Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

September 8, 2011

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 Instruction**

The following approved WBN Unit 2 Pre-op Test Instruction (PTI) is enclosed:

PTI NUMBER	Rev.	TITLE
2-PTI-067-03	0	ERCW Valve Logic Test

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

Respectfully,

David Stinson
Watts Bar Unit 2 Vice President

Enclosure
cc (Enclosure):

U. S. Nuclear Regulatory Commission
Region II
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, Georgia 30303-1257

NRC Resident Inspector Unit 2
Watts Bar Nuclear Plant
1260 Nuclear Plant Road
Spring City, Tennessee 37381

D030
NRR

WATTS BAR NUCLEAR PLANT

UNIT 2 STARTUP

TITLE: ERCW Valve Logic Test

Instruction No: 2-PTI-067-03

Revision No: 0000

PREPARED BY: Kurt McCormack / [signature] DATE 7/22/11

PRINT NAME/ SIGNATURE

REVIEWED BY: Jason Brown / [signature] DATE 7/22/11

PRINT NAME/ SIGNATURE

INSTRUCTION APPROVAL

JTG MEETING NO: 2-11-015

JTG CHAIRMAN: _____ DATE 7/11/11

APPROVED BY: _____ DATE 7/11/11

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	9/1/11.	All	Initial Issue based on 1-PTI-067-03 Rev 0

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1.0 INTRODUCTION

1.1 Test Objectives

Demonstrate the capability of each train of the Unit 2 Essential Raw Cooling Water System (ERCW) to supply required cooling water flow to assigned loads in all modes of operation.

1.2 Scope

This PTI will verify the manual and automatic control functions, interlocks, instrumentation and time response associated with the Unit 2 ERCW Non-Safeguard valves functions in accordance with design documents. Unit 2 ERCW valves previously tested during Unit 1 preoperational testing are not included in the scope of this PTI.

2.0 REFERENCES

2.1 Performance References

A. SMP-9.0, Conduct Of Test

B. SOI-30.03, Containment HVAC and Pressure Control

2.2 Developmental References

A. Unit 2 Final Safety Analysis Report - Amendment 104

1. Section 9.2.1
2. Table 14.2-1, Sheet 4 and 5 of 89

B. Drawings

1. Flow Diagrams

a. 2-47W845-2 Rev 2, Flow Diagram Essential Raw Cooling Water

b. 2-47W845-3 Rev 3, Flow Diagram Essential Raw Cooling Water

c. 2-47W848-5 Rev 2, Flow Diagram Control Air

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2.2 Developmental References (continued)

d. 2-47W848-9 Rev 1, Flow Diagram Control Air

2. Electrical

a. 2-45W600-67-1 Rev 0, Essential Raw Cooling Water System Schematic Diagram Sh 1

54124-34 Rev 0

b. 2-45W600-67-2 Rev 0, Essential Raw Cooling Water System Schematic Diagram Sh 2

c. 2-45W760-30-8 Rev 1, Ventilating System Schematic Diagrams

d. 2-45W760-30-9 Rev 1, Ventilating System Schematic Diagrams

e. 2-45W760-30-10 Rev 1, Ventilating System Schematic Diagrams

f. 2-45W760-30-15 Rev 0, Ventilating System Schematic Diagrams

53296-62 Rev 1
53296-63 Rev 1

g. 1-45W760-55-1A Rev 13, Annunciator System Schematic Diagrams

h. 1-45W760-55-2A Rev 12, Annunciator System Schematic Diagrams

52630-136 Rev 0

i. 1-45W760-55-3A Rev 3, Annunciator System Schematic Diagrams

j. 2-45W760-67-9 Rev 0, ERCW System Schematic Diagrams

53288-54 Rev 1
53288-60 Rev 1
53293-23 Rev 1
53293-25 Rev 1

k. 1-45W760-67-10 Rev 14, ERCW System Schematic Diagrams

55477-212 Rev 0
55477-226 Rev 0

l. 2-45W760-67-10 Rev 0, ERCW System Schematic Diagrams

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2.2 Developmental References (continued)

m. 1-45W760-67-17 Rev 5, ERCW System Schematic Diagrams

54912-322 Rev 0
55477-209 Rev 0

n. 2-45W760-67-17 Rev 0, ERCW System Schematic Diagrams

o. 2-45W760-270-2 Rev 1, ERCW Miscellaneous System Schematic Diagrams

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

52343-236 Rev 0
52427-14 Rev 0

q. 2-45B655-E6F Rev 0, Annunciator Window Box XA-55-6F Engraving

52343-237 Rev 0
52427-15 Rev 0

r. 2-45W703-7A ANT, 125V Vital Battery BD III PNL 4 Connection Diagram Sh-7A

Anticipated, used As Designed drawing

s. 2-45W703-8A ANT, 125V Vital Battery BD IV PNL 4 Connection Diagram Sh-8A

Anticipated, used As Designed drawing

t. 2-45W706-1 Rev 0, 120V AC Vital Inst. PWR Bds. 1-I & 2-I Connection Diagram Sheet 1

u. 2-45W706-2 ANT, 120V AC Vital Inst. PWR Bds. 1-II & 2-II Connection Diagram Sheet 2

Anticipated, Used Unit 1 CC version

v. 2-45W756-1 Rev 0, 480V Cont & Aux Bldg Vent BD 1A1-A & 2A1-A Single Line Sh 1

w. 2-45W756-2 Rev 0, 480V Cont & Aux Bldg Vent BD 1A1-A & 2A1-A Single Line Sh 2

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2.2 Developmental References (continued)

x. 2-45W756-6 Rev 0, 480V Cont & Aux Bldg Vent BD 1B1-B & 2B1-B Single Line Sh 2

y. 2-45W751-4 Rev 4, 480V Reac MOV Bd 2A2-A Single Line Sh-1

53288-81 Rev 1
54903-248 Rev 0

z. 2-45W751-5 Rev 3, 480V Reac MOV Bd 2A2-A Single Line Sh-2

aa. 2-45W751-6 Rev 0, 480V Reac MOV Bd 2A2-A Single Line Sh-3

bb. 2-45W751-10 Rev 4, 480V Reac MOV Bd 2B2-B Single Line Sh-1

53293-70 Rev 1
54903-249 Rev 0

cc. 45N2689-1 Rev 11, Separation Aux Relay PNL 2-R-74 Connection Diagram Sh-1

dd. 45N2689-4 Rev 18, Separation Aux Relay PNL 2-R-74 Connection Diagram Sh-4

ee. 45N2692-1 Rev 14, Separation Aux Relay PNL 2-R-77 Connection Diagram Sh-1

ff. 45N2692-4 Rev 17, Separation Aux Relay PNL 2-R-77 Connection Diagram Sh-4

gg. 45B2767-11A Rev G, 480V Reactor MOV Bd. 2A2-A Conn Diag Compt. 11A

54912-136 Rev 1

hh. 45B2767-15A Rev H, 480V Reactor MOV Bd. 2A2-A Conn Diag Compt. 15A

54912-133 Rev 1

ii. 45B2769-5E Rev 5, 480V Reac. MOV Bd 2B2-B Connection Diagram Compt 5E

53293-22 Rev 1

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2.2 Developmental References (continued)

jj. 45B2769-5F Rev H, 480V Reac. MOV Bd 2B2-B Connection Diagram Compt 5F

kk. 45B2767-5E Rev J, 480V Reac. MOV Bd 2A2-A Connection Diagram Compt 5E

ll. 45B2767-5F Rev H, 480V Reac. MOV Bd 2A2-A Connection Diagram Compt 5F

mm. 45N2635-69 Rev 8, Wiring Diagram Local Instrument Panels Connection Diagram

3. Logic/Control

a. 2-47W610-67-2 Rev 4, Electrical Control Diagram ERCW System

b. 2-47W610-67-3 Rev 6, Electrical Control Diagram ERCW System

53817-31 Rev 0

c. 2-47W611-67-3 Rev 3, Electrical Logic Diagram Essential Raw Cooling Water

d. 2-47W611-67-4 Rev 0, Electrical Logic Diagram Essential Raw Cooling Water

e. 2-45B640-6 ANT, Contact Development of Selector Switches and Pushbuttons

Anticipated, used DRA 52363-82 Rev 0

f. 2-45B640-7A ANT, Contact Development of Selector Switches and Pushbuttons

Anticipated, used DRA 52363-83 Rev 2

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

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2.2 Developmental References (continued)

C. Documents

1. 2-TSD-67 Rev 2, Essential Raw Cooling Water System
2. SOI-30.03 Rev 42, Containment HVAC and Pressure Control

   To be verified against 2-SOI-30.03, Containment HVAC and Pressure Control [Later] in Appendix A.
3. WBN2-67-4002 Rev 1, Essential Raw Cooling Water System Description

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3.0 PRECAUTIONS AND LIMITATIONS

A. Standard precautions shall be followed for working around energized electrical equipment in accordance with TVA Safety 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 (e.g. 2-HS-31-468 vs. 2-HS-031-0468) and the noun description is sufficient to identify the component. This condition does not require a TDN in accordance with 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 contaminated areas.

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

I. Safety Related Valves will be stroke timed locally at the valve and remotely at the control switch in both the open and close directions. Local timing begins with the initiating signal and is concluded with the completion of valve stem movement. Remote timing begins with the initiating signal and is concluded with the position indication lights status change. Stroke time acceptance criteria will be based on the movement to the safety function final position of the valve.

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3.0 PRECAUTIONS AND LIMITATIONS (continued)

J. Specific testing NOT performed in 2-PTI-067-03 for the following ERCW valves is tested in the listed preoperational test:

2-TCV-67-129, 2-PTI-30G-01

2-TCV-67-132, 2-PTI-30G-01

2-TCV-67-137, 2-PTI-30G-01

2-TCV-67-140, 2-PTI-30G-01

K. Control Air Isolation Valves and Pressure Regulators for System 67 TCVs are located near the affected TCV.

L. Portions of the ERCW System may be taken out of service during performance of this test. All testing activities are to be closely coordinated with Operations to ensure potential conflicts with other plant activities are identified and addressed in a timely manner.

M. Plant-wide announcements may need to be made before starting lower compartment coolers, control rod drive vent coolers and upper compartment coolers. Coordinate with Operations for announcements and local observers to ensure the areas around the fan(s) are clear of people.

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.

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4.0 PREREQUSITE ACTIONS

4.1 Preliminary Actions

[1] **EVALUATE** open items in 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, Drawings and References, have been reviewed, and determined NOT to adversely affect the test performance. _____

[3] **VERIFY** current revisions and change paper for referenced drawings have 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 and as needed, each test person assisting in this test has the current revision. _____

[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] **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. _____

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

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4.1 Preliminary Actions (continued)

[8] **ENSURE** a review of outstanding clearances has been coordinated with operations for impact to the test, **AND**

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

[9] **VERIFY** System cleanliness as required for the performance of this test has been completed in accordance with SMP-7.0. _____

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

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

[12] **ENSURE** System 55, Annunciator and Sequential Events Recording System applicable TBK switches are ON, the applicable Master Switches are ON, and window software input(s) are ENABLED for the following Annunciator windows.

2-XA-55-6F/148-B, (ACR PNL 2-L-11A) _____

2-XA-55-6F/148-C, (ACR PNL 2-L-11B) _____

2-XA-55-6F/149-C, (480 RX MOV BD 2A1-A/2A2-A) _____

[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] **ENSURE** communications is established in areas where testing is to be conducted. _____

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4.1 Preliminary Actions (continued)

[17] **VERIFY** the following systems are operational and have been placed in service to the extent necessary to perform this test:

- System 55, Plant Annunciator System. _____
- System 261, Plant Integrated Computer System (ICS). _____
- System 32, Control Air System. _____
- System 30J, Upper/Lower Containment Cooler System. _____
- System 30K, CRD Mechanism Cooling System. _____

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

A. Two Digital Stopwatches (Subsections 6.1-6.6).

B. Fuse puller (Subsections 6.7-6.18).

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4.3 Field Preparations

[1] **ENSURE** the following have been filled and vented:

A. 2-HTX-072-2A-A, CONTAINMENT SPRAY HEAT EXCHANGER 2A-A _____

B. 2-HTX-072-2B-B, CONTAINMENT SPRAY HEAT EXCHANGER 2B-B _____

[2] **VERIFY** the following breakers are in the CLOSE position:

A. Breaker 5E at 480V RMOV BD 2B2-B (Subsection 6.1). _____

B. Breaker 5F at 480V RMOV BD 2B2-B (Subsection 6.2). _____

C. Breaker 5F at 480V RMOV BD 2A2-A (Subsection 6.3). _____

D. Breaker 5E at 480V RMOV BD 2A2-A (Subsection 6.4). _____

E. Breaker 11A at 480V RMOV BD 2A2-A (Subsection 6.6). _____

F. Breaker 15A at 480V RMOV BD 2A2-A (Subsection 6.5). _____

G. Breaker 310 at 125V VITAL DC BATTERY BD III, Panel 4 (Subsection 6.7, 6.8, 6.11, 6.12, 6.15 and 6.16). _____

H. Breaker 311 at 125V VITAL DC BATTERY BD III, Panel 4 (Subsection 6.7, 6.8, 6.11 and 6.12). _____

I. Breaker 310 at 125V VITAL DC BATTERY BD IV, Panel 4 (Subsection 6.8[26], 6.10, 6.13, 6.14, 6.17 and 6.18). _____

J. Breaker 311 at 125V VITAL DC BATTERY BD IV, Panel 4 (Subsection 6.8[26], 6.10, 6.13 and 6.14). _____

K. Breaker 15 at 120VAC VITAL INSTR POWER BD 2-II (Subsection 6.21, 6.22). _____

L. Breaker 16 at 120VAC VITAL INSTR POWER BD 2-I (Subsection 6.19, 6.20). _____

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4.4 Approvals and Notifications

[1] **OBTAIN** permission from the Preoperational Startup Manager to begin testing.

_____ _____
Preoperational Startup Manager Date

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

_____ _____
US/SRO/SM Signature Date

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5.0 ACCEPTANCE CRITERIA

[1] Each of the following valves will operate from applicable control stations:

A. 2-FCV-67-123-B (Step 6.1[22])

B. 2-FCV-67-124-B (Step 6.2[22])

C. 2-FCV-67-126-A (Step 6.3[22])

D. 2-FCV-67-125-A (Step 6.4[22])

E. 2-FCV-67-143-A (Step 6.5[34])

F. 2-FCV-67-146-A (Step 6.6[44])

[2] During a simulated overload condition, each of the following valves will operate with the thermal overload protective device bypass in effect, and WILL NOT operate with the overload protective device bypass reset:

A. 2-FCV-67-123-B (Step 6.1[14], 6.1[17])

B. 2-FCV-67-124-B (Step 6.2[14], 6.2[17])

C. 2-FCV-67-126-A (Step 6.3[14], 6.3[17])

D. 2-FCV-67-125-A (Step 6.4[14], 6.4[17])

E. 2-FCV-67-143-A (Step 6.5[24], 6.5[27])

F. 2-FCV-67-146-A (Step 6.6[34], 6.6[37])

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5.0 ACCEPTANCE CRITERIA (continued)

[3] Each of the following valves will operate within time response associated with the Unit 2 ERCW Non-Safeguard valves functions:

A. 2-FCV-67-123-B opens in ≤ 70 Seconds (Step 6.1[20])

B. 2-FCV-67-124-B opens in ≤ 70 Seconds (Step 6.2[20])

C. 2-FCV-67-126-A opens in ≤ 70 Seconds (Step 6.3[20])

D. 2-FCV-67-125-A opens in ≤ 70 Seconds (Step 6.4[20])

E. 2-FCV-67-143-A opens in ≤ 180 Seconds (Step 6.5[30])

F. 2-FCV-67-143-A closes in ≤ 180 Seconds (Step 6.5[32])

G. 2-FCV-67-146-A opens in ≤ 60 Seconds (Step 6.6[40])

H. 2-FCV-67-146-A closes in ≤ 60 Seconds (Step 6.6[42])

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5.0 ACCEPTANCE CRITERIA (continued)

[4] The following ERCW temperature control valves (TCVs) respond as described below:

A. 2-TCV-67-86-A OPENS upon Reactor Coolant Pump Motor 1 start signal and closes when manually overridden from its control switch (Step 6.15[7], 6.15[9]).

B. 2-TCV-67-94-A OPENS upon Reactor Coolant Pump Motor 3 start signal and closes when manually overridden from its control switch (Steps 6.16[7], 6.16[9]).

C. 2-TCV-67-102-B OPENS upon Reactor Coolant Pump Motor 2 start signal and closes when manually overridden from its control switch (Steps 6.17[7], 6.17[9]).

D. 2-TCV-67-110-B OPENS upon Reactor Coolant Pump Motor 4 start signal and closes when manually overridden from its control switch (Steps 6.18[7], 6.18[9]).

E. 2-TCV-67-84-A OPENS to modulate upon Lower Compartment Vent Cooler 2A start and closes when manually overridden from one of its control switches (Step 6.7[7]A, 6.7[11]A, 6.7[12], 6.7[15]).

F. 2-TCV-67-85-A OPENS to modulate upon Control Rod Drive Vent Cooler 2A start and closes when manually overridden from one of its control switches (Step 6.11[7]A, 6.11[11]A, 6.11[12], 6.11[15]).

G. 2-TCV-67-92-A OPENS to modulate upon Lower Compartment Vent Cooler 2C start and CLOSES when manually overridden from one of its control switches (Step 6.8[7]A, 6.8[11]A, 6.8[12], 6.8[15]).

H. 2-TCV-67-93-A OPENS to modulate upon Control Rod Drive Vent Cooler 2C start and closes when manually overridden from one of its control switches (Step 6.12[7]A, 6.12[11]A, 6.12[12], 6.12[15]).

I. 2-TCV-67-100-B OPENS to modulate upon Lower Compartment Vent Cooler 2B start and closes when manually overridden from one of its control switches (Step 6.9[7]A, 6.9[11]A, 6.9[12], 6.9[15]).

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5.0 ACCEPTANCE CRITERIA (continued)

J. 2-TCV-67-101-B OPENS to modulate upon Control Rod Drive Vent Cooler 2B start and CLOSES when manually overridden from one of its control switches (Step 6.13[7]A, 6.13[11]A, 6.13[12], 6.13[15]).

K. 2-TCV-67-108-B OPENS to modulate upon Lower Compartment Vent Cooler 2D start and CLOSES when manually overridden from one of its control switches (Step 6.10[7]A, 6.10[11]A, 6.10[12], 6.10[15]).

L. 2-TCV-67-109-B OPENS to modulate upon Control Rod Drive Vent Cooler 2D start and CLOSES when manually overridden from one of its control switches (Step 6.14[7]A, 6.14[11]A, 6.14[12], 6.14[15]).

M. 2-TCV-67-129 OPENS to modulate upon Upper Compartment Vent Cooler 2A start (Step 6.19[8]).

N. 2-TCV-67-132 OPENS to modulate upon Upper Compartment Vent Cooler 2C start (Step 6.20[8]).

O. 2-TCV-67-137 OPENS to modulate upon Upper Compartment Vent Cooler 2B start (Step 6.21[8]).

P. 2-TCV-67-140 OPENS to modulate upon Upper Compartment Vent Cooler 2D start (Step 6.22[8]).

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6.0 PERFORMANCE

NOTE

The subsections of this PTI may be performed in any order.

6.1 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test

CAUTION

Performance of this section will temporarily OPEN CNTMT SPRAY HX 2B-B ERCW Supply Header. Coordinate with Operations and Chemistry.

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 are complete. _____

[2] **ENSURE** the following Integrated Computer System (ICS) points are in scan:

A. FD2293 _____

B. FD2294 _____

[3] **PLACE** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-124-B, CNTMT SPRAY HX 2B-B ERCW RETURN, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-124A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-124A at Panel 0-M-27A. _____

[4] **PLACE** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, located at Panel 0-M-27A, to the OPEN position, **AND**

VERIFY 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY, is OPEN at the valve (A11-U, EL 746). _____

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6.1 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[5] **PLACE** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY, is CLOSED (locally). _____

B. Red Light OFF at 2-HS-67-123A (0-M-27A). _____

C. Green Light ON at 2-HS-67-123A. _____

D. ICS point FD2294 displays CLOSED. _____

[6] **OPEN** breaker at Compt 5E of 480V RMOV BD 2B2-B, **AND**

VERIFY ICS point FD2293 displays PWR OFF. _____

[7] **CLOSE** breaker at Compt 5E of 480V RMOV BD 2B2-B, **AND**

VERIFY ICS point FD2293 displays PWR ON. _____

[8] **PLACE** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, to the OPEN position, **AND**

VERIFY the following:

A. 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY, is OPEN (locally). _____

B. Red Light ON for 2-HS-67-123A at Panel 0-M-27A. _____

C. Green Light OFF for 2-HS-67-123A at Panel 0-M-27A. _____

D. ICS point FD2294 displays NOT CLS. _____

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6.1 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[9] **PLACE** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY, is CLOSED (locally). _____

B. Red Light OFF at 2-HS-67-123A (0-M-27A). _____

C. Green Light ON at 2-HS-67-123A. _____

[10] **OPEN** Breaker 5E at 480V RMOV BD 2B2-B. _____

[11] **MANUALLY TRIP** the thermal overload circuitry at Compt 5E on 480V RMOV BD 2B2-B. _____

[12] **CLOSE** Breaker 5E at 480V RMOV BD 2B2-B. _____

[13] **PLACE** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, in the OPEN position, **AND**

VERIFY 2-FCV-67-123-B DOES NOT OPEN. _____

[14] **WHILE HOLDING** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, in the OPEN position, **DEPRESS, AND**

HOLD Armature of Overload Bypass Relay K3 in rear of 480V Reactor MOV Bd 2B2-B, CMPT 6F, to simulate Overload Bypass, **AND**

VERIFY 2-FCV-67-123-B OPENS. (**ACC CRIT**) _____

[15] **PLACE** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, to the CLOSE position, **AND**

VERIFY 2-FCV-67-123-B CLOSES. _____

[16] **RELEASE** K3 Relay Armature. _____

Data Package: Page ____ of ____ **Date _____**

6.1 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[17] **PLACE** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, to the OPEN position, **AND**

VERIFY 2-FCV-67-123-B DOES NOT OPEN. (**ACC CRIT**) _____

[18] **MOMENTARILY DEPRESS** the thermal overload reset button at Compt 5E on 480V RMOV BD 2B2-B. _____

NOTES

1) The following step requires valve stroke timing locally at the valve and remotely at the Control Switch in the Open position.
2) Local timing begins with the initiating signal and is concluded with the completion of valve stem movement. Remote timing begins with the initiating signal and is concluded with the position indication lights status change. Stroke time acceptance criteria will be based on the movement to the safety function final position of the valve.

[19] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-123A to the OPEN position, **AND**

START stopwatches. _____

Data Package: Page ____ of ____ **Date _____**

6.1 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[20] **STOP** stopwatches when 2-FCV-67-123-B reaches the OPEN position, **AND**

RECORD stroke times below:

[20.1] **RECORD** remote opening time at 2-HS-67-123A (**ACC CRIT**) _____

_____ seconds (≤ 70 seconds) _____

M&TE _____ Cal Due Date _____ _____

[20.2] **RECORD** local opening time at 2-FCV-67-123-B (**ACC CRIT**)

_____ seconds (≤ 70 seconds) _____

M&TE _____ Cal Due Date _____ _____

[21] **PLACE** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY, is CLOSED (locally). _____

B. Red Light OFF at 2-HS-67-123A (0-M-27A). _____

C. Green Light ON at 2-HS-67-123A. _____

[22] **VERIFY** the successful completion of this Subsection 6.1 (**ACC CRIT**). _____

Data Package: Page ____ of ____ Date _____

6.2 2-FCV-67-124-B CNTMT SPRAY HX 2B-B ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test

CAUTION

Performance of this section will temporarily OPEN CNTMT SPRAY HX 2B-B ERCW RETURN Header. Coordinate with Operations and Chemistry.

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 are complete. _____

[2] **ENSURE** the following Integrated Computer System (ICS) points are in scan:

A. FD2295 _____

B. FD2296 _____

[3] **VERIFY/PLACE** 2-HS-67-123A, CNTMT SPRAY HX 2B INLET, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-123-B, CNTMT SPRAY HX 2B-B ERCW SUPPLY, is CLOSED (locally). _____

B. Red Light OFF at 2-HS-67-123A (0-M-27A). _____

C. Green Light ON at 2-HS-67-123A. _____

[4] **PLACE** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN, located at Panel 0-M-27A, to the OPEN position, **AND**

VERIFY 2-FCV-67-124-B, CNTMT SPRAY HX 2B-B ERCW RETURN, is OPEN at the valve (A12-U, EL 730). _____

Data Package: Page ____ of ____ **Date _____**

6.2 2-FCV-67-124-B CNTMT SPRAY HX 2B-B ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[5] **PLACE** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-124-B, CNTMT SPRAY HX 2B-B ERCW RETURN, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-124A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-124A at Panel 0-M-27A. _____

D. ICS point FD2296 displays CLOSED. _____

[6] **OPEN** breaker at Compt 5F of 480V RMOV BD 2B2-B, **AND**

VERIFY ICS point FD2295 displays PWR OFF. _____

[7] **CLOSE** breaker at Compt 5F of 480V RMOV BD 2B2-B, **AND**

VERIFY ICS point FD2295 displays PWR ON. _____

[8] **PLACE** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN, in the OPEN position, **AND**

VERIFY the following:

A. 2-FCV-67-124-B, CNTMT SPRAY HX 2B-B ERCW RETURN, is OPEN (locally). _____

B. Red Light ON for 2-HS-67-124A at Panel 0-M-27A. _____

C. Green Light OFF for 2-HS-67-124A at Panel 0-M-27A. _____

D. ICS Point FD2296 displays NOT CLS. _____

Data Package: Page ____ of ____ **Date** _____

6.2 2-FCV-67-124-B CNTMT SPRAY HX 2B-B ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[9] **PLACE** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-124-B, CNTMT SPRAY HX 2B-B ERCW RETURN, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-124A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-124A at Panel 0-M-27A. _____

[10] **OPEN** Breaker 5F at 480V RMOV BD 2B2-B. _____

[11] **MANUALLY TRIP** the thermal overload circuitry at Compt 5F on 480V RMOV BD 2B2-B. _____

[12] **CLOSE** Breaker 5F at 480V RMOV BD 2B2-B. _____

[13] **PLACE** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN, in the OPEN position, **AND**

VERIFY 2-FCV-67-124-B DOES NOT OPEN. _____

[14] **WHILE HOLDING** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN in the OPEN position, **DEPRESS, AND**

HOLD Armature of Overload Bypass Relay K6 in rear of 480V Reactor MOV Bd 2B2-B, CMPT 6F, to simulate Overload Bypass, **AND**

VERIFY 2-FCV-67-124-B OPENS. (**ACC CRIT**) _____

[15] **PLACE** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN, to the CLOSE position, **AND**

VERIFY 2-FCV-67-124-B CLOSES. _____

[16] **RELEASE** K6 Relay Armature. _____

Data Package: Page ____ of ____ Date _____

6.2 2-FCV-67-124-B CNTMT SPRAY HX 2B-B ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[17] **PLACE** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN, to the OPEN position, **AND**

VERIFY 2-FCV-67-124-B DOES NOT OPEN. (**ACC CRIT**) _____

[18] **MOMENTARILY DEPRESS** the thermal overload reset button on Compt 5F on 480V RMOV BD 2B2-B. _____

NOTES

1) The following step requires valve stroke timing locally at the valve and remotely at the Control Switch in the Open position.
2) Local timing begins with the initiating signal and is concluded with the completion of valve stem movement. Remote timing begins with the initiating signal and is concluded with the position indication lights status change. Stroke time acceptance criteria will be based on the movement to the safety function final position of the valve.

[19] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-124A to the OPEN position, **AND**

START stopwatches. _____

Data Package: Page ____ of ____ **Date _____**

6.2 2-FCV-67-124-B CNTMT SPRAY HX 2B-B ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[20] **STOP** stopwatches when 2-FCV-67-124-B reaches the OPEN position, **AND**

RECORD stroke times below:

[20.1] **RECORD** remote opening time at 2-HS-67-124A (**ACC CRIT**) _____

_____ seconds (≤ 70 seconds) _____

M&TE _____ Cal Due Date _____ _____

[20.2] **RECORD** local opening time at 2-FCV-67-124-B (**ACC CRIT**)

_____ seconds (≤ 70 seconds) _____

M&TE _____ Cal Due Date _____ _____

[21] **PLACE** 2-HS-67-124A, CNTMT SPRAY HX 2B RETURN, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-124-B, CNTMT SPRAY HX 2B-B ERCW RETURN, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-124A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-124A at Panel 0-M-27A. _____

[22] **VERIFY** the successful completion of this Subsection 6.2 (**ACC CRIT**). _____

Data Package: Page ____ of ____ Date _____

6.3 2-FCV-67-126-A CNTMT SPRAY HX 2A-A ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test

CAUTION

Performance of this section will temporarily OPEN CNTMT SPRAY HX 2A-A ERCW RETURN Header. Coordinate with Operations and Chemistry.

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 are complete. _____

[2] **ENSURE** the following Integrated Computer System (ICS) points are in scan:

A. FD2149 _____

B. FD2150 _____

[3] **PLACE** 2-HS-67-125A, CNTMT SPRAY HX 2A-A INLET, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-125-A, CNTMT SPRAY HX 2A-A ERCW SUPPLY, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-125A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-125A at Panel 0-M-27A. _____

[4] **PLACE** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN, located at Panel 0-M-27A, to the OPEN position **AND**

VERIFY 2-FCV-67-126-A, CNTMT SPRAY HX 2A-A ERCW RETURN, is OPEN at the valve (A12-V, EL 730). _____

Data Package: Page ____ of ____ **Date _____**

6.3 2-FCV-67-126-A CNTMT SPRAY HX 2A-A ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[5] **PLACE** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-126-A, CNTMT SPRAY HX 2A-A ERCW RETURN, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-126A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-126A at Panel 0-M-27A. _____

D. ICS point FD2150 displays CLOSED. _____

[6] **OPEN** breaker at Compt 5F of 480V RMOV BD 2A2-A, **AND**

VERIFY ICS point FD2149 displays PWR OFF. _____

[7] **CLOSE** breaker at Compt 5F of 480V RMOV BD 2A2-A, **AND**

VERIFY ICS point FD2149 displays PWR ON. _____

[8] **PLACE** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN, to the OPEN position, **AND**

VERIFY the following:

A. 2-FCV-67-126-A, CNTMT SPRAY HX 2A-A ERCW RETURN, is OPEN (locally). _____

B. Red Light ON for 2-HS-67-126A at Panel 0-M-27A. _____

C. Green Light OFF for 2-HS-67-126A at Panel 0-M-27A. _____

Data Package: Page ____ of ____ **Date _____**

6.3 2-FCV-67-126-A CNTMT SPRAY HX 2A-A ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[9] **PLACE** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-126-A, CNTMT SPRAY HX 2A-A ERCW RETURN, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-126A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-126A at Panel 0-M-27A. _____

D. ICS point FD2150 displays CLOSED. _____

[10] **OPEN** Breaker 5F at 480V RMOV BD 2A2-A. _____

[11] **MANUALLY TRIP** the thermal overload circuitry at Compt 5F on 480V RMOV BD 2A2-A. _____

[12] **CLOSE** Breaker 5F at 480V 4MOV BD 2A2-A. _____

[13] **PLACE** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN, in the OPEN position, **AND**

VERIFY 2-FCV-67-126-A DOES NOT OPEN. _____

[14] **WHILE HOLDING** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN in the OPEN position, **DEPRESS, AND**

HOLD Armature of Overload Bypass Relay K6 in rear of 480V Reactor MOV Bd 2A2-A, CMPT 6D, to simulate Overload Bypass **AND**

VERIFY 2-FCV-67-126-A OPENS. (**ACC CRIT**) _____

[15] **PLACE** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN, to the CLOSE position, **AND**

VERIFY 2-FCV-67-126-A CLOSES. _____

[16] **RELEASE** K6 Relay Armature. _____

Data Package: Page ____ of ____ **Date _____**

6.3 2-FCV-67-126-A CNTMT SPRAY HX 2A-A ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[17] **PLACE** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN, to the OPEN position, **AND**

VERIFY 2-FCV-67-126-A DOES NOT OPEN. **(ACC CRIT)** _____

[18] **MOMENTARILY DEPRESS** the thermal overload reset button at Compt 5F on 480V RMOV BD 2A2-A. _____

NOTES

1) The following step requires valve stroke timing locally at the valve and remotely at the Control Switch in the Open position.
2) Local timing begins with the initiating signal and is concluded with the completion of valve stem movement. Remote timing begins with the initiating signal and is concluded with the position indication lights status change. Stroke time acceptance criteria will be based on the movement to the safety function final position of the valve.

[19] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-126A to the OPEN position, **AND**

START stopwatches. _____

Data Package: Page ____ of ____ **Date _____**

6.3 2-FCV-67-126-A CNTMT SPRAY HX 2A-A ERCW RETURN Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[20] **STOP** stopwatches when 2-FCV-67-126-A reaches the OPEN position, **AND**

RECORD stroke times below:

[20.1] **RECORD** remote opening time at 2-HS-67-126A **(ACC CRIT)** _____

_____ seconds (≤ 70 seconds) _____

M&TE _____ Cal Due Date _____ _____

[20.2] **RECORD** local opening time at 2-FCV-67-126-A **(ACC CRIT)**

_____ seconds (≤ 70 seconds) _____

M&TE _____ Cal Due Date _____ _____

[21] **PLACE** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-126-A, CNTMT SPRAY HX 2A-A ERCW RETURN, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-126A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-126A at Panel 0-M-27A. _____

[22] **VERIFY** the successful completion of this Subsection 6.3 **(ACC CRIT)**. _____

Data Package: Page ____ of ____ Date _____

6.4 2-FCV-67-125-A CNTMT SPRAY HX 2A-A ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test

CAUTION

Performance of this section will temporarily OPEN CNTMT SPRAY HX 2A-A ERCW Supply Header. Coordinate with Operations and Chemistry.

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 are complete. _____

[2] **ENSURE** the following Integrated Computer System (ICS) points are in scan:

A. FD2127 _____

B. FD2128 _____

[3] **PLACE** 2-HS-67-126A, CNTMT SPRAY HX 2A RETURN, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-126-A, CNTMT SPRAY HX 2A-A ERCW RETURN, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-126A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-126A at Panel 0-M-27A. _____

[4] **PLACE** 2-HS-67-125A, CNTMT SPRAY HX 2A-A INLET, located at Panel 0-M-27A, to the OPEN position, **AND**

VERIFY 2-FCV-67-125-A, CNTMT SPRAY HX 2A-A ERCW SUPPLY, is OPEN at the valve (A12-U, EL 742). _____

Data Package: Page ____ of ____ Date _____

6.4 2-FCV-67-125-A CNTMT SPRAY HX 2A-A ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[5] **PLACE** 2-HS-67-125A, CNTMT SPRAY HX 2A-A INLET, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-125-A, CNTMT SPRAY HX 2A-A ERCW SUPPLY, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-125A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-125A at Panel 0-M-27A. _____

D. ICS point FD2128 displays CLOSED. _____

[6] **OPEN** breaker at Compt 5E of 480V RMOV BD 2A2-A, **AND**

VERIFY ICS point FD2127 displays PWR OFF. _____

[7] **CLOSE** breaker at Compt 5E of 480V RMOV BD 2A2-A, **AND**

VERIFY ICS point FD2127 displays PWR ON. _____

[8] **PLACE** 2-HS-67-125A, CNTMT SPRAY HX 2A-A INLET, located at Panel 0-M-27A, to the OPEN position, **AND**

VERIFY the following:

A. 2-FCV-67-125-A, CNTMT SPRAY HX 2A-A ERCW SUPPLY, is OPEN (locally). _____

B. Red Light ON for 2-HS-67-125A at Panel 0-M-27A. _____

C. Green Light OFF for 2-HS-67-125A at Panel 0-M-27A. _____

D. ICS point FD2128 displays NOT CLS. _____

Data Package: Page ____ of ____ **Date** _____

6.4 2-FCV-67-125-A CNTMT SPRAY HX 2A-A ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[9] **PLACE** 2-HS-67-125A, CNTMT SPRAY HX 2A-A INLET, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-125-A, CNTMT SPRAY HX 2A-A ERCW SUPPLY, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-125A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-125A at Panel 0-M-27A. _____

[10] **OPEN** Breaker 5E at 480V RMOV BD 2A2-A. _____

[11] **MANUALLY TRIP** the thermal overload circuitry at Compt 5E on 480V RMOV BD 2A2-A. _____

[12] **CLOSE** Breaker 5E at 480V RMOV BD 2A2-A. _____

[13] **PLACE** 2-HS-67-125A, CNTMT SPRAY HX 2A INLET in the OPEN position, **AND**

VERIFY 2-FCV-67-125-A DOES NOT OPEN. _____

[14] **WHILE HOLDING** 2-HS-67-125A, CNTMT SPRAY HX 2A INLET in the OPEN position, **DEPRESS, AND**

HOLD Armature of Overload Bypass Relay K4 in rear of 480V Reactor MOV Bd 2A2-A, CMPT 6D, to simulate Overload Bypass **AND**

VERIFY 2-FCV-67-125-A OPENS. **(ACC CRIT)** _____

[15] **PLACE** 2-HS-67-125A, CNTMT SPRAY HX 2A INLET, to the CLOSE position, **AND**

VERIFY 2-FCV-67-125-A CLOSES. _____

[16] **RELEASE** K4 Relay Armature. _____

Data Package: Page ____ of ____ **Date _____**

6.4 2-FCV-67-125-A CNTMT SPRAY HX 2A-A ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[17] **PLACE** 2-HS-67-125A, CNTMT SPRAY HX 2A INLET, to the OPEN position, **AND**

VERIFY 2-FCV-67-125-A DOES NOT OPEN. (**ACC CRIT**) _____

[18] **MOMENTARILY DEPRESS** the thermal overload reset button at Compt 5E on 480V RMOV BD 2A2-A. _____

NOTES

1) The following step requires valve stroke timing locally at the valve and remotely at the Control Switch in the Open position.
2) Local timing begins with the initiating signal and is concluded with the completion of valve stem movement. Remote timing begins with the initiating signal and is concluded with the position indication lights status change. Stroke time acceptance criteria will be based on the movement to the safety function final position of the valve.

[19] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-125A to the OPEN position, **AND**

START stopwatches. _____

Data Package: Page ____ of ____ **Date _____**

6.4 2-FCV-67-125-A CNTMT SPRAY HX 2A-A ERCW SUPPLY Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[20] **STOP** stopwatches when 2-FCV-67-125-A reaches the OPEN position, **AND**

RECORD stroke times below:

[20.1] **RECORD** remote opening time at 2-HS-67-125A (**ACC CRIT**) _____

_____ seconds (≤ 70 seconds) _____

M&TE _____ Cal Due Date _____ _____

[20.2] **RECORD** local opening time at 2-FCV-67-125-A (**ACC CRIT**)

_____ seconds (≤ 70 seconds) _____

M&TE _____ Cal Due Date _____ _____

[21] **PLACE** 2-HS-67-125A, CNTMT SPRAY HX 2A-A INLET, located at Panel 0-M-27A, to the CLOSE position, **AND**

VERIFY the following:

A. 2-FCV-67-125-A, CNTMT SPRAY HX 2A-A ERCW SUPPLY, is CLOSED (locally). _____

B. Red Light OFF for 2-HS-67-125A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-125A at Panel 0-M-27A. _____

[22] **VERIFY** the successful completion of this Subsection 6.4 (**ACC CRIT**). _____

Data Package: Page ____ of ____ **Date _____**

6.5 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP Valve Logic, Stroke Time, and Thermal Overload Bypass Test

CAUTION

Performance of this subsection will temporarily isolate CCS HX B ERCW Outlet Bypass Header.

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 are complete. _____

[2] **RECORD** as-found position of 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP

As-Found position_____ _____

[3] **VERIFY/PLACE** 2-XS-67-143, CCS HX B ERCW BYPASS FLOW CNTL XFER SW, at 480V RMOV BD 2A2-A Compt 15A, to the NOR position, **AND**

ENSURE Annunciator 149-C, 2-XA-55-6F, 480 RX MOV BD 2A1-A/2A2-A, is CLEAR. _____

NOTE

Opening 2-FCV-67-143 may cause fluctuations in ERCW system flow and pressure.

[4] **NOTIFY** Operations to adjust ERCW system pressure and flows as needed throughout performance of the remainder of this subsection. _____

[5] **ENSURE** 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP is FULLY OPEN (Locally) (A11R/737) _____

[6] **PLACE** 2-HS-67-143C, CCS HX B ERCW BYPASS FLOW CNTL HAND SW C, at 480V RMOV BD 2A2-A Compt 15A, to the CLOSE position, **AND**

VERIFY 2-FCV-67-143-A DOES NOT CLOSE (locally). _____

Data Package: Page ____ of ____ Date _____

6.5 **2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)**

[7] **PLACE AND HOLD** 2-HS-67-143A, CCS HX B DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position until the following are **VERIFIED**:

A. 2-FCV-67-143-A is FULLY CLOSED (Locally) _____

B. Red light OFF at 2-HS-67-143A _____

C. Green light ON at 2-HS-67-143A _____

D. Red light OFF at 480V RMOV BD 2A2-A, Compt 15A _____

E. Green light ON at 480V RMOV BD 2A2-A, Compt 15A _____

[8] **PLACE** 2-HS-67-143C, CCS HX B ERCW BYPASS FLOW CNTL HAND SW C, at 480V RMOV BD 2A2-A Compt 15A, to the OPEN position, **AND**

VERIFY 2-FCV-67-143-A DOES NOT OPEN (locally). _____

[9] **PLACE AND HOLD** 2-HS-67-143A, CCS HX B DISCH TO HDR A, at panel 0-M-27A, in the OPEN position until the following are **VERIFIED** :

A. 2-FCV-67-143-A is FULLY OPEN (Locally) _____

B. Red light ON at 2-HS-67-143A _____

C. Green light OFF at 2-HS-67-143A _____

D. Red light ON at 480V RMOV BD 2A2-A, Compt 15A _____

E. Green light OFF at 480V RMOV BD 2A2-A, Compt 15A _____

[10] **PLACE AND HOLD** 2-HS-67-143A, CCS HX B DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position until valve 2-FCV-67-143 travels to the intermediate position (locally). _____

[11] **PLACE** 2-HS-67-143C, CCS HX B ERCW BYPASS FLOW CNTL HAND SW C, at 480V RMOV BD 2A2-A Compt 15A, to the NORMAL position. _____

Data Package: Page ____ of ____ **Date _____**

6.5 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

NOTE

Annunciator 149-C, 2-XA-55-6F, 480 RX MOV BD 2A1-A/2A2-A will alarm in the following step.

[12] **PLACE** 2-XS-67-143, CCS HX B ERCW BYPASS FLOW CNTL XFER SW, at 480V RMOV BD 2A2-A Compt 15A, to the AUX position, **AND**

VERIFY:

A. Annunciator 149-C, 2-XA-55-6F, 480 RX MOV BD 2A1-A/2A2-A, ALARMS. _____

B. Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX, is in ALARM _____

C. Red light OFF at 2-HS-67-143A _____

D. Green light OFF at 2-HS-67-143A _____

E. Red light ON at 480V RMOV BD 2A2-A Compt. 15A _____

F. Green light ON at 480V RMOV BD 2A2-A Compt. 15A _____

[13] **PLACE AND HOLD** 2-HS-67-143A, CCS HX B DISCH TO HDR A, at panel 0-M-27A, in the OPEN position until it is **VERIFIED** that 2-FCV-67-143 DOES NOT OPEN (locally). _____

[14] **PLACE AND HOLD** 2-HS-67-143A, CCS HX B DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position until it is **VERIFIED** that 2-FCV-67-143 DOES NOT CLOSE (locally). _____

[15] **PLACE** 2-HS-67-143C, CCS HX B ERCW BYPASS FLOW CNTL HAND SW C, at 480V RMOV BD 2A2-A Compt 15A, to the CLOSE position, **AND**

VERIFY:

A. Red light OFF at 480V RMOV BD 2A2-A Compt. 15A _____

B. Green light ON at 480V RMOV BD 2A2-A Compt. 15A _____

Data Package: Page ____ of ____ **Date _____**

6.5 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[16] **PLACE** 2-HS-67-143C, CCS HX B ERCW BYPASS FLOW CNTL HAND SW C, at 480V RMOV BD 2A2-A Compt 15A, to the OPEN position, **AND**

VERIFY:

A. Red light ON at 480V RMOV BD 2A2-A Compt. 15A _____

B. Green light OFF at 480V RMOV BD 2A2-A Compt. 15A _____

[17] **PLACE** 2-HS-67-143C, CCS HX B ERCW BYPASS FLOW CNTL HAND SW C, at 480V RMOV BD 2A2-A Compt 15A, to the CLOSE position, **AND**

VERIFY:

A. Red light OFF at 480V RMOV BD 2A2-A Compt. 15A _____

B. Green light ON at 480V RMOV BD 2A2-A Compt. 15A _____

[18] **PLACE** 2-XS-67-143, CCS HX B ERCW BYPASS FLOW CNTL XFER SW, at 480V RMOV BD 2A2-A Compt 15A, to the NOR position, **AND**

VERIFY:

A. Annunciator 149-C, 2-XA-55-6F, 480 RX MOV BD 2A1-A/2A2-A, CLEARS. _____

B. Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX, is in NORMAL _____

C. Red light OFF at 2-HS-67-143A _____

D. Green light ON at 2-HS-67-143A _____

Data Package: Page ____ of ____ **Date _____**

6.5 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[19] **PLACE** 2-HS-67-143A, CCS HX B DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position, **AND**

VERIFY:

A. 2-FCV-67-143-A is FULLY CLOSED (Locally) _____

B. Red light OFF at 2-HS-67-143A _____

C. Green light ON at 2-HS-67-143A _____

[20] **OPEN** Breaker 15A at 480V RMOV BD 2A2-A _____

[21] **MANUALLY TRIP** the thermal overload circuitry at 480V RMOV BD 2A2-A Compt 15A. _____

[22] **CLOSE** Breaker 15A at 480V RMOV BD 2A2-A. _____

[23] **PLACE** 2-HS-67-143A, CCS HX B DISCH TO HDR A, at panel 0-M-27A, in the OPEN position, **AND**

VERIFY that 2-FCV-67-143 DOES NOT OPEN (locally). _____

[24] **WHILE HOLDING** 2-HS-67-143A, CCS HX B DISCH TO HDR A in the OPEN position, **DEPRESS, AND**

HOLD Armature of Overload Bypass Relay K9 in rear of 480V RMOV Bd 2A2-A, CMPT 6D, to simulate Overload Bypass **AND**

VERIFY 2-FCV-67-143-A OPENS. (**ACC CRIT**) _____

[25] **PLACE** 2-HS-67-143A, CCS HX B DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position, **AND**

VERIFY that 2-FCV-67-143 CLOSES (locally). _____

[26] **RELEASE** K9 Relay Armature. _____

[27] **PLACE** 2-HS-67-143A, CCS HX B DISCH TO HDR A, to the OPEN position, **AND**

VERIFY 2-FCV-67-143-A DOES NOT OPEN. (**ACC CRIT**) _____

Data Package: Page ____ of ____ **Date _____**

6.5 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[28] **MOMENTARILY DEPRESS** the thermal overload reset button at Compt 15A on 480V RMOV BD 2A2-A. _____

NOTES

1) Steps 6.5[29] through 6.5[32] require valve stroke timing locally at the valve and remotely at the Control Switch in both the Open and Closed positions.
2) Local timing begins with the initiating signal and is concluded with the completion of valve stem movement. Remote timing begins with the initiating signal and is concluded with the position indication lights status change. Stroke time acceptance criteria will be based on the movement to the safety function final position of the valve.

[29] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-143A to the OPEN position, **AND**

START stopwatches. _____

Data Package: Page ____ of ____ **Date _____**

6.5 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[30] **STOP** stopwatches when 2-FCV-67-143-A reaches the OPEN position, **AND**

RECORD stroke times below:

[30.1] **RECORD** remote opening time at 2-HS-67-143A (**ACC CRIT**) _____

_____ seconds (≤ 180 seconds) _____

M&TE _____ Cal Due Date _____ _____

[30.2] **RECORD** local opening time at 2-FCV-67-143-A (**ACC CRIT**)

_____ seconds (≤ 180 seconds) _____

M&TE _____ Cal Due Date _____ _____

[31] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-143A to the CLOSE position, **AND**

START stopwatches. _____

Data Package: Page ____ of ____ **Date _____**

6.5 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[32] **STOP** stopwatches when 2-FCV-67-143-A reaches the CLOSE position **AND**

RECORD stroke times below:

[32.1] **RECORD** remote closing time at 2-HS-67-143A (**ACC CRIT**) _____

_____ seconds (≤ 180 seconds) _____

M&TE _____ Cal Due Date _____ _____

[32.2] **RECORD** local closing time at 2-FCV-67-143-A (**ACC CRIT**)

_____ seconds (≤ 180 seconds) _____

M&TE _____ Cal Due Date _____ _____

[33] **PLACE** 2-FCV-67-143-A, CCS HX B OUTLET ERCW FLOW CNTL BYP to the As-Found position recorded in Step 6.5[2]

As-Left position_____ _____

[34] **VERIFY** the successful completion of this Subsection 6.5 (**ACC CRIT**). _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test

CAUTION

Performance of this subsection will temporarily isolate CCS HX B ERCW Outlet Header.

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 are complete. _____

[2] **ENSURE** the following Integrated Computer System (ICS) points are in scan:

A. FD2141 _____

B. FD2142 _____

[3] **RECORD** as-found position of 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL

As-Found position_____ _____

[4] **VERIFY/PLACE** 2-XS-67-146, COMPONENT CLG HTX B DISCH CONTROL VLV XFER SW, at 480V RMOV BD 2A2-A Compt 11A, to the NOR position, **AND**

ENSURE Annunciator 149-C, 2-XA-55-6F, 480 RX MOV BD 2A1-A/2A2-A, is CLEAR. _____

NOTE

Opening 2-FCV-67-146 may cause fluctuations in ERCW system flow and pressure.

[5] **NOTIFY** Operations to adjust ERCW system pressure and flows as needed throughout performance of the remainder of this subsection. _____

[6] **ENSURE** 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL is FULLY OPEN (Locally) (A11S/737) _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[7] **PLACE** 2-HS-67-146C, COMPONENT CLG HTX B DISCH CONTROL VLV HAND SW C, at 480V RMOV BD 2A2-A Compt 11A, to the CLOSE position, **AND**

VERIFY 2-FCV-67-146-A DOES NOT CLOSE (locally). _____

[8] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the POS B position, **AND**

VERIFY:

A. 2-FCV-67-146-A CLOSES to an intermediate position (Locally) _____

B. Red POS B light ON at 2-HS-67-146A _____

C. Red POS A light OFF at 2-HS-67-146A _____

D. Red OPEN light OFF at 2-HS-67-146A _____

E. Green light OFF at 2-HS-67-146A _____

F. Red POS B light ON at 480V RMOV BD 2A2-A, Compt 11A _____

G. Green light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

H. Red POS A light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

I. Red OPEN light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

[9] **PLACE** 2-HS-67-146C, COMPONENT CLG HTX B DISCH CONTROL VLV HAND SW C, at 480V RMOV BD 2A2-A Compt 11A, to the OPEN position, **AND**

VERIFY 2-FCV-67-146-A DOES NOT OPEN (locally). _____

[10] **PLACE** 2-HS-67-146C, COMPONENT CLG HTX B DISCH CONTROL VLV HAND SW C, at 480V RMOV BD 2A2-A Compt 11A, to the NORMAL position. _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

NOTE

Annunciator 149-C, 2-XA-55-6F, 480 RX MOV BD 2A1-A/2A2-A will alarm in the following step.

[11] **PLACE** 2-XS-67-146, COMPONENT CLG HTX B DISCH CONTROL VLV XFER SW, at 480V RMOV BD 2A2-A Compt 11A, to the AUX position, **AND**

VERIFY:

A. Annunciator 149-C, 2-XA-55-6F, 480 RX MOV BD 2A1-A/2A2-A, ALARMS. _____

B. Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX, is in ALARM _____

C. Red POS B light OFF at 2-HS-67-146A _____

[12] **OPEN** Breaker 11A at 480V RMOV BD 2A2-A, **AND**

VERIFY ICS point FD2141 displays PWR OFF _____

[13] **CLOSE** Breaker 11A at 480V RMOV BD 2A2-A, **AND**

VERIFY ICS point FD2141 displays PWR ON _____

[14] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the POS A position, **AND**

VERIFY that 2-FCV-67-146 DOES NOT OPERATE (locally). _____

[15] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position, **AND**

VERIFY that 2-FCV-67-146 DOES NOT OPERATE (locally). _____

Data Package: Page ____ of ____ Date _____

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[16] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the OPEN position, **AND**

VERIFY that 2-FCV-67-146 DOES NOT OPERATE (locally). _____

NOTE

Step 6.6[18] must be performed immediately (≤ 3 seconds) after 2-FCV-67-146-A closes. Ensure test personnel are in place to complete steps 6.6[17] and 6.6[18] as quickly as possible.

[17] **PLACE** 2-HS-67-146C, COMPONENT CLG HTX B DISCH CONTROL VLV HAND SW C, at 480V RMOV BD 2A2-A Compt 11A, to the CLOSE position, **AND**

VERIFY:

A. 2-FCV-67-146-A CLOSES (Locally) _____

B. Red POS B light OFF at 2-HS-67-146A _____

C. Red POS A light OFF at 2-HS-67-146A _____

D. Red OPEN light OFF at 2-HS-67-146A _____

E. Green light OFF at 2-HS-67-146A _____

F. Red POS B light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

G. Green light ON at 480V RMOV BD 2A2-A, Compt 11A _____

H. Red POS A light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

I. Red OPEN light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

J. ICS point 2142 displays CLOSED _____

Data Package: Page ____ of ____ Date _____

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[18] **IMMEDIATELY PLACE** 2-HS-67-146C, COMPONENT CLG HTX B DISCH CONTROL VLV HAND SW C, at 480V RMOV BD 2A2-A Compt 11A, to the OPEN position, **AND**

VERIFY the following begins to occur approximately 4 seconds after 2-FCV-67-146-A CLOSES:

A. 2-FCV-67-146-A OPENS (Locally) _____

B. Red POS B light OFF at 2-HS-67-146A _____

C. Red POS A light OFF at 2-HS-67-146A _____

D. Red OPEN light OFF at 2-HS-67-146A _____

E. Green light OFF at 2-HS-67-146A _____

F. Red POS B light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

G. Green light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

H. Red POS A light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

I. Red OPEN light ON at 480V RMOV BD 2A2-A, Compt 11A _____

J. ICS point 2142 displays NOT CLS _____

[19] **PLACE** 2-XS-67-146, COMPONENT CLG HTX B DISCH CONTROL VLV XFER SW, at 480V RMOV BD 2A2-A Compt 11A, to the NOR position, **AND**

VERIFY:

A. Annunciator 149-C, 2-XA-55-6F, 480 RX MOV BD 2A1-A/2A2-A, CLEARS. _____

B. Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX, is in NORMAL _____

C. Red OPEN light ON at 2-HS-67-146A _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[20] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the POS A position, **AND**

VERIFY:

A. 2-FCV-67-146-A CLOSES to an intermediate position (Locally) _____

B. Red POS B light OFF at 2-HS-67-146A _____

C. Red POS A light ON at 2-HS-67-146A _____

D. Red OPEN light OFF at 2-HS-67-146A _____

E. Green light OFF at 2-HS-67-146A _____

F. Red POS B light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

G. Green light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

H. Red POS A light ON at 480V RMOV BD 2A2-A, Compt 11A _____

I. Red OPEN light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[21] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position, **AND**

VERIFY:

A. 2-FCV-67-146-A CLOSES (Locally) _____

B. Red POS B light OFF at 2-HS-67-146A _____

C. Red POS A light OFF at 2-HS-67-146A _____

D. Red OPEN light OFF at 2-HS-67-146A _____

E. Green light ON at 2-HS-67-146A _____

F. Red POS B light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

G. Green light ON at 480V RMOV BD 2A2-A, Compt 11A _____

H. Red POS A light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

I. Red OPEN light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[22] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the POS A position, **AND**

VERIFY:

A. 2-FCV-67-146-A OPENS to an intermediate position (Locally) _____

B. Red POS B light OFF at 2-HS-67-146A _____

C. Red POS A light ON at 2-HS-67-146A _____

D. Red OPEN light OFF at 2-HS-67-146A _____

E. Green light OFF at 2-HS-67-146A _____

F. Red POS B light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

G. Green light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

H. Red POS A light ON at 480V RMOV BD 2A2-A, Compt 11A _____

I. Red OPEN light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

[23] **PLACE** 2-HS-67-146C, COMPONENT CLG HTX B DISCH CONTROL VLV HAND SW C, at 480V RMOV BD 2A2-A Compt 11A, to the NORMAL position. _____

[24] **PLACE** 2-XS-67-146, COMPONENT CLG HTX B DISCH CONTROL VLV XFER SW, at 480V RMOV BD 2A2-A Compt 11A, to the AUX position, **AND**

VERIFY Red POS A light OFF at 2-HS-67-146A _____

[25] **PLACE** 2-XS-67-146, COMPONENT CLG HTX B DISCH CONTROL VLV XFER SW, at 480V RMOV BD 2A2-A Compt 11A, to the NOR position _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[26] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position, **AND**

VERIFY:

A. 2-FCV-67-146-A CLOSES (Locally) _____

B. Red POS B light OFF at 2-HS-67-146A _____

C. Red POS A light OFF at 2-HS-67-146A _____

D. Red OPEN light OFF at 2-HS-67-146A _____

E. Green light ON at 2-HS-67-146A _____

F. Red POS B light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

G. Green light ON at 480V RMOV BD 2A2-A, Compt 11A _____

H. Red POS A light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

I. Red OPEN light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[27] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the POS B position, **AND**

VERIFY:

A. 2-FCV-67-146-A OPENS to an intermediate position (Locally) _____

B. Red POS B light ON at 2-HS-67-146A _____

C. Red POS A light OFF at 2-HS-67-146A _____

D. Red OPEN light OFF at 2-HS-67-146A _____

E. Green light OFF at 2-HS-67-146A _____

F. Red POS B light ON at 480V RMOV BD 2A2-A, Compt 11A _____

G. Green light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

H. Red POS A light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

I. Red OPEN light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[28] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the OPEN position, **AND**

VERIFY:

A. 2-FCV-67-146-A OPENS (Locally) _____

B. Red POS B light OFF at 2-HS-67-146A _____

C. Red POS A light OFF at 2-HS-67-146A _____

D. Red OPEN light ON at 2-HS-67-146A _____

E. Green light OFF at 2-HS-67-146A _____

F. Red POS B light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

G. Green light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

H. Red POS A light OFF at 480V RMOV BD 2A2-A, Compt 11A _____

I. Red OPEN light ON at 480V RMOV BD 2A2-A, Compt 11A _____

[29] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position, **AND**

VERIFY 2-FCV-67-146-A CLOSES (Locally) _____

[30] **OPEN** Breaker 11A at 480V RMOV BD 2A2-A _____

[31] **MANUALLY TRIP** the thermal overload circuitry at 480V RMOV BD 2A2-A Compt 11A. _____

[32] **CLOSE** Breaker 11A at 480V RMOV BD 2A2-A. _____

[33] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the OPEN position, **AND**

VERIFY that 2-FCV-67-146 DOES NOT OPEN (locally). _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[34] **DEPRESS AND HOLD** Armature of Overload Bypass Relay K5 in rear of 480V RMOV Bd 2A2-A, CMPT 6D, to simulate Overload Bypass **AND**

VERIFY 2-FCV-67-146-A OPENS. (**ACC CRIT**) _____

[35] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, at panel 0-M-27A, in the CLOSE position, **AND**

VERIFY 2-FCV-67-146-A CLOSES (Locally) _____

[36] **RELEASE** K5 Relay Armature. _____

[37] **PLACE** 2-HS-67-146A, CCS HX B ALT DISCH TO HDR A, to the OPEN position, **AND**

VERIFY 2-FCV-67-146-A DOES NOT OPEN. (**ACC CRIT**) _____

[38] **MOMENTARILY DEPRESS** the thermal overload reset button at Compt 11A on 480V RMOV BD 2A2-A. _____

NOTES

1) Steps 6.6[39] through 6.6[42] require valve stroke timing locally at the valve and remotely at the Control Switch in both the Open and Closed positions.
2) Local timing begins with the initiating signal and is concluded with the completion of valve stem movement. Remote timing begins with the initiating signal and is concluded with the position indication lights status change. Stroke time acceptance criteria will be based on the movement to the safety function final position of the valve.

[39] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-146A to the OPEN position, **AND**

START stopwatches. _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[40] **STOP** stopwatches when 2-FCV-67-146-A reaches the OPEN position, **AND**

RECORD stroke times below:

[40.1] **RECORD** remote opening time at 2-HS-67-146A (**ACC CRIT**) _____

_____ seconds (≤ 60 seconds) _____

M&TE _____ Cal Due Date _____ _____

[40.2] **RECORD** local opening time at 2-FCV-67-146-A (**ACC CRIT**)

_____ seconds (≤ 60 seconds) _____

M&TE _____ Cal Due Date _____ _____

[41] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-146A to the CLOSE position, **AND**

START stopwatches. _____

Data Package: Page ____ of ____ **Date _____**

6.6 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL Valve Logic, Stroke Time, and Thermal Overload Bypass Test (continued)

[42] **STOP** stopwatches when 2-FCV-67-146-A reaches the CLOSE position **AND**

RECORD stroke times below:

[42.1] **RECORD** remote closing time at 2-HS-67-146A (**ACC CRIT**) _____

_____ seconds (≤ 60 seconds) _____

M&TE _____ Cal Due Date _____ _____

[42.2] **RECORD** local close time at 2-FCV-67-146-A (**ACC CRIT**)

_____ seconds (≤ 60 seconds) _____

M&TE _____ Cal Due Date _____ _____

[43] **PLACE** 2-FCV-67-146-A, CCS HX B OUTLET ERCW FLOW CNTL to the As-Found position recorded in Step 6.6[3]

As-Left position_____ _____

[44] **VERIFY** the successful completion of this Subsection 6.6 (**ACC CRIT**) _____

Data Package: Page ____ of ____ **Date _____**

6.7 2-TCV-67-84-A, LOWER CNTMT VENT CLR 2A-A OUT TEMP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY/PLACE** 2-XS-67-84, LWR CNTMT CLR A-A ERCW OUTLET TCV, at Panel 2-L-11A, to the NORM position, **AND**

ENSURE Annunciator 148-B, ACR PNL 2-L-11A is CLEAR. _____

[3] **VERIFY/PLACE** 2-HS-67-84A, LWR CNTMT CLR A OUTLET TCV, at Panel 0-M-27A, to the P-AUTO position. _____

[4] **VERIFY/PLACE** 2-HS-67-84C, LOWER CNTMT CLR 2A-A ERCW OUTLET TCV, at Panel 2-L-10, to the P-AUTO position. _____

[5] **RECORD** as-found setting on 2-TIC-67-84, LOWER CNTMT VENT CLR 2A TEMP CNTL, at Panel 2-L-26 (EL 692, A15-U)

As-Found setting_____ _____

[6] **PLACE** 2-TIC-67-84, LOWER CNTMT VENT CLR 2A TEMP CNTL, at Panel 2-L-26 (EL 692, A15-U), in AUTO, **AND**

ADJUST for maximum cooling. _____

[7] **ENSURE/START** Reactor Lower Compartment Cooler Fan 2A per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-84-A, LWR CNTMT VENT CLR 2A-A OUT TEMP CNTL, is OPEN to the MODULATE position (locally) (IC/723/AZ-12) (**ACC CRIT**). _____

B. Red Light ON for 2-HS-67-84A at 0-M-27A. _____

C. Green Light OFF for 2-HS-67-84A at 0-M-27A. _____

D. Red Light OFF for 2-HS-67-84C at 2-L-10. _____

E. Green Light OFF for 2-HS-67-84C at 2-L-10. _____

Data Package: Page ____ of ____ Date _____

6.7 2-TCV-67-84-A, LOWER CNTMT VENT CLR 2A-A OUT TEMP CNTL Valve Logic Test (continued)

[8] **STOP** Reactor Lower Compartment Cooler Fan 2A per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-84-A, LWR CNTMT VENT CLR 2A-A OUT TEMP CNTL, CLOSES (locally). _____

B. Green Light ON for 2-HS-67-84A at 0-M-27A. _____

C. Red Light OFF for 2-HS-67-84A at 0-M-27A. _____

D. Green Light OFF for 2-HS-67-84C at 2-L-10. _____

E. Red Light OFF for 2-HS-67-84C at 2-L-10. _____

NOTE

Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A will ALARM in the following step

[9] **PLACE** 2-XS-67-84, LWR CNTMT CLR A-A ERCW OUTLET TCV, to the AUX position, **AND**

VERIFY the following:

A. 2-TCV-67-84-A, LWR CNTMT VENT CLR 2A-A OUT TEMP CNTL, REMAINS CLOSED (locally). _____

B. Green Light ON for 2-HS-67-84C at 2-L-10. _____

C. Red Light OFF for 2-HS-67-84C at 2-L-10. _____

D. Green Light OFF for 2-HS-67-84A at 0-M-27A. _____

E. Red Light OFF for 2-HS-67-84A at 0-M-27A. _____

F. Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A ALARMS. _____

G. Unit 2 Events Display Legend indicates 148-B, ACR PNL 2-L-11A XS IN AUX, is in ALARM. _____

[10] **ENSURE/ADJUST** 2-TIC-67-84, LOWER CNTMT VENT CLR 2A TEMP CNTL, for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.7 2-TCV-67-84-A, LOWER CNTMT VENT CLR 2A-A OUT TEMP CNTL Valve Logic Test (continued)

[11] **START** Reactor Lower Compartment Cooler Fan 2A per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-84-A, LWR CNTMT VENT CLR 2A-A OUT TEMP CNTL, OPENS to the MODULATE position (locally) (**ACC CRIT**) _____

B. Red Light ON for 2-HS-67-84C at 2-L-10. _____

C. Green Light OFF for 2-HS-67-84C at 2-L-10. _____

D. Red Light OFF for 2-HS-67-84A at 0-M-27A. _____

E. Green Light OFF for 2-HS-67-84A at 0-M-27A. _____

[12] **PLACE** 2-HS-67-84C, LOWER CNTMT CLR 2A-A ERCW OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-84-A CLOSES (locally). (**ACC CRIT**) _____

[13] **PLACE** 2-HS-67-84C, LOWER CNTMT CLR 2A-A ERCW OUTLET TCV, to the P-AUTO position, **AND**

VERIFY 2-TCV-67-84-A OPENS to the modulate position (locally). _____

[14] **PLACE** 2-XS-67-84, LWR CNTMT CLR A-A ERCW OUTLET TCV, to the NORMAL position, **AND**

VERIFY the following:

A. Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A CLEARS. _____

B. Unit 2 Events Display Legend indicates 148-B, ACR PNL 2-L-11A XS IN AUX, is in NORMAL. _____

[15] **PLACE** 2-HS-67-84A, LWR CNTMT CLR A OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-84-A CLOSES (locally). (**ACC CRIT**) _____

Data Package: Page ____ of ____ **Date _____**

6.7 2-TCV-67-84-A, LOWER CNTMT VENT CLR 2A-A OUT TEMP CNTL Valve Logic Test (continued)

NOTE

The following step will simulate a loss of power.

[16] **PULL** Fuse 2-FU-276-L26A/1 at Panel 2-L-26 (A15-U, EL 692, AUX BLDG). _____ 1st _____ CV

[17] **VERIFY** the following:

A. 2-TCV-67-84-A, LWR CNTMT VENT CLR 2A-A OUT TEMP CNTL, OPENS to modulate (locally). _____

B. Green Light OFF for 2-HS-67-84A at 0-M-27A. _____

C. Red Light ON for 2-HS-67-84A at 0-M-27A. _____

NOTE

Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A will ALARM in the following step

[18] **PLACE** 2-XS-67-84, LWR CNTMT CLR A-A ERCW OUTLET TCV to the AUX position, **AND**

VERIFY the following:

A. Red Light ON for 2-HS-67-84C at 2-L-10. _____

B. Green Light OFF for 2-HS-67-84C at 2-L-10. _____

[19] **PLACE** 2-XS-67-84, LWR CNTMT CLR A-A ERCW OUTLET TCV, to the NORM position. _____

[20] **REPLACE** Fuse 2-FU-276-L26A/1A at Panel 2-L-26 _____ 1st _____ CV

Data Package: Page ____ of ____ **Date _____**

6.7 2-TCV-67-84-A, LOWER CNTMT VENT CLR 2A-A OUT TEMP CNTL Valve Logic Test (continued)

[21] **PLACE** 2-HS-67-84A, LWR CNTMT CLR A OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-84-A CLOSES (locally). _____

NOTE

The following steps will simulate a loss of control air.

[22] **CLOSE** 2-ISV-32-3609, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-84-A. _____

[23] **OPEN** bleed petcock at 2-PREG-67-84, CONTROL AIR PRESSURE REG FOR 2-TCV-67-84-A, to VENT pressure **AND**

VERIFY 2-TCV-67-84-A, LWR CNTMT VENT CLR 2A-A OUT TEMP CNTL, is FULLY OPEN (locally). _____

[24] **CLOSE** bleed petcock at 2-PREG-67-84, CONTROL AIR PRESSURE REG FOR 2-TCV-67-84-A. _____

[25] **OPEN** 2-ISV-32-3609 **AND**

VERIFY 2-TCV-67-84-A, LWR CNTMT VENT CLR 2A-A OUT TEMP CNTL CLOSES to the MODULATE position (locally). _____

[26] **PLACE** 2-TIC-67-84, LOWER CNTMT VENT CLR 2A TEMP CNTL, at Panel 2-L-26 (EL 692, A15-U) to the As-Found Setting recorded in Step 6.7[5]

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.8 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY/PLACE** 2-XS-67-92, LWR CNTMT CLR C-A ERCW OUTLET TCV, at Panel 2-L-11A, to the NORM position, **AND**

ENSURE Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A, is CLEAR. _____

[3] **VERIFY/PLACE** 2-HS-67-92A, LWR CNTMT CLR C OUTLET TCV, at Panel 0-M-27A, to the P-AUTO position. _____

[4] **VERIFY/PLACE** 2-HS-67-92C, LOWER CNTMT CLR 2C-A ERCW OUTLET TCV, at Panel 2-L-10, to the P-AUTO position. _____

[5] **RECORD** as-found setting on 2-TIC-67-92, LWR CNTMT VENT CLR 2C OUT TEMP CNTL, at Panel 2-L-26 (EL 692, A15-U)

As-Found setting_____ _____

[6] **PLACE** 2-TIC-67-92, LWR CNTMT VENT CLR 2C OUT TEMP CNTL, in AUTO at Panel 2-L-26 (EL 692, A15-U), **AND**

ADJUST for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.8 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

[7] **ENSURE/START** Reactor Lower Compartment Cooler Fan 2C per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL, is OPEN to the MODULATE position (locally) (IC/723/AZ-185) (**ACC CRIT**). _____

B. Red Light ON for 2-HS-67-92A at Panel 0-M-27A. _____

C. Green Light OFF for 2-HS-67-92A at Panel 0-M-27A. _____

D. Red Light OFF for 2-HS-67-92C at 2-L-10. _____

E. Green Light OFF for 2-HS-67-92C at 2-L-10. _____

[8] **STOP** Reactor Lower Compartment Cooler Fan 2C per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL, CLOSES (locally). _____

B. Red Light OFF for 2-HS-67-92A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-92A at Panel 0-M-27A. _____

D. Red Light OFF for 2-HS-67-92C at 2-L-10. _____

E. Green Light OFF for 2-HS-67-92C at 2-L-10. _____

Data Package: Page ____ of ____ **Date _____**

6.8 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

NOTE

Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A will alarm in the following step.

[9] **PLACE** 2-XS-67-92, LOWER CNTMT VENT CLR 2C TEMP, to the AUX position, **AND**

VERIFY the following:

A. 2-TCV-67-92-A LOWER CNTMT VENT CLR 2C OUT TEMP CNTL, REMAINS CLOSED (locally). _____

B. Green Light ON for 2-HS-67-92C at 2-L-10. _____

C. Red Light OFF for 2-HS-67-92C at 2-L-10. _____

D. Red Light OFF for 2-HS-67-92A at Panel 0-M-27A. _____

E. Green Light OFF for 2-HS-67-92A at Panel 0-M-27A. _____

F. Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A ALARMS. _____

G. Unit 2 Events Display Legend indicates 148-B, ACR PNL 2-L-11A XS IN AUX, is in ALARM. _____

[10] **ENSURE/ADJUST** 2-TIC-67-92, LWR CNTMT VENT CLR 2C OUT TEMP CNTL, for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.8 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

[11] **ENSURE/START** Reactor Lower Compartment Cooler Fan 2C per 2-SOI-30.03, **AND**

VERIFY the Following:

A. 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL, OPENS to the MODULATE position (locally) (**ACC CRIT**). _____

B. Red Light ON for 2-HS-67-92C at 2-L-10. _____

C. Green Light OFF for 2-HS-67-92C at 2-L-10. _____

D. Red Light OFF for 2-HS-67-92A at Panel 0-M-27A. _____

E. Green Light OFF for 2-HS-67-92A at Panel 0-M-27A. _____

[12] **PLACE** 2-HS-67-92C, LOWER CNTMT VENT CLR 2C-A ERCW OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-92-A CLOSES (locally). (**ACC CRIT**) _____

[13] **PLACE** 2-HS-67-92C, LOWER CNTMT VENT CLR 2C-A ERCW OUTLET TCV, to the P-AUTO position, **AND**

VERIFY 2-TCV-67-92-A OPENS to the MODULATE position (locally). _____

[14] **PLACE** 2-XS-67-92, LOWER CNTMT VENT CLR 2C TEMP, to the NORMAL position, **AND**

VERIFY the following:

A. Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A, CLEARS. _____

B. Unit 2 Events Display Legend indicates 148-B, ACR PNL 2-L-11A XS IN AUX, is in NORMAL. _____

[15] **PLACE** 2-HS-67-92A LWR CNTMT CLR 2C OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-92-A CLOSES (locally) (**ACC CRIT**) _____

Data Package: Page ____ of ____ **Date _____**

6.8 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

NOTE

The following step will simulate a loss of power.

[16] **PULL** Fuse 2-FU-276-L26A/5 at Panel 2-L-26 (A15-U, EL 692 AUX BLDG)

_____ 1st

_____ CV

[17] **VERIFY** the following:

A. 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL, OPENS to modulate (locally). _____

B. Red Light ON for 2-HS-67-92A at Panel 0-M-27A. _____

C. Green Light OFF for 2-HS-67-92A at Panel 0-M-27A. _____

NOTE

Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A will alarm in the following step.

[18] **PLACE** 2-XS-67-92, LOWER CNTMT VENT CLR 2C TEMP to the AUX position, **AND**

VERIFY the following:

A. Red Light ON for 2-HS-67-92C at 2-L-10. _____

B. Green Light OFF for 2-HS-67-92C at 2-L-10. _____

[19] **PLACE** 2-XS-67-92, LOWER CNTMT VENT CLR 2C TEMP, to the NORM position. _____

[20] **REPLACE** Fuse 2-FU-276-L26A/5A at Panel 2-L-26.

_____ 1st

_____ CV

Data Package: Page ____ of ____ **Date _____**

6.8 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

[21] **PLACE** 2-HS-67-92A LWR CNTMT CLR 2C OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-92-A CLOSES (locally) _____

NOTE
The following steps will simulate a loss of control air.

[22] **CLOSE** 2-ISV-32-3561, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-92-A. _____

[23] **OPEN** bleed petcock at 2-PREG-67-92, CONTROL AIR PRESSURE REG FOR 2-TCV-67-92, to VENT pressure, **AND**

VERIFY 2-TCV-67-92, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL, is FULLY OPEN (locally). _____

[24] **CLOSE** bleed petcock at 2-PREG-67-92, CONTROL AIR PRESSURE REG FOR 2-TCV-67-92. _____

[25] **OPEN** 2-ISV-32-3561, **AND**

VERIFY 2-TCV-67-92-A, LOWER CNTMT VENT CLR 2C OUT TEMP CNTL, CLOSES to the MODULATE position (locally). _____

[26] **PLACE** 2-TIC-67-92, LWR CNTMT VENT CLR 2C OUT TEMP CNTL, at Panel 2-L-26 (EL 692, A15-U) to the As-Found Setting recorded in Step 6.8[5]

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.9 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY/PLACE** 2-XS-67-100, LWR CNTMT CLR B-B ERCW OUTLET TCV, at Panel 2-L-11B, to the NORM position **AND**

ENSURE Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, is CLEAR. _____

[3] **VERIFY/PLACE** 2-HS-67-100A, LWR CNTMT CLR B OUTLET TCV, at Panel 0-M-27A, to the P-AUTO position. _____

[4] **VERIFY/PLACE** 2-HS-67-100C, LOWER CNTMT CLR VENT 2B-B ERCW OUTLET TCV, at Panel 2-L-10, to the P-AUTO position. _____

[5] **RECORD** as-found setting on 2-TIC-67-100, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, at Panel 2-L-26 (EL 692, A15-U)

As-Found setting_____ _____

[6] **PLACE** 2-TIC-67-100, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, in AUTO at Panel 2-L-26 (EL 692, A15-U), **AND**

ADJUST for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.9 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL Valve Logic Test (continued)

[7] **ENSURE/START** Reactor Lower Compartment Cooler Fan 2B per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, is OPEN to the modulate position (locally) (IC/723/AZ-168) (**ACC CRIT**). _____

B. Red Light ON for 2-HS-67-100A at Panel 0-M-27A. _____

C. Green Light OFF for 2-HS-67-100A at Panel 0-M-27A. _____

D. Red Light OFF for 2-HS-67-100C at Panel 2-L-10. _____

E. Green Light OFF for 2-HS-67-100C at Panel 2-L-10. _____

[8] **STOP** Reactor Lower Compartment Cooler Fan 2B per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, CLOSES (locally). _____

B. Green Light ON for 2-HS-67-100A at 0-M-27A. _____

C. Red Light OFF for 2-HS-67-100A at 0-M-27A. _____

D. Red Light OFF for 2-HS-67-100C at 2-L-10. _____

E. Green Light OFF for 2-HS-67-100C at 2-L-10. _____

Data Package: Page ____ of ____ **Date _____**

6.9 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL Valve Logic Test (continued)

NOTE

Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B will alarm in the following step.

[9] **PLACE** 2-XS-67-100, LWR CNTMT CLR B-B ERCW OUTLET TCV, to the AUX position, **AND**

VERIFY the following:

A. 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, REMAINS CLOSED (locally). _____

B. Green Light ON for 2-HS-67-100C at Panel 2-L-10. _____

C. Red Light OFF for 2-HS-67-100C at Panel 2-L-10. _____

D. Green Light OFF for 2-HS-67-100A at Panel 0-M-27A. _____

E. Red Light OFF for 2-HS-67-100A at Panel 0-M-27A. _____

F. Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B ALARMS. _____

G. Unit 2 Events Display Legend indicates 148-C, ACR PNL 2-L-11B XS IN AUX, is in ALARM. _____

[10] **ENSURE/ADJUST** 2-TIC-67-100, LWR CNTMT VENT CLR 2B OUT TEMP CNTL, for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.9 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL Valve Logic Test (continued)

[11] **ENSURE/START** Reactor Lower Compartment Cooler Fan 2B per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, OPENS to the MODULATE position (locally) (**ACC CRIT**). _____

B. Green Light OFF for 2-HS-67-100C at Panel 2-L-10. _____

C. Red Light ON for 2-HS-67-100C at Panel 2-L-10. _____

D. Green Light OFF for 2-HS-67-100A at Panel 0-M-27A. _____

E. Red Light OFF for 2-HS-67-100A at Panel 0-M-27A. _____

[12] **PLACE** 2-HS-67-100C, LOWER CNTMT VENT CLR 2B-B ERCW OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-100-B CLOSES (locally). (**ACC CRIT**) _____

[13] **PLACE** 2-HS-67-100C, LOWER CNTMT VENT CLR 2B-B ERCW OUTLET TCV, to the P-AUTO position, **AND**

VERIFY 2-TCV-67-100-B OPENS to the MODULATE position (locally). _____

[14] **PLACE** 2-XS-67-100, LWR CNTMT CLR B-B ERCW OUTLET TCV, to the NORMAL position, **AND**

VERIFY the following:

A. Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, CLEARS. _____

B. Unit 2 Events Display Legend indicates 148-C, ACR PNL 2-L-11B XS IN AUX, is in NORMAL. _____

[15] **PLACE** 2-HS-67-100A, LWR CNTMT CLR B OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-100-B CLOSES (locally) (**ACC CRIT**). _____

Data Package: Page ____ of ____ **Date _____**

6.9 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL Valve Logic Test (continued)

NOTE

The following step will simulate a loss of power.

[16] **PULL** Fuse 2-FU-276-L26D/1 at Panel 2-L-26 (A15-U, EL 692, AUX BLDG)

_____ 1st

_____ CV

[17] **VERIFY** the following:

A. 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, OPENS to modulate (locally). _____

B. Red Light ON for 2-HS-67-100A at Panel 0-M-27A. _____

C. Green Light OFF for 2-HS-67-100A at Panel 0-M-27A. _____

NOTE

Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B will alarm in the following step.

[18] **PLACE** 2-XS-67-100, LWR CNTMT CLR B-B ERCW OUTLET TCV to the AUX position, **AND**

VERIFY the following:

A. Green Light OFF for 2-HS-67-100C at Panel 2-L-10. _____

B. Red Light ON for 2-HS-67-100C at Panel 2-L-10. _____

[19] **PLACE** 2-XS-67-100, LWR CNTMT CLR B-B ERCW OUTLET TCV, to the NORM position. _____

[20] **REPLACE** Fuse 2-FU-276-L26D/1 at Panel 2-L-26

_____ 1st

_____ CV

Data Package: Page ____ of ____ **Date _____**

6.9 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL Valve Logic Test (continued)

[21] **PLACE** 2-HS-67-100A, LWR CNTMT CLR B OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-100-B CLOSES (locally). _____

NOTE

The following steps will simulate a loss of control air.

[22] **CLOSE** 2-ISV-32-3563, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-100. _____

[23] **OPEN** bleed petcock at 2-PREG-67-100, CONTROL AIR PRESSURE REG FOR 2-TCV-67-100, to VENT pressure **AND**

VERIFY 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, is FULLY OPEN (Locally). _____

[24] **CLOSE** bleed petcock at 2-PREG-67-100, CONTROL AIR PRESSURE REG FOR 2-TCV-67-100. _____

[25] **OPEN** 2-ISV-32-3563, **AND**

VERIFY 2-TCV-67-100-B, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, CLOSES to the MODULATE position (locally). _____

[26] **PLACE** 2-TIC-67-100, LOWER CNTMT VENT CLR 2B OUT TEMP CNTL, at Panel 2-L-26 (EL 692, A15-U) to the As-Found Setting recorded in Step 6.9[5].

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.10 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY/PLACE** 2-XS-67-108, LWR CNTMT CLR D-B ERCW OUTLET TCV, at Panel 2-L-11B, to the NORM position, **AND**

ENSURE Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, is CLEAR. _____

[3] **VERIFY/PLACE** 2-HS-67-108A, LWR CNTMT CLR D OUTLET TCV, at Panel 0 M-27A, to the P-AUTO position. _____

[4] **VERIFY/PLACE** 2-HS-67-108C, LOWER CNTMT CLR 2D-B ERCW OUTLET TCV, at Panel 2-L-10, to the P-AUTO position. _____

[5] **RECORD** as-found setting on 2-TIC-67-108, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, at Panel 2-L-26 (A15-U, EL 692)

As-Found setting_____ _____

[6] **PLACE** 2-TIC-67-108, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, in AUTO at Panel 2-L-26 (A15-U, EL 692), **AND**

ADJUST for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.10 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

[7] **ENSURE/START** Reactor Lower Compartment Cooler Fan 2D per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, is OPEN to the modulate position (locally, (IC/723/AZ-349) (**ACC CRIT**). _____

B. Red Light ON for 2-HS-67-108A at Panel 0-M-27A. _____

C. Green Light OFF for 2-HS-67-108A at Panel 0-M-27A. _____

D. Red Light OFF for 2-HS-67-108C at Panel 2-L-10. _____

E. Green Light OFF for 2-HS-67-108C at Panel 2-L-10. _____

[8] **STOP** Reactor Lower Compartment Cooler Fan 2D per 2-SOI-30.03 **AND**

VERIFY the following:

A. 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, CLOSES (locally). _____

B. Green Light ON for 2-HS-67-108A at Panel 0-M-27A. _____

C. Red Light OFF for 2-HS-67-108A at Panel 0-M-27A. _____

D. Red Light OFF for 2-HS-67-108C at Panel 2-L-10. _____

E. Green Light OFF for 2-HS-67-108C at Panel 2-L-10. _____

Data Package: Page ____ of ____ **Date _____**

6.10 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

NOTE
Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, will alarm in the following step.

[9] **PLACE** 2-XS-67-108, LWR CNTMT CLR D-B ERCW OUTLET TCV, to the AUX position, **AND**

VERIFY the following:

A. 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, REMAINS CLOSED (locally). _____

B. Green Light ON for 2-HS-67-108C at Panel 2-L-10. _____

C. Red Light OFF for 2-HS-67-108C at Panel 2-L-10. _____

D. Red Light OFF for 2-HS-67-108A at Panel 0-M-27A. _____

E. Green Light OFF for 2-HS-67-108A at Panel 0-M-27A. _____

F. Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, ALARMS. _____

G. Unit 2 Events Display Legend indicates 148-C, ACR PNL 2-L-11B XS IN AUX, is in ALARM. _____

[10] **ENSURE/ADJUST** 2-TIC-67-108, LWR CNTMT VENT CLR 2D OUT TEMP CNTL, for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.10 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

[11] **ENSURE/START** Reactor Lower Compartment Cooler Fan 2D per 2-SOI-30.03, **AND**

VERIFY the Following:

A. 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, OPENS to the MODULATE position (locally) (**ACC CRIT**). _____

B. Red Light ON for 2-HS-67-108C at Panel 2-L-10. _____

C. Green Light OFF for 2-HS-67-108C at Panel 2-L-10. _____

D. Red Light OFF for 2-HS-67-108A at Panel 0-M-27A. _____

E. Green Light OFF for 2-HS-67-108A at Panel 0-M-27A. _____

[12] **PLACE** 2-HS-67-108C, LOWER CNTMT VENT CLR 2D-B ERCW OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-108-B CLOSES (locally) (**ACC CRIT**) _____

[13] **PLACE** 2-HS-67-108C, LOWER CNTMT VENT CLR 2D-B ERCW OUTLET TCV, to the P-AUTO position, **AND**

VERIFY 2-TCV-67-108-B OPENS to the MODULATE position (locally.) _____

[14] **PLACE** 2-XS-67-108, LWR CNTMT CLR D-B ERCW OUTLET TCV, to the NORMAL position, **AND**

VERIFY the following:

A. Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, CLEARS. _____

B. Unit 2 Events Display Legend indicates 148-C, ACR PNL 2-L-11B XS IN AUX, is in NORMAL. _____

[15] **PLACE** 2-HS-67-108A, LWR CNTMT CLR D OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-108-B CLOSES (locally) (**ACC CRIT**) _____

Data Package: Page ____ of ____ **Date _____**

6.10 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

NOTE

The following step will simulate a loss of power.

[16] **PULL** Fuse 2-FU-276-L26D/5 at Panel 2-L-26 (A15-U, EL 692 AUX BLDG)

_____ 1st

_____ CV

[17] **VERIFY** the following:

A. 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, OPENS to modulate (locally). _____

B. Green Light OFF for 2-HS-67-108A at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-108A at Panel 0-M-27A. _____

NOTE

Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, will alarm in the following step.

[18] **PLACE** 2-XS-67-108, LWR CNTMT CLR D-B ERCW OUTLET TCV to the AUX position, **AND**

VERIFY the following:

A. Red Light ON for 2-HS-67-108C at Panel 2-L-10. _____

B. Green Light OFF for 2-HS-67-108C at Panel 2-L-10. _____

[19] **PLACE** 2-XS-67-108, LWR CNTMT CLR D-B ERCW OUTLET TCV, to the NORM position. _____

[20] **REPLACE** Fuse 2-FU-276-L26D/5 at Panel 2-L-26

_____ 1st

_____ CV

[21] **PLACE** 2-HS-67-108A, LWR CNTMT CLR D OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-108-B CLOSES (locally). _____

Data Package: Page ____ of ____ **Date _____**

6.10 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

NOTE

The following steps will simulate a loss of control air.

[22] **CLOSE** 2-ISV-32-3605, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-108. _____

[23] **OPEN** bleed petcock at 2-PREG-67-108, CONTROL AIR PRESSURE REG FOR 2-TCV-67-108, to VENT pressure, **AND**

VERIFY 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, is FULLY OPEN (Locally). _____

[24] **CLOSE** bleed petcock at 2-PREG-67-108, CONTROL AIR PRESSURE REG FOR 2-TCV-67-108-B. _____

[25] **OPEN** 2-ISV-32-3605, **AND**

VERIFY 2-TCV-67-108-B, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, CLOSES to the MODULATE position (locally). _____

[26] **PLACE** 2-TIC-67-108, LOWER CNTMT VENT CLR 2D OUT TEMP CNTL, at Panel 2-L-26 (A15-U, EL 692) to the As-Found Setting recorded in Step 6.10[5]

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.11 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY/PLACE** 2-XS-67-85, CRDM CLR A-A ERCW OUTLET TCV, at Panel 2-L-11A, to the NORM position, **AND**

ENSURE Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A, is CLEAR. _____

[3] **VERIFY/PLACE** 2-HS-67-85A, CRDM CLR A-A OUTLET TCV, at Panel 0-M-27A, to the P-AUTO position. _____

[4] **VERIFY/PLACE** 2-HS-67-85C, CRDM CLR 2A-A ERCW OUTLET TCV, at Panel 2-L-10, to the P-AUTO position. _____

[5] **RECORD** as-found setting on 2-TIC-67-85, CRD VENT CLR 2A OUT TEMP CNTL, at Panel 2-L-26 (A15-U, EL 692)

As-Found setting_____ _____

[6] **PLACE** 2-TIC-67-85, CRD VENT CLR 2A OUT TEMP CNTL, in AUTO at Panel 2-L-26 (A15-U, EL 692), **AND**

ADJUST for maximum cooling. _____

[7] **ENSURE/START** CRD VENT Cooler Fan 2A per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL, is OPEN to the MODULATE position (locally) (EL 716, AZ11) (**ACC CRIT**). _____

B. Green Light OFF for 2-HS-67-85A at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-85A at Panel 0-M-27A. _____

D. Green Light OFF for 2-HS-67-85C at Panel 2-L-10. _____

E. Red Light OFF for 2-HS-67-85C at Panel 2-L-10. _____

Data Package: Page ____ of ____ **Date _____**

6.11 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL Valve Logic Test (continued)

[8] **STOP** CRD VENT Cooler Fan 2A per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL, CLOSES (locally). _____

B. Red Light OFF for 2-HS-67-85A at Panel 0-M-27A. _____

C. Green Light ON for 2-HS-67-85A at Panel 0-M-27A. _____

D. Red Light OFF for 2-HS-67-85C at Panel 2-L-10. _____

E. Green Light OFF for 2-HS-67-85C at Panel 2-L-10. _____

NOTE

Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A will ALARM in the following step

[9] **PLACE** 2-XS-67-85, CRDM CLR A-A ERCW OUTLET TCV, to the AUX position **AND**

VERIFY the following:

A. 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL, REMAINS CLOSED (locally). _____

B. Green Light ON for 2-HS-67-85C at Panel 2-L-10. _____

C. Red Light OFF for 2-HS-67-85C at Panel 2-L-10. _____

D. Red Light OFF for 2-HS-67-85A at Panel 0-M-27A. _____

E. Green Light OFF for 2-HS-67-85A at Panel 0-M-27A. _____

F. Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A, ALARMS. _____

G. Unit 2 Events Display Legend indicates 148-B, ACR PNL 2-L-11A XS IN AUX, is in ALARM. _____

[10] **ENSURE/ADJUST** 2-TIC-67-85, CRD VENT CLR 2A OUT TEMP CNTL, for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.11 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL Valve Logic Test (continued)

[11] **ENSURE/START** CRD VENT Cooler Fan 2A per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL, OPENS to the MODULATE position (locally) (**ACC CRIT**). _____

B. Red Light ON for 2-HS-67-85C at Panel 2-L-10. _____

C. Green Light OFF for 2-HS-67-85C at Panel 2-L-10. _____

D. Red Light OFF for 2-HS-67-85A at Panel 0-M-27A. _____

E. Green Light OFF for 2-HS-67-85A at Panel 0-M-27A. _____

[12] **PLACE** 2-HS-67-85C, CRDM CLR 2A-A ERCW OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-85-A CLOSED (locally). (**ACC CRIT**) _____

[13] **PLACE** 2-HS-67-85C, CRDM CLR 2A-A ERCW OUTLET TCV, to the P-AUTO position, **AND**

VERIFY 2-TCV-67-85-A OPENS to the MODULATE position (locally). _____

[14] **PLACE** 2-XS-67-85, CRDM CLR A-A ERCW OUTLET TCV, to the NORMAL position, **AND**

VERIFY the following:

A. Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A, CLEARS. _____

B. Unit 2 Events Display Legend indicates 148-B, ACR PNL 2-L-11A XS IN AUX, is in NORMAL. _____

[15] **PLACE** 2-HS-67-85A, CRDM CLR A-A OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-85-A CLOSES (locally). (**ACC CRIT**) _____

Data Package: Page ____ of ____ **Date _____**

6.11 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL Valve Logic Test (continued)

NOTE

The following step will simulate a loss of power

[16] **PULL** Fuse 2-FU-276-L26A/3 at Panel 2-L-26 (A15-U, EL 692 AUX BLDG)

_____ 1st

_____ CV

[17] **VERIFY** the following:

A. 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL, OPENS to the MODULATE position (locally). _____

B. Green Light OFF for 2-HS-67-85A at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-85A at Panel 0-M-27A. _____

NOTE

Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A will ALARM in the following step

[18] **PLACE** 2-XS-67-85, CRDM CLR A-A ERCW OUTLET TCV to the AUX position, **AND**

VERIFY the following:

A. Green Light OFF for 2-HS-67-85C at Panel 2-L-10. _____

B. Red Light ON for 2-HS-67-85C at Panel 2-L-10. _____

[19] **PLACE** 2-XS-67-85, CRDM CLR A-A ERCW OUTLET TCV, to the NORM position. _____

[20] **REPLACE** Fuse 2-FU-276-L26A/3 at Panel 2-L-26

_____ 1st

_____ CV

Data Package: Page ____ of ____ **Date _____**

6.11 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL Valve Logic Test (continued)

[21] **PLACE** 2-HS-67-85A, CRDM CLR A-A OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-85-A CLOSES (locally). _____

NOTE

The following steps will simulate a loss of control air.

[22] **CLOSE** 2-ISV-32-3610, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-85. _____

[23] **OPEN** bleed petcock at 2-PREG-67-85, CONTROL AIR PRESSURE REG FOR 2-TCV-67-85, to VENT pressure **AND**

VERIFY 2-TCV-67-85-A, CRD VENT CLR 2A OUT TEMP CNTL, is FULLY OPEN (Locally). _____

[24] **CLOSE** bleed petcock at 2-PREG-67-85, CONTROL AIR PRESSURE REG FOR 2-TCV-67-85. _____

[25] **OPEN** 2-ISV-32-3610, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-85, **AND**

VERIFY 2-TCV-67-85-A, CLOSES to the MODULATE position (locally). _____

[26] **PLACE** 2-TIC-67-85, CRD VENT CLR 2A OUT TEMP CNTL, at Panel 2-L-26 (A15-U, EL 692) to the As-Found Setting recorded in Step 6.11[5]

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.12 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY/PLACE** 2-XS-67-93, CRDM CLR C-A ERCW OUTLET TCV, at Panel 2-L-11A, to the NORM position **AND**

ENSURE Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A, is CLEAR. _____

[3] **VERIFY/PLACE** 2-HS-67-93A, CRDM CLR C-A OUTLET TCV, at Panel 0-M-27A, to the P-AUTO position. _____

[4] **VERIFY/PLACE** 2-HS-67-93C, CRDM CLR C-A ERCW OUTLET TCV, at Panel 2-L-10, to the P-AUTO position. _____

[5] **RECORD** as-found setting on 2-TIC-67-93, CRD VENT CLR 2C OUT TEMP CNTL, at Panel 2-L-26A, (A15-U, EL 692)

As-Found setting_____ _____

[6] **PLACE** 2-TIC-67-93, CRD VENT CLR 2C OUT TEMP CNTL, in AUTO at Panel 2-L-26A, (A15-U, EL 692), **AND**

ADJUST for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.12 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

[7] **ENSURE/START** CRD VENT Cooler Fan 2C per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL, is OPEN to the MODULATE position (locally, EL 716, AZ193) (**ACC CRIT**). _____

B. Green Light OFF for 2-HS-67-93A at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-93A at Panel 0-M-27A. _____

D. Green Light OFF for 2-HS-67-93C at Panel 2-L-10. _____

E. Red Light OFF for 2-HS-67-93C at Panel 2-L-10. _____

[8] **STOP** CRD VENT Cooler Fan 2C per 2-SOI-30.03 **AND**

VERIFY the following:

A. 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL, CLOSES (locally). _____

B. Green Light ON for 2-HS-67-93A at Panel 0-M-27A. _____

C. Red Light OFF for 2-HS-67-93A at Panel 0-M-27A. _____

D. Green Light OFF for 2-HS-67-93C at Panel 2-L-10. _____

E. Red Light OFF for 2-HS-67-93C at Panel 2-L-10. _____

Data Package: Page ____ of ____ **Date _____**

6.12 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

NOTE

Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A will ALARM in the following step

[9] **PLACE** 2-XS-67-93, CONTROL ROD DRIVE, VENT CLR 2C TEMP, to the AUX position **AND**

VERIFY the following:

A. 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL, REMAINS CLOSED (locally). _____

B. Green Light ON for 2-HS-67-93C at Panel 2-L-10. _____

C. Red Light OFF for 2-HS-67-93C at Panel 2-L-10. _____

D. Green Light OFF for 2-HS-67-93A at Panel 0-M-27A _____

E. Red Light OFF for 2-HS-67-93A at Panel 0-M-27A _____

F. Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A, ALARMS. _____

G. Unit 2 Events Display Legend indicates 148-B, ACR PNL 2-L-11A XS IN AUX, is in ALARM. _____

[10] **ENSURE/ADJUST** 2-TIC-67-93 CRD VENT CLR 2C OUT TEMP CNTL, for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.12 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

[11] **ENSURE/START** CRD VENT Cooler Fan 2C per 2-SOI-30.03, **AND**

VERIFY the Following:

A. 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL, OPENS to the MODULATE position (locally). (**ACC CRIT**). _____

B. Green Light OFF for 2-HS-67-93C at Panel 2-L-10. _____

C. Red Light ON for 2-HS-67-93C at Panel 2-L-10. _____

D. Green Light OFF for 2-HS-67-93A at Panel 0-M-27A. _____

E. Red Light OFF for 2-HS-67-93A at Panel 0-M-27A. _____

[12] **PLACE** 2-HS-67-93C, CRDM CLR C-A ERCW OUTLET TCV, to the CLOSE position **AND**

VERIFY 2-TCV-67-93-A CLOSED (locally). (**ACC CRIT**) _____

[13] **PLACE** 2-HS-67-93C, CRDM CLR C-A ERCW OUTLET TCV, to the P-AUTO position, **AND**

VERIFY 2-TCV-67-93-A OPENS to the MODULATE position (locally). _____

[14] **PLACE** 2-XS-67-93, CRDM CLR C-A ERCW OUTLET TCV, to the NORMAL position **AND**

VERIFY the following:

A. Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A, CLEARS _____

B. Unit 2 Events Display Legend indicates 148-B, ACR PNL 2-L-11A XS IN AUX, is in NORMAL _____

[15] **PLACE** 2-HS-67-93A, CRDM CLR C-A OUTLET TCV, to the CLOSE position **AND**

VERIFY 2-TCV-67-93-A CLOSES (locally). (**ACC CRIT**) _____

Data Package: Page ____ of ____ **Date _____**

6.12 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

NOTE

The following step will simulate a loss of power.

[16] **PULL** Fuse 2-FU-276-L26A/7 at Panel 2-L-26 (A15-U, EL 692 AUX BLDG)

_____ 1st

_____ CV

[17] **VERIFY** the following:

A. 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL, OPENS to the MODULATE position (locally). _____

B. Green Light OFF for 2-HS-67-93A at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-93A at Panel 0-M-27A. _____

NOTE

Annunciator 148-B, 2-XA-55-6F, ACR PNL 2-L-11A will ALARM in the following step

[18] **PLACE** 2-XS-67-93, CRDM CLR C-A ERCW OUTLET TCV to the AUX position **AND**

VERIFY the following:

A. Red Light ON for 2-HS-67-93C at Panel 2-L-10. _____

B. Green Light OFF for 2-HS-67-93C at Panel 2-L-10. _____

[19] **PLACE** 2-XS-67-93, CRDM CLR C-A ERCW OUTLET TCV, to the NORM position. _____

[20] **REPLACE** Fuse 2-FU-276-L26A/7 at Panel 2-L-26

_____ 1st

_____ CV

Data Package: Page ____ of ____ **Date _____**

6.12 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL Valve Logic Test (continued)

[21] **PLACE** 2-HS-67-93A, CRDM CLR C-A OUTLET TCV, to the CLOSE position **AND**

VERIFY 2-TCV-67-93-A CLOSES (locally). _____

NOTE

The following steps will simulate a loss of control air.

[22] **CLOSE** 2-ISV-32-3560 CONTROL AIR ISOLATION VALVE TO 2-TCV-67-93. _____

[23] **OPEN** bleed petcock at 2-PREG-67-93, CONTROL AIR PRESSURE REG FOR 2-TCV-067-0093, to VENT pressure, **AND**

VERIFY 2-TCV-67-93-A, CRD VENT CLR 2C OUT TEMP CNTL, is FULLY OPEN (Locally). _____

[24] **CLOSE** bleed petcock at 2-PREG-67-93, CONTROL AIR PRESSURE REG FOR 2-TCV-067-0093. _____

[25] **OPEN** 2-ISV-32-3560 **AND**

VERIFY 2-TCV-67-93-A, CRD VENT CLR 1C OUT TEMP CNTL CLOSES to the MODULATE position (locally). _____

[26] **PLACE** 2-TIC-67-93, CRD VENT CLR 2C OUT TEMP CNTL, at Panel 2-L-26A, (A15-U, EL 692) to the As-Found Setting recorded in Step 6.12[5].

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.13 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY/PLACE** 2-XS-67-101, CRDM CLR B-B ERCW OUTLET TCV, at Panel 2-L-11B, to the NORM position, **AND**

ENSURE Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, is CLEAR. _____

[3] **VERIFY/PLACE** 2-HS-67-101A, CRDM CLR B-B OUTLET TCV, at Panel 0-M-27A, to the P-AUTO position. _____

[4] **VERIFY/PLACE** 2-HS-67-101C, CRDM CLR B-B ERCW OUTLET TCV, at Panel 2-L-10, to the P-AUTO position. _____

[5] **RECORD** as-found setting on 2-TIC-67-101, CRD VENT CLR 2B OUT TEMP CNTL, at Panel 2-L-26 (A15-U, EL 692)

As-Found setting_____ _____

[6] **PLACE** 2-TIC-67-101, CRD VENT CLR 2B OUT TEMP CNTL, in AUTO at Panel 2-L-26 (A15-U, EL 692), **AND**

ADJUST for maximum cooling. _____

[7] **ENSURE/START** CRD VENT Cooler Fan 2B per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-101-B CRD VENT CLR 2B OUT TEMP CNTL, is OPEN to the MODULATE position (locally) (EL 716, AZ168) (**ACC CRIT**). _____

B. Green Light OFF for 2-HS-67-101A at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-101A at Panel 0-M-27A. _____

D. Green Light OFF for 2-HS-67-101C at Panel 2-L-10. _____

E. Red Light OFF for 2-HS-67-101C at Panel 2-L-10. _____

Data Package: Page ____ of ____ **Date _____**

6.13 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL Valve Logic Test (continued)

[8] **STOP** CRD VENT Cooler Fan 2B per 2-SOI-30.03 **AND**

VERIFY the following:

A. 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL, CLOSES (locally). _____

B. Green Light ON for 2-HS-67-101A at Panel 0-M-27A. _____

C. Red Light OFF for 2-HS-67-101A at Panel 0-M-27A. _____

D. Green Light OFF for 2-HS-67-101C at Panel 2-L-10. _____

E. Red Light OFF for 2-HS-67-101C at Panel 2-L-10. _____

NOTE

Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B will ALARM in the following step

[9] **PLACE** 2-XS-67-101, CRDM CLR B-B ERCW OUTLET TCV, to the AUX position **AND**

VERIFY the following:

A. 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL, REMAINS CLOSED (locally). _____

B. Green Light ON for 2-HS-67-101C at Panel 2-L-10. _____

C. Red Light OFF for 2-HS-67-101C at Panel 2-L-10. _____

D. Red Light OFF for 2-HS-67-101A at Panel 0-M-27A. _____

E. Green Light OFF for 2-HS-67-101A at Panel 0-M-27A. _____

F. Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, ALARMS. _____

G. Unit 2 Events Display Legend indicates 148-C, ACR PNL 2-L-11B XS IN AUX, is in ALARM. _____

[10] **ENSURE/ADJUST** 2-TIC-67-101, CRD VENT CLR 2B OUT TEMP CNTL, for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.13 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL Valve Logic Test (continued)

[11] **ENSURE/START** CRD VENT Cooler Fan 2C per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL, OPENS to the MODULATE position (locally). (**ACC CRIT**). _____

B. Red Light ON for 2-HS-67-101C at Panel 2-L-10. _____

C. Green Light OFF for 2-HS-67-101C at Panel 2-L-10. _____

D. Red Light OFF for 2-HS-67-101A at Panel 0-M-27A. _____

E. Green Light OFF for 2-HS-67-101A at Panel 0-M-27A. _____

[12] **PLACE** 2-HS-67-101C, CRDM CLR B-B ERCW OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-101-B CLOSES (locally). (**ACC CRIT**) _____

[13] **PLACE** 2-HS-67-101C, CRDM CLR B-B ERCW OUTLET TCV, to the P-AUTO position, **AND**

VERIFY 2-TCV-67-101-B OPENS to the MODULATE position (locally). _____

[14] **PLACE** 2-XS-67-101, CRDM CLR B-B ERCW OUTLET TCV, to the NORMAL position, **AND**

VERIFY the following:

A. Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, CLEARS. _____

B. Unit 2 Events Display Legend indicates 148-C, ACR PNL 2-L-11B XS IN AUX, is in NORMAL. _____

[15] **PLACE** 2-HS-67-101A, CRDM CLR B-B OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-101-B CLOSES (locally). (**ACC CRIT**) _____

Data Package: Page ____ of ____ **Date _____**

6.13 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL Valve Logic Test (continued)

NOTE

The following step will simulate a loss of power.

[16] **PULL** Fuse 2-FU-276-L26D/3 at Panel 2-L-26 (A15-U, EL 692 AUX BLDG) _____ 1st _____ CV

[17] **VERIFY** the following:

A. 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL, OPENS to the MODULATE position (locally). _____

B. Green Light OFF for 2-HS-67-101A at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-101A at Panel 0-M-27A. _____

NOTE

Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B will ALARM in the following step

[18] **PLACE** 2-XS-67-101, CRDM CLR B-B ERCW OUTLET TCV to the AUX position, **AND**

VERIFY the following:

A. Red Light ON for 2-HS-67-101C at Panel 2-L-10. _____

B. Green Light OFF for 2-HS-67-101C at Panel 2-L-10. _____

[19] **PLACE** 2-XS-67-101, CRDM CLR B-B ERCW OUTLET TCV, to the NORM position. _____

[20] **REPLACE** Fuse 2-FU-276-L26D/3 at Panel 2-L-26. _____ 1st _____ CV

Data Package: Page ____ of ____ **Date _____**

6.13 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL Valve Logic Test (continued)

[21] **PLACE** 2-HS-67-101A, CRDM CLR B-B OUTLET TCV, to the CLOSE position, **AND**

VERIFY 2-TCV-67-101-B CLOSES (locally). _____

NOTE
The following steps will simulate a loss of control air.

[22] **CLOSE** 2-ISV-32-3565 CONTROL AIR ISOLATION VALVE TO 2-TCV-67-101. _____

[23] **OPEN** bleed petcock at 2-PREG-67-101, CONTROL AIR PRESSURE REG FOR 2-TCV-67-101, to VENT pressure, **AND**

VERIFY 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL, is FULLY OPEN (Locally). _____

[24] **CLOSE** bleed petcock at 2-PREG-67-101, CONTROL AIR PRESSURE REG FOR 2-TCV-067-0101. _____

[25] **OPEN** 2-ISV-32-3565, **AND**

VERIFY 2-TCV-67-101-B, CRD VENT CLR 2B OUT TEMP CNTL CLOSES to the MODULATE position (locally). _____

[26] **PLACE** 2-TIC-67-101, CRD VENT CLR 2B OUT TEMP CNTL, at Panel 2-L-26 (A15-U, EL 692) to the As-Found Setting recorded in Step 6.13[5].

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.14 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY/PLACE** 2-XS-67-109, CRDM CLR D-B ERCW OUTLET TCV, at Panel 2-L-11B, to the NORM position **AND**

ENSURE Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, is CLEAR. _____

[3] **VERIFY/PLACE** 2-HS-67-109A, CRDM CLR 2D-B OUTLET TCV, at Panel 0-M-27A, to the P-AUTO position. _____

[4] **VERIFY/PLACE** 2-HS-67-109C, CRDM CLR 2D-B ERCW OUTLET TCV, at Panel 2-L-10, to the P-AUTO position. _____

[5] **RECORD** as-found setting on 2-TIC-67-109, CRD VENT CLR 2D OUT TEMP CNTL, at Panel 2-L-26D (A15-U, EL 692)

As-Found setting_____ _____

[6] **PLACE** 2-TIC-67-109, CRD VENT CLR 2D OUT TEMP CNTL, in AUTO at Panel 2-L-26D (A15-U, EL 692), **AND**

ADJUST for maximum cooling. _____

Data Package: Page ____ of ____ **Date _____**

6.14 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

[7] **ENSURE/START** CRD VENT Cooler Fan 2D per 2-SOI-30.03, **AND**

VERIFY the following:

A. 2-TCV-67-109-B CRD VENT CLR 2D OUT TEMP CNTL, is OPEN to the MODULATE position (EL 716, AZ-348) (**ACC CRIT**). _____

B. Green Light OFF for 2-HS-67-109A at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-109A at Panel 0-M-27A. _____

D. Green Light OFF for 2-HS-67-109Cat Panel 2-L-10. _____

E. Red Light OFF for 2-HS-67-109C at Panel 2-L-10. _____

[8] **STOP** CRD VENT Cooler Fan 2D per 2-SOI-30.03 **AND**

VERIFY the following:

A. 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL, CLOSES (locally). _____

B. Green Light ON for 2-HS-67-109A at Panel 0-M-27A. _____

C. Red Light OFF for 2-HS-67-109A at Panel 0-M-27A. _____

D. Green Light OFF for 2-HS-67-109C at Panel 2-L-10. _____

E. Red Light OFF for 2-HS-67-109C at Panel 2-L-10. _____

Data Package: Page ____ of ____ **Date _____**

6.14 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

NOTE

Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B will ALARM in the following step

[9] **PLACE** 2-XS-67-109, CRDM CLR D-B ERCW OUTLET TCV, to the AUX position **AND**

VERIFY the following:

A. 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL, REMAINS CLOSED (locally). _____

B. Green Light ON for 2-HS-67-109C at Panel 2-L-10. _____

C. Red Light OFF for 2-HS-67-109C at Panel 2-L-10. _____

D. Red Light OFF for 2-HS-67-109A at Panel 0-M-27A. _____

E. Green Light OFF for 2-HS-67-109A at Panel 0-M-27A. _____

F. Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, ALARMS. _____

G. Unit 2 Events Display Legend indicates 148-C, ACR PNL 2-L-11B XS IN AUX, is in ALARM. _____

[10] **ENSURE/ADJUST** 2-TIC-67-109, CRD VENT CLR 2D OUT TEMP CNTL, for maximum cooling. _____

[11] **ENSURE/START** CRD VENT Cooler Fan 2D per 2-SOI-30.03, **AND**

VERIFY the Following:

A. 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL, OPENS to the MODULATE position (locally) (**ACC CRIT**). _____

B. Red Light ON for 2-HS-67-109C at Panel 2-L-10. _____

C. Green Light OFF for 2-HS-67-109C at Panel 2-L-10. _____

D. Red Light OFF for 2-HS-67-109A at Panel 0-M-27A. _____

Data Package: Page ____ of ____ **Date _____**

6.14 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

E. Green Light OFF for2-HS-67-109A at Panel 0-M-27A. _____

[12] **PLACE** 2-HS-67-109C, CRDM CLR 2D-B ERCW OUTLET TCV, to the CLOSE position **AND**

VERIFY 2-TCV-67-109-B CLOSES (locally). (**ACC CRIT**) _____

[13] **PLACE** 2-HS-67-109C, CRDM CLR 2D-B ERCW OUTLET TCV, to the P-AUTO position, **AND**

VERIFY 2-TCV-67-109-B OPENS to the MODULATE position (locally). _____

[14] **PLACE** 2-XS-67-109, CRDM CLR D-B ERCW OUTLET TCV, to the NORMAL position **AND**

VERIFY the following:

A. Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B, CLEARS. _____

B. Unit 2 Events Display Legend indicates 148-C, ACR PNL 2-L-11B XS IN AUX, is in NORMAL. _____

[15] **PLACE** 2-HS-67-109A, CRDM CLR 2D-B OUTLET TCV, to the CLOSE position **AND**

VERIFY 2-TCV-67-109-B CLOSES (locally) (**ACC CRIT**). _____

NOTE

The following step will simulate a loss of power.

[16] **PULL** Fuse 2-FU-276-L26D/7 at Panel 2-L-26 (A15-U, EL 692, AUX BLDG) _____

1st

_____

CV

Data Package: Page ____ of ____ **Date _____**

6.14 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

[17] **VERIFY** the following:

A. 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL, OPENS to the MODULATE position (locally). _____

B. Green Light OFF for 2-HS-67-109A at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-109A at Panel 0-M-27A. _____

NOTE

Annunciator 148-C, 2-XA-55-6F, ACR PNL 2-L-11B will ALARM in the following step

[18] **PLACE** 2-XS-67-109, CRDM CLR D-B ERCW OUTLET TCV to the AUX position **AND**

VERIFY the following:

A. Red Light ON for 2-HS-67-109C at Panel 2-L-10. _____

B. Green Light OFF for 2-HS-67-109C at Panel 2-L-10. _____

[19] **PLACE** 2-XS-67-109, CRDM CLR D-B ERCW OUTLET TCV, to the NORM position. _____

[20] **REPLACE** Fuse 2-FU-276-L26D/7 at Panel 2-L-26. _____ 1st _____ CV

[21] **PLACE** 2-HS-67-109A, CRDM CLR 2D-B OUTLET TCV, to the CLOSE position **AND**

VERIFY 2-TCV-67-109-B CLOSES (locally). _____

NOTE

The following steps will simulate a loss of control air.

[22] **CLOSE** 2-ISV-32-3606 CONTROL AIR ISOLATION VALVE TO 2-TCV-67-109. _____

Data Package: Page ____ of ____ **Date _____**

6.14 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL Valve Logic Test (continued)

[23] **OPEN** bleed petcock at 2-PREG-67-109, CONTROL AIR PRESSURE REG FOR 2-TCV-067-0109, to VENT pressure **AND**

VERIFY 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL, is FULLY OPEN (Locally). _____

[24] **CLOSE** bleed petcock at 2-PREG-67-109, CONTROL AIR PRESSURE REG FOR 2-TCV-067-0109. _____

[25] **OPEN** 2-ISV-32-3606 **AND**

VERIFY 2-TCV-67-109-B, CRD VENT CLR 2D OUT TEMP CNTL CLOSES to the MODULATE position (locally). _____

[26] **PLACE** 2-TIC-67-109, CRD VENT CLR 2D OUT TEMP CNTL, at Panel 2-L-26D (A15-U, EL 692) to the As-Found Setting recorded in Step 6.14[5].

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.15 2-TCV-67-86-A, RCP 1 MOTOR CLR ERCW SUP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY** Reactor Coolant Pump 1 is SHUTDOWN. _____

[3] **VERIFY/PLACE** 2-HS-67-86, RCP 1 MTR CLR SUP TCV, located at Panel 0-M-27A, in the P-AUTO position **AND**

VERIFY the following:

A. 2-TCV-67-86-A, RCP 1 MOTOR CLR ERCW SUP CNTL, is CLOSED (IC, EL 727, AZ12). _____

B. Green Light ON for 2-HS-67-86 at Panel 0-M-27A. _____

C. Red Light OFF for 2-HS-67-86 at Panel 0-M-27A. _____

[4] **PLACE** 2-HS-67-86, RCP 1 MTR CLR SUP TCV, in the OPEN position **AND**

VERIFY the following:

A. 2-TCV-67-86-A, RCP 1 MOTOR CLR ERCW SUP CNTL, is OPEN (locally). _____

B. Green Light OFF for 2-HS-67-86 at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-86 at Panel 0-M-27A. _____

[5] **PLACE** 2-HS-67-86 RCP 1 MTR CLR SUP TCV, in the CLOSE position **AND**

VERIFY 2-TCV-67-86-A CLOSES (locally). _____

[6] **PLACE** 2-HS-67-86, RCP 1 MTR CLR SUP TCV, in the P-AUTO position **AND**

VERIFY 2-TCV-67-86-A Remains CLOSED. _____

Data Package: Page ____ of ____ Date _____

6.15 2-TCV-67-86-A, RCP 1 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

CAUTION

Leads to be lifted in the following steps are energized with 120VAC.

NOTE

The following step will simulate RCP #1 START

[7] **LIFT** Wire CS11 at TB 430-2 in Panel 2-R-74. _____ 1st _____ CV

[8] **VERIFY** 2-TCV-67-86-A, RCP 1 MOTOR CLR ERCW SUP CNTL, OPENS. (**ACC CRIT**) _____

[9] **PLACE** 2-HS-67-86 RCP 1 MTR CLR SUP TCV, in the CLOSE position **AND**

VERIFY 2-TCV-67-86-A CLOSES (**ACC CRIT**). _____

[10] **PLACE** 2-HS-67-86, RCP 1 MTR CLR SUP TCV, in the P-AUTO position **AND**

VERIFY 2-TCV-67-86-A OPENS. _____

[11] **LAND** Wire CS11 at TB 430-2 in Panel 2-R-74 **AND**

VERIFY 2-TCV-67-86-A, RCP 1 MOTOR CLR ERCW SUP CNTL, CLOSES. _____ 1st _____ CV

Data Package: Page ____ of ____ Date _____

6.15 2-TCV-67-86-A, RCP 1 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

NOTE

The following step will simulate loss of power.

[12] **PULL** 2 Fuses labeled 0-FU-236-3/A40 at 125V VITAL DC SUPPLY BTRY BD III, Panel 4 (A11-Q, EL 757 AUX BLDG) _____ 1st _____ CV

[13] **VERIFY** 2-TCV-67-86-A OPENS (locally). _____

NOTE

The fuses in the following step have a blown fuse indicator which must be oriented toward the annunciator circuit.

[14] **REPLACE** 2 Fuses labeled 0-FU-236-3/A40 at 125V VITAL DC SUPPLY BTRY BD III, Panel 4 (A11-Q, EL 757 AUX BLDG) _____ 1st _____ CV

[15] **VERIFY** 2-TCV-67-86-A CLOSES. _____

NOTE

The following steps will simulate loss of control air.

[16] **CLOSE** 2-ISV-32-3611, CONTROL AIR ISOLATION VALVE to 2-TCV-67-86. _____

[17] **OPEN** bleed petcock at 2-PREG-67-86, CONTROL AIR PRESSURE REG for 2-TCV-67-86, **AND**

VERIFY 2-TCV-67-86-A is FULLY OPEN (Locally). _____

Data Package: Page ____ of ____ **Date _____**

6.15 2-TCV-67-86-A, RCP 1 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

[18] **CLOSE** bleed petcock at 2-PREG-67-86, CONTROL AIR PRESSURE REG, for 2-TCV-67-86. _____

[19] **OPEN** 2-ISV-32-3611, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-86, **AND**

VERIFY 2-TCV-67-86-A CLOSES to the MODULATE position (locally). _____

Data Package: Page ____ of ____ **Date _____**

6.16 2-TCV-67-94-A, RCP 3 MOTOR CLR ERCW SUP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY** Reactor Coolant Pump 3 is SHUTDOWN. _____

[3] **VERIFY/PLACE** 2-HS-67-94, RCP 3 MTR CLR SUP TCV, located at Panel 0-M-27A, in the P-AUTO position **AND**

VERIFY the following:

A. 2-TCV-67-94-A, RCP 3 MOTOR CLR ERCW SUP CNTL, is CLOSED (IC, EL 727, AZ190). _____

B. Green Light ON for 2-HS-67-94 at Panel 0-M-27A. _____

C. Red Light OFF for 2-HS-67-94 at Panel 0-M-27A. _____

[4] **PLACE** 2-HS-67-94, RCP 3 MTR CLR SUP TCV, in the OPEN position **AND**

VERIFY the following:

A. 2-TCV-67-94-A, RCP 3 MOTOR CLR ERCW SUP CNTL, is OPEN (locally). _____

B. Green Light OFF for 2-HS-67-94 at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-94 at Panel 0-M-27A. _____

[5] **PLACE** 2-HS-67-94, RCP 3 MTR CLR SUP TCV, in the CLOSE position **AND**

VERIFY 2-TCV-67-94-A CLOSES (locally). _____

[6] **PLACE** 2-HS-67-94, RCP 3 MTR CLR SUP TCV, in the P-AUTO position **AND**

VERIFY 2-TCV-67-94-A remains CLOSED. _____

Data Package: Page ____ of ____ Date _____

6.16 2-TCV-67-94-A, RCP 3 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

CAUTION

Leads to be lifted in the following steps are energized with 120VAC.

NOTE

The following step will simulate RCP #3 START

[7] **LIFT** Wire CS31 at TB 430-8 in Panel 2-R-74. _____ 1st _____ CV

[8] **VERIFY** 2-TCV-67-94-A, RCP 3 MOTOR CLR ERCW SUP CNTL, OPENS. (**ACC CRIT**) _____

[9] **PLACE** 2-HS-67-94, RCP 3 MTR CLR SUP TCV, in the CLOSE position **AND**

VERIFY 2-TCV-67-94-A CLOSES (**ACC CRIT**). _____

[10] **PLACE** 2-HS-67-94, RCP 3 MTR CLR SUP TCV, in the P-AUTO position **AND**

VERIFY 2-TCV-67-94-A OPENS. _____

[11] **LAND** Wire CS31 at TB 430-8 in Panel 2-R-74 **AND**

VERIFY 2-TCV-67-94-A, RCP 3 MOTOR CLR ERCW SUP CNTL, CLOSES. _____ 1st _____ CV

Data Package: Page ____ of ____ **Date _____**

6.16 2-TCV-67-94-A, RCP 3 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

NOTE

The following step will simulate loss of power.

[12] **PULL** 2 Fuses labeled 0-FU-236-3/A41 at 125V VITAL DC SUPPLY BTRY BD III, Panel 4 (A11-Q, EL 757 AUX BLDG _____ 1st _____ CV

[13] **VERIFY** 2-TCV-67-94-A OPENS (locally). _____

NOTE

The fuses in the following step have a blown fuse indicator which must be oriented toward the annunciator circuit.

[14] **REPLACE** 2 Fuses labeled 0-FU-236-3/A41 at 125V VITAL DC SUPPLY BTRY BD III, Panel 4 (A11-Q, EL 757 AUX BLDG) _____ 1st _____ CV

[15] **VERIFY** 2-TCV-67-94-A CLOSES. _____

NOTE

The following step will simulate loss of control air.

[16] **CLOSE** 2-ISV-32-3559, CONTROL AIR ISOLATION VALVE, to 2-TCV-67-94. _____

[17] **OPEN** bleed petcock at 2-PREG-67-94, CONTROL AIR PRESSURE REG for 2-TCV-67-94, **AND**

VERIFY 2-TCV-67-94-A is FULLY OPEN (Locally). _____

Data Package: Page ____ of ____ **Date _____**

6.16 2-TCV-67-94-A, RCP 3 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

[18] **CLOSE** bleed petcock at 2-PREG-67-94, CONTROL AIR PRESSURE REG for 2-TCV-67-94. _____

[19] **OPEN** 2-ISV-32-3559, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-94, **AND**

VERIFY 2-TCV-67-94-A CLOSES to the MODULATE position (locally). _____

Data Package: Page ____ of ____ **Date _____**

6.17 2-TCV-67-102-B, RCP 2 MOTOR CLR ERCW SUP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY** Reactor Coolant Pump 2 is SHUTDOWN. _____

[3] **VERIFY/PLACE** 2-HS-67-102, RCP 2 MTR CLR SUP TCV, located at Panel 0-M-27A, in the P-AUTO position **AND**

VERIFY the following:

A. 2-TCV-67-102-B, RCP 2 MOTOR CLR ERCW SUP CNTL, is CLOSED (IC, EL 725, AZ167). _____

B. Green Light ON for 2-HS-67-102 at Panel 0-M-27A. _____

C. Red Light OFF for 2-HS-67-102 at Panel 0-M-27A. _____

[4] **PLACE** 2-HS-67-102, RCP 2 MTR CLR SUP TCV, in the OPEN position **AND**

VERIFY the following:

A. 2-TCV-67-102-B, RCP 2 MOTOR CLR ERCW SUP CNTL, is OPEN (locally). _____

B. Green Light OFF for 2-HS-67-102 at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-102 at Panel 0-M-27A. _____

[5] **PLACE** 2-HS-67-102, RCP 2 MTR CLR SUP TCV, in the CLOSE position **AND**

VERIFY 2-TCV-67-102-B CLOSES (locally). _____

[6] **PLACE** 2-HS-67-102, RCP 2 MTR CLR SUP TCV, in the P-AUTO position **AND**

VERIFY 2-TCV-67-102-B Remains CLOSED. _____

Data Package: Page ____ of ____ **Date _____**

6.17 2-TCV-67-102-B, RCP 2 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

CAUTION

Leads to be lifted in the following steps are energized with 120VAC.

NOTE

The following step will simulate RCP #2 START

[7] **LIFT** Wire CS21 at TB 735-8 in Panel 2-R-77. _____ 1st _____ CV

[8] **VERIFY** 2-TCV-67-102-B, RCP 2 MOTOR CLR ERCW SUP CNTL, OPENS. (**ACC CRIT**) _____

[9] **PLACE** 2-HS-67-102, RCP 2 MTR CLR SUP TCV, in the CLOSE position **AND**

VERIFY 2-TCV-67-102-B CLOSES (**ACC CRIT**). _____

[10] **PLACE** 2-HS-67-102, RCP 2 MTR CLR SUP TCV, in the P-AUTO position **AND**

VERIFY 2-TCV-67-102-B OPENS. _____

[11] **LAND** Wire CS21 at TB 735-8 in Panel 2-R-77 **AND**

VERIFY 2-TCV-67-102-B, RCP 2 MOTOR CLR ERCW SUP CNTL, CLOSES. _____ 1st _____ CV

NOTE

The following step will simulate loss of power.

[12] **PULL** 2 Fuses labeled 0-FU-236-4/A41 at 125V VITAL DC SUPPLY BTRY BD IV, Panel 4 (A12-Q, EL 757 AUX BLDG) _____ 1st _____ CV

Data Package: Page ____ of ____ Date _____

6.17 2-TCV-67-102-B, RCP 2 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

[13] **VERIFY** 2-TCV-67-102-B OPENS (locally). _____

NOTE

The fuses in the following step have a blown fuse indicator which must be oriented toward the annunciator circuit.

[14] **REPLACE** 2 Fuses labeled 0-FU-236-4/A41 at 125V VITAL DC SUPPLY BTRY BD IV, Panel 4 (A12-Q, EL 757 AUX BLDG)

_____ 1st

_____ CV

[15] **VERIFY** 2-TCV-67-102-B CLOSES. _____

NOTE

The following step will simulate loss of control air.

[16] **CLOSE** 2-ISV-32-3564, CONTROL AIR ISOLATION VALVE, to 2-TCV-67-102. _____

[17] **OPEN** bleed petcock at 2-PREG-67-102 CONTROL AIR PRESSURE REG for 2-TCV-67-102, **AND**

VERIFY 2-TCV-67-102-B is FULLY OPEN (Locally). _____

[18] **CLOSE** bleed petcock at 2-PREG-67-102, CONTROL AIR PRESSURE REG for 2-TCV-67-102. _____

[19] **OPEN** 2-ISV-32-3564, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-102, **AND**

VERIFY 2-TCV-67-102-B CLOSES to the MODULATE position (locally). _____

Data Package: Page ____ of ____ **Date _____**

6.18 2-TCV-67-110-B, RCP 4 MOTOR CLR ERCW SUP CNTL Valve Logic Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **VERIFY** Reactor Coolant Pump 4 is SHUTDOWN. _____

[3] **VERIFY/PLACE** 2-HS-67-110, RCP 4 MTR CLR SUP TCV, located at Panel 0-M-27A, in the P-AUTO position, **AND**

VERIFY the following:

A. 2-TCV-67-110-B, RCP 4 MOTOR CLR ERCW SUP CNTL, is CLOSED (IC, EL 727, AZ347). _____

B. Green Light ON for 2-HS-67-110 at Panel 0-M-27A. _____

C. Red Light OFF for 2-HS-67-110 at Panel 0-M-27A. _____

[4] **PLACE** 2-HS-67-110, RCP 4 MTR CLR SUP TCV, in the OPEN position **AND**

VERIFY the following:

A. 2-TCV-67-110-B, RCP 4 MOTOR CLR ERCW SUP CNTL, is OPEN (locally). _____

B. Green Light OFF for 2-HS-67-110 at Panel 0-M-27A. _____

C. Red Light ON for 2-HS-67-110 at Panel 0-M-27A. _____

[5] **PLACE** 2-HS-67-110, RCP 4 MTR CLR SUP TCV, in the CLOSE position **AND**

VERIFY 2-TCV-67-110-B, CLOSES (locally). _____

[6] **PLACE** 2-HS-67-110, RCP 4 MTR CLR SUP TCV, in the P-AUTO position **AND**

VERIFY 2-TCV-67-110-B, Remains CLOSED. _____

Data Package: Page ____ of ____ Date _____

6.18 2-TCV-67-110-B, RCP 4 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

CAUTION

Leads to be lifted in the following steps are energized with 120VAC.

NOTE

The following step will simulate RCP #4 START

[7] **LIFT** Wire CS41 at TB 735-11 in Panel 2-R-77. _____ 1st _____ CV

[8] **VERIFY** 2-TCV-67-110-B, RCP 4 MOTOR CLR ERCW SUP CNTL, OPENS. (**ACC CRIT**) _____

[9] **PLACE** 2-HS-67-110, RCP 4 MTR CLR SUP TCV, in the CLOSE position **AND**

VERIFY 2-TCV-67-110-B, CLOSES (**ACC CRIT**). _____

[10] **PLACE** 2-HS-67-110, RCP 4 MTR CLR SUP TCV, in the P-AUTO position **AND**

VERIFY 2-TCV-67-110-B, OPENS. _____

[11] **LAND** Wire CS41 at TB 735-11 in Panel 2-R-77 **AND**

VERIFY 2-TCV-67-110-B, RCP 4 MOTOR CLR ERCW SUP CNTL, CLOSES. _____ 1st _____ CV

NOTE

The following step will simulate loss of power.

[12] **PULL** 2 Fuses labeled 0-FU-236-4/A42 at 125V VITAL DC SUPPLY BTRY BD IV, Panel 4 (A12-Q, EL 757 AUX BLDG) _____ 1st _____ CV

Data Package: Page ____ of ____ **Date _____**

6.18 2-TCV-67-110-B, RCP 4 MOTOR CLR ERCW SUP CNTL Valve Logic Test (continued)

[13] **VERIFY** 2-TCV-67-110-B, OPENS (locally). _____

NOTE

The fuses in the following step have a blown fuse indicator which must be oriented toward the annunciator circuit.

[14] **REPLACE** 2 Fuses labeled 0-FU-236-4/A42 at 125V VITAL DC SUPPLY BTRY BD IV, Panel 4 (A12-Q, EL 757 AUX BLDG)

_____ 1st

_____ CV

[15] **VERIFY** 2-TCV-67-110-B, CLOSES. _____

NOTE

The following step will simulate loss of control air.

[16] **CLOSE** 2-ISV-32-3607, CONTROL AIR ISOLATION VALVE, to 2-TCV-67-110. _____

[17] **OPEN** bleed petcock at 2-PREG-67-110 CONTROL AIR PRESSURE REG for 2-TCV-67-110, **AND**

VERIFY 2-TCV-67-110-B is FULLY OPEN (Locally). _____

[18] **CLOSE** bleed petcock at 2-PREG-67-110, CONTROL AIR PRESSURE REG for 2-TCV-67-110. _____

[19] **OPEN** 2-ISV-32-3607, CONTROL AIR ISOLATION VALVE TO 2-TCV-67-110, **AND**

VERIFY 2-TCV-67-110-B CLOSES to the MODULATE position (locally). _____

Data Package: Page ____ of ____ **Date _____**

6.19 2-TCV-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL Valve Loss of Air/Power Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **ENSURE** Breaker 16, at 120VAC VIT BD 2-I (A11-R, EL 757 AUX BLDG) is CLOSED. _____

[3] **RECORD** as-found setting on 2-TIC-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL, at Panel 2-L-336A (A12-V, EL 713)

As-Found setting_____ _____

[4] **ENSURE/STOP** Upper Containment Vent Cooler Fan 2A per 2-SOI-30.03. _____

[5] **ENSURE** 2-TCV-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL, is CLOSED (locally, A12-V, EL 713, Penetration Room). _____

[6] **ENSURE/PLACE** 2-TIC-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL, in AUTO at Panel 2-L-336A (A12-V, EL 713), **AND**

ADJUST for maximum cooling. _____

[7] **START** Upper Containment Vent Cooler Fan 2A per 2-SOI-30.03. _____

[8] **VERIFY** 2-TCV-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL, OPENS to MODULATE (locally, A12-V, EL 713, Penetration Room). (**ACC CRIT**) _____

[9] **ADJUST** 2-TIC-67-129 for minimal cooling. _____

[10] **STOP** Upper Containment Vent Cooler Fan 2A per 2-SOI-30.03. _____

[11] **VERIFY** 2-TCV-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL, CLOSES (locally, A12-V, EL 713, Penetration Room). _____

Data Package: Page ____ of ____ **Date _____**

6.19 2-TCV-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL Valve Loss of Air/Power Test (continued)

[12] **OPEN** Breaker 16 at 120VAC VIT BD 2-I, **AND**

VERIFY 2-TCV-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL, OPENS. _____

[13] **CLOSE** Breaker 16, at 120VAC VIT BD 2-I, **AND**

VERIFY 2-TCV-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL, CLOSES. _____

[14] **CLOSE** 2-ISV-32-3117, CONTROL AIR ISOLATION TO 2-TCV-67-129. _____

[15] **OPEN** bleed petcock at 2-PREG-67-129, CONTROL AIR PRESSURE REG FOR 2-TCV-67-129, **AND**

VERIFY 2-TCV-67-129 is FULLY OPEN (Locally). _____

[16] **CLOSE** bleed petcock at 2-PREG-67-129, CONTROL AIR PRESSURE REG FOR 2-TCV-67-129. _____

[17] **OPEN** 2-ISV-32-3117, **AND**

VERIFY 2-TIC-67-129, UPPER CNTMT CLR 2A ERCW RET TEMP CNTL, CLOSES to the MODULATE POSITION (Locally). _____

[18] **PLACE** 2-TIC-67-129, UPPER CNTMT VENT CLR 2A ERCW RET TEMP CNTL, at Panel 2-L-336A (A12-V, EL 713) to the As-Found Setting recorded in Step 6.19[3].

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.20 2-TCV-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL Valve Loss of Air/Power Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **ENSURE** Breaker 16, at 120VAC VIT BD 2-I (A11-R, EL 757 AUX BLDG) is CLOSED. _____

[3] **RECORD** as-found setting on 2-TIC-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL, at Panel 2-L-336B (A12-V, EL 713)

As-Found setting_____ _____

[4] **ENSURE/STOP** Upper Containment Vent Cooler Fan 2C per 2-SOI-30.03. _____

[5] **ENSURE** 2-TCV-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL, is CLOSED (locally, A12-V, EL 713, Penetration Room). _____

[6] **ENSURE/PLACE** 2-TIC-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL, in AUTO at Panel 2-L-336B (A12-V, EL 713) **AND**

ADJUST for maximum cooling. _____

[7] **START** Upper Containment Vent Cooler Fan 2C per 2-SOI-30.03. _____

[8] **VERIFY** 2-TCV-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL, OPENS to MODULATE (locally, A12-V, EL 713, Penetration Room). (**ACC CRIT**) _____

[9] **ADJUST** 2-TIC-67-132 for minimal cooling. _____

[10] **STOP** Upper Containment Vent Cooler Fan 2C per 2-SOI-30.03. _____

[11] **VERIFY** 2-TCV-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL, CLOSES (locally, A12-V, EL 713, Penetration Room). _____

Data Package: Page ____ of ____ **Date _____**

6.20 2-TCV-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL Valve Loss of Air/Power Test (continued)

[12] **OPEN** Breaker 16, at 120VAC VIT BD 2-I, **AND**

VERIFY 2-TCV-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL, OPENS. _____

[13] **CLOSE** Breaker 16, at 120VAC VIT BD 2-I, **AND**

VERIFY 2-TCV-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL, CLOSES. _____

[14] **CLOSE** 2-ISV-32-3118, CONTROL AIR ISOLATION TO 2-TCV-67-132. _____

[15] **OPEN** bleed petcock at 2-PREG-67-132, CONTROL AIR PRESSURE REG FOR 2-TCV-67-132, **AND**

VERIFY 2-TCV-67-132 is FULLY OPEN (Locally) _____

[16] **CLOSE** bleed petcock at 2-PREG-67-132, CONTROL AIR PRESSURE REG FOR 2-TCV-67-132. _____

[17] **OPEN** 2-ISV-32-3118, **AND**

VERIFY 2-TCV-67-132, UPPER CNTMT CLR 2C ERCW RET TEMP CNTL, CLOSES to the MODULATE POSITION (Locally). _____

[18] **PLACE** 2-TIC-67-132, UPPER CNTMT VENT CLR 2C ERCW RET TEMP CNTL, at Panel 2-L-336B (A12-V, EL 713) to the As-Found Setting recorded in Step 6.20[3].

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.21 2-TCV-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL Valve Loss of Air/Power Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **ENSURE** Breaker 15, at 120VAC VIT BD 2-II (A11-R, EL 757AUX BLDG) is CLOSED. _____

[3] **RECORD** as-found setting on 2-TIC-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL, at Panel 2-L-336B (A12-V, EL 713)

As-Found setting_____ _____

[4] **ENSURE/STOP** Upper Containment Vent Cooler Fan 2B per 2-SOI-30.03. _____

[5] **ENSURE** 2-TCV-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL, is CLOSED (locally, A12-V, EL 713, Penetration Room). _____

[6] **ENSURE/PLACE** 2-TIC-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL, in AUTO at Panel 2-L-336B, A12-V, EL 713, **AND**

ADJUST for maximum cooling. _____

[7] **START** Upper Containment Vent Cooler Fan 2B per 2-SOI-30.03. _____

[8] **VERIFY** 2-TCV-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL, OPENS to MODULATE (locally, A12-V, EL 713, Penetration Room). (**ACC CRIT**) _____

[9] **ADJUST** 2-TIC-67-137 for minimal cooling. _____

[10] **STOP** Upper Containment Vent Cooler Fan 2B per 2-SOI-30.03. _____

[11] **VERIFY** 2-TCV-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL, CLOSES (locally, A12-V, EL 713, Penetration Room). _____

Data Package: Page ____ of ____ **Date _____**

6.21 2-TCV-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL Valve Loss of Air/Power Test (continued)

[12] **OPEN** Breaker 15, at 120VAC VIT BD 2-II, **AND**

VERIFY 2-TCV-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL, OPENS. _____

[13] **CLOSE** Breaker 15, at 120VAC VIT BD 2-II, **AND**

VERIFY 2-TCV-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL, CLOSES. _____

[14] **CLOSE** 2-ISV-32-3116, CONTROL AIR ISOLATION TO 2-TCV-67-137. _____

[15] **OPEN** bleed petcock at 2-PREG-67-137, CONTROL AIR PRESSURE REG FOR 2-TCV-67-137, **AND**

VERIFY 2-TCV-67-137 is FULLY OPEN (Locally). _____

[16] **CLOSE** bleed petcock at 2-PREG-67-137, CONTROL AIR PRESSURE REG FOR 2-TCV-67-137. _____

[17] **OPEN** 2-ISV-32-3116, **AND**

VERIFY 2-TCV-67-137, UPPER CNTMT CLR 2B ERCW RET TEMP CNTL, CLOSES to the MODULATE POSITION (Locally). _____

[18] **PLACE** 2-TIC-67-137, UPPER CNTMT VENT CLR 2B ERCW RET TEMP CNTL, at Panel 2-L-336B (A12-V, EL 713) to the As-Found Setting recorded in Step 6.21[3].

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

6.22 2-TCV-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL Valve Loss of Air/Power Test

[1] **VERIFY** all applicable prerequisites listed in Section 4.0 have been completed. _____

[2] **ENSURE** Breaker 15, at 120VAC VIT BD 2-II (A11-R, EL 757AUX BLDG) is CLOSED. _____

[3] **RECORD** as-found setting on 2-TIC-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL, at Panel 2-L-336B (A12-V, EL 713)

As-Found setting_____ _____

[4] **ENSURE/STOP** Upper Containment Vent Cooler Fan 2D per 2-SOI-30.03. _____

[5] **ENSURE** 2-TCV-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL, is CLOSED (locally, A12-V, EL 713, Penetration Room). _____

[6] **ENSURE/PLACE** 2-TIC-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL, in AUTO at Panel 2-L-336B (A12-V, EL 713), **AND**

ADJUST for maximum cooling. _____

[7] **START** Upper Containment Vent Cooler Fan 2D per 2-SOI-30.03. _____

[8] **VERIFY** 2-TCV-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL, OPENS to MODULATE (locally, A12-V, EL 713, Penetration Room).(**ACC CRIT**) _____

[9] **ADJUST** 2-TIC-67-140 for minimal cooling. _____

[10] **STOP** Upper Containment Vent Cooler Fan 2D per 2-SOI-30.03. _____

[11] **VERIFY** 2-TCV-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL, CLOSES (locally, A12-V, EL 713, Penetration Room). _____

Data Package: Page ____ of ____ Date _____

6.22 2-TCV-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL Valve Loss of Air/Power Test (continued)

[12] **OPEN** Breaker 15, at 120VAC VIT BD 2-II, **AND**

VERIFY 2-TCV-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL, OPENS. _____

[13] **CLOSE** Breaker 15, at 120VAC VIT BD 2-II, **AND**

VERIFY 2-TCV-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL, CLOSES. _____

[14] **CLOSE** 2-ISV-32-3115, CONTROL AIR ISOLATION TO 2-TCV-67-140. _____

[15] **OPEN** bleed petcock at 2-PREG-67-140, CONTROL AIR PRESSURE REG FOR 2-TCV-67-140, **AND**

VERIFY 2-TCV-67-140 is FULLY OPEN (Locally). _____

[16] **CLOSE** bleed petcock at 2-PREG-67-140, CONTROL AIR PRESSURE REG FOR 2-TCV-67-140. _____

[17] **OPEN** 2-ISV-32-3115, **AND**

VERIFY 2-TCV-67-140, UPPER CNTMT CLR 2D ERCW RET TEMP CNTL, CLOSES to the MODULATE POSITION (Locally). _____

[18] **PLACE** 2-TIC-67-140, UPPER CNTMT VENT CLR 2D ERCW RET TEMP CNTL, at Panel 2-L-336B (A12-V, EL 713) to the As-Found Setting recorded in Step 6.22[3].

As-Left setting_____ _____

Data Package: Page ____ of ____ **Date _____**

7.0 POST PERFORMANCE ACTIVITY

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

Data Package: Page ____ of ____ **Date _____**

8.0 RECORDS

A. QA Records

Completed Test Package

B. Non-QA Records

None

Appendix A
(Page 1 of 1)

DRAWINGS AND REFERENCES

Data Package: Page ____ of ____ **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)
Unit 2 FSAR Section 9.2.1 Table 14.2-1 Sheet 4 and 5 of 89			
WBN2-67-4002			
2-SOI-30.03			
2-TSD-67			

Appendix B
(Page 1 of 1)

TEMPORARY CONDITIONS LOG

Data Package: Page ____ of ____ **Date ________**

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

	TEMPORARY	PERFORMED		RETURNED TO NORMAL	
ITEM NUMBER	CONDITION DESCRIPTION	Step Number	Perf. By/Date 2nd By/Date	Step Number	Returned By/Date 2nd By/Date