

[55] **PLACE** 2-HS-62-135C in P AUTO. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[56] **MOMENTARILY PLACE** a jumper across TB603 points 11 to 12 (field side) in R-48 to simulate a SI. _____

_____
CV

[57] **VERIFY** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains CLOSED. _____

[58] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	1

_____

[59] **VERIFY** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] OPENS. (**Acc Crit**) _____

[60] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	0

_____

[61] **CLOSE** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] from 2-HS-62-135C. _____

[62] **RETURN** 2-HS-62-135C to P AUTO. _____

[63] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1
W213CP	W2VCTANK	2LS0620130B	1

_____

_____

[64] **VERIFY** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains CLOSED. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[65] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____

[66] **RETURN** 2-HS-62-135A to A AUTO. _____

[67] **OPEN** breaker in Compt. 9A of 480V Reactor MOV BD 2A1-A. _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step 6.23[75].

[68] **MANUALLY TRIP** the thermal overload for 2-BKR-62-135 at 480V Reactor MOV BD 2A1-A, COMPT 9A. _____

[69] **CLOSE** breaker in Compt. 9A of 480V Reactor MOV BD 2A1-A. _____

[70] **PLACE** 2-HS-62-135C in OPEN, **AND**

VERIFY 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains CLOSED. _____

[71] **DEPRESS AND HOLD** K2 relay armature in back of Panel 4F on 480V Reactor MOV BD 2A1-A to simulate Overload Bypass. _____

[72] **VERIFY** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] OPENS. _____

[73] **RELEASE** K2 relay armature. _____

[74] **PLACE** 2-HS-62-135C in CLOSE, **AND**

VERIFY 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] remains OPEN. _____

[75] **MOMENTARILY DEPRESS** TOL RESET button on 2-BKR-62-135 at 480V Reactor MOV BD 2A1-A, COMPT 9A. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

[76] **VERIFY** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] CLOSES. _____

[77] **PLACE** 2-XS-62-135 in NOR. _____

Date _____

6.23 2-LCV-62-135 - RWST To Charging Pump Suction Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[78] **PLACE** 2-HS-62-135A to OPEN, **AND**

TIME 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] open. _____

[79] **RECORD** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] OPEN stroke time.

MCR _____ seconds

(**Acc Crit**) Less than or equal to 15 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Less than or equal to 15 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

[80] **PLACE** 2-HS-62-135A to CLOSE, **AND**

TIME 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] CLOSE. _____

[81] **RECORD** 2-LCV-62-135, CHARGING PUMP FLOW RWST [A13U 702] CLOSE stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[82] **VERIFY** successful completion of Subsection 6.23 (**Acc Crit**). _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve

NOTES

1) Energizing and deenergizing bistables in this subsection will cause high and low VCT level alarms.
2) The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** prerequisites for this subsection have been completed. _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[2] **ENSURE** the following component alignment:

2-BKR-62-132, RX MOV BD 2A1-A Breaker in Compt. 8B	CLOSED	_____
2-BKR-62-135, RX MOV BD 2A1-A Breaker in Compt. 9A	CLOSED	_____
2-BKR-62-133, RX MOV BD 2B1-B Breaker in Compt. 8A	CLOSED	_____
2-BKR-62-136, RX MOV BD 2B1-B Breaker in Compt. 8B	OPEN	_____
120V AC VITAL INST PWR BD 2-I breaker 6	CLOSED	_____
120V AC VITAL INST PWR BD 2-I breaker 10	CLOSED	_____
120V AC VITAL INST PWR BD 2-II breaker 11	CLOSED	_____
120V AC VITAL INST PWR BD 2-III breaker 29	CLOSED	_____
120V AC VITAL INST PWR BD 2-III breaker 31	CLOSED	_____
120V AC VITAL INST PWR BD 2-IV breaker 37	CLOSED	_____
120V AC VITAL INST PWR BD 2-IV breaker 40	CLOSED	_____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[3] **ENSURE** the following control switch positions:

2-HS-62-136A	2-M-5	A AUTO after CLOSE	_____
2-HS-62-136C	480V Reactor MOV BD 2B1-B Bk 8B	P AUTO	_____
2-XS-62-132	480V Reactor MOV BD 2A1-A Bk 8B	NORMAL	_____
2-XS-62-133	480V Reactor MOV BD 2B1-B Bk 8A	NORMAL	_____
2-XS-62-135	480V Reactor MOV BD 2A1-A Bk 9A	NORMAL	_____
2-XS-62-136	480V Reactor MOV BD 2B1-B Bk 8B	NORMAL	_____
2-HS-62-132A	2-M-5	A AUTO	_____
2-HS-62-104A	2-M-5	PULL-TO-LOCK	_____
2-HS-62-108A	2-M-5	PULL-TO-LOCK	_____

[4] **ENSURE** the following Foxboro Control Processors are Energized and Available:

A. W212CP _____

B. W213CP _____

C. W214CP _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[5] **ENSURE** The following Control Element status:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____
W214CP	W2ACRVCTANK	2LS0620129CB	0	_____

[6] **VERIFY** ICS point LD2011 displays “PWR OFF”. _____

[7] **CLOSE** Breaker 8B on 480V Reactor MOV BD 2B1-B. _____

[8] **VERIFY** ICS point LD2011 displays “PWR ON”. _____

[9] **ENSURE** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] is OPEN with 2-HS-62-132A left in A AUTO. _____

[10] **ENSURE** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] is CLOSED. _____

[11] **VERIFY** the following indicator light condition at the designated locations:

2-HS-62-136A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-136C	480V Reactor MOV BD	Red - OFF	_____
	2B1-B Bk 8B	Green - ON	_____

[12] **PLACE** 2-HS-62-136C in OPEN, **AND**

VERIFY locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains CLOSED. _____

[13] **RETURN** 2-HS-62-136C to P AUTO. _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[14] **PLACE** 2-HS-62-136A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-136A	2-M-5	Red - ON	_____
		Green - ON	_____

[15] **VERIFY** the following:

A. Red "motor energized" light is ON on 480V Reactor MOV BD 2B1-B, Breaker 8B while 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] is moving _____

B. 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] is OPEN locally _____

[16] **VERIFY** the following indicator light condition at the designated locations:

2-HS-62-136A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-136C	480V Reactor MOV BD	Red - ON	_____
	2B1-B Bk 8B	Green - OFF	_____

[17] **VERIFY** ICS point LD2018 displays “NOT CLS”. _____

[18] **CLOSE** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] using 2-HS-62-136A, **AND**

VERIFY locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] is CLOSED. _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[19] **PERFORM** the following:

A. **PLACE** 2-HS-62-136A in OPEN. _____

B. **PLACE** 2-HS-62-136A in CLOSE when both Red and Green lights are ON. _____

C. **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] OPENS. _____

[20] **PLACE** 2-HS-62-136C in CLOSE, **AND**

VERIFY locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains OPEN. _____

[21] **RETURN** 2-HS-62-136C to P AUTO. _____

[22] **PLACE** 2-HS-62-136A in CLOSE, **AND**

VERIFY locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] CLOSES. _____

[23] **VERIFY** ICS point LD2018 displays “CLOSED”. _____

[24] **MOMENTARILY PLACE** a jumper across TB603 points 11 to 12 (field side) in R-51 to simulate a SI. _____

_____
CV

[25] **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] goes OPEN. (**Acc Crit**) _____

[26] **VERIFY** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains OPEN. _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[27] **PLACE** 2-HS-62-136A in CLOSE, **AND**

VERIFY locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] CLOSES. _____

[28] **PLACE** 2-HS-62-136A in A-P AUTO. _____

[29] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

[30] **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains CLOSED. _____

[31] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	0

_____

[32] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W213CP	W2VCTANK	2LS0620130B	1

_____

[33] **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains CLOSED. _____

[34] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129A	1

_____

[35] **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] OPENS. (**Acc Crit**) _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[36] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____

[37] **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains OPEN. _____

[38] **CLOSE** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] using 2-HS-62-136A. _____

[39] **PLACE** 2-HS-62-136A in A-P AUTO. _____

[40] **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains CLOSED. _____

[41] **PLACE** 2-HS-62-132A to CLOSE. _____

[42] **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] starts to OPEN while 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] is closing. (**Acc Crit**) _____

[43] **OPEN** 2-LCV-62-132, VCT OUTLET ISO VLV LEVEL CONTROL [AUX 713] using 2-HS-62-132A. _____

[44] **CLOSE** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] using 2-HS-62-136A. _____

[45] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W214CP	W2ACRVCTANK	2LS0620129CB	1	_____

[46] **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains CLOSED. _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[47] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620129CB	0

_____

[48] **PLACE** 2-XS-62-136 in AUX. _____

[49] **PLACE** 2-HS-62-136A in OPEN, **AND**

VERIFY locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains CLOSED. _____

[50] **PLACE** 2-HS-62-136C in OPEN, **AND**

VERIFY locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] OPENS. _____

[51] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-136A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-136C	480V Reactor MOV BD	Red - ON	_____
	2B1-B Bk 8B	Green - OFF	_____

[52] **PLACE** 2-HS-62-136A in CLOSE, **AND**

VERIFY locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains OPEN. _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

NOTE

The following step verifies the seal-in circuitry by positioning the switch to the opposite direction during mid-stroke and verifying the valve continues to stroke as first directed.

[53] **PERFORM** the following:

A. **PLACE** 2-HS-62-136C in CLOSE. _____

B. **MOMENTARILY PLACE** 2-HS-62-136C in OPEN, **THEN**

RETURN to CLOSE while both Red and Green lights are ON. _____

C. **VERIFY** locally 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] CLOSES. _____

[54] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-136A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-136C	480V Reactor MOV BD	Red - OFF	_____
	2B1-B Bk 8B	Green - ON	_____

[55] **PLACE** 2-HS-62-136C in P AUTO. _____

[56] **MOMENTARILY PLACE** a jumper across TB603 points 11 to 12 (field side) in R-51 to simulate a SI. _____

_____
CV

[57] **VERIFY** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains CLOSED. _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[58] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W214CP	W2ACRVCTANK	2LS0620129CB	1	_____

[59] **VERIFY** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] OPENS. (**Acc Crit**) _____

[60] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W214CP	W2ACRVCTANK	2LS0620129CB	0	_____

[61] **CLOSE** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] from 2-HS-62-136C. _____

[62] **RETURN** 2-HS-62-136C to P AUTO. _____

[63] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	1	_____
W213CP	W2VCTANK	2LS0620130B	1	_____

[64] **PLACE** 2-HS-62-136A in A-P AUTO, **AND**

VERIFY 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains CLOSED. _____

[65] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129A	0	_____
W213CP	W2VCTANK	2LS0620130B	0	_____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[66] **RETURN** 2-HS-62-136A to A AUTO. _____

[67] **OPEN** breaker in Compt. 8B of 480V Reactor MOV BD 2B1-B. _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step 6.24[68]

[68] **MANUALLY TRIP** the thermal overload for 2-BKR-62-136 at 480V Reactor MOV BD 2B1-B, COMPT 8B. _____

[69] **CLOSE** breaker in Compt. 8B of 480V Reactor MOV BD 2B1-B. _____

[70] **PLACE** 2-HS-62-136C in OPEN, **AND**

VERIFY 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains CLOSED. _____

[71] **DEPRESS AND HOLD** K2 relay armature in back of Panel 16D on 480V Reactor MOV BD 2B1-B to simulate Overload Bypass. _____

[72] **VERIFY** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] OPENS. _____

[73] **RELEASE** K2 relay armature. _____

[74] **PLACE** 2-HS-62-136C in CLOSE, **AND**

VERIFY 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] remains OPEN. _____

[75] **MOMENTARILY DEPRESS** TOL RESET button on 2-BKR-62-136 at 480V Reactor MOV BD 2B1-B, COMPT 8B. _____

[76] **VERIFY** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] CLOSES. _____

[77] **PLACE** 2-XS-62-136 in NOR. _____

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

NOTE
Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[78] **PLACE** 2-HS-62-136A to OPEN, **AND**

TIME 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] open. _____

[79] **RECORD** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] OPEN stroke time.

MCR _____ seconds

(**Acc Crit**) Less than or equal to 15 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Less than or equal to 15 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.24 2-LCV-62-136 - RWST To Charging Pump Suction Valve (continued)

[80] **PLACE** 2-HS-62-136A to CLOSE, **AND**

TIME 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] close. _____

[81] **RECORD** 2-LCV-62-136, RWST CVCS SUPPLY HDR ISOLATION [A13U 696] CLOSE stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[82] **VERIFY** successful completion of Subsection 6.24 (**Acc Crit**). _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves

NOTES

1) Energizing and deenergizing bistables in this subsection will cause high and low VCT level alarms.
2) A digital Multimeter will be needed to determine if relays are energized or deenergized.
3) The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/310, 125V DC VITAL BAT BD III breaker 310 CLOSED _____

0-BKR-236-3/311, 125V DC VITAL BAT BD III breaker 311 CLOSED _____

NOTE

The following jumpers will be uniquely marked with switch identifier as shown.

[3] **INSTALL** jumpers with test switches at the following points on the field side of the plastic isolators in cabinet R-48, **AND**

DOCUMENT in Appendix B:

A. TB618 Points 1 to 2 for relay K607 (Switch 1). _____

B. TB618 Points 3 to 4 for relay K607 (Switch 2). _____

C. TB630 Points 7 to 8 for relay K612 (Switch 3). _____

[4] **ENSURE** test switches are all CLOSED. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[5] **ENSURE** the following Foxboro Control Processors are Energized and Available:

A. W212CP _____

B. W213CP _____

[6] **ENSURE** The following Control Element status:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2PZRLVLA	2LS0680335E	0	_____
W213CP	W2PZRLVL	2LS0680339D	0	_____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[7] **ENSURE** the following control switch positions:

2-HS-62-69A	2-M-6	P AUTO	_____
2-HS-62-69C	2-L-10	CLOSE	_____
2-XS-62-69	2-L-11A	NOR	_____
2-HS-62-70A	2-M-6	P AUTO	_____
2-HS-62-70C	2-L-10	CLOSE	_____
2-XS-62-70	2-L-11A	NOR	_____
2-HS-62-72A	2-M-6	A-P AUTO	_____
2-HS-62-72C	2-L-10	CLOSE	_____
2-XS-62-72	2-L-11A	NOR	_____
2-HS-62-73A	2-M-6	A-P AUTO	_____
2-HS-62-73C	2-L-10	CLOSE	_____
2-XS-62-73	2-L-11A	NOR	_____
2-HS-62-74A	2-M-6	A-P AUTO	_____
2-HS-62-74C	2-L-10	CLOSE	_____
2-XS-62-74	2-L-11A	NOR	_____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[8] **ENSURE** locally the following valves are in the indicated position:

A. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] CLOSED with 2-HS-62-69A in P AUTO. _____

B. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] CLOSED with 2-HS-62-70A in P AUTO. _____

C. 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] CLOSED with 2-HS-62-72A in A-P AUTO. _____

D. 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] CLOSED with 2-HS-62-73A in A-P AUTO. _____

E. 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] CLOSED with 2-HS-62-74A in A-P AUTO. _____

[9] **ENSURE** the following components are in the designated state:

A. LCV460X (D-6) 2-R-54 DEENERGIZED. _____

B. LCV459X (D-5) 2-R-54 DEENERGIZED. _____

C. 8149AX (D-7) 2-R-54 DEENERGIZED. _____

D. 8149BX (D-8) 2-R-54 DEENERGIZED. _____

E. 8149CX (D-9) 2-R-54 DEENERGIZED. _____

F. LB460DXA (C-6) 2-R-54 DEENERGIZED. _____

G. LB459CXA (C-5) 2-R-54 DEENERGIZED. _____

H. LB460DX (C-8) R-58 DEENERGIZED. _____

I. LB459CX (C-6) R-58 DEENERGIZED. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[10] **VERIFY** the following indicator light condition at the designated locations:

2-HS-62-69A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-HS-62-69C	2-L-10	Red - OFF	_____
		Green - OFF	_____
2-HS-62-70A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-HS-62-70C	2-L-10	Red - OFF	_____
		Green - OFF	_____
2-HS-62-72A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-XX-55-6E	CISP Window 64	Red - OFF	_____
		Green - ON	_____
2-HS-62-72C	2-L-10	Red - OFF	_____
		Green - OFF	_____
2-HS-62-73A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-XX-55-6E	CISP Window 65	Red - OFF	_____
		Green - ON	_____
2-HS-62-73C	2-L-10	Red - OFF	_____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

		Green - OFF	_____
2-HS-62-74A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-XX-55-6E	CISP Window 66	Red - OFF	_____
		Green - ON	_____
2-HS-62-74C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[11] **VERIFY** ICS point FD1100 displays “CLOSED”. _____

[12] **VERIFY** ICS point FD1101 displays “CLOSED”. _____

[13] **VERIFY** ICS point FD1102 displays “CLOSED”. _____

[14] **FORCE** the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2PZRLVLA	2LS0680335E	1	_____
W213CP	W2PZRLVL	2LS0680339D	1	_____

[15] **PLACE** 2-HS-62-69C in OPEN, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] does NOT OPEN. _____

[16] **HOLD** 2-HS-62-69A in OPEN, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] OPENS. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[17] **WHEN** 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] is OPEN, **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-69A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-HS-62-69C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[18] **WHEN** 2-HS-62-69A is released to P AUTO, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-69A	2-M-6	Red - ON	_____
		Green - ON	_____

[19] **VERIFY** locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] CLOSES. (**Acc Crit**) _____

[20] **PLACE** 2-HS-62-70C in OPEN, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] does NOT OPEN. _____

[21] **HOLD** 2-HS-62-70A in OPEN, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] OPENS. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[22] **WHEN** 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] is OPEN, **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-70A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-HS-62-70C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[23] **RELEASE** 2-HS-62-70A, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] CLOSES. (**Acc Crit**) _____

[24] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2PZRLVLA	2LS0680335E	0	_____
W213CP	W2PZRLVL	2LS0680339D	0	_____

[25] **HOLD** 2-HS-62-69A IN OPEN, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] FULLY OPENS. _____

[26] **RELEASE** 2-HS-62-69A to P AUTO **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] remains OPEN. _____

[27] **VERIFY** Separation Relay LCV460X (D-6) in 2-R-54 is ENERGIZED. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[28] **HOLD** 2-HS-62-70A IN OPEN, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] FULLY OPENS. _____

[29] **RELEASE** 2-HS-62-70A to P AUTO **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] remains OPEN. _____

[30] **VERIFY** separation relay LCV459X (D-5) in 2-R-54 is ENERGIZED. _____

[31] **PLACE** 2-HS-62-72C in OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] does NOT OPEN. _____

[32] **PLACE** 2-HS-62-72A in OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] OPENS. _____

[33] **WHEN** 2-HS-62-72A is released to A-P AUTO, **VERIFY** locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] remains OPEN. _____

[34] **OPEN** test switch 1 installed in R-48 on TB618 points 1 to 2 to simulate Phase A Containment Isolation, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] goes CLOSED. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[35] **PLACE AND**

HOLD 2-HS-62-72A in OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] OPENS. _____

[36] **RELEASE** 2-HS-62-72A to A-P AUTO, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] CLOSES. _____

[37] **CLOSE** test switch 1 in R-48 on TB618 points 1 to 2, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] remains CLOSED. _____

[38] **MOMENTARILY PLACE** 2-HS-62-72A in OPEN, **THEN**

RELEASE TO A-P AUTO. _____

[39] **VERIFY** locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] OPENS. _____

[40] **VERIFY** Separation Relay 8149AX in 2-R-54 is DEENERGIZED. _____

[41] **VERIFY** ICS point FD1100 displays “NOT CLS”. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[42] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-72A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 64	Red - ON	_____
		Green - OFF	_____
2-HS-62-72C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[43] **PLACE** 2-HS-62-72C in CLOSE, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] does NOT CLOSE. _____

[44] **REMOVE** fuse 0-FU-236-3/A6 (2-FCV-62-72), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[45] **VERIFY** locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] goes CLOSED. _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[46] **REINSTALL** fuse 0-FU-236-3/A6 (2-FCV-62-72), **AND**

DOCUMENT in Appendix B. _____

_____
CV

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[47] **OPEN** 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] from 2-HS-62-72A. _____

[48] **PLACE** 2-HS-62-73C in OPEN, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] does NOT OPEN. _____

[49] **PLACE** 2-HS-62-73A in OPEN, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] OPENS. _____

[50] **WHEN** 2-HS-62-73A is released to A-P AUTO, **VERIFY** locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] remains OPEN. _____

[51] **OPEN** test switch 2 installed in R-48 on TB618 points 3 to 4 to simulate Phase A Containment Isolation, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] goes CLOSED. _____

[52] **PLACE** and **HOLD** 2-HS-62-73A in OPEN, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] OPENS. _____

[53] **RELEASE** 2-HS-62-73A to A-P AUTO, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] CLOSES. _____

[54] **CLOSE** test switch 2 in R-48 on TB618 points 3 to 4, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] remains CLOSED. _____

[55] **MOMENTARILY PLACE** 2-HS-62-73A in OPEN, **THEN**

RELEASE TO A-P AUTO. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[56] **VERIFY** locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] OPENS. _____

[57] **VERIFY** Separation Relay 8149BX in 2-R-54 is DEENERGIZED. _____

[58] **VERIFY** ICS point FD1101 displays “NOT CLS”. _____

[59] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-73A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 65	Red - ON	_____
		Green - OFF	_____
2-HS-62-73C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[60] **PLACE** 2-HS-62-73C in CLOSE, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] does NOT CLOSE. _____

[61] **REMOVE** fuse 0-FU-236-3/A7 (2-FCV-62-73), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[62] **VERIFY** locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] goes CLOSED. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[63] **REINSTALL** fuse 0-FU-236-3/A7 (2-FCV-62-73), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[64] **OPEN** 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] from 2-HS-62-73A. _____

[65] **PLACE** 2-HS-62-74C in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] does NOT OPEN. _____

[66] **PLACE** 2-HS-62-74A in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] OPENS. _____

[67] **WHEN** 2-HS-62-74A is released to A-P AUTO, **VERIFY** locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] remains OPEN. _____

[68] **OPEN** test switch 3 installed in R-48 on TB630 points 7 to 8 to simulate Phase A Containment Isolation, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] goes CLOSED. _____

[69] **PLACE** and **HOLD** 2-HS-62-74A in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] OPENS. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[70] **RELEASE** 2-HS-62-74A to A-P AUTO, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] CLOSES. _____

[71] **CLOSE** test switch 3 in R-48 on TB630 points 7 to 8, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] remains CLOSED. _____

[72] **MOMENTARILY PLACE** 2-HS-62-74A in OPEN, **THEN**

RELEASE TO A-P AUTO. _____

[73] **VERIFY** locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] OPENS. _____

[74] **VERIFY** Separation Relay 8149CX (D-9) in 2-R-54 is DEENERGIZED. _____

[75] **VERIFY** ICS point FD1102 displays “NOT CLS”. _____

[76] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-74A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 66	Red - ON	_____
		Green - OFF	_____
2-HS-62-74C	2-L-10	Red - OFF	_____
		Green - OFF	_____

[77] **PLACE** 2-HS-62-74C in CLOSE, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] does NOT CLOSE. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[78] **REMOVE** fuse 0-FU-236-3/A8 (2-FCV-62-74), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[79] **VERIFY** locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] goes CLOSED. _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[80] **REINSTALL** fuse 0-FU-236-3/A8 (2-FCV-62-74), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[81] **OPEN** 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] from 2-HS-62-74A. _____

[82] **PLACE** 2-HS-62-69A in CLOSE, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] remains OPEN. (**Acc Crit**) _____

[83] **PLACE** 2-HS-62-70A in CLOSE, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] remains OPEN. (**Acc Crit**) _____

[84] **PLACE** 2-HS-62-72A in CLOSE, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] CLOSES. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[85] **VERIFY** the following locally:

A. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] remains OPEN. _____

B. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] remains OPEN. _____

[86] **PLACE** 2-HS-62-74A in CLOSE, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] CLOSES. _____

[87] **VERIFY** the following locally:

A. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] remains OPEN. _____

B. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] remains OPEN. _____

[88] **PLACE** 2-HS-62-72A in OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] OPENS. _____

[89] **VERIFY** the following locally:

A. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] remains OPEN. _____

B. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] remains OPEN. _____

[90] **PLACE** 2-HS-62-73A in CLOSE, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] CLOSES. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[91] **VERIFY** the following locally:

A. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] remains OPEN. _____

B. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] remains OPEN. _____

[92] **PLACE** 2-HS-62-74A in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] OPENS. _____

[93] **VERIFY** the following locally:

A. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] remains OPEN. _____

B. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] remains OPEN. _____

[94] **PLACE** 2-HS-62-72A in CLOSE, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] CLOSES. _____

[95] **VERIFY** the following locally:

A. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] remains OPEN. _____

B. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] remains OPEN. _____

[96] **PLACE** 2-HS-62-74A in CLOSE, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] CLOSES. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[97] **VERIFY** locally the following CLOSE: (**Acc Crit**)

A. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] _____

B. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] _____

[98] **HOLD** 2-HS-62-69A in OPEN, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] FULLY OPENS. _____

[99] **RELEASE** 2-HS-62-69A to P AUTO. _____

[100] **PLACE** 2-HS-62-72A in OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] does NOT OPEN. _____

[101] **PLACE** 2-HS-62-73A in OPEN, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] does NOT OPEN. _____

[102] **PLACE** 2-HS-62-74A in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] does NOT OPEN. _____

[103] **PLACE** 2-HS-62-69A in CLOSE, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] CLOSES. _____

[104] **HOLD** 2-HS-62-70A in OPEN, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] FULLY OPENS. _____

[105] **RELEASE** 2-HS-62-70A to P AUTO. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[106] **PLACE** 2-HS-62-72A to OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] does NOT OPEN. _____

[107] **PLACE** 2-HS-62-73A in OPEN, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] does NOT OPEN. _____

[108] **PLACE** 2-HS-62-74A in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] does NOT OPEN. _____

[109] **PLACE** 2-HS-62-70A in CLOSE, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] CLOSES. _____

[110] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2PZRLVLA	2LS0680335E	1

_____

[111] **PLACE** 2-HS-62-69A in OPEN, and DO NOT RELEASE, **THEN**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] OPENS. _____

[112] **PLACE** 2-HS-62-70A in OPEN, and DO NOT RELEASE, **THEN**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] OPENS. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[113] **PLACE** 2-HS-62-72A in OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] does NOT OPEN. _____

[114] **PLACE** 2-HS-62-73A to OPEN, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] does NOT OPEN. _____

[115] **PLACE** 2-HS-62-74A in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] does NOT OPEN. _____

[116] **RELEASE** 2-HS-62-69A, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] CLOSES. _____

[117] **RELEASE** 2-HS-62-70A, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] remains OPEN. _____

[118] **HOLD** 2-HS-62-70A in OPEN, **AND**

DO NOT RELEASE. _____

[119] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2PZRLVLA	2LS0680335E	0

_____

[120] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W213CP	W2PZRLVL	2LS0680339D	1

_____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[121] **PLACE** 2-HS-62-69A in OPEN, **AND**

DO NOT RELEASE, **THEN**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] OPENS. _____

[122] **PLACE** 2-HS-62-72A in OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] does NOT OPEN. _____

[123] **PLACE** 2-HS-62-73A to OPEN, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] does NOT OPEN. _____

[124] **PLACE** 2-HS-62-74A in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] does NOT OPEN. _____

[125] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2PZRLVLA	2LS0680335E	1

_____

[126] **RELEASE** 2-HS-62-69A and 2-HS-62-70A, **AND**

VERIFY locally the following valves CLOSE:

A. 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] _____

B. 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[127] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2PZRLVLA	2LS0680335E	0	_____
W213CP	W2PZRLVL	2LS0680339D	0	_____

[128] **PRESS** and **HOLD** relay button on Relay 8149AX (D-7) in 2-R-54. (to simulate 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] OPEN). _____

[129] **HOLD** 2-HS-62-69A in OPEN, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] does NOT OPEN, **THEN**

RELEASE. (**Acc Crit**) _____

[130] **HOLD** 2-HS-62-70A in OPEN, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] does NOT OPEN, **THEN**

RELEASE. (**Acc Crit**) _____

[131] **RELEASE** the relay button on 8149AX (D-7) in 2-R-54. _____

[132] **PRESS AND**

HOLD relay button on Relay 8149BX (D-8) in 2-R-54. (to simulate 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] open) _____

[133] **HOLD** 2-HS-62-69A in OPEN, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] does NOT OPEN, **THEN**

RELEASE. (**Acc Crit**) _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[134] **HOLD** 2-HS-62-70A in OPEN, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] does NOT OPEN, **THEN**

RELEASE. (**Acc Crit**) _____

[135] **RELEASE** the relay button on 8149BX (D-8) in 2-R-54. _____

[136] **PRESS** and **HOLD** relay button on Relay 8149CX (D-9) in 2-R-54 (to simulate 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] OPEN). _____

[137] **HOLD** 2-HS-62-69A in OPEN, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] does NOT OPEN, **THEN**

RELEASE. (**Acc Crit**) _____

[138] **HOLD** 2-HS-62-70A in OPEN, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] does NOT OPEN, **THEN**

RELEASE. (**Acc Crit**) _____

[139] **RELEASE** the relay button on 8149CX (D-9) in 2-R-54. _____

[140] **PLACE** 2-XS-62-69 in AUX. _____

[141] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-69A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-69C	2-L-10	Red - OFF	_____
		Green - ON	_____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[142] **HOLD** 2-HS-62-69A in OPEN, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] does NOT OPEN, **THEN**

RELEASE. _____

[143] **PLACE** 2-HS-62-69C in OPEN, **AND**

VERIFY locally 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] OPENS. _____

[144] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-69A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-69C	2-L-10	Red - ON	_____
		Green - OFF	_____

[145] **VERIFY** Separation Relay LCV460X (D-6) is DEENERGIZED. _____

[146] **PLACE** 2-HS-62-69A IN CLOSE, **AND**

VERIFY 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] does NOT CLOSE. _____

[147] **PLACE** 2-HS-62-69C in CLOSE, **AND**

VERIFY 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] CLOSES. _____

[148] **OPEN** 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] using 2-HS-62-69C. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

NOTE

Timing in the Auxililry Control Room (ACR) begins as soon as the switch is positioned and continues until the Red light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[149] **PLACE** 2-HS-62-69C to CLOSE, **AND**

TIME 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] closure. _____

[150] **RECORD** 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] CLOSE stroke time.

ACR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[151] **PLACE** 2-HS-62-69C to OPEN, **AND**

TIME 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] open. _____

[152] **RECORD** 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] OPEN stroke time.

ACR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[153] **CLOSE** the air supply valve, 2-ISV-32-3650, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-69 [AZ115 702] **AND**

OPEN PREG petcock for valve 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716]. _____

[154] **VERIFY** valve 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] CLOSES. (**Acc Crit**) _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[155] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3650, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-69 [AZ115 702] _____

[156] **VERIFY** valve 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] OPENS. _____

[157] **REMOVE** fuse 0-FU-236-3/B3 (2-FCV-62-69), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[158] **VERIFY** valve 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716], EXCESS LETDOWN ISOLATION VALVE CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[159] **REINSTALL** fuse 0-FU-236-3/B3 (2-FCV-62-69), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[160] **VERIFY** valve 2-FCV-62-69, CVCS LETDOWN ISOLATION [AZ125 716] OPENS. _____

[161] **PLACE** 2-XS-62-70 in AUX. _____

[162] **VERIFY** 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] is CLOSED locally. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[163] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-70A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-70C	2-L-10	Red - OFF	_____
		Green - ON	_____

[164] **HOLD** 2-HS-62-70A in OPEN, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] does NOT OPEN, **THEN**

RELEASE. _____

[165] **PLACE** 2-HS-62-70C in OPEN, **AND**

VERIFY locally 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] OPENS. _____

[166] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-70A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-HS-62-70C	2-L-10	Red - ON	_____
		Green - OFF	_____

[167] **VERIFY** Separation Relay LCV459X (D-5) is DEENERGIZED. _____

[168] **PLACE** 2-HS-62-70A in CLOSE, **AND**

VERIFY 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] does NOT CLOSE. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[169] **PLACE** 2-HS-62-70C in CLOSE, **AND**

VERIFY 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] CLOSES. _____

[170] **OPEN** 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] using 2-HS-62-70C. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

NOTE

Timing in the ACR begins as soon as the switch is positioned and continues until the Red light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[171] **PLACE** 2-HS-62-70C to CLOSE, **AND**

TIME 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] closure. _____

[172] **RECORD** 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] CLOSE stroke time.

ACR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[173] **PLACE** 2-HS-62-70C to OPEN, **AND**

TIME 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] open. _____

[174] **RECORD** 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] OPEN stroke time.

ACR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[175] **CLOSE** the air supply valve, 2-ISV-32-4954, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-70 **AND**

OPEN PREG petcock for valve 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716]. _____

[176] **VERIFY** valve 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] CLOSES. (**Acc Crit**) _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[177] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-4954. _____

[178] **VERIFY** valve 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] OPENS. _____

[179] **REMOVE** fuse 0-FU-236-3/B9 (2-FCV-62-70), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[180] **VERIFY** valve 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[181] **REINSTALL** fuse 0-FU-236-3/B9 (2-FCV-62-70), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[182] **VERIFY** valve 2-FCV-62-70, CVCS LETDOWN ISOLATION [AZ130 716] OPENS. _____

[183] **PLACE** 2-XS-62-72 in AUX. _____

[184] **VERIFY** 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] is CLOSED locally. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[185] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-72A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 64	Red - OFF	_____
		Green - OFF	_____
2-HS-62-72C	2-L-10	Red - OFF	_____
		Green - ON	_____

[186] **PLACE** 2-HS-62-72A in OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] does NOT OPEN. _____

[187] **PLACE** 2-HS-62-72C in OPEN, **AND**

VERIFY locally 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] OPENS. _____

[188] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-72A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 64	Red - OFF	_____
		Green - OFF	_____
2-HS-62-72C	2-L-10	Red - ON	_____
		Green - OFF	_____

[189] **VERIFY** Separation Relay 8149AX (D-7) is DEENERGIZED. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[190] **PLACE** 2-HS-62-72A in CLOSE, **AND**

VERIFY 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] does NOT CLOSE. _____

[191] **PLACE** 2-HS-62-72C in CLOSE, **AND**

VERIFY 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] CLOSES. _____

[192] **OPEN** 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] using 2-HS-62-72C. _____

NOTE

Timing in the ACR begins as soon as the switch is positioned and continues until the Red light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[193] **PLACE** 2-HS-62-72C to CLOSE, **AND**

TIME 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] closure. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[194] **RECORD** 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] CLOSE stroke time.

ACR _____ seconds

(**Acc Crit**) Greater than 1 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 1 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[195] **PLACE** 2-HS-62-72C to OPEN, **AND**

TIME 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] open. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[196] **RECORD** 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] OPEN stroke time.

ACR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[197] **CLOSE** the air supply valve, 2-ISV-32-3631, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-72 [AZ045 702] **AND**

OPEN PREG petcock for valve 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702]. _____

[198] **VERIFY** valve 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] CLOSES. (**Acc Crit**) _____

[199] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3631 _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[200] **VERIFY** valve 2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION [AZ044 702] OPENS. _____

[201] **PLACE** 2-XS-62-73 in AUX. _____

[202] **PLACE** 2-HS-62-73A in OPEN, **AND**

A. **VERIFY** locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] does NOT OPEN. _____

B. **VERIFY** 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] is CLOSED locally. _____

C. **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-73A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 65	Red - OFF	_____
		Green - OFF	_____
2-HS-62-73C	2-L-10	Red - OFF	_____
		Green - ON	_____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[203] **PLACE** 2-HS-62-73C in OPEN, **AND**

VERIFY locally 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] OPENS. _____

[204] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-73A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 65	Red - OFF	_____
		Green - OFF	_____
2-HS-62-73C	2-L-10	Red - ON	_____
		Green - OFF	_____

[205] **VERIFY** Separation Relay 8149BX (D-8) is DEENERGIZED. _____

[206] **PLACE** 2-HS-62-73A in CLOSE, **AND**

VERIFY 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] does NOT CLOSE. _____

[207] **PLACE** 2-HS-62-73C in CLOSE, **AND**

VERIFY 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] CLOSES. _____

[208] **OPEN** 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] using 2-HS-62-73C. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

NOTE

Timing in the ACR begins as soon as the switch is positioned and continues until the Red light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[209] **PLACE** 2-HS-62-73C to CLOSE, **AND**

TIME 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] closure. _____

[210] **RECORD** 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] CLOSE stroke time.

ACR _____ seconds

(**Acc Crit**) Greater than 1 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 1 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[211] **PLACE** 2-HS-62-73C to OPEN, **AND**

TIME 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] open. _____

[212] **RECORD** 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] OPEN stroke time.

ACR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[213] **CLOSE** the air supply valve, 2-ISV-32-3632, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-73 [AZ47 702]**AND**

OPEN PREG petcock for valve 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702]. _____

[214] **VERIFY** valve 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] CLOSES. (**Acc Crit**) _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[215] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3632 _____

VERIFY valve 2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION [AZ044 702] OPENS. _____

[216] **PLACE** 2-HS-62-73C to CLOSE _____

[217] **PLACE** 2-XS-62-74 in AUX. _____

[218] **VERIFY** 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] is CLOSED locally. _____

[219] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-74A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 66	Red - OFF	_____
		Green - OFF	_____
2-HS-62-74C	2-L-10	Red - OFF	_____
		Green - ON	_____

[220] **PLACE** 2-HS-62-74A in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] does NOT OPEN. _____

[221] **PLACE** 2-HS-62-74C in OPEN, **AND**

VERIFY locally 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] OPENS. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[222] **VERIFY** the following indicator light conditions at the designated locations:

2-HS-62-74A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 66	Red - OFF	_____
		Green - OFF	_____
2-HS-62-74C	2-L-10	Red - ON	_____
		Green - OFF	_____

[223] **VERIFY** Separation Relay 8149CX (D-9) is DEENERGIZED. _____

[224] **PLACE** 2-HS-62-74A in CLOSE, **AND**

VERIFY 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] does NOT CLOSE. _____

[225] **PLACE** 2-HS-62-74C in CLOSE, **AND**

VERIFY 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] CLOSES. _____

[226] **OPEN** 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] using 2-HS-62-74C. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

NOTE

Timing in the ACR begins as soon as the switch is positioned and continues until the Red light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[227] **PLACE** 2-HS-62-74C to CLOSE, **AND**

TIME 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] closure. _____

[228] **RECORD** 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] CLOSE stroke time.

ACR _____ seconds

(**Acc Crit**) Greater than 1 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 1 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[229] **PLACE** 2-HS-62-74C to OPEN, **AND**

TIME 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] open. _____

[230] **RECORD** 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] OPEN stroke time.

ACR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[231] **CLOSE** the air supply valve 2-ISV-32-3633, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-74 [AZ048 702] **AND**

OPEN PREG petcock for valve 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702]. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[232] **VERIFY** valve 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] CLOSES. (**Acc Crit**) _____

[233] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3633 _____

[234] **VERIFY** valve 2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION [AZ055 702] OPENS. _____

[235] **PLACE** 2-XS-62-69 in NOR. _____

[236] **PLACE** 2-XS-62-70 in NOR. _____

[237] **PLACE** 2-XS-62-72 in NOR. _____

[238] **PLACE** 2-XS-62-73 in NOR. _____

[239] **PLACE** 2-XS-62-74 in NOR. _____

[240] **VERIFY** locally the following valves are in the indicated position:

2-FCV-62-69, CVCS LETDOWN ISOLATION	OPEN	_____
2-FCV-62-70, CVCS LETDOWN ISOLATION	OPEN	_____
2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION	OPEN	_____
2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION	OPEN	_____
2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION	OPEN	_____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[241] **MOMENTARILY PLACE** 2-HS-62-69A in CLOSE. _____

[242] **VERIFY** locally the following valves are in the indicated position: (**Acc Crit**) _____

2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION CLOSED _____

2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION CLOSED _____

2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION CLOSED _____

[243] **MOMENTARILY PLACE** the following Hand Switches in the OPEN position.

A. 2-HS-62-69A. _____

B. 2-HS-62-70A. _____

[244] **VERIFY** locally the following valves are in the indicated position:

2-FCV-62-69, CVCS LETDOWN ISOLATION OPEN _____

2-FCV-62-70, CVCS LETDOWN ISOLATION OPEN _____

[245] **MOMENTARILY PLACE** the following Hand Switches in the OPEN position.

A. 2-HS-62-72A. _____

B. 2-HS-62-73A. _____

C. 2-HS-62-74A

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[246] **VERIFY** locally the following valves are in the indicated position:

2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION OPEN _____

2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION OPEN _____

2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION OPEN _____

[247] **MOMENTARILY PLACE** 2-HS-62-70A in CLOSE. _____

[248] **VERIFY** locally the following valves are in the indicated position: (**Acc Crit**) _____

2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION CLOSED _____

2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION CLOSED _____

2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION CLOSED _____

[249] **MOMENTARILY PLACE** the following Hand Switches in the OPEN position.

A. 2-HS-62-69A. _____

B. 2-HS-62-70A. _____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[250] **VERIFY** locally the following valves are in the indicated position:

2-FCV-62-69, CVCS LETDOWN ISOLATION OPEN _____

2-FCV-62-70, CVCS LETDOWN ISOLATION OPEN _____

[251] **MOMENTARILY PLACE** the following Hand Switches in the OPEN position.

A. 2-HS-62-72A. _____

B. 2-HS-62-73A. _____

C. 2-HS-62-74A _____

[252] **VERIFY** locally the following valves are in the indicated position:

2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION OPEN _____

2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION OPEN _____

2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION OPEN _____

[253] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2PZRLVLA	2LS0680335E	1	_____

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[254] **VERIFY** locally the following valves are in the indicated position: (**Acc Crit**)

2-FCV-62-72, CVCS LETDOWN ORIFICE A ISOLATION	CLOSED	_____
2-FCV-62-73, CVCS LETDOWN ORIFICE B ISOLATION	CLOSED	_____
2-FCV-62-74, CVCS LETDOWN ORIFICE C ISOLATION	CLOSED	_____

[255] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2PZRLVLA	2LS0680335E	0	_____

[256] **MOMENTARILY PLACE** the following Hand Switches in the CLOSE position.

A. 2-HS-62-69A. _____

B. 2-HS-62-70A. _____

[257] **VERIFY** locally the following valves are in the indicated position:

2-FCV-62-69, CVCS LETDOWN ISOLATION	CLOSE	_____
2-FCV-62-70, CVCS LETDOWN ISOLATION	CLOSE	_____

[258] **REMOVE** switch 1 jumper installed in R-48 on TB618 points 1 to 2, **AND**

DOCUMENT in Appendix B _____

_____
CV

Date _____

6.25 2-FCV-62-69, 2-FCV-62-70, 2-FCV-62-72, 2-FCV-62-73, 2-FCV-62-74 - Reactor Coolant Letdown Flow Valves and Regenerative Heat Exchanger Letdown Isolation Valves (continued)

[259] **REMOVE** switch 2 jumper installed in R-48 on TB618 points 3 to 4, **AND**

DOCUMENT in Appendix B _____

_____
CV

[260] **REMOVE** switch 3 jumper installed in R-48 on TB630 points 7 to 8, **AND**

DOCUMENT in Appendix B _____

_____
CV

[261] **VERIFY** successful completion of Subsection 6.25 (**Acc Crit**). _____

Date _____

6.26 2-FCV-62-76 - Regenerative Heat Exchanger Letdown Isolation Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/310, 125V DC VITAL BAT BD III breaker 310	CLOSED	_____
2-HS-62-76, 2-M-6	A AUTO after CLOSE	_____

[3] **LIFT** wire CDLA in R-48 on TB618 point 5, **AND**

DOCUMENT in Appendix B _____

_____ CV

[4] **INSTALL** a jumper with test switch in R-48 on TB618 wire CDLA from point 5 to point 6 (field side), **AND**

DOCUMENT in Appendix B _____

_____ CV

[5] **ENSURE** test switch is CLOSED. _____

[6] **VERIFY** locally 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] is CLOSED. _____

[7] **VERIFY** the following indicator light conditions:

2-HS-62-76	2-M-6	Red - OFF	_____
		Green - ON	_____
2-XX-55-6E	CISP Window 76	Red - OFF	_____
		Green - ON	_____

Date _____

6.26 2-FCV-62-76 - Regenerative Heat Exchanger Letdown Isolation Valve (continued)

[8] **PLACE** 2-HS-62-76 in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-76	2-M-6	Red - ON	_____
		Green - ON	_____

[9] **VERIFY** locally 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] OPENS. _____

[10] **VERIFY** the following indicator light conditions:

2-HS-62-76	2-M-6	Red - ON	_____
		Green - OFF	_____
2-XX-55-6E	CISP Window 76	Red - ON	_____
		Green - OFF	_____

[11] **REMOVE** fuse 0-FU-236-3/A1 (2-FCV-62-86)7, **AND** **DOCUMENT** in Appendix B. _____

_____
CV

[12] **VERIFY** valve 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] CLOSES. (**Acc Crit**) _____

Date _____

6.26 2-FCV-62-76 - Regenerative Heat Exchanger Letdown Isolation Valve (continued)

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[13] **REINSTALL** fuse 0-FU-236-3/A1 (2-FCV-62-86)7, **AND**

DOCUMENT in Appendix B. _____

_____
CV

[14] **VERIFY** valve 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] remains CLOSED. _____

[15] **OPEN** 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] from 2-HS-62-76. _____

[16] **OPEN** test switch installed in R-48 on TB618 points 5 to 6 to simulate Phase A Containment Isolation, **AND**

VERIFY 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] goes CLOSED. (**Acc Crit**) _____

[17] **PLACE** and **HOLD** 2-HS-62-76 in OPEN, **AND**

VERIFY 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] OPENS. _____

[18] **RELEASE** 2-HS-62-76 to A AUTO, **AND**

VERIFY 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] CLOSES. _____

[19] **CLOSE** test switch in R-48 on TB618 points 5 to 6, **AND**

VERIFY 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] remains CLOSED. _____

Date _____

6.26 2-FCV-62-76 - Regenerative Heat Exchanger Letdown Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[20] **MOMENTARILY PLACE** 2-HS-62-76 in OPEN, **THEN**

RELEASE TO A AUTO.

TIME 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] OPEN. _____

[21] **VERIFY** 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] OPENS. _____

[22] **RECORD** 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] OPEN **STROKE** time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.26 2-FCV-62-76 - Regenerative Heat Exchanger Letdown Isolation Valve (continued)

[23] **CLOSE** the air supply valve, 2-ISV-32-3634, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-76 [AZ048 702] **AND**

OPEN PREG petcock for valve 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702]. _____

[24] **VERIFY** valve 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] CLOSES. (**Acc Crit**) _____

[25] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3634 _____

[26] **VERIFY** valve 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] OPENS. _____

Date _____

6.26 2-FCV-62-76 - Regenerative Heat Exchanger Letdown Isolation Valve (continued)

[27] **PLACE** 2-HS-62-76 to CLOSE**, AND**

TIME 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] closure. _____

[28] **RECORD** 2-FCV-62-76, CVCS LETDOWN ORIFICE ISOLATION [AZ055 702] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 1 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 1 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[29] **REMOVE** the jumper with test switch installed in R-48 on TB618 wire CDLA from point 5 to point 6, **AND**

DOCUMENT in Appendix B _____

_____
CV

Date _____

6.26 2-FCV-62-76 - Regenerative Heat Exchanger Letdown Isolation Valve (continued)

[30] **LAND** wire CDLA in R-48 on TB618 point 5, **AND**

DOCUMENT in Appendix B _____

_____
CV

[31] **VERIFY** successful completion of Subsection 6.26 (**Acc Crit**). _____

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-4/310, 125V DC VITAL BAT BD IV breaker 310 — CLOSED _____

0-BKR-236-4/311, 125V DC VITAL BAT BD IV breaker 311 — CLOSED _____

[3] **LIFT** wire CBT3 in R-51 on TB618 point 1, **AND**

DOCUMENT in Appendix B _____

_____
CV

[4] **INSTALL** a jumper with test switch in R-51 on TB618 wire CBT3 from point 1 to point 2 (field side), **AND**

DOCUMENT in Appendix B _____

_____
CV

[5] **ENSURE** test switch is CLOSED. _____

[6] **ENSURE** the following control switch positions.

2-HS-62-77A	2-M-6	A AUTO after CLOSE	_____
2-HS-62-77C	2-L-10	CLOSE	_____
2-XS-62-77	2-L-11B	NOR	_____

[7] **VERIFY** locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] is CLOSED. _____

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve (continued)

[8] **VERIFY** the following indicator lights at the designated locations:

2-HS-62-77A	2-M-6	Red - OFF	_____
		Green - ON	_____
2-XX-55-6F	CISP Window 65	Red - OFF	_____
		Green - ON	_____
2-HS-62-77	2-L-10	Red - OFF	_____
		Green - OFF	_____

[9] **PLACE** 2-HS-62-77C in OPEN, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] remains CLOSED. _____

[10] **PLACE** and **HOLD** 2-HS-62-77A in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-77A	2-M-6	Red - ON	_____
		Green - ON	_____

[11] **VERIFY** locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] OPENS. _____

[12] **RELEASE** 2-HS-62-77A to A AUTO, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] remains OPEN. _____

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve (continued)

[13] **VERIFY** the following indicator lights at the designated locations:

2-HS-62-77A	2-M-6	Red - ON	_____
		Green - OFF	_____
2-XX-55-6F	CISP Window 65	Red - ON	_____
		Green - OFF	_____
2-HS-62-77	2-L-10	Red - OFF	_____
		Green - OFF	_____

[14] **VERIFY** ICS point FD1103 displays “NOT CLS”. _____

[15] **OPEN** test switch installed in R-51 on TB618 points 1 to 2 to simulate Phase A Containment Isolation, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] goes CLOSED. (**Acc Crit**) _____

[16] **PLACE** and **HOLD** 2-HS-62-77A in OPEN, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] OPENS. _____

[17] **RELEASE** 2-HS-62-77A to A AUTO, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] CLOSES. _____

[18] **VERIFY** ICS point FD1103 displays “CLOSED”. _____

[19] **CLOSE** test switch in R-51 on TB618 points 1 to 2, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] remains CLOSED. _____

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve (continued)

[20] **PLACE AND**

HOLD 2-HS-62-77A in OPEN, **THEN**

RELEASE TO A AUTO. _____

[21] **VERIFY** locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] OPENS.

[22] **PLACE** 2-HS-62-77C in CLOSE, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] remains OPEN. _____

[23] **REMOVE** fuse 0-FU-236-4/A2 (2-FCV-62-77), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[24] **VERIFY** valve 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[25] **REINSTALL** fuse 0-FU-236-4/A3 (2-FCV-62-85), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[26] **OPEN** 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] from 2-HS-62-77A. _____

[27] **PLACE** 2-HS-62-77A in CLOSE, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] CLOSES. _____

[28] **PLACE** 2-XS-62-77 in AUX. _____

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve (continued)

[29] **MOMENTARILY PLACE** 2-HS-62-77A in OPEN, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] remains CLOSED. _____

[30] **PLACE** 2-HS-62-77C in OPEN, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] OPENS. _____

[31] **VERIFY** the following lights.

2-HS-62-77A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-XX-55-6F	CISP Window 65	Red - OFF	_____
		Green - OFF	_____
2-HS-62-77	2-L-10	Red - ON	_____
		Green - OFF	_____

[32] **PLACE** 2-HS-62-77A in CLOSE, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] remains OPEN. _____

[33] **PLACE** 2-HS-62-77C in CLOSE, **AND**

VERIFY locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] CLOSES. _____

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve (continued)

[34] **VERIFY** the following lights.

2-HS-62-77A	2-M-6	Red - OFF	_____
		Green - OFF	_____
2-XX-55-6F	CISP Window 65	Red - OFF	_____
		Green - OFF	_____
2-HS-62-77	2-L-10	Red - OFF	_____
		Green - ON	_____

[35] **PLACE** 2-XS-62-77 in NOR. _____

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve (continued)

NOTE

Timing in the MCR begins as soon as the switch is positioned and continues until the Green light goes OFF in the following step. Timing locally is from the beginning to end of motion.

[36] **OPEN** 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] using 2-HS-62-77A, **AND**

TIME 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] OPEN. _____

[37] **RECORD** 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve (continued)

[38] **CLOSE** the air supply valve, 2-ISV-32-3179, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-77 **AND**

OPEN PREG petcock for valve 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713]. _____

[39] **VERIFY** valve 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] CLOSES. (**Acc Crit**) _____

[40] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3179 _____

[41] **VERIFY** locally 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] remains CLOSED. _____

[42] **PLACE** 2-HS-62-77A in OPEN _____

[43] **VERIFY** valve 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] OPENS. _____

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve (continued)

[44] **PLACE** 2-HS-62-77A to CLOSE, **AND**

TIME 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] closure. _____

[45] **RECORD** 2-FCV-62-77, LETDOWN LINE ISO VLV [AUX 713] CLOSE stroke time.

MCR _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[46] **REMOVE** the jumper with test switch installed in R-51 on CBT3 from point 1 to point 2, **AND**

DOCUMENT in Appendix B _____

_____
CV

Date _____

6.27 2-FCV-62-77 - Letdown Line Isolation Valve (continued)

[47] **LAND** wire CBT3 in R-51 on TB618 point 1, **AND** **DOCUMENT** in Appendix B _____

_____
CV

[48] **VERIFY** successful completion of Subsection 6.27 (**Acc Crit**). _____

Date _____

6.28 2-TC-62-78 (2-TCV-70-192) - CCS to Letdown HX

NOTE

The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

2-BKR-235-3/47, 120V AC VITAL INST POWER BD 2-III, BKR 47	CLOSED

_____

[3] **ENSURE** the following component alignment:

2-XS-62-78	2-L-11B	NOR	_____
2-HIC-62-78A	2-M-6	OUTPUT = 100	_____
2-HIC-62-78C	2-L-10	OUTPUT = 0	_____

[4] **ENSURE** the following Foxboro Control Processors are Energized and Available:

PROCESSOR	COMPOUND	
W213CP	W2LTDNTEMP	_____
W215CP	W2ACRLTDNTEMP	_____

[5] **ENSURE** The following Control Element status:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W213CP	W2LTDNTEMP	2TS0620078	1	_____

[6] **ENSURE** 2-HIC-62-78A is in MANUAL. _____

Date _____

6.28 2-TC-62-78 (2-TCV-70-192) - CCS to Letdown HX (continued)

[7] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-78A until output indicator reads approximately 50, **AND**

VERIFY locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes to approximately MID-POSITION. (**ACC CRIT**) _____

[8] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-78A until the output indicator reads approximately 0, **AND**

VERIFY locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes to FULLY OPEN. _____

[9] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-78C until the output indicator reads approximately 100, **AND**

VERIFY locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] remains OPEN. _____

[10] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-78A until the output indicator reads approximately 100, **AND**

VERIFY locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes to CLOSED. _____

[11] **PLACE** 2-BKR-235-3/47, 120V AC VITAL INST POWER BD 2-III, BKR 47 to OPEN, **AND**

VERIFY 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes full OPEN (**ACC CRIT**) _____

[12] **PLACE** 2-BKR-235-3/47, 120V AC VITAL INST POWER BD 2-III, BKR 47 to CLOSE, **AND**

VERIFY 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes full CLOSED _____

[13] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-78C until the output indicator reads approximately 0, **AND**

VERIFY locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] remains CLOSED. _____

[14] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-78C until the output indicator reads approximately 100. _____

Date _____

6.28 2-TC-62-78 (2-TCV-70-192) - CCS to Letdown HX (continued)

[15] **PLACE** 2-XS-62-78 in AUX. _____

[16] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-78C until the output indicator reads approximately 0, **AND**

VERIFY locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes to FULLY OPEN. (**ACC CRIT**) _____

[17] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-78C until the output indicator reads approximately 50, **AND**

VERIFY locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes to approximately MID-POSITION. _____

[18] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-78C until the output indicator reads approximately 100, **AND**

VERIFY locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes to FULLY CLOSED. _____

[19] **PLACE** 2-BKR-235-3/47, 120V AC VITAL INST POWER BD 2-III, BKR 47 to OPEN, **AND**

VERIFY 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes full OPEN (**ACC CRIT**) _____

[20] **PLACE** 2-BKR-235-3/47, 120V AC VITAL INST POWER BD 2-III, BKR 47 to CLOSE, **AND**

[21] **VERIFY** 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] goes full CLOSED _____

[22] **PLACE** 2-XS-62-78 IN NOR. _____

[23] **MOMENTARILY** depress AUTO/MAN pushbutton at 2-HIC-62-78A **AND**,

VERIFY AUTO pushbutton lamp illuminates. _____

[24] **MOMENTARILY** depress SP pushbutton at 2-HIC-62-78A **AND**,

VERIFY SP pushbutton lamp illuminates. _____

[25] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-78A until the SPoint indicator reads approximately 0, **AND**

Date _____

6.28 2-TC-62-78 (2-TCV-70-192) - CCS to Letdown HX (continued)

VERIFY the following:

A. Locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] travels OPEN. (**ACC CRIT**) _____

B. 2-HIC-62-78A output indicator DECREASES. _____

C. 2-HIC-62-78A deviation indicator reads less than 0. _____

[26] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-78A until the SPoint indicator reads approximately 100, **AND**

VERIFY the following:

A. Locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] travels CLOSED. (**ACC CRIT**) _____

B. 2-HIC-62-78A output indicator INCREASES. _____

C. 2-HIC-62-78A deviation indicator reads greater than 0. _____

[27] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-78A until the deviation indicator reads approximately 0, **AND**

VERIFY the following:

A. Locally 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] travels CLOSED. _____

B. 2-HIC-62-78A output indicator approximately 100. _____

[28] **CLOSE** the air supply valve, 2-ISV-32-3247, CONTROL AIR ISOLATION VALVE TO 2-TCV-70-192 **AND**

OPEN PREG petcock for valve 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737]. _____

[29] **VERIFY** valve 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] OPENS. (**Acc Crit**) _____

[30] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3247 _____

[31] **VERIFY** valve 2-TCV-70-192, LETDOWN HX CCS OUT TEMP CNTL [A7T 737] travels CLOSED. _____

Date _____

6.28 2-TC-62-78 (2-TCV-70-192) - CCS to Letdown HX (continued)

[32] **MOMENTARILY** depress SP pushbutton at 2-HIC-62-78A **AND**,

VERIFY SP pushbutton lamp extinguishes. _____

[33] **MOMENTARILY** depress AUTO/MAN pushbutton at 2-HIC-62-78A **AND**,

VERIFY MAN pushbutton lamp illuminates. _____

[34] **FORCE** OFF the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W213CP	W2LTDNTEMP	2TS0620078	0

_____

[35] **VERIFY** Annunciator Window 110D, LTDN TO DEMINS TEMP HIGH (TS-62-78), alarms at XA-55-6A _____

[36] **FORCE** ON the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W213CP	W2LTDNTEMP	2TS0620078	1

_____

[37] **VERIFY** Annunciator Window 110D, LTDN TO DEMINS TEMP HIGH (TS-62-78), CLEARS _____

[38] **VERIFY** successful completion of Subsection 6.28 (**Acc Crit**). _____

Date _____

6.29 2-TCV-62-79 - Letdown Flow Temp Divert Control Valve

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/310, 125V DC VITAL BAT BD III breaker 310	CLOSED	_____
0-BKR-236-3/311, 125V DC VITAL BAT BD III breaker 311	CLOSED	_____
120V AC VITAL INST PWR BD 2-III Breaker 47	ENERGIZED/ CLOSED	_____

[3] **ENSURE** the following control switch positions:

2-XS-62-79	2-L-11A	NOR	_____
2-HS-62-79C	2-L-10	DEMIN	_____
2-HS-62-79A	2-M-6	DEMIN, Release to P AUTO	_____

[4] **VERIFY** locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] is positioned to route flow to the demineralizers (**plug down**). _____

[5] **PLACE** 2-HS-62-79C in VC TK, **AND**

VERIFY locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] does NOT position to Volume Control Tank (VCT) (REMAINS **plug down**). _____

[6] **PLACE** 2-HS-62-79A in VC TK, **AND**

VERIFY locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to VCT (plug up). _____

Date _____

6.29 2-TCV-62-79 - Letdown Flow Temp Divert Control Valve (continued)

[7] **VERIFY** the following indicator lights:

2-HS-62-79A	DEMIN	Red - OFF	_____
	VC TK	Red - ON	_____
2-HS-62-79C	DEMIN	Red - OFF	_____
	VC TK	Red - OFF	_____

[8] **PLACE** 2-HS-62-79C in DEMIN, **AND**

VERIFY locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] remains positioned to VCT (REMAINS plug up). _____

[9] **PLACE** and **HOLD** 2-HS-62-79A in DEMIN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

2-HS-62-79A	DEMIN	Red - ON	_____
	VC TK	Red - ON	_____

[10] **VERIFY** locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to DEMIN (**plug down**). _____

[11] **RELEASE** 2-HS-62-79A to P AUTO. _____

[12] **VERIFY** the following indicator lights:

2-HS-62-79A	DEMIN	Red - ON	_____
	VC TK	Red - OFF	_____
2-HS-62-79C	DEMIN	Red - OFF	_____
	VC TK	Red - OFF	_____

Date _____

6.29 2-TCV-62-79 - Letdown Flow Temp Divert Control Valve (continued)

NOTE

The following step verifies 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] will divert flow to the VCT on high letdown temperature.

[13] **OPEN** Breaker 47 on 120V AC Vital Instrument Power Board 2-III, **AND**

VERIFY locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to VC TK (plug up).
(**Acc Crit**) _____

[14] **CLOSE** Breaker 47 on 120V AC Vital Instrument Power Board 2-III. _____

[15] **PLACE** and **HOLD** 2-HS-62-79A in DEMIN, **AND**

VERIFY locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to DEMIN (**plug down**). _____

[16] **PLACE** 2-XS-62-79 in AUX. _____

[17] **PLACE** 2-HS-62-79A in VC TK, **AND**

VERIFY locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] remains in DEMIN (REMAINS **plug down**). _____

[18] **PLACE** 2-HS-62-79C in VC TK, **AND**

VERIFY locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to VC TK (plug up). _____

Date _____

6.29 2-TCV-62-79 - Letdown Flow Temp Divert Control Valve (continued)

[19] **VERIFY** the following indicator lights:

2-HS-62-79A	DEMIN	Red - OFF	_____
	VC TK	Red - OFF	_____
2-HS-62-79C	DEMIN	Red - OFF	_____
	VC TK	Red - ON	_____

[20] **PLACE** 2-HS-62-79A to DEMIN, **AND**

VERIFY locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] remains in VC TK (REMAINS plug up). _____

[21] **PLACE** 2-HS-62-79C in DEMIN, **AND**

VERIFY locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to DEMIN (**plug down**). _____

[22] **VERIFY** the following indicator lights:

2-HS-62-79A	DEMIN	Red - OFF	_____
	VC TK	Red - OFF	_____
2-HS-62-79C	DEMIN	Red - On	_____
	VC TK	Red - OFF	_____

Date _____

6.29 2-TCV-62-79 - Letdown Flow Temp Divert Control Valve (continued)

[23] **PLACE** 2-XS-62-79 in NOR. _____

[24] **PLACE** 2-HS-62-79A in VC TK, **AND**
TIME 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] stroke time locally. _____

[25] **RECORD** 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] stroke time to align to VC TK (plug up).

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

(**Acc Crit**) Greater than 5 sec. and less than or equal to 10 sec.

M&TE _____ Cal Due Date _____

_____

_____
CV

[26] **VERIFY** locally 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to VC TK (plug up). _____

Date _____

6.29 2-TCV-62-79 - Letdown Flow Temp Divert Control Valve (continued)

[27] **PLACE** and **HOLD** 2-HS-62-79A to DEMIN, **AND**

TIME 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] stroke time locally. _____

[28] **RECORD** 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] stroke time to align to DEMIN (**plug down**).

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[29] **CLOSE** the air supply valve, 2-ISV-32-3066, CONTROL AIR ISOLATION VALVE TO 2-TCV-62-79 **AND**

OPEN PREG petcock for valve 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713]. _____

[30] **VERIFY** valve 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to VC TK (plug up). (**Acc Crit**) _____

Date _____

6.29 2-TCV-62-79 - Letdown Flow Temp Divert Control Valve (continued)

[31] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3066 _____

[32] **PLACE** and **HOLD** 2-HS-62-79A to DEMIN. _____

[33] **VERIFY** valve 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to DEMIN (**plug down**). _____

[34] **REMOVE** fuse 0-FU-236-3/A2 (2-FCV-62-79), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[35] **VERIFY** valve 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to VC TK (plug up). (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[36] **REINSTALL** fuse 0-FU-236-3/A2 (2-FCV-62-79), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[37] **PLACE** and **HOLD** 2-HS-62-79A to DEMIN. _____

[38] **VERIFY** valve 2-TCV-62-79, LETDOWN FLOW TEMP DIVERSION CONT VLV [AUX 713] positions to DEMIN (**plug down**). _____

[39] **VERIFY** successful completion of Subsection 6.29 (**Acc Crit**). _____

Date _____

6.30 2-PCV-62-81 - Letdown Heat Exchanger Pressure Control Valve

NOTE

The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** prerequisites for this subsection have been completed.

[2] **ENSURE** the following control switch positions:

2-XS-62-81	2-L-11B	NOR	_____
2-HIC-62-81A	2-M-6	OUTPUT = 100	_____
2-HIC-62-81C	2-L-10	OUTPUT = 0	_____

[3] **ENSURE** the following Foxboro Control Processors are Energized and Available:

PROCESSOR	COMPOUND	
W213CP	W2LTDNPRESS	_____
W215CP	W2ACRLTDNPRESS	_____

[4] **ENSURE** 2-HIC-62-81A Pushbutton MAN is illuminated. _____

[5] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-81A until output indicator reads approximately 50, **AND**

VERIFY locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] goes to approximately MID-POSITION. _____

Date _____

6.30 2-PCV-62-81 - Letdown Heat Exchanger Pressure Control Valve (continued)

[6] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-81C until the output indicator reads approximately 100, **AND**

VERIFY locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] remains in approximately MID-POSITION. _____

[7] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-81A until output indicator reads approximately 0, **AND**

VERIFY locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] goes Full OPEN. _____

[8] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-81C until output indicator reads approximately 0, **AND**

VERIFY locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] remains OPEN. _____

[9] **PLACE** 2-XS-62-81 in AUX. _____

[10] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-81C until the output indicator reads approximately 100, **AND**

VERIFY locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] goes to FULLY CLOSED. _____

[11] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-81C until the output indicator reads approximately 50, **AND**

VERIFY locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] goes to approximately MID-POSITION. _____

[12] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-81C until the output indicator reads approximately 0, **AND**

VERIFY locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] goes Full OPEN. _____

[13] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-81A until output indicator reads approximately 100, **AND**

VERIFY locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] remains OPEN. _____

Date _____

6.30 2-PCV-62-81 - Letdown Heat Exchanger Pressure Control Valve (continued)

[14] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-81A until output indicator reads approximately 0. _____

[15] **PLACE** 2-XS-62-81 in NOR. _____

[16] **MOMENTARILY** depress AUTO/MAN pushbutton at 2-HIC-62-81A, and

VERIFY AUTO pushbutton lamp illuminates. _____

[17] **MOMENTARILY** depress SP pushbutton at 2-HIC-62-81A, and

VERIFY SP pushbutton lamp illuminates. _____

[18] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-81A Until SPoint indicator reads approximately 100, **AND**

A. **VERIFY** locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] travels CLOSED. (**Acc Crit**) _____

B. **VERIFY** 2-HIC-62-81A output indicator INCREASES. _____

C. **VERIFY** 2-HIC-62-81A deviation indicator reads < 0 _____

[19] **CLOSE** the air supply valve, 2-ISV-32-3245, CONTROL AIR ISOLATION VALVE TO 2-PCV-62-81 **AND**

OPEN PREG petcock for valve 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737]. _____

[20] **VERIFY** valve 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] OPENS. (**Acc Crit**) _____

[21] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3245 _____

[22] **VERIFY** valve 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] travels CLOSED. _____

Date _____

6.30 2-PCV-62-81 - Letdown Heat Exchanger Pressure Control Valve (continued)

[23] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-81A until SPoint indicator reads approximately 0, **AND**

A. **VERIFY** locally 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] travels OPEN. (**Acc Crit**) _____

B. **VERIFY** 2-HIC-62-81A output indicator DECREASES. _____

C. **VERIFY** 2-HIC-62-81A deviation indicator reads greater than 0 _____

[24] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-81A until the deviation indicator reads approximately 100, **AND**

A. **VERIFY** 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] travels CLOSED. _____

B. **VERIFY** 2-PCV-62-81, CVCS LETDOWN HX PRESS CNTL [AUX 737] output indicator INCREASES. _____

[25] **MOMENTARILY** depress SP pushbutton at 2-HIC-62-81A **AND**,

VERIFY SP pushbutton lamp extinguishes. _____

[26] **MOMENTARILY** depress AUTO/MAN pushbutton at 2-HIC-62-81A **AND**,

VERIFY MAN pushbutton lamp illuminates. _____

[27] **INCREASE** test pressure to ≥ 450 psig to 2-PT-62-81 at Local Panel 2-L-27, **AND**

VERIFY annunciator window 110B at XA-55-6A ALARMS. _____

[28] **DECREASE** test pressure to 0 psig to 2-PT-62-81 at Local Panel 2-L-27, **AND**

VERIFY annunciator window 110B at XA-55-6A CLEARS. _____

Date _____

6.30 2-PCV-62-81 - Letdown Heat Exchanger Pressure Control Valve (continued)

[29] **PERFORM** the following at Local Panel 2-L-27 (A9, U El 737'):

A. **REMOVE** pressure source connected to 2-PT-62-81 Calibration Fitting, **AND**

DOCUMENT in Appendix B. _____

_____
CV

B. **INSTALL** Calibration Fitting Cap, **AND**

DOCUMENT in Appendix B. _____

_____
CV

C. **OPEN** 2-ISIV-62-335C, Isol VLV to 2-PT-62-81. _____

_____
CV

[30] **VERIFY** successful completion of Subsection 6.30 (**Acc Crit**). _____

Date _____

6.31 2-FCV-62-83 - RHR Letdown Flow Control Valve

NOTE

The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** Prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment: _____

2-HIC-62-83A (2-M-6)	OUTPUT = 0	_____
2-HIC-62-83C (2-L-10)	OUTPUT = 0	_____
2-XS-62-83C (2-L-11A)	NOR	_____

[3] **ENSURE** the following Foxboro Control Processors are Energized and Available:

PROCESSOR	COMPOUND	
W213CP	W2RHRLTDN	_____
W214CP	W2ACRRHRLTDN	_____

[4] **VERIFY** 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] is CLOSED locally. _____

[5] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-83C (2-L-10) until output indicator reads approximately 100, **AND**

VERIFY 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] remains CLOSED locally. _____

[6] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-83A until output indicator reads approximately 50, **AND**

VERIFY 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] moves to approximately MID-POSITION locally. _____

Date _____

6.31 2-FCV-62-83 - RHR Letdown Flow Control Valve (continued)

[7] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-83A until output indicator reads approximately 100, **AND**

VERIFY 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] is OPEN locally. _____

[8] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-83C until output indicator reads approximately 0, **AND**

VERIFY 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] remains Fully OPEN locally. _____

[9] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-83A until output indicator reads approximately 0. _____

[10] **VERIFY**2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] is Fully CLOSED locally. _____

[11] **PLACE** 2-XS-62-83 in AUX. _____

[12] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-83A until output indicator reads approximately 100, **AND**

VERIFY 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] remains CLOSED locally. _____

[13] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-83C until output indicator reads approximately 50, **AND**

VERIFY locally 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] is approximately MID-POSITION. _____

[14] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-83C (2-L-10) until output indicator reads approximately 100, **AND**

VERIFY locally 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] is FULLY OPEN. _____

[15] **CLOSE** the air supply valve, 2-ISV-32-3090, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-83. _____

[16] **OPEN** PREG petcock for valve 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713], RHR Letdown Flow Control Valve, **AND** _____

Date _____

6.31 2-FCV-62-83 - RHR Letdown Flow Control Valve (continued)

[17] **VERIFY** valve 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713], RHR Letdown Flow Control Valve, CLOSES. (**Acc Crit**) _____

[18] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3090. _____

[19] **VERIFY** valve 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713], RHR Letdown Flow Control Valve, OPENS. _____

[20] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-83A until output indicator reads approximately 0, **AND**

VERIFY locally 2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] remains OPEN. _____

[21] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-83C until output indicator reads approximately 0. _____

[22] **VERIFY**2-FCV-62-83, RHR LETDOWN FLOW CNTL [AUX 713] is CLOSED locally. _____

[23] **PLACE** 2-XS-62-83 in NOR. _____

[24] **VERIFY** successful completion of Subsection 6.31 (**Acc Crit**). _____

Date _____

6.32 2-LCV-62-118 - Diversion Flow to Holdup Tanks

NOTE

The following subsection contains steps that involve working in the Foxboro Workstation. The Foxboro System Engineer/ Equlivent may be requested to perform these steps.

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/310, 125V DC VITAL BAT BD III breaker 310	CLOSED	_____
0-BKR-236-3/311, 125V DC VITAL BAT BD III breaker 311	CLOSED	_____
120V AC VITAL INST PWR BD 2-III Breaker 31	CLOSED	_____
120V AC VITAL INST PWR BD 2-I Breaker 6	CLOSED	_____

[3] **ENSURE** the following Foxboro Control Processors are Energized and Available:

PROCESSOR	COMPOUND	
W212CP	W2VCTANKA	_____
W213CP	W2VCTANK	_____
W214CP	W2ACRVCTANK	_____

Date _____

6.32 2-LCV-62-118 - Diversion Flow to Holdup Tanks (continued)

[4] **ENSURE** The following Control Element status:

PROCESSOR	COMPOUND	BLOCK	STATUS	
W212CP	W2VCTANKA	2LS0620129E	0	_____
W214CP	W2ACRVCTANK	2LS0620130CA	0	_____

[5] **ENSURE** the following control switch positions.

2-HS-62-118A	2-M-6	VC TK	_____
2-HS-62-118C	2-L-10	VC TK	_____
2-XS-62-118	2-L-11A	NOR	_____
LIC-62-130A	2-M-6	MANUAL	_____
LIC-62-130A	2-M-6	SETPOINT = 50%	_____
2-HIC-62-130C	2-L-10	OUTPUT = 50%	_____
2-XS-62-130	2-L-11A	NOR	_____

[6] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] is positioned to the VC TK. (**plug down**) _____

[7] **VERIFY** the following lights:

A.	2-HS-62-118A	2-M-6	VC TK	Red - ON	_____
			HUT	Red - OFF	_____
B.	2-HS-62-118C	2-L-10	VC TK	Red - OFF	_____
			HUT	Red - OFF	_____

[8] **PLACE** 2-HS-62-118A to P AUTO, using 2-HS-62-118A, **AND**

VERIFY locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] goes to approximately MID-POSITION. _____

Date _____

6.32 2-LCV-62-118 - Diversion Flow to Holdup Tanks (continued)

[9] **PLACE** 2-HS-62-118C to DIVERT, using 2-HS-62-118C. _____

[10] **VERIFY** the following lights:

2-HS-62-118A	2-M-6	VC TK	Red - ON	_____
		HUT	Red - ON	_____
2-HS-62-118C	2-L-10	VC TK	Red - OFF	_____
		HUT	Red - OFF	_____

[11] **PLACE** 2-HS-62-118A to DIVERT, using 2-HS-62-118A, **AND**

VERIFY valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up). _____

[12] **PLACE** 2-HS-62-118C to AUTO, using 2-HS-62-118C. _____

[13] **VERIFY** the following lights:

2-HS-62-118A	2-M-6	VC TK	Red - OFF	_____
		HUT	Red - ON	_____
2-HS-62-118C	2-L-10	VC TK	Red - OFF	_____
		HUT	Red - OFF	_____

[14] **PLACE** 2-HS-62-118C to VC TK, using 2-HS-62-118C, **AND** _____

VERIFY valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] remains positioned to HUT. (plug up). _____

[15] **PLACE** 2-HS-62-118A to VC TK, using 2-HS-62-118A, **AND**

VERIFY locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to VC TK. (**plug down**) _____

[16] **PLACE** 2-HS-62-118C to DIVERT, **AND**

VERIFY locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] remains positioned to VC TK. (**plug down**) _____

Date _____

6.32 2-LCV-62-118 - Diversion Flow to Holdup Tanks (continued)

[17] **PLACE** 2-HS-62-118A to P AUTO, using 2-HS-62-118A, **AND**

VERIFY locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] goes to approximately MID-POSITION. _____

[18] **PLACE** 2-HS-62-118C to AUTO, using 2-HS-62-118C. _____

[19] **FORCE** the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129E	1

_____

[20] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up) (**Acc Crit**). _____

[21] **VERIFY** Annunciator Window 109A, VCT LEVEL HI/LO, alarms at XA-55-6A _____

[22] **PLACE** 2-HS-62-118A to VC TK, using 2-HS-62-118A. _____

[23] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to VC TK. (**plug down**) _____

[24] **PLACE** 2-HS-62-118A to DIVERT, using 2-HS-62-118A. _____

[25] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up). _____

[26] **PLACE** 2-HS-62-118A to P AUTO, using 2-HS-62-118A. _____

[27] **FORCE** the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W212CP	W2VCTANKA	2LS0620129E	0

_____

[28] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] goes to approximately MID-POSITION. _____

[29] **VERIFY** Annunciator Window 109A, VCT LEVEL HI/LO, CLEARS. _____

Date _____

6.32 2-LCV-62-118 - Diversion Flow to Holdup Tanks (continued)

[30] **PLACE** 2-XS-62-118 to AUX. _____

[31] **PLACE** 2-HS-62-118C to DIVERT. _____

[32] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up) (**Acc Crit**). _____

[33] **PLACE** 2-HS-62-118A to VC TK, using 2-HS-62-118A, **AND**

[34] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] remains positioned to DIVERT. (**plug up**) _____

[35] **PLACE** 2-HS-62-118C to AUTO. _____

[36] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] goes to approximately MID-POSITION. _____

[37] **PLACE** 2-HS-62-118C to VC TK, using 2-HS-62-118C. _____

[38] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to VC TK. (**plug down**) _____

[39] **PLACE** 2-HS-62-118A to DIVERT, **AND** _____

VERIFY locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] remains positioned to VC TK. (**plug down**) _____

[40] **PLACE** 2-HS-62-118C to DIVERT, using 2-HS-62-118C. _____

[41] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up). _____

[42] **PLACE** 2-HS-62-118A to AUTO, using 2-HS-62-118A. _____

[43] **PLACE** 2-HS-62-118C to AUTO, using 2-HS-62-118C, **AND**

VERIFY locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] goes to approximately MID-POSITION. _____

Date _____

6.32 2-LCV-62-118 - Diversion Flow to Holdup Tanks (continued)

[44] **FORCE** the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620130CA	1

_____

[45] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up). _____

[46] **VERIFY** Annunciator Window 306A, VCT LEVEL HI, alarms at XA-55-L110. _____

[47] **PLACE** 2-HS-62-118C to VC TK, using 2-HS-62-118C. _____

[48] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to VC TK. (plug down) _____

[49] **PLACE** 2-HS-62-118C to DIVERT, using 2-HS-62-118C. _____

[50] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up). _____

[51] **PLACE** 2-HS-62-118C to AUTO, using 2-HS-62-118C. _____

[52] **FORCE** the following at Foxboro workstation:

PROCESSOR	COMPOUND	BLOCK	STATUS
W214CP	W2ACRVCTANK	2LS0620130CA	0

_____

_____

[53] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] goes to approximately MID-POSITION. _____

[54] **VERIFY** Annunciator Window 306A, VCT LEVEL HI, CLEARS. _____

[55] **PLACE** 2-XS-62-118 to NOR. _____

[56] **DEPRESS** RAMP and >> pushbuttons at 2-LIC-62-130A until output indicator reads approximately 100. _____

[57] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up). _____

Date _____

6.32 2-LCV-62-118 - Diversion Flow to Holdup Tanks (continued)

[58] **DEPRESS** RAMP and << pushbuttons at 2-LIC-62-130A until output indicator reads approximately 0.

[59] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to VC TK. (plug down) _____

[60] **DEPRESS** RAMP and >> pushbuttons at 2-LIC-62-130A until output indicator reads approximately 50. _____

[61] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] goes to approximately MID-POSITION. _____

[62] **PLACE** 2-XS-62-130 to AUX. _____

[63] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-130C until output indicator reads approximately 100. _____

[64] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up). _____

[65] **DEPRESS** RAMP and << pushbuttons at 2-HIC-62-130C until output indicator reads approximately 0.

[66] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to VC TK. (plug down) _____

[67] **DEPRESS** RAMP and >> pushbuttons at 2-HIC-62-130C until output indicator reads approximately 50. _____

[68] **VERIFY** locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] goes to approximately MID-POSITION. _____

[69] **PLACE** 2-XS-62-130 to NOR. _____

[70] **MOMENTARILY** depress SP pushbutton at 2-LIC-62-130A **AND**,

VERIFY SP pushbutton lamp illuminates. _____

[71] **MOMENTARILY** depress AUTO pushbutton at 2-LIC-62-130A **AND**,

VERIFY AUTO pushbutton lamp illuminates. _____

Date _____

6.32 2-LCV-62-118 - Diversion Flow to Holdup Tanks (continued)

[72] **DEPRESS** RAMP and << pushbuttons at 2-LIC-62-130A until the SPoint indicator reads approximately 0, **AND**

VERIFY the following:

A. Locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] travels positions to VC TK. (**plug down**). (**ACC CRIT**) _____

B. 2-LIC-62-130A output indicator DECREASES. _____

C. 2-LIC-62-130A deviation indicator reads less than 0. _____

[73] **DEPRESS** RAMP and >> pushbuttons at 2-LIC-62-130A until the SPoint indicator reads approximately 100, **AND**

VERIFY the following:

A. Locally 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up) (**ACC CRIT**) _____

B. 2-LIC-62-130A output indicator INCREASES. _____

C. 2-LIC-62-130A deviation indicator reads greater than 0. _____

[74] **MOMENTARILY** depress AUTO/MAN pushbutton at 2-LIC-62-130A **AND**,

VERIFY MAN pushbutton lamp Illuminates. _____

[75] **MOMENTARILY** depress SP pushbutton at 2-LIC-62-130A **AND**,

VERIFY SP pushbutton lamp Extinguishes. _____

[76] **DEPRESS** RAMP and >> pushbuttons at 2-LIC-62-130A until the output indicator reads approximately 100, **AND**

VERIFY 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to HUT. (plug up). _____

[77] **CLOSE** the air supply valve, 2-ISV-32-3068, CONTROL AIR ISOLATION VALVE TO 2-LCV-62-118 **AND**

OPEN PREG petcock for valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713]. _____

Date _____

6.32 2-LCV-62-118 - Diversion Flow to Holdup Tanks (continued)

[78] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to VC TK. (**plug down**). (**Acc Crit**) _____

[79] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3068 _____

[80] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to DIVERT. (plug up). _____

[81] **REMOVE** fuse 0-FU-236-3/A4 (2-LCV-62-118), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[82] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to VC TK. (**plug down**). (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[83] **REINSTALL** fuse 0-FU-236-3/A4 (2-LCV-62-118), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[84] **VERIFY** valve 2-LCV-62-118, VCT LEVEL CONTROL DIVERT TO HUT [AUX 713] positions to DIVERT. (plug up). _____

[85] **VERIFY** successful completion of Subsection 6.32 (**Acc Crit**). _____

Date _____

6.33 2-FCV-62-125 - Volume Control Tank Vent to Waste Disposal

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

0-BKR-236-3/217 125V DC VITAL BAT BD III breaker 217 CLOSED _____

[3] **ENSURE** 2-HS-62-125 (2-M-6) is in the CLOSE position. _____

[4] **VERIFY** locally 2-FCV-62-125, VCT VENT TO WDS [AUX 713], Volume Control Tank Wds Vent Header Isol, is CLOSED. _____

[5] **VERIFY** the following lights on 2-HS-62-125 (M6):

A. Green light is ON. _____

B. Red light is OFF. _____

[6] **PLACE** 2-HS-62-125 (M6) in OPEN, **AND** while the valve is in mid-position,

VERIFY the following indicator light conditions at the designated locations:

A. Green light is ON. _____

B. Red light is ON. _____

[7] **VERIFY** locally 2-FCV-62-125, VCT VENT TO WDS [AUX 713] is OPEN. _____

[8] **VERIFY** the following lights on 2-HS-62-125 (M6)

A. Green light is OFF. _____

B. Red light is ON. _____

Date _____

6.33 2-FCV-62-125 - Volume Control Tank Vent to Waste Disposal (continued)

[9] **PLACE** 2-HS-62-125 to CLOSE, **AND**

TIME 2-FCV-62-125, VCT VENT TO WDS [AUX 713] close. _____

[10] **VERIFY** locally 2-FCV-62-125, VCT VENT TO WDS [AUX 713] is CLOSED. _____

[11] **RECORD** 2-FCV-62-125, VCT VENT TO WDS [AUX 713] CLOSE stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

Date _____

6.33 2-FCV-62-125 - Volume Control Tank Vent to Waste Disposal (continued)

[12] **PLACE** 2-HS-62-125 in OPEN, **AND**

TIME 2-FCV-62-125, VCT VENT TO WDS [AUX 713] OPEN _____

[13] **RECORD** 2-FCV-62-125, VCT VENT TO WDS [AUX 713] OPEN stroke time.

MCR _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

LOCAL _____ seconds

M&TE _____ Cal Due Date _____

_____

_____
CV

[14] **CLOSE** the air supply valve, 2-ISV-32-3114, CONTROL AIR ISOLATION VALVE TO 2-FCV-62-125 **AND**

OPEN PREG petcock for valve 2-FCV-62-125, VCT VENT TO WDS [AUX 713]. _____

[15] **VERIFY** valve 2-FCV-62-125, VCT VENT TO WDS [AUX 713] CLOSES. (**Acc Crit**) _____

Date _____

6.33 2-FCV-62-125 - Volume Control Tank Vent to Waste Disposal (continued)

[16] **CLOSE** PREG petcock **AND**

OPEN the air supply valve, 2-ISV-32-3114 _____

[17] **VERIFY** valve 2-FCV-62-125, VCT VENT TO WDS [AUX 713] OPENS. _____

[18] **REMOVE** fuse 0-FU-236-3/D2 (2-FCV-62-35), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[19] **VERIFY** valve 2-FCV-62-125, VCT VENT TO WDS [AUX 713], CLOSES. (**Acc Crit**) _____

NOTE

The fuse in the following step has a blown fuse indicator which must be oriented towards the annunciator circuit.

[20] **REINSTALL** fuse 0-FU-236-3/D2 (2-FCV-62-35), **AND**

DOCUMENT in Appendix B. _____

_____
CV

[21] **VERIFY** valve 2-FCV-62-125, VCT VENT TO WDS [AUX 713], OPENS. _____

[22] **VERIFY** successful completion of Subsection 6.33 (**Acc Crit**). _____

Date _____

6.34 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment

2-BKR-62-138, RX MOV BD 2B1-B BREAKER IN COMPT 9A	OPEN	_____
2-XS-62-138 RX MOV BD 2B1-B Breaker in Compt. 9A	NOR	_____
2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] A4U/713	CLOSED	_____
2-HS-62-138A 2-M-5	MID	_____
2-HS-62-138C RX MOV BD 2B1-B Breaker in Compt. 9A	NORMAL	_____

[3] **VERIFY** ICS point FD2214 displays “PWR OFF”. _____

[4] **CLOSE** Breaker 9A on 480V Reactor MOV BD 2B1-B. _____

[5] **VERIFY** ICS point FD2214 displays “PWR ON”. _____

[6] **HOLD** 2-HS-62-138A in OPEN until only the Red light is ON, **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] is FULLY OPEN. _____

[7] **VERIFY** the following indicator lights:

2-HS-62-138A	2-M-5	Red - ON	_____
		Green - OFF	_____
2-HS-62-138C	480V RX MOV BD	Red - ON	_____
	2B1-B BK 9A	Green - OFF	_____

[8] **VERIFY** ICS point FD2215 displays “NOT CLS”. _____

Date _____

6.34 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL (continued)

[9] **HOLD** 2-HS-62-138A in CLOSE until both the Red and Green lights are ON, **THEN,**

RELEASE the handswitch to center position, **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] has stopped closing. _____

[10] **VERIFY** the following lights:

2-HS-62-138A	2-M-5	Red - ON	_____
		Green - ON	_____
2-HS-62-138C	480V RX MOV BD	Red - ON	_____
	2B1-B BK 9A	Green - ON	_____

[11] **HOLD** 2-HS-62-138A in CLOSE until only the green light is ON _____

[12] **VERIFY** locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] is FULLY CLOSED. _____

[13] **VERIFY** ICS point FD2215 displays “CLOSED”. _____

[14] **VERIFY** the following indicator lights:

2-HS-62-138A	2-M-5	Red - OFF	_____
		Green - ON	_____
2-HS-62-138C	480V RX MOV BD	Red - OFF	_____
	2B1-B BK 9A	Green - ON	_____

[15] **PLACE** 2-HS-62-138C in OPEN, **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] remains CLOSED. _____

[16] **HOLD** 2-HS-62-138A in OPEN until 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] is FULLY OPEN. _____

Date _____

6.34 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL (continued)

[17] **PLACE** 2-HS-62-138C in CLOSE, **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] remains OPEN. _____

[18] **RETURN** 2-HS-62-138C to NORMAL. _____

[19] **MOMENTARILY HOLD** 2-HS-62-138B CLOSE pushbutton, **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] moves toward the CLOSE position and STOPS when pushbutton is released. _____

[20] **HOLD** 2-HS-62-138B CLOSE pushbutton until 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] is FULL CLOSED. _____

[21] **MOMENTARILY HOLD** 2-HS-62-138B OPEN pushbutton **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] moves toward the OPEN position and STOPS when pushbutton is released. _____

[22] **HOLD** 2-HS-62-138B OPEN pushbutton until 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] is FULL OPEN. _____

[23] **PLACE** 2-XS-62-138 in AUX. _____

[24] **PLACE** 2-HS-62-138C in CLOSE, **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] CLOSES. _____

Date _____

6.34 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL (continued)

[25] **PLACE** 2-HS-62-138A in OPEN, **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] remains CLOSED. _____

[26] **VERIFY** the following lights:

2-HS-62-138A	2-M-5	Red - OFF	_____
		Green - OFF	_____
2-HS-62-138C	480V RX MOV BD 2B1-B BK 9A	Red - OFF	_____
		Green - ON	_____

[27] **PLACE** 2-HS-62-138C in OPEN, **AND**

VERIFY the RED “motor energized” light is ON on 480V RX MOV BD 2B1-B, Breaker 9A while 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] is moving, **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] OPENS. _____

[28] **PLACE** 2-HS-62-138A in CLOSE, **AND**

VERIFY locally 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] remains OPEN. _____

[29] **RETURN** 2-HS-62-138C to NORMAL. _____

Date _____

6.34 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL (continued)

[30] **VERIFY** the following indicator light conditions at the designated locations:

A.	2-HS-62-138A	2-M-5	Red - OFF	_____
			Green - OFF	_____
B.	2-HS-62-138C	480V RX MOV BD 2B1-B BK 9A	Red - ON	_____
			Green - OFF	_____

[31] **MOMENTARILY HOLD** 2-HS-62-138B CLOSE pushbutton **AND**

VERIFY 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] moves toward the CLOSE position AND STOPS when pushbutton is released. _____

[32] **HOLD** 2-HS-62-138B CLOSE pushbutton until 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] is FULL CLOSED. _____

[33] **MOMENTARILY HOLD** 2-HS-62-138B OPEN pushbutton **AND**

VERIFY 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] moves toward the OPEN position and STOPS when pushbutton is released. _____

[34] **HOLD** 2-HS-62-138B OPEN pushbutton until 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] is FULL OPEN. _____

[35] **HOLD** 2-HS-62-138B CLOSE pushbutton until 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] is FULL CLOSED. _____

[36] **OPEN** breaker in Compt. 9A of 480V Reactor MOV BD 2B1-B. _____

Date _____

6.34 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL (continued)

WARNING

Arc Flash PPE per TI-300 will be required for step 6.34[37]

[37] **MANUALLY TRIP** the thermal overload for 2-BKR-62-138 at 480V Reactor MOV BD 2B1-B, COMPT 9A. _____

[38] **CLOSE** breaker in Compt. 9A of 480V Reactor MOV BD 2B1-B. _____

[39] **PLACE** 2-HS-62-138C in OPEN, **AND**

VERIFY 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] remains CLOSED. _____

[40] **DEPRESS and HOLD** the armature of relay K2 in back of Panel 16D on 480V Reactor MOV BD 2B1-B to simulate Overload Bypass. _____

[41] **VERIFY** 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] OPENS. _____

[42] **RELEASE** K2 relay armature. _____

[43] **PLACE** 2-HS-62-138C in CLOSE, **AND**

VERIFY 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] remains OPEN. _____

[44] **RETURN** 2-HS-62-138C to NORMAL. _____

[45] **MOMENTARILY DEPRESS** TOL RESET button on Compt. 9A of 480V Reactor MOV BD 2B1-B. _____

[46] **PLACE** 2-HS-62-138C in CLOSE, **AND**

VERIFY 2-FCV-62-138, EMERGENCY BORATION FLOW CNTL [A12V 713] CLOSES. _____

Date _____

[47] **RETURN** 2-HS-62-138C to NORMAL. _____

[48] **PLACE** 2-XS-62-138 in NOR. _____

[49] **VERIFY** successful completion of Subsection 6.34 (**Acc Crit**). _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

6.35 Centrifugal Charging Pump 2A-A Logic Test

NOTE

A digital Multimeter will be needed to determine if relays are energized or deenergized.

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

2-BKR-62-108, 6.9kV Shutdown BD 2A-A Breaker in Compt. 18	OPEN	_____
2-BKR-6247, RX MOV BD 2A1-A Breaker in Compt. 3E	CLOSED	_____
2-BKR-30-183, CONT & AUX BLDG VT BD 2A1-A Breaker in Compt. 10A	CLOSED	_____

[3] **NOTIFY** operations prior to entering logic relay panels. _____

[4] **ENSURE** the following relays INSTALLED on front side of 2-PNL-211-A-A, panel 1.

A. CP BOX. _____

B. CP BOY. _____

C. CP UVX. _____

D. CP UVY. _____

E. SIATX. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[5] **INSTALL** a jumper with open test switch across terminals TB619-5 and TB619-6 on the field sid of the plastic isolators in cabinet R-48 for relay K608, **AND**

LABEL "CCP", **AND**

DOCUMENT in Appendix B _____

_____
CV

[6] **ENSURE** the following FTA switches are ON

Annunciator	2-M-21	Terminal Block	Switch	
14-D	VI/Rear	00	SW32	_____
14-E	Vi-Rear	00	SW31	_____

[7] **ENSURE** the following initial conditions:

A. 2-XS-62-108, 6.9kV SD BD 2A-A, Panel 18, NOR. _____

B. 2-HS-62-108A, 2-M-5, STOP Pull-To-Lock. _____

C. 2-HS-62-108A Lights, Green ON, Red OFF, White OFF, AUX OIL PMP Red light OFF. _____

D. 2-HS-62-108C, 6.9kV SD BD 2A-A, Panel 18, NOR after STOP. _____

E. 2-HS-62-108C Lights, Green ON, Red OFF. _____

F. 6900 Shutdown BD 2A-A Logic Panel 2-PNL-211-A-A, Centrifugal Charging PMP 2A-A, Red light OFF. _____

G. 2-PMP-6247, CCP 2A-A Auxiliary Oil Pump is OFF. _____

H. 2-PMP-6247, AUX OIL PMP 2A-A, Oil Reservoir at NOR level. _____

I. 2-HS-6230A, BA TRANS PUMP 2A-A, is **NOT** in Pull to Lock. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

NOTE

GOI-7 may be utilized to prevent damage while testing 6.9KV breakers.

[8] **INSTALL** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A in the TEST position (umbilical cord and test link installed). _____

[9] **VERIFY** ICS point XD2029 displays “PWR OFF”. _____

[10] **PRESS** the TEST CLOSE pushbutton on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A. _____

[11] **VERIFY** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, CLOSES. _____

[12] **PRESS** the TEST TRIP pushbutton on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A. _____

[13] **VERIFY** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, breaker, OPENS. _____

[14] **REMOVE** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A. _____

[15] **RAISE** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, elevator until elevator reaches full up position. _____

[16] **INSTALL** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, in the TEST position. _____

[17] **INSTALL** umbilical cord on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A. _____

[18] **INSTALL** test link on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A. _____

[19] **VERIFY** ICS point XD2029 displays “PWR ON”. _____

[20] **ENSURE** 2-HS-30-183, CENT CHARGING PUMP 2A-A ROOM COOLER, is in AUTO. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[21] **ATTACH** a cool damp cloth to the bulb of the temperature sensor for cooler 2-PMCL-30-183, CENT CHARGING PUMP 2A-A ROOM COOLER. _____

[22] **VERIFY** cooler 2-PMCL-30-183, CENT CHARGING PUMP 2A-A ROOM COOLER, is off. _____

NOTE

Step 6.35[24] verifies that CCP 2A-A will start after a short delay. Precise Timing is not required.

[23] **MOMENTARILY PLACE** 2-HS-62-108A in START, **AND**

VERIFY locally 2-PMP-6247, AUX OIL PMP 2A-A, starts.

_____

[24] **VERIFY** the following after approximately 5 seconds:

A. 2-BKR-62-108 (6.9kV SD BD 2A-A Compt.18) is CLOSED _____

B. Cooler 2-PMCL-30-183, CENT CHARGING PUMP 2A-A ROOM COOLER, STARTS. _____

C. 2-HS-62-108C lights are Green OFF/Red ON. _____

D. 2-HS-62-108A lights are Green OFF/Red ON/White OFF. _____

E. 6900 Shutdown BD 2A-A Logic Panel Red light ON. _____

NOTE

The following step verifies timing of TDPU Relay 62 and restart signal on low oil pressure.

[25] **VERIFY** the following after approximately 20 seconds:

A. Locally 2-PMP-6247, AUX OIL PMP 2A-A, stops momentarily, then restarts and continues to run. _____

B. AUX OIL PMP Red light above 2-HS-62-108A is ON. _____

[26] **VERIFY** ICS point Y0100D displays “CLOSED”. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[27] **VERIFY** ICS point XD2030 displays “RUNNING”. _____

[28] **PLACE** 2-HS-62-108A in STOP, **AND**

VERIFY locally 2-PMP-6247, AUX OIL PMP 2A-A, STOPS. _____

[29] **VERIFY** AUX OIL PMP Red light above 2-HS-62-108A is OFF. _____

[30] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, is OPEN. _____

B. 2-HS-62-108C lights are Green ON/Red OFF _____

C. 2-HS-62-108A lights are Green ON/Red OFF /White OFF _____

D. 6900 Shutdown BD 2A-A Logic Panel Red light OFF _____

[31] **VERIFY** ICS point Y0100D displays “OPEN”. _____

[32] **VERIFY** ICS point XD2030 displays “NOT RUN”. _____

[33] **PLACE** 2-HS-62-108C in START, **AND**

VERIFY CCP 2A-A breaker remains OPEN. _____

[34] **VERIFY** ICS point XD2002 displays “NOT P-L”. _____

[35] **PLACE** 2-HS-62-108A in STOP PULL-TO-LOCK, **AND**

VERIFY Green light ON, Red light OFF. _____

[36] **VERIFY** ICS point XD2002 displays “PULLT-L”. _____

[37] **PLACE** 2-HS-62-108A to the A AUTO. _____

[38] **PLACE** 2-HS-62-108A in START _____

[39] **VERIFY** AUX OIL PMP Red light above 2-HS-62-108A is ON after about 20 seconds, indicating Auxiliary Oil Pump is ON. _____

[40] **PLACE** 2-HS-62-108C in STOP, **AND**

VERIFY 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[41] **PLACE** 2-HS-62-108A in STOP, **AND**

VERIFY lights (2-HS-62-108A) GO TO Green ON, Red OFF, indicating breaker OPEN and oil pump OFF. _____

[42] **PLACE** 2-XS-62-108 in AUX. _____

[43] **VERIFY** the following:

A. 2-HS-62-108C lights are Green ON, Red OFF. _____

B. 2-HS-62-108A lights are Green OFF, Red OFF, White OFF, AUX OIL PMP Red light OFF. _____

[44] **PLACE** 2-HS-62-108A in START. _____

[45] **VERIFY** CCP 2A-A breaker remains OPEN. _____

[46] **VERIFY** the light status does NOT change:

A. 2-HS-62-108C Green ON, Red OFF. _____

B. 2-HS-62-108A Green OFF, Red OFF, White OFF, AUX OIL PMP Red light OFF. _____

[47] **PLACE** 2-HS-62-108C in START. _____

[48] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, CLOSES. _____

B. 2-HS-62-108C lights are Green OFF, Red ON. _____

C. 2-HS-62-108A lights are Green OFF, Red OFF, White OFF, AUX OIL PMP Red light ON (after approximately 20 sec.) _____

D. 6900 Shutdown BD 2A-A Logic Panel Red light ON. _____

[49] **PLACE** 2-HS-62-108A in STOP. _____

[50] **VERIFY** CCP 2A-A breaker remains CLOSED. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[51] **VERIFY** the light status does NOT change:

A. 2-HS-62-108C Green OFF, Red ON. _____

B. 2-HS-62-108A Green OFF, Red OFF, White OFF, AUX OIL PMP Red light ON. _____

[52] **PLACE** 2-HS-62-108C in STOP. _____

[53] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, OPENS. _____

B. 2-PMP-6247 OFF. _____

[54] **PLACE** 2-XS-62-108 in NORMAL. _____

[55] **PLACE** and **HOLD** 2-HS-62-108A in STOP. _____

[56] **CLOSE** “CCP” test switch in cabinet R-48 for relay K608. _____

[57] **RELEASE** 2-HS-62-108A. _____

[58] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, CLOSES without apparent time delay. _____

B. 2-PMP-6247, AUX OIL PMP 2A-A, starts when CCP 2A-A breaker CLOSES. _____

C. Approximately 20 seconds after the CCP 2A-A breaker CLOSES, AUX OIL PMP Red light (2-HS-62-108A) comes ON. _____

[59] **OPEN** “CCP” test switch in cabinet R-48 for relay K608. _____

[60] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

B. 2-PMP-6247, AUX OIL PMP 2A-A, remains running. _____

C. AUX OIL PMP Red light (2-HS-62-108A) remains ON. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

NOTES

1) The following sequence of steps will involve placing the GROUP A TEST RELAYS 43TA hand switch to TEST and pressing and holding the GROUP A BLACK-OUT BO-SI push button.
2) The following sequence of steps will Trip the A-Train Safety Injection Pump and Residual Heat Removal pumps.

[61] **ENSURE** the following:

A. **PLACE** 2-HS-74-10, RHR PUMP A-A, in Pull to Lock _____

B. **PLACE** 2-HS-63-10, SIS PUMP A-A, in Pull to Lock _____

C. 2-BKR-74-10 is Racked Down and seismically restrained. _____

D. 2-BKR-63-10 is Racked Down and seismically restrained. _____

[62] **NOTIFY** Operations prior to working in 2-PNL-211-A-A, panel 4. _____

[63] **LOCATE** and **IDENTIFY** the following items on the FRONT of 2-PNL-211-A-A, panel 4:

A. GROUP A TEST RELAYS 43TA hand switch. _____

B. GROUP A BLACK-OUT BO-SI pushbutton. _____

[64] **PLACE** hand switch GROUP A TEST RELAYS 43TA to TEST position [2-PNL-211-A-A, panel 4]. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

NOTE

The following steps simulate SI with BO before the breaker closes. Timing will begin as soon as the GROUP A BLACK-OUT BO-SI pushbutton is pressed. Precise timing is not required.

[65] **MOMENTARILY PRESS** the GROUP A BLACK-OUT BO-SI pushbutton [2-PNL-211-A-A, panel 4] **AND**

VERIFY the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, OPENS. _____

B. 2-PMP-6247, AUX OIL PMP 2A-A, STOPS then RESTARTS. _____

[66] **VERIFY** occurs 6-10 seconds after pressing GROUP A BLACK-OUT BO-SI pushbutton:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, CLOSES. _____

B. Relay CPX ST-1A is ENERGIZED. _____

[67] **PLACE** 43TA to RESET. _____

[68] **VERIFY** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

[69] **PLACE** 43TA to TEST. _____

[70] **LOCATE** and **IDENTIFY** relay CPUVX at D5/6 on Front of 2-PNL-211-A-A panel 1 _____

[71] **DEPRESS** and **HOLD** Armature of relay CPUVX. _____

[72] **DEPRESS** and **HOLD** Pushbutton BO-SI _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[73] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

B. Relay CPX ST-1A remains ENERGIZED. _____

[74] **TOGGLE** and **HOLD** BOY in OPERATE. _____

[75] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

B. Relay CPX ST-1A DEENERGIZED. _____

[76] **TOGGLE** BOX Relay to RESET. _____

[77] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSES. _____

B. Relay CPX ST-1A ENERGIZED. _____

[78] **DEPRESS** and **HOLD** Armature of relay CPUVY. _____

[79] **RELEASE** BOY Relay. _____

[80] **RELEASE** Armature of relay CPUVX. _____

[81] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

B. Relay CPX ST-1A remains ENERGIZED. _____

[82] **TOGGLE** and **HOLD** BOX in OPERATE. _____

[83] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

B. Relay CPX ST-1A DEENERGIZED. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[84] **TOGGLE** BOY Relay to RESET. _____

[85] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

B. Relay CPX ST-1A ENERGIZED. _____

[86] **RELEASE** BOX Relay. _____

[87] **RELEASE** pushbutton BO-SI. _____

[88] **RELEASE** Armature of relay CPUVY. _____

[89] **PLACE** 43TA to RESET and then to NORMAL. _____

[90] **MOMENTARILY PLACE** 2-HS-62-108A to STOP. _____

[91] **VERIFY** the following:

A. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, OPENS. _____

B. Relay CPX ST-1A DEENERGIZED. _____

[92] **LIFT** Black Wire of Cable 2PP555A (SAI8CN) from Terminal AA-10 at 2-BKR-62-108. _____

_____
CV

[93] **TOGGLE** and **HOLD** CP BOX Relay in RESET. _____

[94] **CLOSE** CCP Test Switch in cabinet R-48 for Relay K608. _____

[95] **VERIFY** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains OPEN. _____

[96] **TOGGLE** and **HOLD** CP BOY Relay in RESET. _____

[97] **RELEASE** CP BOX and,

TOGGLE to Operate. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[98] **VERIFY** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains OPEN. _____

[99] **OPEN** CCP Test Switch in cabinet R-48 for Relay K608. _____

[100] **RELEASE** CP BOY Relay. _____

[101] **PLACE** 43TA to RESET and then to NORMAL. _____

[102] **RELAND** Black Wire of Cable 2PP555A (SAI8CN) to Terminal AA-10 at 2-BKR-62-108. _____

_____
CV

[103] **TOGGLE** and **HOLD** CP BOX Relay in RESET. _____

[104] **VERIFY** CPX ST-1A is ENERGIZED. _____

[105] **RELEASE** and **TOGGLE** CP BOX relay to OPERATE _____

[106] **MOMENTARILY PLACE** 2-HS-62-108A to START. _____

[107] **VERIFY** 2-BKR-62-108 CLOSES _____

[108] **ENSURE** Annunciator 14-D "M-1 THRU 2-M-6 MOTOR OVERLOAD" is CLEAR. _____

[109] **CLOSE** the contacts on Relay 51/83 A∅ on 6.9kV SD BD 2A-A Comp 18 (2-BKR-62-108) breaker by manually rotating the disk, **AND HOLD**. _____

[110] **VERIFY** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

[111] **VERIFY** 2-HS-62-108A White light is ON. _____

[112] **VERIFY** Annunciator 14-D "M-1 THRU 2-M-6 MOTOR OVERLOAD" ALARMS. _____

[113] **RELEASE** the disk on Relay 51/83 A∅ on 6.9kV SD BD 2A-A Compt 18 (2-BKR-62-108) breaker. _____

[114] **VERIFY** 2-HS-62-108A White light is OFF. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[115] **ENSURE** Annunciator 14-D is CLEAR. _____

[116] **ENSURE** Annunciator 14-E "M-1 THRU 2-M-6 MOTOR TRIPOUT" is CLEAR. _____

[117] **CLOSE** the contacts on Relay 51/83 A∅ on 6.9kV SD BD 2A-A Compt 18 (2-BKR-62-108) breaker by manually rotating the disk, **AND HOLD**. _____

[118] **MOMENTARILY PLACE** a jumper across terminals 9 and 10 on the back of Relay 51/83 A∅ on 6.9kV SD BD 2A-A Compt 18 (2-BKR-62-108) breaker to simulate an overcurrent. _____

_____
CV

[119] **VERIFY** the following:

A. 2-HS-62-108A White light is ON. _____

B. 2-HS-62-108A Green light is ON. _____

C. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, OPEN. _____

[120] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[121] **RELEASE** the disk on Relay 51/83 A∅ on 6.9kV SD BD 2A-A Compt 18 (2-BKR-62-108) breaker. _____

[122] **PLACE** handswitch 2-HS-62-108A to START, and

VERIFY 2-BKR-62-108 remains OPEN.

[123] **PLACE** handswitch 2-HS-62-108A momentarily to STOP. _____

[124] **VERIFY** the following:

A. 2-HS-62-108A White light is OFF. _____

B. 2-HS-62-108A Green light is ON. _____

C. MOTOR TRIPOUT buzzer silences. _____

[125] **ENSURE** Annunciator 14-E is CLEAR. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[126] **PLACE** 2-HS-62-108A to START, **AND**

VERIFY 2-BKR-62-108 CLOSES. _____

[127] **MANUALLY ACTUATE** the Contacts on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, 50 A∅ Instantaneous Overcurrent Relay. _____

[128] **VERIFY** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, OPENS. _____

[129] **VERIFY** the following:

A. 2-HS-62-108A White light is ON. _____

B. 2-HS-62-108A Green light is ON. _____

[130] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[131] **RESET** the trip target on time overcurrent relay 50 A∅ on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A. _____

[132] **PLACE** handswitch 2-HS-62-108A momentarily to STOP. _____

[133] **VERIFY** the following:

A. 2-HS-62-108A White light is OFF. _____

B. 2-HS-62-108A Green light is ON. _____

C. MOTOR TRIPOUT buzzer silences. _____

[134] **ENSURE** Annunciator 14-E is CLEAR. _____

[135] **PLACE** 2-HS-62-108A to START, **AND**

VERIFY 2-BKR-62-108 CLOSES. _____

[136] **CLOSE** the contacts on Relay 51/83 C∅ on 6.9kV SD BD 2A-A Compt 18 (2-BKR-62-108) breaker by manually rotating the disk, **AND HOLD**. _____

[137] **VERIFY** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, remains CLOSED. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[138] **VERIFY** 2-HS-62-108A White light is ON. _____

[139] **VERIFY** Annunciator 14-D "M-1 THRU 2-M-6 MOTOR OVERLOAD" ALARMS. _____

[140] **RELEASE** the disk on Relay 51/83 C∅ on 6.9kV SD BD 2A-A Compt 18 (2-BKR-62-108) breaker. _____

[141] **VERIFY** 2-HS-62-108A White light is OFF. _____

[142] **ENSURE** Annunciator 14-D is CLEAR. _____

[143] **ENSURE** Annunciator 14-E "M-1 THRU 2-M-6 MOTOR TRIPOUT" is CLEAR. _____

[144] **CLOSE** the contacts on Relay 51/83 C∅ on 6.9kV SD BD 2A-A Compt 18 (2-BKR-62-108) breaker by manually rotating the disk, **AND HOLD**. _____

[145] **MOMENTARILY PLACE** a jumper across terminals 9 and 10 on the back of Relay 51/83 C∅ on 6.9kV SD BD 2A-A Compt 18 (2-BKR-62-108) breaker to simulate an overcurrent. _____

_____
CV

[146] **VERIFY** the following:

A. 2-HS-62-108A White light is ON. _____

B. 2-HS-62-108A Green light is ON. _____

C. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, OPEN. _____

[147] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[148] **RELEASE** the disk on Relay 51/83 C∅ on 6.9kV SD BD 2A-A Compt 18 (2-BKR-62-108) breaker. _____

[149] **PLACE** handswitch 2-HS-62-108A momentarily to STOP. _____

[150] **VERIFY** the following.

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

A. 2-HS-62-108A White light is OFF. _____

B. 2-HS-62-108A Green light is ON. _____

C. MOTOR TRIPOUT buzzer silences. _____

[151] **ENSURE** annunciator 14-E is CLEAR. _____

[152] **PLACE** 2-HS-62-108A to START, **AND**
VERIFY 2-BKR-62-108 CLOSES. _____

[153] **MANUALLY ACTUATE** the Contacts on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, 50 C∅ Instantaneous Overcurrent Relay. _____

[154] **VERIFY** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, OPENS. _____

[155] **VERIFY** the following:

A. 2-HS-62-108A White light is ON. _____

B. 2-HS-62-108A Green light is ON. _____

[156] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[157] **RESET** the trip target on time overcurrent relay 50 C∅ on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A. _____

[158] **PLACE** handswitch 2-HS-62-108A momentarily to STOP. _____

[159] **VERIFY** the following:

A. 2-HS-62-108A White light is OFF. _____

B. 2-HS-62-108A Green light is ON. _____

C. MOTOR TRIPOUT buzzer silences _____

[160] **ENSURE** Annunciator 14-E is CLEAR. _____

[161] **PLACE** 2-HS-62-108A to START. _____

Date _____

6.35 Centrifugal Charging Pump 2A-A Logic Test (continued)

[162] **ACTUATE** the Contacts by manually rotating the disk on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, 50G Ground Overcurrent Relay. _____

[163] **VERIFY** the following:

A. 2-HS-62-108A White light is ON. _____

B. 2-HS-62-108A Green light is ON. _____

C. 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, OPEN. _____

[164] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[165] **RESET** the trip target on Ground Overcurrent Relay 50G on 6.9kV SD BD 2A-A Compt 18 breaker. _____

[166] **PLACE** handswitch 2-HS-62-108A momentarily to STOP. _____

[167] **VERIFY** the following:

A. 2-HS-62-108A White light is OFF. _____

B. 2-HS-62-108A Green light is ON. _____

C. MOTOR TRIPOUT buzzer silences. _____

[168] **ENSURE** Annunciator 14-E is CLEAR. _____

[169] **PLACE** 2-XS-62-108 in AUX. _____

NOTE

The following step verifies an SI signal will NOT CLOSE breaker in AUX.

[170] **CLOSE** test switch “CCP” in Panel R-48, **AND**

VERIFY lights on 2-HS-62-108C do NOT change, Green ON, Red OFF. _____

[171] **OPEN** test switch “CCP” in Panel R-48. _____

[172] **PLACE** 2-XS-62-108 in NOR. _____

Date _____

[173] **REMOVE** coupler cable on 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A. _____

_____ CV

[174] **REMOVE** test extension rod on 6.9 kV SD BD 2A-A Compt 18 breaker. _____

_____ CV

[175] **ENSURE** 2-BKR-62-108, 6.9KV SD BD 2A-A BKR 18 CCP 2A-A, is Racked Down and seismically restrained. _____

[176] **REMOVE** the jumper across terminals TB619-5 and TB619-6 on the field side of the plastic isolators in cabinet R-48, **AND**

DOCUMENT in Appendix B. _____

_____ CV

[177] **VERIFY** successful completion of Subsection 6.35 (**Acc Crit**). _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

6.36 Centrifugal Charging Pump 2B-B Logic Test

NOTE

A digital Multimeter will be needed to determine if relays are energized or deenergized.

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** the following component alignment:

2-BKR-62-104, 6.9kV Shutdown BD 2B-B Breaker in Compt. 18	OPEN	_____
2-BKR-6244, RX MOV BD 2B1-B Breaker in Compt. 4D	CLOSED	_____
2-BKR-30-182, CONT & AUX BLDG VT BD 2A1-A Breaker in Compt. 10A	CLOSED	_____

[3] **NOTIFY** operations prior to entering logic relay panels. _____

[4] **ENSURE** the following relays INSTALLED on front side of 2-PNL-211-B-B, panel 1.

A. CP BOX. _____

B. CP BOY. _____

C. CP UVX. _____

D. CP UVY. _____

E. SIBTX. _____

[5] **INSTALL** a jumper with open test switch across terminals TB619-5 and TB619-6 on the field side of the plastic isolators in cabinet R-51 for relay K608., **AND**

LABEL “CCP”, **AND**

DOCUMENT in Appendix B _____

_____
CV

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[6] **ENSURE** the following FTA switches are ON

Annunciator	2-M-21	Terminal Block	Switch	
14-D	VI/Rear	00	SW32	_____
14-E	Vi-Rear	00	SW31	_____

[7] **ENSURE** the following initial conditions:

A. 2-XS-62-104, 6.9kV SD BD 2B-B, Panel 18, NOR. _____

B. 2-HS-62-104A, 2-M-5, STOP Pull-To-Lock. _____

C. 2-HS-62-104A Lights, Green ON, Red OFF, White OFF, AUX OIL PMP Red light OFF. _____

D. 2-HS-62-104C, 6.9kV SD BD 2B-B, Panel 18, NOR after STOP. _____

E. 2-HS-62-104C Lights, Green ON, Red OFF. _____

F. 6900 Shutdown BD 2B-B Logic Panel 2-PNL-211-B-B, Centrifugal Carging Pmp 2B-B, Red light OFF. _____

G. 2-PMP-6244, CCP 2B-B Auxiliary Oil Pump is OFF. _____

H. 2-PMP-6244, AUX OIL PMP 2B-B, Oil Reservoir at NOR level. _____

I. 2-HS-6232A, BA TRANS PUMP 2B-B, is **NOT** in Pull to Lock. _____

NOTE

GOI-7 may be utilized to prevent damage while testing 6.9KV breakers.

[8] **INSTALL** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B in the TEST position (umbilical cord and test link installed). _____

[9] **VERIFY** ICS point XD2079 displays “PWR OFF”. _____

[10] **PRESS** the TEST CLOSE pushbutton on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[11] **VERIFY** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, CLOSES. _____

[12] **PRESS** the TEST TRIP pushbutton on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B. _____

[13] **VERIFY** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, breaker, OPENS. _____

[14] **REMOVE** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B. _____

[15] **RAISE** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, elevator until elevator reaches full up position. _____

[16] **INSTALL** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, in the TEST position. _____

[17] **INSTALL** umbilical cord on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B. _____

[18] **INSTALL** test link on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B. _____

[19] **VERIFY** ICS point XD2079 displays “PWR ON”. _____

[20] **ENSURE** 2-HS-30-182, CENT CHARGING PUMP 2B-B ROOM COOLER, is in AUTO. _____

[21] **ATTACH** a cool damp cloth to the bulb of the temperature sensor for cooler 2-PMCL-30-182, CENT CHARGING PUMP 2B-B ROOM COOLER. _____

[22] **VERIFY** cooler 2-PMCL-30-182, CENT CHARGING PUMP 2B-B ROOM COOLER, is off. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

NOTE

Step 6.36[24] verifies that CCP 2B-B will start after a short delay. Precise timing is not required.

[23] **MOMENTARILY PLACE** 2-HS-62-104A in START, **AND**

VERIFY locally 2-PMP-6244, AUX OIL PMP 2B-B, starts. _____

[24] **VERIFY** the following after approximately 5 seconds:

A. 2-BKR-62-104 (6.9kV SD BD 2B-B Compt.18) is CLOSED _____

B. Cooler 2-PMCL-30-182, CENT CHARGING PUMP 2B-B ROOM COOLER, STARTS. _____

C. 2-HS-62-104C lights are Green OFF/Red ON. _____

D. 2-HS-62-104A lights are Green OFF/Red ON/White OFF. _____

E. 6900 Shutdown BD 2B-B Logic Panel Red light ON. _____

NOTE

The following step verifies timing of TDPU Relay 62 and restart signal on low oil pressure

[25] **VERIFY** the following after approximately 20 seconds:

A. Locally 2-PMP-6244, AUX OIL PMP 2B-B, stops momentarily, then restarts and continues to run. _____

B. AUX OIL PMP Red light above 2-HS-62-104A is ON. _____

[26] **VERIFY** ICS point Y0101D displays “CLOSED”. _____

[27] **VERIFY** ICS point XD2080 displays “RUNNING”. _____

[28] **PLACE** 2-HS-62-104A in STOP, **AND**

VERIFY locally 2-PMP-6244, AUX OIL PMP 2B-B, stops. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[29] **VERIFY** AUX OIL PMP Red light above 2-HS-62-104A is OFF. _____

[30] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, is OPEN. _____

B. 2-HS-62-104C lights are Green ON/Red OFF. _____

C. 2-HS-62-104A lights are Green ON/Red OFF /White OFF. _____

D. 6900 Shutdown BD 2B-B Logic Panel Red light OFF. _____

[31] **VERIFY** ICS point Y0101D displays “OPEN”. _____

[32] **VERIFY** ICS point XD2080 displays “NOT RUN”. _____

[33] **PLACE**2-HS-62-104C in START, **AND**

VERIFY CCP 2B-B breaker remains OPEN. _____

[34] **VERIFY** ICS point XD2003 displays “NOT P-L”. _____

[35] **PLACE** 2-HS-62-104A in STOP PULL-TO-LOCK, **AND**

VERIFY Green light ON, Red light OFF. _____

[36] **VERIFY** ICS point XD2003 displays “PULLT-L”. _____

[37] **PLACE** 2-HS-62-104A to the A AUTO. _____

[38] **PLACE** 2-HS-62-104A in START. _____

[39] **VERIFY** AUX OIL PMP Red light above 2-HS-62-104A is ON after about 20 seconds, indicating Auxiliary Oil Pump is ON. _____

[40] **PLACE** 2-HS-62-104C in STOP, **AND**

VERIFY 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[41] **PLACE** 2-HS-62-104A in STOP, **AND**

VERIFY lights (2-HS-62-104A) GO TO Green ON, Red OFF, indicating breaker OPEN and oil pump OFF. _____

[42] **PLACE** 2-XS-62-104 in AUX. _____

[43] **VERIFY** the following:

A. 2-HS-62-104C lights are Green ON, Red OFF. _____

B. 2-HS-62-104A lights are Green OFF, Red OFF, White OFF, AUX OIL PMP Red light OFF. _____

[44] **PLACE** 2-HS-62-104A in START. _____

[45] **VERIFY** CCP 2B-B breaker remains OPEN. _____

[46] **VERIFY** the light status does NOT change:

A. 2-HS-62-104C Green ON, Red OFF. _____

B. 2-HS-62-104A Green OFF, Red OFF, White OFF, AUX OIL PMP Red light OFF. _____

[47] **PLACE** 2-HS-62-104C in START. _____

[48] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, CLOSES. _____

B. 2-HS-62-104C lights are Green OFF, Red ON. _____

C. 2-HS-62-104A lights are Green OFF, Red OFF, White OFF, AUX OIL PMP Red light ON (after approximately 20 sec.) _____

D. 6900 Shutdown BD 2B-B Logic Panel Red light ON. _____

[49] **PLACE** 2-HS-62-104A in STOP. _____

[50] **VERIFY** CCP 2B-B breaker remains CLOSED. _____

[51] **VERIFY** the light status does NOT change:

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

A. 2-HS-62-104C Green OFF, Red ON. _____

B. 2-HS-62-104A Green OFF, Red OFF, White OFF, AUX OIL PMP Red light ON. _____

[52] **PLACE** 2-HS-62-104C in STOP. _____

[53] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, OPENS. _____

B. 2-PMP-6244 OFF. _____

[54] **PLACE** 2-XS-62-104 in NORMAL. _____

[55] **PLACE** and **HOLD** 2-HS-62-104A in STOP. _____

[56] **CLOSE** “CCP” test switch in cabinet R-51 for relay K608 to simulate a Safety Injection signal. _____

[57] **RELEASE** 2-HS-62-104A. _____

[58] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, CLOSES without apparent time delay. _____

B. 2-PMP-6244, AUX OIL PMP 2B-B, starts when CCP 2B-B breaker CLOSES. _____

C. Approximately 20 seconds after the CCP 2B-B breaker CLOSES, AUX OIL PMP Red light (2-HS-62-104A) comes ON. _____

[59] **OPEN** “CCP” test switch in cabinet R-51 for relay K608. _____

[60] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

B. 2-PMP-6244, AUX OIL PMP 2B-B, remains running. _____

C. AUX OIL PMP Red light (2-HS-62-104A) remains ON. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

NOTES

1) The following sequence of steps will involve placing the GROUP A TEST RELAYS 43TA hand switch to TEST and pressing and holding the GROUP A BLACK-OUT BO-SI push button.
2) The following sequence of steps will Trip the B-Train Safety Injection Pump and Residual Heat Removal pumps.

[61] **ENSURE** the following:

A. 2-HS-74-20, RHR PUMP B-B, in Pull to Lock. _____

B. 2-HS-63-15, SIS PUMP B-B, in Pull to Lock. _____

C. 2-BKR-74-20 is Racked Down and seismically restrained. _____

D. 2-BKR-63-15 is Racked Down and seismically restrained. _____

[62] **NOTIFY** operations prior to working in 2-PNL-211-B-B, panel 4. _____

[63] **LOCATE** and **IDENTIFY** the following items on the FRONT of 2-PNL-211-B-B, panel 4:

A. GROUP A TEST RELAYS 43TA hand switch. _____

B. GROUP A BLACK-OUT BO-SI push button. _____

[64] **PLACE** hand switch GROUP A TEST RELAYS 43TA to TEST position [2-PNL-211-B-B, panel 4]. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

NOTE

The following steps simulate SI with BO before the breaker closes. Timing will begin as soon as the GROUP A BLACK-OUT BO-SI pushbutton is pressed. Precise timing is not required.

[65] **MOMENTARILY PRESS** the GROUP A BLACK-OUT BO-SI push button [2-PNL-211-B-B, panel 4] **AND**

VERIFY the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, OPENS. _____

B. 2-PMP-6244, AUX OIL PMP 2B-B, STOPS then RESTARTS. _____

[66] **VERIFY** occurs 6-10 seconds after pressing GROUP A BLACK-OUT BO-SI pushbutton:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, CLOSES. _____

B. Relay CPX ST-1B is ENERGIZED. _____

[67] **PLACE** 43TA to RESET. _____

[68] **VERIFY** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

[69] **PLACE** 43TA to TEST. _____

[70] **LOCATE** and **IDENTIFY** relay CPUVX at D5/6 on Front of 2-PNL-211-B-B panel 1. _____

[71] **DEPRESS** and **HOLD** Armature of relay CPUVX. _____

[72] **DEPRESS** and **HOLD** Pushbutton BO-SI _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[73] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

B. Relay CPX ST-1B remains ENERGIZED. _____

[74] **TOGGLE** and **HOLD** BOY in OPERATE. _____

[75] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

B. Relay CPX ST-1B DEENERGIZED. _____

[76] **TOGGLE** BOX Relay to RESET. _____

[77] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

B. Relay CPX ST-1B ENERGIZED. _____

[78] **DEPRESS** and **HOLD** Armature of relay CPUVY. _____

[79] **RELEASE** BOY Relay. _____

[80] **RELEASE** Armature of relay CPUVX. _____

[81] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

B. Relay CPX ST-1B remains ENERGIZED. _____

[82] **TOGGLE** and **HOLD** BOX in OPERATE. _____

[83] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

B. Relay CPX ST-1B DEENERGIZED. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[84] **TOGGLE** BOY Relay to RESET. _____

[85] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

B. Relay CPX ST-1B ENERGIZED. _____

[86] **RELEASE** BOX Relay. _____

[87] **RELEASE** pushbutton BO-SI. _____

[88] **RELEASE** Armature of relay CPUVY. _____

[89] **PLACE** 43TA to RESET and then to NORMAL. _____

[90] **MOMENTARILY PLACE** 2-HS-62-104A to STOP. _____

[91] **VERIFY** the following:

A. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, OPENS. _____

B. Relay CPX ST-1B DEENERGIZED. _____

[92] **LIFT** Black Wire of Cable 2PP567B (SBI8CN) from Terminal AA-10 at 2-BKR-62-104. _____

_____
CV

[93] **TOGGLE** and **HOLD** CP BOX Relay in RESET. _____

[94] **CLOSE** CCP Test Switch in cabinet R-51 for Relay K608. _____

[95] **VERIFY** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains OPEN. _____

[96] **TOGGLE** and **HOLD** CP BOY Relay in RESET. _____

[97] **RELEASE** CP BOX and,

TOGGLE to Operate. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[98] **VERIFY** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains OPEN. _____

[99] **OPEN** CCP Test Switch in cabinet R-51 for Relay K608. _____

[100] **RELEASE** CP BOY Relay. _____

[101] **PLACE** 43TA to RESET and then to NORMAL. _____

[102] **RELAND** Black Wire of Cable 2PP567A (SBI8CN) TO Terminal AA-10 at 2-BKR-62-104. _____

_____
CV

[103] **TOGGLE** and **HOLD** CP BOX Relay in RESET. _____

[104] **VERIFY** CPX ST-1B is ENERGIZED. _____

[105] **RELEASE** and **TOGGLE** CP BOX relay to OPERATE _____

[106] **MOMENTARILY PLACE** 2-HS-62-104A to START. _____

[107] **VERIFY** 2-BKR-62-104 CLOSES. _____

[108] **ENSURE** Annunciator 14-D "M-1 THRU 2-M-6 MOTOR OVERLOAD" is CLEAR. _____

[109] **CLOSE** the contacts on Relay 51/83 A∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker by manually rotating the disk, **AND HOLD**. _____

[110] **VERIFY** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

[111] **VERIFY** 2-HS-62-104A White light is ON. _____

[112] **VERIFY** Annunciator 14-D "M-1 THRU 2-M-6 MOTOR OVERLOAD" ALARMS. _____

[113] **RELEASE** the disk on Relay 51/83 A∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker. _____

[114] **VERIFY** 2-HS-62-104A White light is OFF. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[115] **ENSURE** Annunciator 14-D is CLEAR. _____

[116] **ENSURE** Annunciator 14-E "M-1 THRU 2-M-6 MOTOR TRIPOUT" is CLEAR. _____

[117] **CLOSE** the contacts on Relay 51/83 A∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker by manually rotating the disk, **AND HOLD**. _____

[118] **MOMENTARILY PLACE** a jumper across terminals 9 and 10 on the back of Relay 51/83 A∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker to simulate an overcurrent. _____

_____
CV

[119] **VERIFY** the following:

A. 2-HS-62-104A White light is ON. _____

B. 2-HS-62-104A Green light is ON. _____

C. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, OPEN. _____

[120] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[121] **RELEASE** the disk on Relay 51/83 A∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker. _____

[122] **PLACE** 2-HS-62-104A in START, **AND**

VERIFY 2-BKR-62-104 (6.9kV SD BD 2B-B Compt.18) is OPEN. _____

[123] **PLACE** handswitch 2-HS-62-104A momentarily to STOP. _____

[124] **VERIFY** the following:

A. 2-HS-62-104A White light is OFF. _____

B. 2-HS-62-104A Green light is ON. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

C. MOTOR TRIPOUT buzzer silences. _____

[125] **ENSURE** Annunciator 14-E is CLEAR. _____

[126] **PLACE** 2-HS-62-104A to START, **AND**

VERIFY breaker CLOSES. _____

[127] **MANUALLY ACTUATE** the Contacts on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, 50 Aϕ Instantaneous Overcurrent Relay. _____

[128] **VERIFY** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, OPENS. _____

[129] **VERIFY** the following:

A. 2-HS-62-104A White light is ON. _____

B. 2-HS-62-104A Green light is ON. _____

[130] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[131] **RESET** the trip target on time overcurrent relay 50 A∅ on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B. _____

[132] **PLACE** handswitch 2-HS-62-104A momentarily to STOP. _____

[133] **VERIFY** the following:

A. 2-HS-62-104A White light is OFF. _____

B. 2-HS-62-104A Green light is ON. _____

C. MOTOR TRIPOUT buzzer silences. _____

[134] **ENSURE** Annunciator 14-E is CLEAR. _____

[135] **PLACE** 2-HS-62-104A to START, **AND**

VERIFY breaker CLOSES. _____

[136] **CLOSE** the contacts on Relay 51/83 C∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker by manually rotating the disk, **AND HOLD**. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[137] **VERIFY** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, remains CLOSED. _____

[138] **VERIFY** 2-HS-62-104A White light is ON. _____

[139] **VERIFY** Annunciator 14-D "M-1 THRU 2-M-6 MOTOR OVERLOAD" ALARMS. _____

[140] **RELEASE** the disk on Relay 51/83 C∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker. _____

[141] **VERIFY** 2-HS-62-104A White light is OFF. _____

[142] **ENSURE** Annunciator 14-D is CLEAR. _____

[143] **ENSURE** Annunciator 14-E "M-1 THRU 2-M-6 MOTOR TRIPOUT" is CLEAR. _____

[144] **CLOSE** the contacts on Relay 51/83 C∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker by manually rotating the disk, **AND HOLD**. _____

[145] **MOMENTARILY PLACE** a jumper across terminals 9 and 10 on the back of Relay 51/83 C∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker to simulate an overcurrent. _____

_____
CV

[146] **VERIFY** the following:

A. 2-HS-62-104A White light is ON. _____

B. 2-HS-62-104A Green light is ON. _____

C. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, OPEN. _____

[147] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[148] **RELEASE** the disk on Relay 51/83 C∅ on 6.9kV SD BD 2B-B Compt 18 (2-BKR-62-104) breaker. _____

[149] **PLACE** handswitch 2-HS-62-104A momentarily to STOP. _____

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

[150] **VERIFY** the following.

A. 2-HS-62-104A White light is OFF. _____

B. 2-HS-62-104A Green light is ON. _____

C. MOTOR TRIPOUT buzzer silences. _____

[151] **ENSURE** annunciator 14-E is CLEAR. _____

[152] **PLACE** 2-HS-62-104A to START, **AND**

VERIFY breaker CLOSES. _____

[153] **MANUALLY ACTUATE** the Contacts on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, 50 C∅ Instantaneous Overcurrent Relay. _____

[154] **VERIFY** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, OPENS. _____

[155] **VERIFY** the following:

A. 2-HS-62-104A White light is ON. _____

B. 2-HS-62-104A Green light is ON. _____

[156] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[157] **RESET** the trip target on time overcurrent relay 50 C∅ on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B. _____

[158] **PLACE** handswitch 2-HS-62-104A momentarily to STOP. _____

[159] **VERIFY** the following:

A. 2-HS-62-104A White light is OFF. _____

B. 2-HS-62-104A Green light is ON. _____

C. MOTOR TRIPOUT buzzer silences. _____

[160] **ENSURE** Annunciator 14-E is CLEAR. _____

[161] **PLACE** 2-HS-62-104A to START, **AND**

Date _____

6.36 Centrifugal Charging Pump 2B-B Logic Test (continued)

VERIFY breaker CLOSES. _____

[162] **ACTUATE** the Contacts by manually rotating the disk on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, 50G Ground Overcurrent Relay. _____

[163] **VERIFY** the following:

A. 2-HS-62-104A White light is ON. _____

B. 2-HS-62-104A Green light is ON. _____

C. 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, OPEN. _____

[164] **VERIFY** Annunciator 14-E ALARMS and MOTOR TRIPOUT buzzer sounds. _____

[165] **RESET** the trip target on Ground Overcurrent Relay 50G on 6.9kV SD BD 2B-B Compt 18 breaker. _____

[166] **PLACE** handswitch 2-HS-62-104A momentarily to STOP. _____

[167] **VERIFY** the following:

A. 2-HS-62-104A White light is OFF. _____

B. 2-HS-62-104A Green light is ON. _____

C. MOTOR TRIPOUT buzzer silences. _____

[168] **ENSURE** Annunciator 14-E is CLEAR. _____

[169] **PLACE** 2-XS-62-104 in AUX. _____

NOTE

The following step verifies an SI signal will NOT CLOSE breaker in AUX.

[170] **CLOSE** test switch “CCP” in Panel R-51, **AND**

VERIFY lights on 2-HS-62-104C do NOT change, Green ON, Red OFF. _____

[171] **OPEN** test switch “CCP” in Panel R-51. _____

Date _____

[172] **PLACE** 2-XS-62-104 in NOR. _____

[173] **REMOVE** coupler cable on 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B. _____

_____
CV

[174] **REMOVE** test extension rod on 6.9 kV SD BD 2B-B Compt 18 breaker _____

_____
CV

[175] **ENSURE** 2-BKR-62-104, 6.9KV SD BD 2B-B BKR 18 CCP 2B-B, is Racked Down and seismically restrained. _____

[176] **REMOVE** the jumper across terminals TB619-5 and TB619-6 on the field side of the plastic isolators in cabinet R-51, **AND**

DOCUMENT in Appendix B. _____

_____
CV

[177] **VERIFY** successful completion of Subsection 6.36 (**Acc Crit**). _____

Date _____

6.37 System 062 Breaker Transfer Switch Annunciator Test - 6.9kV SD BD 2A-A

[1] **VERIFY** prerequisites for this subsection have been completed. _____

[2] **ENSURE** Annunciator Window 149-A, "6.9 SD BD 2A-A" CLEAR. _____

[3] **PLACE** transfer switch 2-XS-62-108 to AUX. _____

[4] **VERIFY** Annunciator Window 149-A, ALARMS. _____

[5] **PLACE** transfer switch 2-XS-62-108 to NOR. _____

[6] **ENSURE** Annunciator Window 149-A, CLEAR. _____

Date _____

6.38 System 062 Breaker Transfer Switch Annunciator Test - 6.9kV SD BD 2B-B

[1] **VERIFY** Prerequisites for this subsection have been completed. _____

[2] **ENSURE** Annunciator Window 150-A, "6.9 SD BD 2B-B" CLEAR. _____

[3] **PLACE** transfer switch 2-XS-62-104 to AUX. _____

[4] **VERIFY** Annunciator Window 150-A, ALARMS _____

[5] **PLACE** transfer switch 2-XS-62-104 to NOR. _____

[6] **ENSURE** Annunciator Window 150-A, CLEAR. _____

Date _____

6.39 System 062 Breaker Transfer Switch Annunciator Test - Reactor MOV BOARD 2A1-A (continued)

6.39 System 062 Breaker Transfer Switch Annunciator Test - Reactor MOV BOARD 2A1-A

[1] **VERIFY** Prerequisites for this subsection are complete. _____

[2] **ENSURE** Annunciator Window 149-C "480 RX MOV BD 2A1-A/2A2-A" CLEAR. _____

[3] **PLACE** transfer switch 2-XS-62-135 to AUX. _____

[4] **VERIFY** Annunciator Window 149-C ALARMS. _____

[5] **PLACE** transfer switch 2-XS-62-135 to NOR. _____

[6] **ENSURE** Annunciator Window 149-C, CLEAR. _____

[7] **PLACE** transfer switch 2-XS-62-132 to AUX. _____

[8] **VERIFY** Annunciator Window 149-C ALARMS. _____

[9] **PLACE** transfer switch 2-XS-62-132 to NOR. _____

[10] **ENSURE** Annunciator Window 149-C, CLEAR. _____

[11] **PLACE** transfer switch 2-XS-62-90 to AUX. _____

[12] **VERIFY** Annunciator Window 149-C ALARMS. _____

[13] **PLACE** transfer switch 2-XS-62-90 to NOR. _____

[14] **ENSURE** Annunciator Window 149-C, CLEAR. _____

[15] **PLACE** transfer switch 2-XS-62-63 to AUX. _____

[16] **VERIFY** Annunciator Window 149-C ALARMS. _____

[17] **PLACE** transfer switch 2-XS-62-63 to NOR. _____

[18] **ENSURE** Annunciator Window 149-C, CLEAR. _____

[19] **PLACE** transfer switch 2-XS-230 to AUX. _____

[20] **VERIFY** Annunciator Window 149-C ALARMS. _____

[21] **PLACE** transfer switch 2-XS-230 to NOR. _____

Date _____

6.39 System 062 Breaker Transfer Switch Annunciator Test - Reactor MOV BOARD 2A1-A (continued)

[22] **ENSURE** Annunciator Window 149-C, CLEAR. _____

[23] **PLACE** transfer switch 2-XS-62-98 to AUX. _____

[24] **VERIFY** Annunciator Window 149-C ALARMS. _____

[25] **PLACE** transfer switch 2-XS-62-98 to NOR. _____

[26] **ENSURE** Annunciator Window 149-C, CLEAR. _____

Date _____

6.40 System 062 Breaker Transfer Switch Annunciator Test - Reactor MOV BOARD 2B1-B

[1] **VERIFY** Prerequisites for this subsection are complete. _____

[2] **ENSURE** Annunciator Window 150-C "480 RX MOV BD 2B1-B/2B2-B" CLEAR. _____

[3] **PLACE** transfer switch 2-XS-6232 to AUX. _____

[4] **VERIFY** Annunciator Window 150-C ALARMS. _____

[5] **PLACE** transfer switch 2-XS-6232 to NOR. _____

[6] **ENSURE** Annunciator Window 150-C, CLEAR. _____

[7] **PLACE** transfer switch 2-XS-62-61 to AUX. _____

[8] **VERIFY** Annunciator Window 150-C ALARMS. _____

[9] **PLACE** transfer switch 2-XS-62-61 to NOR. _____

[10] **ENSURE** Annunciator Window 150-C, CLEAR. _____

[11] **PLACE** transfer switch 2-XS-62-91 to AUX. _____

[12] **VERIFY** Annunciator Window 150-C ALARMS. _____

[13] **PLACE** transfer switch 2-XS-62-91 to NOR. _____

[14] **ENSURE** Annunciator Window 150-C, CLEAR. _____

[15] **PLACE** transfer switch 2-XS-62-133 to AUX. _____

[16] **VERIFY** Annunciator Window 150-C ALARMS. _____

[17] **PLACE** transfer switch 2-XS-62-133 to NOR. _____

[18] **ENSURE** Annunciator Window 150-C, CLEAR. _____

[19] **PLACE** transfer switch 2-XS-62-136 to AUX. _____

[20] **VERIFY** Annunciator Window 150-C ALARMS. _____

[21] **PLACE** transfer switch 2-XS-62-136 to NOR. _____

Date _____

6.40 System 062 Breaker Transfer Switch Annunciator Test - Reactor MOV BOARD 2B1-B (continued)

[22] **ENSURE** Annunciator Window 150-C, CLEAR. _____

[23] **PLACE** transfer switch 2-XS-62-138 to AUX. _____

[24] **VERIFY** Annunciator Window 150-C ALARMS. _____

[25] **PLACE** transfer switch 2-XS-62-138 to NOR. _____

[26] **ENSURE** Annunciator Window 150-C, CLEAR. _____

[27] **PLACE** transfer switch 2-XS-62-99 to AUX. _____

[28] **VERIFY** Annunciator Window 150-C ALARMS. _____

[29] **PLACE** transfer switch 2-XS-62-99 to NOR. _____

[30] **ENSURE** Annunciator Window 150-C, CLEAR. _____

Date _____

6.41 System 062 2-L-11A (Auxiliary Instrument Control) Transfer Switch Annunciator Test

[1] **VERIFY** Prerequisites for this subsection have been completed. _____

[2] **ENSURE** Annunciator Window 148-B "ACR PNL 2-L-11A" CLEAR. _____

[3] **PLACE** transfer switch 0-XS-6241 to AUX. _____

[4] **VERIFY** Annunciator Window 148-B ALARMS. _____

[5] **PLACE** transfer switch 0-XS-6241 to NOR. _____

[6] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[7] **PLACE** transfer switch 2-XS-62-89 to AUX. _____

[8] **VERIFY** Annunciator Window 148-B ALARMS. _____

[9] **PLACE** transfer switch 2-XS-62-89 to NOR. _____

[10] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[11] **PLACE** transfer switch 2-XS-62-73 to AUX. _____

[12] **VERIFY** Annunciator Window 148-B ALARMS. _____

[13] **PLACE** transfer switch 2-XS-62-73 to NOR. _____

[14] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[15] **PLACE** transfer switch 2-XS-62-9 to AUX. _____

[16] **VERIFY** Annunciator Window 148-B ALARMS. _____

[17] **PLACE** transfer switch 2-XS-62-9 to NOR. _____

[18] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[19] **PLACE** transfer switch 2-XS-62-118 to AUX. _____

[20] **VERIFY** Annunciator Window 148-B ALARMS. _____

Date _____

6.41 System 062 2-L-11A (Auxiliary Instrument Control) Transfer Switch Annunciator Test (continued)

[21] **PLACE** transfer switch 2-XS-62-118 to NOR. _____

[22] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[23] **PLACE** transfer switch 2-XS-62-74 to AUX. _____

[24] **VERIFY** Annunciator Window 148-B ALARMS. _____

[25] **PLACE** transfer switch 2-XS-62-74 to NOR. _____

[26] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[27] **PLACE** transfer switch 2-XS-62-35 to AUX. _____

[28] **VERIFY** Annunciator Window 148-B ALARMS. _____

[29] **PLACE** transfer switch 2-XS-62-35 to NOR. _____

[30] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[31] **PLACE** transfer switch 2-XS-62-130 to AUX. _____

[32] **VERIFY** Annunciator Window 148-B ALARMS. _____

[33] **PLACE** transfer switch 2-XS-62-130 to NOR. _____

[34] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[35] **PLACE** transfer switch 2-XS-62-79 to AUX. _____

[36] **VERIFY** Annunciator Window 148-B ALARMS. _____

[37] **PLACE** transfer switch 2-XS-62-79 to NOR. _____

[38] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[39] **PLACE** transfer switch 2-XS-62-53 to AUX. _____

[40] **VERIFY** Annunciator Window 148-B ALARMS. _____

[41] **PLACE** transfer switch 2-XS-62-53 to NOR. _____

[42] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[43] **PLACE** transfer switch 2-XS-62-83 to AUX. _____

Date _____

6.41 System 062 2-L-11A (Auxiliary Instrument Control) Transfer Switch Annunciator Test (continued)

[44] **VERIFY** Annunciator Window 148-B ALARMS. _____

[45] **PLACE** transfer switch 2-XS-62-83 to NOR. _____

[46] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[47] **PLACE** transfer switch 2-XS-62-69 to AUX. _____

[48] **VERIFY** Annunciator Window 148-B ALARMS. _____

[49] **PLACE** transfer switch 2-XS-62-69 to NOR. _____

[50] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[51] **PLACE** transfer switch 2-XS-62-143 to AUX. _____

[52] **VERIFY** Annunciator Window 148-B ALARMS. _____

[53] **PLACE** transfer switch 2-XS-62-143 to NOR. _____

[54] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[55] **PLACE** transfer switch 2-XS-62-84 to AUX. _____

[56] **VERIFY** Annunciator Window 148-B ALARMS. _____

[57] **PLACE** transfer switch 2-XS-62-84 to NOR. _____

[58] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[59] **PLACE** transfer switch 2-XS-62-237 to AUX. _____

[60] **VERIFY** Annunciator Window 148-B ALARMS. _____

[61] **PLACE** transfer switch 2-XS-62-237 to NOR. _____

[62] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[63] **PLACE** transfer switch 2-XS-62-86 to AUX. _____

[64] **VERIFY** Annunciator Window 148-B ALARMS. _____

[65] **PLACE** transfer switch 2-XS-62-86 to NOR. _____

Date _____

6.41 System 062 2-L-11A (Auxiliary Instrument Control) Transfer Switch Annunciator Test (continued)

[66] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[67] **PLACE** transfer switch 2-XS-62-72 to AUX. _____

[68] **VERIFY** Annunciator Window 148-B ALARMS. _____

[69] **PLACE** transfer switch 2-XS-62-72 to NOR. _____

[70] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[71] **PLACE** transfer switch 2-XS-62-70 to AUX. _____

[72] **VERIFY** Annunciator Window 148-B ALARMS. _____

[73] **PLACE** transfer switch 2-XS-62-70 to NOR. _____

[74] **ENSURE** Annunciator Window 148-B, CLEAR. _____

[75] **PLACE** transfer switch 2-XS-62-56 to AUX. _____

[76] **VERIFY** Annunciator Window 148-B ALARMS. _____

[77] **PLACE** transfer switch 2-XS-62-56 to NOR. _____

[78] **ENSURE** Annunciator Window 148-B, CLEAR. _____

Date _____

6.42 System 062 2-L-11B (Auxiliary Instrument Control) Transfer Switch Annunciator Test

[1] **VERIFY** Prerequisites for this subsection are been complete. _____

[2] **ENSURE** Annunciator Window 148-C "ACR PNL 2-L-11B" CLEAR. _____

[3] **PLACE** transfer switch 2-XS-62-77 to AUX. _____

[4] **VERIFY** Annunciator Window 148-C ALARMS. _____

[5] **PLACE** transfer switch 2-XS-62-77 to NOR. _____

[6] **ENSURE** Annunciator Window 148-C, CLEAR. _____

[7] **PLACE** transfer switch 2-XS-62-22 to AUX. _____

[8] **VERIFY** Annunciator Window 148-C ALARMS. _____

[9] **PLACE** transfer switch 2-XS-62-22 to NOR. _____

[10] **ENSURE** Annunciator Window 148-C, CLEAR. _____

[11] **PLACE** transfer switch 2-XS-62-78 to AUX. _____

[12] **VERIFY** Annunciator Window 148-C ALARMS. _____

[13] **PLACE** transfer switch 2-XS-62-78 to NOR. _____

[14] **ENSURE** Annunciator Window 148-C, CLEAR. _____

[15] **PLACE** transfer switch 2-XS-62-48 to AUX. _____

[16] **VERIFY** Annunciator Window 148-C ALARMS. _____

[17] **PLACE** transfer switch 2-XS-62-48 to NOR. _____

[18] **ENSURE** Annunciator Window 148-C, CLEAR. _____

[19] **PLACE** transfer switch 2-XS-62-81 to AUX. _____

[20] **VERIFY** Annunciator Window 148-C ALARMS. _____

[21] **PLACE** transfer switch 2-XS-62-81 to NOR.

Date _____

6.42 System 062 2-L-11B (Auxiliary Instrument Control) Transfer Switch Annunciator Test (continued)

[22] **ENSURE** Annunciator Window 148-C, CLEAR. _____

[23] **PLACE** transfer switch 2-XS-62-54, EXCESS LETDOWN ISO VLV, to AUX. _____

[24] **VERIFY** Annunciator Window 148-C ALARMS. _____

[25] **PLACE** transfer switch 2-XS-62-54, EXCESS LETDOWN ISO VLV, to NOR. _____

[26] **ENSURE** Annunciator Window 148-C, CLEAR. _____

[27] **PLACE** transfer switch 2-XS-62-85 to AUX. _____

[28] **VERIFY** Annunciator Window 148-C ALARMS. _____

[29] **PLACE** transfer switch 2-XS-62-85 to NOR. _____

[30] **ENSURE** Annunciator Window 148-C, CLEAR. _____

[31] **PLACE** transfer switch 2-XS-62-55 to AUX. _____

[32] **VERIFY** Annunciator Window 148-C ALARMS. _____

[33] **PLACE** transfer switch 2-XS-62-55 to NOR. _____

[34] **ENSURE** Annunciator Window 148-C, CLEAR. _____

[35] **PLACE** transfer switch 2-XS-62-93 to AUX. _____

[36] **VERIFY** Annunciator Window 148-C ALARMS. _____

[37] **PLACE** transfer switch 2-XS-62-93 to NOR. _____

[38] **ENSURE** Annunciator Window 148-C, CLEAR. _____

[39] **PLACE** transfer switch 2-XS-62-59 to AUX. _____

[40] **VERIFY** Annunciator Window 148-C ALARMS. _____

[41] **PLACE** transfer switch 2-XS-62-59 to NOR. _____

[42] **ENSURE** Annunciator Window 148-C, CLEAR. _____

Date _____

6.43 System 062 131-F "ESF Component NOT Normal" Annunciator Test

[1] **VERIFY** Prerequisites for this subsection have been completed. _____

[2] **ENSURE** Annunciator Window 131-F "ESF COMPONENT NOT NORMAL" CLEAR. _____

[3] **CLOSE** 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] using 2-HS-62-63A. _____

[4] **VERIFY** Annunciator Window 131-F ALARMS. _____

[5] **OPEN** 2-FCV-62-63, CVCS SEAL WATER RETURN HEADER ISOL [A11W 713] using 2-HS-62-63A. _____

[6] **ENSURE** Annunciator Window 131-F, CLEAR. _____

[7] **CLOSE** 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] using 2-HS-62-61A. _____

[8] **VERIFY** Annunciator Window 131-F ALARMS. _____

[9] **OPEN** valve 2-FCV-62-61, SEAL FLOW RET ISO VLV [AZ280 726] using 2-HS-62-61A. _____

[10] **ENSURE** Annunciator Window 131-F, CLEAR. _____

Date _____

6.44 System 062 99-E "RCP Seal Bypass Flow LO" Annunciator Test

[1] **VERIFY** Prerequisites for this subsection have been completed. _____

[2] **PLACE** 2-HS-62-53A in CLOSE. _____

[3] **ENSURE** the following valves are CLOSED:

		INIT	CV
2-ISIV-62-420B	ISOL VLV TO 2-FIS-62-38	_____	_____
2-ISIV-62-421B	ISOL VLV TO 2-FIS-62-38	_____	_____
2-ISIV-62-426B	ISOL VLV TO 2-FIS-62-25	_____	_____
2-ISIV-62-427B	ISOL VLV TO 2-FIS-62-25	_____	_____
2-ISIV-62-432C	ISOL VLV TO 2-FIS-62-12	_____	_____
2-ISIV-62-433C	ISOL VLV TO 2-FIS-62-12	_____	_____
2-ISIV-62-438C	ISOL VLV TO 2-FIS-62-51	_____	_____
2-ISIV-62-439C	ISOL VLV TO 2-FIS-62-51	_____	_____

[4] **ATTACH** a Pressure Source to the High side Calibration Fitting on the following Instruments, **AND**

INCREASE test pressure to > 3.6 IN WC.

2-FIS-62-12	RCP 1 NO 1 SEAL BYPASS FLOW ALM	_____
2-FIS-62-25	RCP 2 #1 SEAL BYPASS FLOW ALM	_____
2-FIS-62-38	RCP 3 #1 SEAL BYPASS FLOW ALM	_____
2-FIS-62-51	RCP 4 NO 1 SEAL BYPASS FLOW ALM	_____

[5] **PLACE** 2-HS-62-53A in OPEN. _____

[6] **VERIFY** Annunciator Window 99-E "RCP SEAL BYPASS FLOW LO" CLEAR. _____

Date _____

6.44 System 062 99-E "RCP Seal Bypass Flow LO" Annunciator Test (continued)

[7] **DECREASE** the test pressure on 2-FIS-62-12, RCP 1 NO 1 SEAL BYPASS FLOW ALM, High side Calibration Fitting to < 3.6 IN WC. _____

[8] **VERIFY** Annunciator Window 99-E "RCP SEAL BYPASS FLOW LO" ALARMS. _____

[9] **INCREASE** the test pressure on 2-FIS-62-12, RCP 1 NO 1 SEAL BYPASS FLOW ALM, High side Calibration Fitting to > 3.6 IN WC. _____

[10] **VERIFY** Annunciator Window 99-E "RCP SEAL BYPASS FLOW LO" CLEARS. _____

[11] **DECREASE** the test pressure on 2-FIS-625, RCP 2 #1 SEAL BYPASS FLOW ALM, High side Calibration Fitting to < 3.6 IN WC. _____

[12] **VERIFY** Annunciator Window 99-E "RCP SEAL BYPASS FLOW LO" ALARMS. _____

[13] **INCREASE** the test pressure on 2-FIS-62-25, RCP 2 #1 SEAL BYPASS FLOW ALM, High side Calibration Fitting to > 3.6 IN WC. _____

[14] **VERIFY** Annunciator Window 99-E "RCP SEAL BYPASS FLOW LO" CLEARS. _____

[15] **DECREASE** the test pressure on 2-FIS-62-38, RCP 3 #1 SEAL BYPASS FLOW ALM, High side Calibration Fitting to < 3.6 IN WC. _____

[16] **VERIFY** Annunciator Window 99-E "RCP SEAL BYPASS FLOW LO" ALARMS. _____

[17] **INCREASE** the test pressure on 2-FIS-62-38, RCP 3 #1 SEAL BYPASS FLOW ALM, High side Calibration Fitting to > 3.6 IN WC. _____

[18] **VERIFY** Annunciator Window 99-E "RCP SEAL BYPASS FLOW LO" CLEARS. _____

Date _____

6.44 System 062 99-E "RCP Seal Bypass Flow LO" Annunciator Test (continued)

[19] **DECREASE** the test pressure on 2-FIS-62-51, RCP 4 NO 1 SEAL BYPASS FLOW ALM, High side Calibration Fitting to < 3.6 IN WC. _____

[20] **VERIFY** Annunciator Window 99-E "RCP SEAL BYPASS FLOW LO" ALARMS. _____

[21] **INCREASE** the test pressure on 2-FIS-62-51, RCP 4 NO 1 SEAL BYPASS FLOW ALM, High side Calibration Fitting to < 3.6 IN WC. _____

[22] **VERIFY** Annunciator Window 99-E "RCP SEAL BYPASS FLOW LO" CLEARS. _____

[23] **PLACE** 2-HS-62-53A in CLOSE. _____

[24] **DECREASE** the test pressure on the following instruments High side Calibration Fitting to 0 IN WC.

2-FIS-62-12 RCP 1 NO 1 SEAL BYPASS FLOW ALM _____

2-FIS-62-25 RCP 2 #1 SEAL BYPASS FLOW ALM _____

2-FIS-62-38 RCP 3 #1 SEAL BYPASS FLOW ALM _____

2-FIS-62-51 RCP 4 NO 1 SEAL BYPASS FLOW ALM _____

Date _____

6.44 System 062 99-E "RCP Seal Bypass Flow LO" Annunciator Test (continued)

[25] **REMOVE** Pressure Source on the High side Calibration Fitting of the following Instruments, **AND**

INSTALL Caps

		INIT	IV
2-FIS-62-12	RCP 1 NO 1 SEAL BYPASS FLOW ALM	_____	_____
2-FIS-62-25	RCP 2 #1 SEAL BYPASS FLOW ALM	_____	_____
2-FIS-62-38	RCP 3 #1 SEAL BYPASS FLOW ALM	_____	_____
2-FIS-62-51	RCP 4 NO 1 SEAL BYPASS FLOW ALM	_____	_____

[26] **ENSURE** the following valves are OPEN:

		INIT	IV
2-ISIV-62-420B	ISOL VLV TO 2-FIS-62-38	_____	_____
2-ISIV-62-421B	ISOL VLV TO 2-FIS-62-38	_____	_____
2-ISIV-62-426B	ISOL VLV TO 2-FIS-625	_____	_____
2-ISIV-62-427B	ISOL VLV TO 2-FIS-625	_____	_____
2-ISIV-62-432C	ISOL VLV TO 2-FIS-62-12	_____	_____
2-ISIV-62-433C	ISOL VLV TO 2-FIS-62-12	_____	_____
2-ISIV-62-438C	ISOL VLV TO 2-FIS-62-51	_____	_____
2-ISIV-62-439C	ISOL VLV TO 2-FIS-62-51	_____	_____

Date _____

7.0 POST PERFORMANCE ACTIVITY

NOTE

Post-performance steps may be performed in any order unless otherwise stated and should be completed as close in time as practicable to the end of the instruction performance

[1] **NOTIFY** the Unit 2 US/SRO of the test completion and system alignment. _____

[2] **VERIFY** that Post-test calibration of the M&TE used to record quantitative acceptance criteria has been satisfactorily performed, **AND**

RECORD the results on Measuring and Test Equipment (M&TE) Log. _____

[3] **VERIFY** that Post-test calibration of permanent plant instruments used to record quantitative acceptance criteria has been satisfactorily performed, **AND**

RECORD the results on Appendix C, Permanent Plant Instrumentation Log. _____

8.0 RECORDS

A. QA Records

Complete Test Package

B. Non-QA Records

None

Appendix A
(Page 1 of 1)

TEST PROCEDURES/INSTRUCTIONS REFERENCE REVIEW

Date _____

NOTES

1) Additional copies of this table may be made as necessary.
2) Initial and date indicates review has been completed for impact.

PROCEDURE/ INSTRUCTION	REVISION/ CHANGES	IMPACT Yes/No	INITIAL, AND DATE. (N/A for no change)
FSAR Chapter 14			
2-TSD-62-01			
WBN2-62-4001			

_____ _____
Test Engineer Signature Date

Appendix B
(Page 1 of 1)

TEMPORARY CONDITION LOG

Date _____

Additional copies of this table may be made as necessary.

ITEM No.	TEMPORARY CONDITION DESCRIPTION	PERFORMED		RETURNED TO NORMAL	
		Step No.	Performed By/Date CV By/Date	Step No.	Returned By/Date CV By/Date

Appendix C
(Page 1 of 2)

PERMANENT PLANT INSTRUMENTATION LOG

INSTRUMENT OR INSTRUMENT LOOP #	CAL DUE DATE	ACCURACY	FILLED *, AND VENTED	PLACED IN SERVICE *	USED FOR QUANTITATIVE ACC CRIT		POST-TEST CAL DATE**	POST-TEST CALIBRATION ACCEPTABLE INITIAL/DATE
			INIT/ DATE	INIT/DATE	YES	NO		
2-LPF-62-56								
2-LPP-62-81								
2-LPF-62-83								
2-LPT-62-89								
2-LPF-62-93								
2-LS-62-101								
2-PS-62-101								
2-LPL-62-129								
2-LPL-62-130								
2-LPT-62-78								
2-LPL-68-339								

* This data may be entered after approval to perform test.

** May be identified as not required (NR) if instrument was not used to verify/record quantitative acceptance criteria.

Appendix C
(Page 2 of 2)

PERMANENT PLANT INSTRUMENTATION LOG