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

June 5, 2012

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-067-01	0	ERCW Valve Functional Test

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

Respectfully,

R. A. Hruby, Jr.

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

Enclosure

D030
NRR

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

WATTS BAR NUCLEAR PLANT
UNIT 2 PREOPERATIONAL TEST

TITLE: ERCW VALVE FUNCTIONAL TEST

Instruction No: 2-PTI-067-01

Revision No: 0

PREPARED BY: Kurt McCormack DATE: 11/14/11
PRINT NAME / SIGNATURE

REVIEWED BY: Ross Horvat DATE: 11/14/11
PRINT NAME / SIGNATURE

INSTRUCTION APPROVAL

JTG MEETING No: 2-12-010

JTG CHAIRMAN: _____ DATE: 5/17/12

APPROVED BY : _____ DATE: 5/17/12
PREOPERATIONAL STARTUP MANAGER

TEST RESULTS APPROVAL

JTG MEETING No: _____

JTG CHAIRMAN: _____ DATE: _____

APPROVED BY : _____ DATE: _____
PREOPERATIONAL STARTUP MANAGER

Revision Log

Revision or Change Number	Effective Date	Affected Page Numbers	Description of Revision/Change
0000	5/17/12	All	Initial Issue based on 1-PTI-067-01 Rev 0

Table of Contents

1.0 INTRODUCTION 6
1.1 Test Objectives 6
1.2 Scope 7
2.0 REFERENCES 8
2.1 Performance References 8
2.2 Developmental References 8
3.0 PRECAUTIONS AND LIMITATIONS 14
4.0 PREREQUISITE ACTIONS 16
4.1 Preliminary Actions 16
4.2 Special Tools, Measuring and Test Equipment, Parts and Supplies 19
4.3 Approvals and Notifications 20
5.0 ACCEPTANCE CRITERIA 21
6.0 PERFORMANCE 24
6.1 2-FCV-67-83, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test 25
6.2 2-FCV-67-87, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test 33
6.3 2-FCV-67-88, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test 41
6.4 2-FCV-67-89, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test 49
6.5 2-FCV-67-91, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test 56
6.6 2-FCV-67-95, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test 64
6.7 2-FCV-67-96, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test 72
6.8 2-FCV-67-97, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test 80

Table of Contents (continued)

6.9 2-FCV-67-99, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test 86

6.10 2-FCV-67-103, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test 94

6.11 2-FCV-67-104, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test 102

6.12 2-FCV-67-105, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test 110

6.13 2-FCV-67-107, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test 117

6.14 2-FCV-67-111, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test 125

6.15 2-FCV-67-112, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test 133

6.16 2-FCV-67-113, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test 141

6.17 2-FCV-67-130, Upper Containment Vent Coolers 2A Supply Isolation Valve, Logic and Stroke Timing Test 148

6.18 2-FCV-67-131, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test 154

6.19 2-FCV-67-133, Upper Containment Vent Coolers 2C Supply Isolation Valve, Logic and Stroke Timing Test 159

6.20 2-FCV-67-134, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test 165

6.21 2-FCV-67-138, Upper Containment Vent Coolers 2B Supply Isolation Valve, Logic and Stroke Timing Test 171

6.22 2-FCV-67-139, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test 176

6.23 2-FCV-67-141, Upper Containment Vent Coolers 2D Supply Isolation Valve, Logic and Stroke Timing Test 181

6.24 2-FCV-67-142, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test 187

6.25 2-FCV-67-295, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test 193

Table of Contents (continued)

6.26 2-FCV-67-296, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test 199

6.27 2-FCV-67-297, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test 204

6.28 2-FCV-67-298, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test 210

6.29 0-FCV-67-152, CCS Heat Exchanger C Discharge Control Valve to Header B, Thermal Overload Bypass and Safety Injection Signal Response Test 215

6.30 1-FCV-67-66, 1A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test 220

6.31 2-FCV-67-66, 2A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test 228

6.32 1-FCV-67-67, 1B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test 236

6.33 2-FCV-67-67, 2B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test 244

6.34 1-FCV-67-143, CCS Heat Exchanger A Outlet ERCW Flow Control Bypass Valve, Unit 2 Thermal Overload Bypass Test 252

6.35 1-FCV-67-146, CCS Heat Exchanger A Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Bypass Test 256

6.36 0-FCV-67-144, CCS Heat Exchanger C Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Test 260

7.0 POST PERFORMANCE ACTIVITY 264

8.0 RECORDS 265

Appendix A: TEST PROCEDURES/INSTRUCTIONS REFERENCE REVIEW 266

Date _____

1.0 INTRODUCTION

1.1 Test Objectives

This PTI demonstrates the following for the thirty-six (36) valves listed in the Table of Contents:

- Proper valve response from all applicable control stations and verifying that all indicating lights and transfer switches are functioning properly. Also, that inputs (associated limit switches, relay contacts, hand switch contacts, etc) to monitoring systems (Annunciators, Plant Computer, Containment Isolation Status Panel, etc.) are functioning properly.
- Proper valve response to the use of the Thermal Overload Bypass following actuation of the Thermal Overload Relay.
- Proper valve response to a simulated Containment Isolation Phase B signal.
- Operating times (Stroke Times) do not exceed the specified (allowed) times.
- Following an ESF actuation signal (Containment Isolation Phase B or Safety Injection), the valves remain in their final accident position (closed) when the initiating signal is RESET.

Date _____

1.2 Scope

The objectives of this PTI are accomplished by operating valve handswitches (to verify the expected operation. Valve stroke times are verified by operating valves by their respective handswitches and timing the opening and closing of the valves using calibrated stopwatches. Valve logic pertaining to overload conditions is verified by manually tripping the Thermal Overloads and manually operating the Overload Bypass Relay. Containment Isolation Phase B signal and Safety Injection signal are simulated utilizing temporary jumpers.

The 36 ERCW valves listed in the Table of Contents, Section 6.0, are tested in this Preoperational Test:

Valves 0-FCV-67-152, 1-FCV-67-66, 67, 143, 146, 2-FCV-67-66, 67 are stroke time tested in 0-SI-67-907-A and B.

The following ERCW system valves will be verified in Preoperational Test 2-PTI-67-03:

- 2-TCV-67-84, 85, 86, 92, 93, 94, 100, 101, 102
- 2-TCV-67-108, 109, 110, 129, 132, 137, 140
- 2-FCV-67-123, 124, 125, 126, 143, 146

Date _____

2.0 REFERENCES

2.1 Performance References

A. SMP-6.0, Administration, Conduct And Test Results Processing Of Generic Test Instructions

B. SMP-9.0, Conduct Of Test

2.2 Developmental References

A. Unit 2 Final Safety Analysis Report - Amendment 107

1. Section 9.2.1

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

B. Drawings

1. Flow Diagrams

a. 1-47W845-1 R57, Mechanical Flow Diagram, Essential Raw Cooling Water System

b. 2-47W845-2 R3, Mechanical Flow Diagram, Essential Raw Cooling Water System

c. 2-47W845-3 R6, Mechanical Flow Diagram, Essential Raw Cooling Water System

2. Electrical

a. 1-45W760-55-2 R19, Wiring Diagram, Annunciator System Schematic Diagram

b. 1-45W760-55-2A R12, Wiring Diagram, Annunciator System Schematic Diagram

c. 1-45W760-55-3A R3, Wiring Diagram, Annunciator System Schematic Diagram

Date _____

2.2 Developmental References (continued)

d. 1-45W760-67-4 R15, Wiring Diagram, Essential Raw Cooling Water System

56341-101 R1
56341-102 R1

e. 2-45W760-67-4 R0, Wiring Diagram, Essential Raw Cooling Water System

f. 2-45W760-67-5 R3, Wiring Diagram, Essential Raw Cooling Water System

53293-043 R3

g. 2-45W760-67-6 R2, Wiring Diagram, Essential Raw Cooling Water System

53288-091 R0
53293-028 R3
53293-034 R1
53986-021 R0

h. 2-45W760-67-7 R2, Wiring Diagram, Essential Raw Cooling Water System

53293-031 R1
53293-040 R1

i. 2-45W760-67-8 R1, Wiring Diagram, Essential Raw Cooling Water System

53293-037 R2
53288-092 R0

j. 1-45W760-67-11 R13, Wiring Diagram, Essential Raw Cooling Water System

53785-225 R0
54208-061 R0

k. 2-45W760-67-11 R0, Wiring Diagram, Essential Raw Cooling Water System

Date _____

2.2 Developmental References (continued)

l. 2-45W760-67-15 R0, Wiring Diagram, Essential Raw Cooling Water System

m. 1-45W760-67-15 R5, Wiring Diagram, Essential Raw Cooling Water System

54912-327 R1
54912-332 R0
54912-334 R0

n. 1-45W760-270-2 R25, Wiring Diagram, Miscellaneous System Schematic Diagram

56336-109 R0

o. 2-45W760-270-2 R1, Wiring Diagram, Miscellaneous System Schematic Diagram

53288-093 R0
53293-062 R1
53293-073 R1
53292-070 R3

p. 2-45W751-3 R3, Wiring Diagrams 480V REAC MOV BD 2A1-A Single Line SH-3

53287-157 R4

q. 2-45W751-4 R2, Wiring Diagrams 480V REAC MOV BD 2A2-A Single Line SH-1

53288-081 R2

Date _____

2.2 Developmental References (continued)

r. 2-45W751-5 R3, Wiring Diagrams 480V REAC MOV BD 2A2-A Single Line SH-2

53288-081 R3
53817-071 R1
53817-072 R2

s. 2-45W751-6 R0, Wiring Diagrams 480V REAC MOV BD 2A2-A Single Line SH-3

53288-083 R2

t. 2-45W751-10 R5, Wiring Diagrams 480V REAC MOV BD 2B2-B Single Line SH-1

53293-070 R2
53270-009 R1

u. 2-45W751-11 R3, Wiring Diagrams 480V REAC MOV BD 2B2-B Single Line SH-2

53293-071 R1

v. 2-45N2676-4 ANT, Wiring Diagrams Solid State Protection Sys Train A Connection Diagram Sh-4

Anticipated, used As Constructed RevAA

w. 45N2676-4 RevAA Wiring Diagrams Solid State Protection Sys Train A Connection Diagram Sh-4

53554-021 Rev 0

x. 2-45N2677-4 ANT, Wiring Diagrams Solid State Protection Sys Train B Connection Diagram Sh-4

Anticipated, used As Constructed Rev AA

y. 45N2677-4 (AC Version) RevAA Wiring Diagrams Solid State Protection Sys Train B Connection Diagram Sh-4

56336-116 Rev 0

Date _____

2.2 Developmental References (continued)

z. 45N2677-4 (AD Version) R18 Wiring Diagrams Solid State Protection Sys Train B Connection Diagram Sh-4

53554-022 Rev 1

aa. 2-45N2688-3 ANT, Wiring Diagrams Separation Aux Relay PNL 2-R-73 Connection Diagram Sheet 3

Anticipated, used As Constructed RevL

bb. 45N2693-3 RevK, Wiring Diagrams, Separation Aux Relay PNL 2-R-78 Connection Diagrams Sheet 3

3. Control Diagrams

a. 2-47W610-67-2 R6, Electrical Control Diagram, ERCW System

b. 1-47W610-67-2A R9, Electrical Control Diagram, ERCW System

c. 2-47W610-67-3 R8, Electrical Control Diagram, ERCW System

d. 1-47W610-67-4 R18, Electrical Control Diagram, ERCW System

55477-233 R0
55477-234 R0

4. Other Drawings

a. 2-47A615-0 R1, Integrated Computer System Terminations and I/O list

b. 2-47B601-55-3 ANT, Electrical Instrument Tabulation

Anticipated, used DRA 52453-06 R1

c. 2-47B601-55-4 ANT, Electrical Instrument Tabulation

Anticipated, used DRA 52453-07 R1

d. 7246D11-19 Rev G, Solid State Protection System Interconnection Diagram

C. Documents

1. 2-TSD-67 R2, Essential Raw Cooling Water System

Date _____

2.2 Developmental References (continued)

2. 2-TSD-88-5 R1, Containment Isolation System

Date _____

3.0 PRECAUTIONS AND LIMITATIONS

A. Standard precautions shall be followed for working around energized electrical equipment in accordance with TVA Safety 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 do not require a Test Deficiency Notice (TDN), in accordance with SMP-14.0, if the UNIDs match, exclusive of place-keeping zeros and train designators (e.g. 2-HS-31-468 vs. 2-HS-031-0468) and the noun description is sufficient to identify the component. If the component label needs to be changed, a Tag Request Form (TR Card) should be processed in accordance with TI-12.14. Make an entry in the CTL and continue testing.

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

Date _____

3.0 PRECAUTIONS AND LIMITATIONS (continued)

J. 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.

K. 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.

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

M. 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.

N. Prior to testing 1-FCV-67-143, CCS HX A OUTLET ERCW FLOW CNTL, 1-FCV-67-146, CCS HX A OUTLET ERCW FLOW CNTL, should be placed in position "A", to prevent pump runout.

O. In the event of a Diesel Generator start during performance of subsections 6.30 through 6.33, testing per this PTI must be suspended until the Unit Supervisor (US), or designee, authorizes continuation.

Date _____

4.0 PREREQUISITE ACTIONS

NOTE

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

4.1 Preliminary Actions

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

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

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

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

[5] **ENSURE** outstanding Design Change Notices (DCN's), Engineering Document Construction Releases (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. _____

Date _____

4.1 Preliminary Actions (continued)

[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. _____

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

[9] **VERIFY** System cleanness 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) calibration due dates will support the completion of this test performance. _____

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

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

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

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

Date _____

4.1 Preliminary Actions (continued)

[15] **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-149-C, 480 RX MOV BD 2A1-A/2A2-A _____

2-XA-55-6F-150-C, 480 RX MOV BD 2B1-B/2B2-B _____

1-XA-55-6F/149-D, 480 DG AUX BD 1A1-A/1A2-A _____

2-XA-55-6F/149-D, 480 DG AUX BD 2A1-A/2A2-A _____

1-XA-55-6F/150-D, 480 DG AUX BD 1B1-B/1B2-B _____

2-XA-55-6F/150-D, 480 DG AUX BD 2B1-B/2B2-B _____

[16] **ENSURE** The following systems are operational and have been placed in service to the extent necessary to perform this test per:

A. System 213, 480V Reactor Mov Board 2A1-A, 2B1-B, 2A2-A, 2B2-B _____

B. System 215, 480V Diesel Aux Board 1A1-A, 2A1-A, 1B1-B, 2B1-B _____

Date _____

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

[1] **ENSURE** the following are available:

A. Two Digital Stopwatches (Subsections 6.1 through 6.28) _____

B. Temporary Test Jumper (Subsections 6.1 through 6.29) _____

C. Digital Multimeter (All Subsections) _____

Date _____

4.3 Approvals and Notifications

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

_____ _____
Preoperational Startup Manager Date

[2] **OBTAIN** the Unit 1 Supervisors (US/SRO) or Shift Manager's (SM) authorization.

_____ _____
US/SRO/SM Signature Date

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

_____ _____
US/SRO/SM Signature Date

Date _____

5.0 ACCEPTANCE CRITERIA

UNID	Valve Operates From Applicable Control Station(s), and indicating lights, transfer switches and inputs to monitoring systems function properly	Valve Will NOT Operate During a Simulated Overload Condition without the Thermal Overload Bypass in Effect	Valve Will Operate During a Simulated Overload Condition with the Thermal Overload Bypass in Effect	Valve Closes in Less Than or Equal to 66 Seconds	Valve Closes on Phase B Containment Isolation Signal	Valve Remains Closed Upon Containment Isolation Signal Reset
2-FCV-67-83	6.1[28]	6.1[15]	6.1[18]	6.1[7]	6.1[24]	6.1[26]D
2-FCV-67-87	6.2[28]	6.2[15]	6.2[18]	6.2[7]	6.2[24]	6.2[26]D
2-FCV-67-88	6.3[28]	6.3[15]	6.3[18]	6.3[7]	6.3[24]	6.3[26]D
2-FCV-67-89	6.4[27]	6.4[14]	6.4[17]	6.4[6]	6.4[23]	6.4[25]C
2-FCV-67-91	6.5[28]	6.5[15]	6.5[18]	6.5[7]	6.5[24]	6.5[26]D
2-FCV-67-95	6.6[28]	6.6[15]	6.6[18]	6.6[7]	6.6[24]	6.6[26]D
2-FCV-67-96	6.7[28]	6.7[15]	6.7[18]	6.7[7]	6.7[24]	6.7[26]D
2-FCV-67-97	6.8[27]	6.8[14]	6.8[17]	6.8[6]	6.8[23]	6.8[25]C
2-FCV-67-99	6.9[28]	6.9[15]	6.9[18]	6.9[7]	6.9[24]	6.9[26]D
2-FCV-67-103	6.10[28]	6.10[15]	6.10[18]	6.10[7]	6.10[24]	6.10[26]D
2-FCV-67-104	6.11[28]	6.11[15]	6.11[18]	6.11[7]	6.11[24]	6.11[26]D
2-FCV-67-105	6.12[27]	6.12[14]	6.12[17]	6.12[6]	6.12[23]	6.12[25]C
2-FCV-67-107	6.13[28]	6.13[15]	6.13[18]	6.13[7]	6.13[24]	6.13[26]D

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

UNID	Valve Operates From Applicable Control Station(s), and indicating lights, transfer switches and inputs to monitoring systems function properly	Valve Will NOT Operate During a Simulated Overload Condition without the Thermal Overload Bypass in Effect	Valve Will Operate During a Simulated Overload Condition with the Thermal Overload Bypass in Effect	Valve Closes in Less Than or Equal to 66 Seconds	Valve Closes on Phase B Containment Isolation Signal	Valve Remains Closed Upon Containment Isolation Signal Reset
2-FCV-67-111	6.14[28]	6.14[15]	6.14[18]	6.14[7]	6.14[24]	6.14[26]D
2-FCV-67-112	6.15[28]	6.15[15]	6.15[18]	6.15[7]	6.15[24]	6.15[26]D
2-FCV-67-113	6.16[27]	6.16[14]	6.16[17]	6.16[6]	6.16[23]	6.16[25]C
2-FCV-67-130	6.17[21]	6.17[11]	6.17[13]	6.17[6]	6.17[17]	6.17[19]
2-FCV-67-131	6.18[21]	6.18[11]	6.18[13]	6.18[6]	6.18[17]	6.18[19]
2-FCV-67-133	6.19[21]	6.19[11]	6.19[13]	6.19[6]	6.19[17]	6.19[19]
2-FCV-67-134	6.20[21]	6.20[11]	6.20[13]	6.20[6]	6.20[17]	6.20[19]
2-FCV-67-138	6.21[21]	6.21[11]	6.21[13]	6.21[6]	6.21[17]	6.21[19]
2-FCV-67-139	6.22[21]	6.22[11]	6.22[13]	6.22[6]	6.22[17]	6.22[19]
2-FCV-67-141	6.23[21]	6.23[11]	6.23[13]	6.23[6]	6.23[17]	6.23[19]
2-FCV-67-142	6.24[21]	6.24[11]	6.24[13]	6.24[6]	6.24[17]	6.24[19]
2-FCV-67-295	6.25[21]	6.25[11]	6.25[13]	6.25[6]	6.25[17]	6.25[19]
2-FCV-67-296	6.26[21]	6.26[11]	6.26[13]	6.26[6]	6.26[17]	6.26[19]
2-FCV-67-297	6.27[21]	6.27[11]	6.27[13]	6.27[6]	6.27[17]	6.27[19]
2-FCV-67-298	6.28[21]	6.28[11]	6.28[13]	6.28[6]	6.28[17]	6.28[19]
0-FCV-67-152	N/A	6.29[27]	6.29[29]	N/A	N/A	N/A

Date _____

5.0 ACCEPTANCE CRITERIA (continued)

UNID	Valve Operates From Applicable Control Station(s), and indicating lights, transfer switches and inputs to monitoring systems function properly	Valve Will NOT Operate During a Simulated Overload Condition without the Thermal Overload Bypass in Effect	Valve Will Operate During a Simulated Overload Condition with the Thermal Overload Bypass in Effect	Valve Closes in Less Than or Equal to 66 Seconds	Valve Closes on Phase B Containment Isolation Signal	Valve Remains Closed Upon Containment Isolation Signal Reset
1-FCV-67-66	6.30[35]	6.30[27]	6.30[29]	N/A	N/A	N/A
2-FCV-67-66	6.31[35]	6.31[27]	6.31[29]	N/A	N/A	N/A
1-FCV-67-67	6.32[35]	6.32[27]	6.32[29]	N/A	N/A	N/A
2-FCV-67-67	6.33[35]	6.33[27]	6.33[29]	N/A	N/A	N/A
1-FCV-67-143	N/A	6.34[21]	6.34[23]	N/A	N/A	N/A
1-FCV-67-146	N/A	6.35[19]	6.35[21]	N/A	N/A	N/A
0-FCV-67-144	N/A	6.36[20]	6.36[22]	N/A	N/A	N/A

[1] **VERIFY** Valve 0-FCV-67-152 opens to the "A" position on Unit 2 Safety Injection signal (Step 6.29[7]).

[2] **VERIFY** Valve 0-FCV-67-152 remains in the "A" position on Unit 2 Safety Injection signal reset (Step 6.29[9]).

[3] **VERIFY** Valve 0-FCV-67-152 closes to the "A" position on Unit 2 Safety Injection signal (Step 6.29[12]).

Date _____

6.0 PERFORMANCE

NOTE

The subsections of this PTI may be performed one at a time, in any order at the Test Director's discretion.

Date _____

6.1 2-FCV-67-83, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.1 have been completed. _____

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

A. FD2273 _____

B. FD2274 _____

[3] **VERIFY/PERFORM** the following component alignment at 480-V REACTOR MOV BD 2B2-B, Compt 10B:

A. Breaker 2-BKR-67-83 is CLOSED _____

B. Handswitch 2-XS-67-83, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV, is in NORMAL position _____

C. Handswitch 2-HS-67-83C, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV, is in NORMAL position _____

Date _____

6.1 2-FCV-67-83, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-83, LOWER CNTMT CLR HDR A ERCW SUP ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-83A, LWR CNTMT 2A CLRS SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 14

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2273 displays "PWR ON" _____
- Point FD2274 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2B2-B Compt 10B

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-83, LOWER CNTMT CLR HDR A ERCW SUP ISOL, is OPEN (locally) (U2 ANN EL 730 AZ 7). _____

[5] **PLACE** Handswitch 2-HS-67-83C, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-83 remains OPEN (locally) (U2 ANN EL 730 AZ 7) _____

Date _____

6.1 2-FCV-67-83, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-83A, LWR CNTMT 2A CLRS SUP CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-83 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.1 2-FCV-67-83, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-83A, LWR CNTMT 2A CLRS SUP CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-83 OPENS (locally) (U2 ANN EL 730 AZ 7). _____

[9] **PLACE** Handswitch 2-XS-67-83, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, ALARMS. _____

B. Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is in ALARM (Red). _____

C. Handswitch 2-HS-67-83A, LWR CNTMT 2A CLRS SUP CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 14

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2B2-B Compt 10B.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.1 2-FCV-67-83, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-83A, LWR CNTMT 2A CLRS SUP CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-83 remains OPEN (locally) (U2 ANN EL 730 AZ 7). _____

[11] **PLACE** Handswitch 2-HS-67-83C, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 10B.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-83 at 480V REACTOR MOV BD 2B2-B Compt 10B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2273 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 10B on 480V REACTOR MOV BD 2B2-B _____

[14] **CLOSE** Breaker 2-BKR-67-83 at 480V REACTOR MOV BD 2B2-B Compt 10B. _____

Date _____

6.1 2-FCV-67-83, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-83C, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV, to OPEN position, **AND**

VERIFY valve 2-FCV-67-83 DOES NOT OPEN (locally) (U2 ANN EL 730 AZ 7) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-83C, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K3 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-83C, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV, to OPEN position, **AND**

VERIFY valve 2-FCV-67-83 OPENS (locally) (U2 ANN EL 730 AZ 7) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-83C, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV, to NORMAL position. _____

[20] **RELEASE** armature of K3 relay. _____

[21] **PRESS** the RESET button at Compt 10B on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2273 displays "PWR ON" _____
- Point FD2274 displays "NOT CLS". _____

Date _____

6.1 2-FCV-67-83, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-83, LOWER CNTMT 2A COOLERS SUPPLY ISOL VLV, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, CLEARS. _____
- Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB819-3 and TB819-4 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-83 CLOSES (locally) (U2 ANN EL 730 AZ 7) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB819-3 and TB819-4 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal RESET _____ 1st _____ CV

Date _____

6.1 2-FCV-67-83, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-83:

A. Handswitch 2-HS-67-83A, LWR CNTMT 2A CLRS SUP CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 14

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2274 displays "CLOSED". _____

D. Valve 2-FCV-67-83 is CLOSED (locally) (U2 ANN EL 730 AZ 7) (**ACC CRIT**) _____

[27] **PLACE** 2-HS-67-83A, LWR CNTMT 2A CLRS SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-83 OPENS (locally) (U2 ANN EL 730 AZ 7) _____

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

Date _____

6.2 2-FCV-67-87, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.2 have been completed. _____

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

A. FD2107 _____

B. FD2118 _____

[3] **VERIFY/PERFORM** the following component alignment at 480V REACTOR MOV BD 2A2-A, Compt 7D:

A. Breaker 2-BKR-67-87 is CLOSED _____

B. Handswitch 2-XS-67-87, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-87C, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT, is in NORMAL position _____

Date _____

6.2 2-FCV-67-87, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-87, LOWER CNTMT CLR HDR A ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-87A, LWR CNTMT 2A CLRS RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 15

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2107 displays "PWR ON" _____
- Point FD2118 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2A2-A Compt 7D

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-87, LOWER CNTMT CLR HDR A ERCW RET ISOL, is OPEN (locally) (U2 RB EL 725 AZ8). _____

[5] **PLACE** Handswitch 2-HS-67-87C, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-87 remains OPEN (locally) (U2 RB EL 725 AZ8) _____

Date _____

6.2 2-FCV-67-87, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-87A, LWR CNTMT 2A CLRS RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-87 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.2 2-FCV-67-87, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-87A, LWR CNTMT 2A CLRS RET CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-87 OPENS (locally) (U2 RB EL 725 AZ8). _____

[9] **PLACE** Handswitch 2-XS-67-87, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/149-C, 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 (Red). _____

C. Handswitch 2-HS-67-87A, LWR CNTMT 2A CLRS RET CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 15

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2A2-A Compt 7D.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.2 2-FCV-67-87, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-87A, LWR CNTMT 2A CLRS RET CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-87 remains OPEN (locally) (U2 RB EL 725 AZ8). _____

[11] **PLACE** Handswitch 2-HS-67-87C, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD, 2A2-A Compt 7D.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-87 at 480V REACTOR MOV BD 2A2-A Compt 7D, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2107 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 7D on 480V REACTOR MOV BD 2A2-A _____

[14] **CLOSE** Breaker 2-BKR-67-87 at 480V REACTOR MOV BD 2A2-A Compt 7D. _____

Date _____

6.2 2-FCV-67-87, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-87C, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-87 DOES NOT OPEN (locally) (U2 RB EL 725 AZ8) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-87C, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K3 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-87C, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-87 OPENS (locally) (U2 RB EL 725 AZ8) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-87C, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[20] **RELEASE** armature of K3 relay. _____

[21] **PRESS** the RESET button at Compt 7D on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2107 displays "PWR ON" _____
- Point FD2118 displays "NOT CLS". _____

Date _____

6.2 2-FCV-67-87, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-87, LWR CNTMT 2A CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/149-C, 480 RX MOV BD 2A1-A/2A2-A, CLEARS. _____
- Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB313-1 and TB313-2 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-∅B signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-87 CLOSES (locally) (U2 RB EL 725 AZ8) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB313-1 and TB313-2 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-∅B signal RESET _____ 1st _____ CV

Date _____

6.2 2-FCV-67-87, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-87:

A. Handswitch 2-HS-67-87A, LWR CNTMT 2A CLRS RET CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 15

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2118 displays "CLOSED". _____

D. Valve 2-FCV-67-87 is CLOSED (locally) (U2 RB EL 725 AZ8) (**ACC CRIT**). _____

[27] **PLACE** 2-HS-67-87A, LWR CNTMT 2A CLRS RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-87 OPENS (locally) (U2 RB EL 725 AZ8) _____

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

Date _____

6.3 2-FCV-67-88, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.3 have been completed. _____

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

A. FD2265 _____

B. FD2266 _____

[3] **VERIFY/PERFORM** the following component alignment at 480-V REACTOR MOV BD 2B2-B, Compt 9A:

A. Breaker 2-BKR-67-88 is CLOSED _____

B. Handswitch 2-XS-67-88, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-88C, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT, is in NORMAL position _____

Date _____

6.3 2-FCV-67-88, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-88, LOWER CNTMT CLR HDR A ERCW SUP ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-88A, LWR CNTMT 2A CLRS RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 15

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2265 displays "PWR ON" _____
- Point FD2266 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2B2-B Compt 9A

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-88, LOWER CNTMT CLR HDR A ERCW SUP ISOL, is OPEN (locally) (U2 ANN EL 720 AZ7). _____

[5] **PLACE** 2-HS-67-88C, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-88 remains OPEN (locally) (U2 ANN EL 720 AZ7) _____

Date _____

6.3 2-FCV-67-88, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-88A, LWR CNTMT 2A CLRS RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-88 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.3 2-FCV-67-88, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-88A, LWR CNTMT 2A CLRS RET CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-88 OPENS (locally) (U2 ANN EL 720 AZ7). _____

[9] **PLACE** Handswitch 2-XS-67-88, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, ALARMS. _____

B. Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is in ALARM (Red). _____

C. Handswitch 2-HS-67-88A, LWR CNTMT 2A CLRS RET CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 15

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2B2-B Compt 9A.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.3 2-FCV-67-88, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-88A, LWR CNTMT 2A CLRS RET CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-88 remains OPEN (locally) (U2 ANN EL 720 AZ7). _____

[11] **PLACE** Handswitch 2-HS-67-88C, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 9A.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-88 at 480V REACTOR MOV BD 2B2-B Compt 9A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2265 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 9A on 480V REACTOR MOV BD 2B2-B _____

[14] **CLOSE** Breaker 2-BKR-67-88 at 480V REACTOR MOV BD 2B2-B Compt 9A. _____

Date _____

6.3 2-FCV-67-88, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-88C, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-88 DOES NOT OPEN (locally) (U2 ANN EL 720 AZ7) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-88C, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K2 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-88C, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-88 OPENS (locally) (U2 ANN EL 720 AZ7) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-88C, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position. _____

[20] **RELEASE** armature of K2 relay. _____

[21] **PRESS** the RESET button at Compt 9A on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2265 displays "PWR ON" _____
- Point FD2266 displays "NOT CLS". _____

Date _____

6.3 2-FCV-67-88, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-88, LWR CNTMT 2A CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position, **AND**

VERIFY

- 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, CLEARS. _____
- Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB616-9 and TB616-10 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-88 CLOSES (locally) (U2 ANN EL 720 AZ7) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB616-9 and TB616-10 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal RESET _____ 1st _____ CV

Date _____

6.3 2-FCV-67-88, Lower Containment 2A Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-88:

A. Handswitch 2-HS-67-88A, LWR CNTMT 2A CLRS RET CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 15

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2266 displays "CLOSED". _____

D. Valve 2-FCV-67-88 is CLOSED (locally) (U2 ANN EL 720 AZ7) (**ACC CRIT**). _____

[27] **PLACE** 2-HS-67-88A, LWR CNTMT 2A CLRS RET CIV-ØB in the OPEN position, **AND**

VERIFY valve 2-FCV-67-88 OPENS (locally) (U2 ANN EL 720 AZ7) _____

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

Date _____

6.4 2-FCV-67-89, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.4 have been completed. _____

[2] **VERIFY/PERFORM** the following component alignment at 480V REACTOR MOV BD 2A1-A, Compt 15D:

A. Breaker 2-BKR-67-89 is CLOSED _____

B. Handswitch 2-XS-67-89, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-89C, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT, is in NORMAL position _____

Date _____

6.4 2-FCV-67-89, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[3] **ENSURE/OPEN** Valve 2-FCV-67-89, LOWER CNTMT CLR HDR A ERCW SUP ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-89A, LWR CNTMT 2A CLRS SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 14

- Red light is ON _____
- Green light is OFF _____

C. 480V Reactor MOV BD 2A1-A Compt 15D

- Red light is ON _____
- Green light is OFF _____

D. Valve 2-FCV-67-89, LOWER CNTMT CLR HDR A ERCW SUP ISOL, is OPEN (locally) (U2 RB EL 720 AZ7). _____

[4] **PLACE** Handswitch 2-HS-67-89C, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-89 remains OPEN (locally) (U2 RB EL 720 AZ7) _____

Date _____

6.4 2-FCV-67-89, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-89A, LWR CNTMT 2A CLRS SUP CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-89 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

[7] **PLACE** Handswitch 2-HS-67-89A, LWR CNTMT 2A CLRS SUP CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-89 OPENS (locally) (U2 RB EL 720 AZ7). _____

Date _____

6.4 2-FCV-67-89, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-XS-67-89, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT, to AUX position, **AND**

VERIFY:

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

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

C. Handswitch 2-HS-67-89A, LWR CNTMT 2A CLRS SUP CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 14

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2A1-A Compt 15D.

- Red light is ON _____
- Green light is OFF _____

[9] **PLACE** Handswitch 2-HS-67-89A, LWR CNTMT 2A CLRS SUP CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-89 remains OPEN (locally) (U2 RB EL 720 AZ7). _____

Date _____

6.4 2-FCV-67-89, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-89C, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD, 2A1-A Compt 15D.

- Green Light is ON _____
- Red Light is OFF _____

[11] **OPEN** Breaker 2-BKR-67-89 at 480V REACTOR MOV BD 2A1-A Compt 15D _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[12] **MANUALLY TRIP** the thermal overload circuitry at Compt 15D on 480V REACTOR MOV BD 2A1-A _____

[13] **CLOSE** Breaker 2-BKR-67-89 at 480V REACTOR MOV BD 2A1-A Compt 15D. _____

[14] **PLACE** Handswitch 2-HS-67-89C, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-89 DOES NOT OPEN (locally) (U2 RB EL 720 AZ7) (**ACC CRIT**) _____

[15] **PLACE** Handswitch 2-HS-67-89C, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[16] **PRESS** and **HOLD** armature of overload bypass relay K9 in rear of 480-V REACTOR MOV BD 2A1-A, Compt 4F, to simulate Overload Bypass _____

Date _____

6.4 2-FCV-67-89, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[17] **PLACE** Handswitch 2-HS-67-89C, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-89 OPENS (locally) (U2 RB EL 720 AZ7) (**ACC CRIT**) _____

[18] **PLACE** Handswitch 2-HS-67-89C, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[19] **RELEASE** armature of K9 relay. _____

[20] **PRESS** the RESET button at Compt 15D on 480V REACTOR MOV BD 2A1-A, **AND**

VERIFY 480V Reactor MOV BD, 2A1-A Compt 15D.

- Green Light is OFF _____
- Red Light is ON _____

[21] **PLACE** Handswitch 2-XS-67-89, LOWER CNTMT 2A CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position, **AND**

VERIFY

- 2-XA-55-6F/149-C, 480 RX MOV BD 2A1-A/2A1-A, CLEARS. _____
- Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A1-A XS IN AUX is CLEAR (Blue). _____

[22] **PLACE** a Temporary Jumper wire between Terminals TB617-7 and TB617-8 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[23] **VERIFY** valve 2-FCV-67-89 CLOSES (locally) (U2 RB EL 720 AZ7) (**ACC CRIT**). _____

Date _____

6.4 2-FCV-67-89, Lower Containment 2A Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[24] **REMOVE** the Temporary Jumper wire between Terminals TB617-7 and TB617-8 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[25] **VERIFY** the following for valve 2-FCV-67-89:

A. Handswitch 2-HS-67-89A, LWR CNTMT 2A CLRS SUP CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 14

- Red light is OFF _____
- Green light is ON _____

C. Valve 2-FCV-67-89 is CLOSED (locally) (U2 RB EL 720 AZ7) (**ACC CRIT**). _____

[26] **PLACE** 2-HS-67-89A, LWR CNTMT 2A CLRS SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-89 OPENS (locally) (U2 RB EL 720 AZ7) _____

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

Date _____

6.5 2-FCV-67-91, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.5 have been completed. _____

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

A. FD2269 _____

B. FD2270 _____

[3] **VERIFY/PERFORM** the following component alignment at 480-V REACTOR MOV BD 2B2-B, Compt 10A:

A. Breaker 2-BKR-67-91 is CLOSED _____

B. Handswitch 2-XS-67-91, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV, is in NORMAL position _____

C. Handswitch 2-HS-67-91C, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV, is in NORMAL position _____

Date _____

6.5 2-FCV-67-91, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-91, LOWER CNTMT CLR HDR C ERCW SUP ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-91A, LWR CNTMT 2C CLRS SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 27

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2269 displays "PWR ON" _____
- Point FD2270 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2B2-B Compt 10A

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-91, LOWER CNTMT CLR HDR C ERCW SUP ISOL, is OPEN (locally) (U2 ANN EL 720 AZ189). _____

[5] **PLACE** Handswitch 2-HS-67-91C, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-91 remains OPEN (locally) (U2 ANN EL 720 AZ189) _____

Date _____

6.5 2-FCV-67-91, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-91A, LWR CNTMT 2C CLRS SUP CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-91 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.5 2-FCV-67-91, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-91A, LWR CNTMT 2C CLRS SUP CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-91 OPENS (locally) (U2 ANN EL 720 AZ189). _____

[9] **PLACE** Handswitch 2-XS-67-91, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, ALARMS. _____

B. Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is in ALARM (Red). _____

C. Handswitch 2-HS-67-91A, LWR CNTMT 2C CLRS SUP CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 27

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2B2-B Compt 10A.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.5 2-FCV-67-91, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-91A, LWR CNTMT 2C CLRS SUP CIV-∅B, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-91 remains OPEN (locally) (U2 ANN EL 720 AZ189). _____

[11] **PLACE** Handswitch 2-HS-67-91C, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 10A.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-91 at 480V REACTOR MOV BD 2B2-B Compt 10A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2269 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 10A on 480V REACTOR MOV BD 2B2-B _____

[14] **CLOSE** Breaker 2-BKR-67-91 at 480V REACTOR MOV BD 2B2-B Compt 10A. _____

Date _____

6.5 2-FCV-67-91, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-91C, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV, to OPEN position, **AND**

VERIFY valve 2-FCV-67-91 DOES NOT OPEN (locally) (U2 ANN EL 720 AZ189) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-91C, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K3 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-91C, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV, to OPEN position, **AND**

VERIFY valve 2-FCV-67-91 OPENS (locally) (U2 ANN EL 720 AZ189) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-91C, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV, to NORMAL position. _____

[20] **RELEASE** armature of K3 relay. _____

[21] **PRESS** the RESET button at Compt 10A on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2269 displays "PWR ON" _____
- Point FD2270 displays "NOT CLS". _____

Date _____

6.5 2-FCV-67-91, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-91, LWR CNTMT 2C COOLERS SUPPLY ISOL VLV, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, CLEARS. _____
- Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB819-1 and TB819-2 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-91 CLOSES (locally) (U2 ANN EL 720 AZ189) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB819-1 and TB819-2 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal RESET _____ 1st _____ CV

Date _____

6.5 2-FCV-67-91, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-91:

A. Handswitch 2-HS-67-91A, LWR CNTMT 2C CLRS SUP CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 27

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2270 displays "CLOSED". _____

D. Valve 2-FCV-67-91 is CLOSED (locally) (U2 ANN EL 720 AZ189) (**ACC CRIT**). _____

[27] **PLACE** 2-HS-67-91A, LWR CNTMT 2C CLRS SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-91 OPENS (locally) (U2 ANN EL 720 AZ189) _____

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

Date _____

6.6 2-FCV-67-95, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.6 have been completed. _____

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

A. FD2121 _____

B. FD2122 _____

[3] **VERIFY/PERFORM** the following component alignment at 480V REACTOR MOV BD 2A2-A, Compt 8D:

A. Breaker 2-BKR-67-95 is CLOSED _____

B. Handswitch 2-XS-67-95, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-95C, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT, is in NORMAL position _____

Date _____

6.6 2-FCV-67-95, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-95, LOWER CNTMT CLR HDR C ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-95A, LWR CNTMT C CLRS RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 28

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2121 displays "PWR ON" _____
- Point FD2122 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2A2-A Compt 8D

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-95, LOWER CNTMT CLR HDR C ERCW RET ISOL, is OPEN (locally) (U2 RB EL 720 AZ189). _____

[5] **PLACE** Handswitch 2-HS-67-95C, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-95 remains OPEN (locally) (U2 RB EL 720 AZ189) _____

Date _____

6.6 2-FCV-67-95, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-95A, LWR CNTMT C CLRS RET CIV-∅B, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-95 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.6 2-FCV-67-95, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-95A, LWR CNTMT C CLRS RET CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-95 OPENS (locally) (U2 RB EL 720 AZ189). _____

[9] **PLACE** Handswitch 2-XS-67-95, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/149-C, 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 (Red). _____

C. Handswitch 2-HS-67-95A, LWR CNTMT C CLRS RET CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 28

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2A2-A Compt 8D.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.6 2-FCV-67-95, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-95A, LWR CNTMT C CLRS RET CIV-∅B, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-95 remains OPEN (locally) (U2 RB EL 720 AZ189). _____

[11] **PLACE** Handswitch 2-HS-67-95C, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD, 2A2-A Compt 8D.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-95 at 480V REACTOR MOV BD 2A2-A Compt 8D, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2121 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 8D on 480V REACTOR MOV BD 2A2-A _____

[14] **CLOSE** Breaker 2-BKR-67-95 at 480V REACTOR MOV BD 2A2-A Compt 8D. _____

Date _____

6.6 2-FCV-67-95, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-95C, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-95 DOES NOT OPEN (locally) (U2 RB EL 720 AZ189) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-95C, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K3 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-95C, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-95 OPENS (locally) (U2 RB EL 720 AZ189) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-95C, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[20] **RELEASE** armature of K3 relay. _____

[21] **PRESS** the RESET button at Compt 8D on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2121 displays "PWR ON" _____
- Point FD2122 displays "NOT CLS". _____

Date _____

6.6 2-FCV-67-95, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-95, LWR CNTMT 2C CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/149-C, 480 RX MOV BD 2A1-A/2A2-A, CLEARS. _____
- Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB313-7 and TB313-8 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-∅B signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-95 CLOSES (locally) (U2 RB EL 720 AZ189) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB313-7 and TB313-8 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-∅B signal RESET _____ 1st _____ CV

Date _____

6.6 2-FCV-67-95, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-95:

A. Handswitch 2-HS-67-95A, LWR CNTMT C CLRS RET CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 28

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2122 displays "CLOSED". _____

D. Valve 2-FCV-67-95 is CLOSED (locally) (U2 RB EL 720 AZ189) (**ACC CRIT**). _____

[27] **PLACE** 2-HS-67-95A, LWR CNTMT C CLRS RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-95 OPENS (locally) (U2 RB EL 720 AZ189) _____

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

Date _____

6.7 2-FCV-67-96, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.7 have been completed. _____

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

A. FD2267 _____

B. FD2268 _____

[3] **VERIFY/PERFORM** the following component alignment at 480-V REACTOR MOV BD 2B2-B, Compt 9B:

A. Breaker 2-BKR-67-96 is CLOSED _____

B. Handswitch 2-XS-67-96, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-96C, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT, is in NORMAL position _____

Date _____

6.7 2-FCV-67-96, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-96, LOWER CNTMT CLR HDR C ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-96A, LWR CNTMT 2C CLRS RET CIV-∅B, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 28

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2267 displays "PWR ON" _____
- Point FD2268 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2B2-B Compt 9B

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-96, LOWER CNTMT CLR HDR C ERCW RET ISOL, is OPEN (locally) (U2 ANN EL 720 AZ190). _____

[5] **PLACE** Handswitch 2-HS-67-96C, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-96 remains OPEN (locally) (U2 ANN EL 720 AZ190) _____

Date _____

6.7 2-FCV-67-96, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-96A, LWR CNTMT 2C CLRS RET CIV-∅B, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-96 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.7 2-FCV-67-96, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-96A, LWR CNTMT 2C CLRS RET CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-96 OPENS (locally) (U2 ANN EL 720 AZ190). _____

[9] **PLACE** Handswitch 2-XS-67-96, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, ALARMS. _____

B. Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is in ALARM (Red). _____

C. Handswitch 2-HS-67-96A, LWR CNTMT 2C CLRS RET CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 28

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2B2-B Compt 9B.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.7 2-FCV-67-96, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-96A, LWR CNTMT 2C CLRS RET CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-96 remains OPEN (locally) (U2 ANN EL 720 AZ190). _____

[11] **PLACE** Handswitch 2-HS-67-96C, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 9B.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-96 at 480V REACTOR MOV BD 2B2-B Compt 9B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2267 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 9B on 480V REACTOR MOV BD 2B2-B _____

[14] **CLOSE** Breaker 2-BKR-67-96 at 480V REACTOR MOV BD 2B2-B Compt 9B. _____

Date _____

6.7 2-FCV-67-96, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-96C, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-96 DOES NOT OPEN (locally) (U2 ANN EL 720 AZ190) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-96C, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K6 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-96C, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-96 OPENS (locally) (U2 ANN EL 720 AZ190) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-96C, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position. _____

[20] **RELEASE** armature of K6 relay. _____

[21] **PRESS** the RESET button at Compt 9B on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2267 displays "PWR ON" _____
- Point FD2268 displays "NOT CLS". _____

Date _____

6.7 2-FCV-67-96, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-96, LWR CNTMT 2C CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, CLEARS. _____
- Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB616-11 and TB616-12 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-96 CLOSES (locally) (U2 ANN EL 720 AZ190) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB616-11 and TB616-12 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal RESET _____ 1st _____ CV

Date _____

6.7 2-FCV-67-96, Lower Containment 2C Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-96:

A. Handswitch 2-HS-67-96A, LWR CNTMT 2C CLRS RET CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 28

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2268 displays "CLOSED". _____

D. Valve 2-FCV-67-96 is CLOSED (locally) (U2 ANN EL 720 AZ190) (**ACC CRIT**). _____

[27] **PLACE** 2-HS-67-96A, LWR CNTMT 2C CLRS RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-96 OPENS (locally) (U2 ANN EL 720 AZ190) _____

[28] **VERIFY** the successful completion of this Subsection 6.7 (**ACC CRIT**) _____

Date _____

6.8 2-FCV-67-97, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.8 have been completed. _____

[2] **VERIFY/PERFORM** the following component alignment at 480V REACTOR MOV BD 2A1-A, Compt 5C:

A. Breaker 2-BKR-67-97 is CLOSED _____

B. Handswitch 2-XS-67-97, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-97C, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, is in NORMAL position _____

[3] **ENSURE/OPEN** Valve 2-FCV-67-97, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, **AND**

VERIFY:

A. Handswitch 2-HS-67-97A, LWR CNTMT 2C CLRS SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 27

- Red light is ON _____
- Green light is OFF _____

C. 480V Reactor MOV BD 2A1-A Compt 5C

- Red light is ON _____
- Green light is OFF _____

D. Valve 2-FCV-67-97, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, is OPEN (locally) (U2 RB EL 720 AZ187). _____

Date _____

6.8 2-FCV-67-97, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **PLACE** Handswitch 2-HS-67-97C, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-97 remains OPEN (locally) (U2 RB EL 720 AZ187) _____

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-97A, LWR CNTMT 2C CLRS SUP CIV-∅B, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-97 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.8 2-FCV-67-97, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **PLACE** Handswitch 2-HS-67-97A, LWR CNTMT 2C CLRS SUP CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-97 OPENS (locally) (U2 RB EL 720 AZ187). _____

[8] **PLACE** Handswitch 2-XS-67-97, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, to AUX position, **AND**

VERIFY:

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

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

C. Handswitch 2-HS-67-97A, LWR CNTMT 2C CLRS SUP CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 27

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2A1-A Compt 5C.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.8 2-FCV-67-97, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[9] **PLACE** Handswitch 2-HS-67-97A, LWR CNTMT 2C CLRS SUP CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-97 remains OPEN (locally) (U2 RB EL 720 AZ187). _____

[10] **PLACE** Handswitch 2-HS-67-97C, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD, 2A1-A Compt 5C.

- Green Light is ON _____
- Red Light is OFF _____

[11] **OPEN** Breaker 2-BKR-67-97 at 480V REACTOR MOV BD 2A1-A Compt 5C. _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[12] **MANUALLY TRIP** the thermal overload circuitry at Compt 5C on 480V REACTOR MOV BD 2A1-A _____

[13] **CLOSE** Breaker 2-BKR-67-97 at 480V REACTOR MOV BD 2A1-A Compt 5C. _____

[14] **PLACE** Handswitch 2-HS-67-97C, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-97 DOES NOT OPEN (locally) (U2 RB EL 720 AZ187) (**ACC CRIT**) _____

[15] **PLACE** Handswitch 2-HS-67-97C, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[16] **PRESS** and **HOLD** armature of overload bypass relay K9 in rear of 480-V REACTOR MOV BD 2A1-A, Compt 4F, to simulate Overload Bypass _____

Date _____

6.8 2-FCV-67-97, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[17] **PLACE** Handswitch 2-HS-67-97C, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-97 OPENS (locally) (U2 RB EL 720 AZ187) (**ACC CRIT**) _____

[18] **PLACE** Handswitch 2-HS-67-97C, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[19] **RELEASE** armature of K9 relay. _____

[20] **PRESS** the RESET button at Compt 5C on 480V REACTOR MOV BD 2A1-A, **AND**

VERIFY 480V Reactor MOV BD, 2A1-A Compt 5C.

- Green Light is OFF _____
- Red Light is ON _____

[21] **PLACE** Handswitch 2-XS-67-97, LWR CNTMT 2C CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/149-C, 480 RX MOV BD 2A1-A/2A1-A, CLEARS. _____
- Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A1-A XS IN AUX is CLEAR (Blue). _____

[22] **PLACE** a Temporary Jumper wire between Terminals TB616-7 and TB616-8 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-ØB signal _____ 1st _____ CV

[23] **VERIFY** valve 2-FCV-67-97 CLOSES (locally) (U2 RB EL 720 AZ187) (**ACC CRIT**). _____

Date _____

6.8 2-FCV-67-97, Lower Containment 2C Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[24] **REMOVE** the Temporary Jumper wire between Terminals TB616-7 and TB616-8 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[25] **VERIFY** the following for valve 2-FCV-67-97:

A. Handswitch 2-HS-67-97A, LWR CNTMT 2C CLRS SUP CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 27

- Red light is OFF _____
- Green light is ON _____

C. Valve 2-FCV-67-97 is CLOSED (locally) (U2 RB EL 720 AZ187) (**ACC CRIT**). _____

[26] **PLACE** 2-HS-67-97A, LWR CNTMT 2C CLRS SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-97 OPENS (locally) (U2 RB EL 720 AZ187) _____

[27] **VERIFY** the successful completion of this Subsection 6.8 (**ACC CRIT**) _____

Date _____

6.9 2-FCV-67-99, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.9 have been completed. _____

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

A. FD2119 _____

B. FD2120 _____

[3] **VERIFY/PERFORM** the following component alignment at 480V REACTOR MOV BD 2A2-A, Compt 9A:

A. Breaker 2-BKR-67-99 is CLOSED _____

B. Handswitch 2-XS-67-99, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV, is in NORMAL position _____

C. Handswitch 2-HS-67-99C, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV, is in NORMAL position _____

Date _____

6.9 2-FCV-67-99, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-99, LOWER CNTMT CLR HDR B ERCW SUP ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-99A, LWR CNTMT 2B CLRS SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 30

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2119 displays "PWR ON" _____
- Point FD2120 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2A2-A Compt 9A

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-99, LOWER CNTMT CLR HDR B ERCW SUP ISOL, is OPEN (locally) (U2 ANN EL 720 AZ174). _____

[5] **PLACE** Handswitch 2-HS-67-99C, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-99 remains OPEN (locally) (U2 ANN EL 720 AZ174) _____

Date _____

6.9 2-FCV-67-99, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-99A, LWR CNTMT 2B CLRS SUP CIV-∅B, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-99 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.9 2-FCV-67-99, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-99A, LWR CNTMT 2B CLRS SUP CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-99 OPENS (locally) (U2 ANN EL 720 AZ174). _____

[9] **PLACE** Handswitch 2-XS-67-99, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/149-C, 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 (Red). _____

C. Handswitch 2-HS-67-99A, LWR CNTMT 2B CLRS SUP CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 30

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2A2-A Compt 9A.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.9 2-FCV-67-99, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-99A, LWR CNTMT 2B CLRS SUP CIV-∅B, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-99 remains OPEN (locally) (U2 ANN EL 720 AZ174). _____

[11] **PLACE** Handswitch 2-HS-67-99C, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD, 2A2-A Compt 9A.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-99 at 480V REACTOR MOV BD 2A2-A Compt 9A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2119 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 9A on 480V REACTOR MOV BD 2A2-A _____

[14] **CLOSE** Breaker 2-BKR-67-99 at 480V REACTOR MOV BD 2A2-A Compt 9A. _____

Date _____

6.9 2-FCV-67-99, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-99C, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV, to OPEN position, **AND**

VERIFY valve 2-FCV-67-99 DOES NOT OPEN (locally) (U2 ANN EL 720 AZ174) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-99C, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K3 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-99C, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV, to OPEN position, **AND**

VERIFY valve 2-FCV-67-99 OPENS (locally) (U2 ANN EL 720 AZ174) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-99C, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV, to NORMAL position. _____

[20] **RELEASE** armature of K3 relay. _____

[21] **PRESS** the RESET button at Compt 9A on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2119 displays "PWR ON" _____
- Point FD2120 displays "NOT CLS". _____

Date _____

6.9 2-FCV-67-99, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-99, LWR CNTMT 2B COOLERS SUPPLY ISOL VLV, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/149-C, 480 RX MOV BD 2A1-A/2A2-A, CLEARS. _____
- Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB313-11 and TB313-12 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-99 CLOSES (locally) (U2 ANN EL 720 AZ174) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB313-11 and TB313-12 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal RESET _____ 1st _____ CV

Date _____

6.9 2-FCV-67-99, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-99:

A. Handswitch 2-HS-67-99A, LWR CNTMT 2B CLRS SUP CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 30

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2120 displays "CLOSED". _____

D. Valve 2-FCV-67-99 is CLOSED (locally) (U2 ANN EL 720 AZ174) (**ACC CRIT**). _____

[27] **PLACE** 2-HS-67-99A, LWR CNTMT 2B CLRS SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-99 OPENS (locally) (U2 ANN EL 720 AZ174) _____

[28] **VERIFY** the successful completion of this Subsection 6.9 (**ACC CRIT**) _____

Date _____

6.10 2-FCV-67-103, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.10 have been completed. _____

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

A. FD2271 _____

B. FD2272 _____

[3] **VERIFY/PERFORM** the following component alignment at 480-V REACTOR MOV BD 2B2-B, Compt 7D:

A. Breaker 2-BKR-67-103 is CLOSED _____

B. Handswitch 2-XS-67-103, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-103C, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT, is in NORMAL position _____

Date _____

6.10 2-FCV-67-103, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-103, LOWER CNTMT CLR HDR B ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-103A, LWR CNTMT B CLRS RET CIV-∅B, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 29

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2271 displays "PWR ON" _____
- Point FD2272 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2B2-B Compt 7D

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-103, LOWER CNTMT CLR HDR B ERCW RET ISOL, is OPEN (locally) (U2 RB EL 720 AZ171). _____

[5] **PLACE** Handswitch 2-HS-67-103C, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-103 remains OPEN (locally) (U2 RB EL 720 AZ171) _____

Date _____

6.10 2-FCV-67-103, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-103A, LWR CNTMT B CLRS RET CIV-∅B, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-103 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.10 2-FCV-67-103, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-103A, LWR CNTMT B CLRS RET CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-103 OPENS (locally) (U2 RB EL 720 AZ171). _____

[9] **PLACE** Handswitch 2-XS-67-103, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, ALARMS. _____

B. Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is in ALARM (Red). _____

C. Handswitch 2-HS-67-103A, LWR CNTMT B CLRS RET CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 29

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2B2-B Compt 7D.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.10 2-FCV-67-103, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-103A, LWR CNTMT B CLRS RET CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-103 remains OPEN (locally) (U2 RB EL 720 AZ171). _____

[11] **PLACE** Handswitch 2-HS-67-103C, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 7D.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-103 at 480V REACTOR MOV BD 2B2-B Compt 7D, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2271 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 7D on 480V REACTOR MOV BD 2B2-B _____

[14] **CLOSE** Breaker 2-BKR-67-10 at 480V REACTOR MOV BD 2B2-B Compt 7D. _____

Date _____

6.10 2-FCV-67-103, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-103C, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-103 DOES NOT OPEN (locally) (U2 RB EL 720 AZ171) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-103C, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K3 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-103C, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-103 OPENS (locally) (U2 RB EL 720 AZ171) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-103C, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[20] **RELEASE** armature of K3 relay. _____

[21] **PRESS** the RESET button at Compt 7D on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2271 displays "PWR ON" _____
- Point FD2272 displays "NOT CLS". _____

Date _____

6.10 2-FCV-67-103, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-103, LWR CNTMT 2B CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, CLEARS. _____
- Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB817-5 and TB817-6 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-103 CLOSES (locally) (U2 RB EL 720 AZ171) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB817-5 and TB817-6 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal RESET _____ 1st _____ CV

Date _____

6.10 2-FCV-67-103, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[26] . **VERIFY** the following for valve 2-FCV-67-103:

A. Handswitch 2-HS-67-103A, LWR CNTMT B CLRS RET CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 29

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2272 displays "CLOSED". _____

D. Valve 2-FCV-67-103 is CLOSED (locally) (U2 RB EL 720 AZ171) (**ACC CRIT**). _____

[27] **PLACE** 2-HS-67-103A, LWR CNTMT B CLRS RET CIV-ØB in the OPEN position, **AND**

VERIFY valve 2-FCV-67-103 OPENS (locally) (U2 RB EL 720 AZ171) _____

[28] **VERIFY** the successful completion of this Subsection 6.10 (**ACC CRIT**) _____

Date _____

6.11 2-FCV-67-104, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.11 have been completed. _____

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

A. FD2123 _____

B. FD2124 _____

[3] **VERIFY/PERFORM** the following component alignment at 480V REACTOR MOV BD 2A2-A, Compt 9B:

A. Breaker 2-BKR-67-104 is CLOSED _____

B. Handswitch 2-XS-67-104, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-104C, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT, is in NORMAL position _____

Date _____

6.11 2-FCV-67-104, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-104, LOWER CNTMT CLR HDR B ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-104A, LWR CNTMT B CLRS RET CIV-∅B, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 29

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2123 displays "PWR ON" _____
- Point FD2124 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2A2-A Compt 9B

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-104, LOWER CNTMT CLR HDR B ERCW RET ISOL, is OPEN (locally) (U2 ANN EL 720 AZ175). _____

[5] **PLACE** Handswitch 2-HS-67-104C, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-104 remains OPEN (locally) (U2 ANN EL 720 AZ175) _____

Date _____

6.11 2-FCV-67-104, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-104A, LWR CNTMT B CLRS RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-104 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.11 2-FCV-67-104, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-104A, LWR CNTMT B CLRS RET CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-104 OPENS (locally) (U2 ANN EL 720 AZ175). _____

[9] **PLACE** Handswitch 2-XS-67-104, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/149-C, 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 (Red). _____

C. Handswitch 2-HS-67-104A, LWR CNTMT B CLRS RET CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 29

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2A2-A Compt 9B.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.11 2-FCV-67-104, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-104A, LWR CNTMT B CLRS RET CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-104 remains OPEN (locally) (U2 ANN EL 720 AZ175). _____

[11] **PLACE** Handswitch 2-HS-67-104C, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD, 2A2-A Compt 9B.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-104 at 480V REACTOR MOV BD 2A2-A Compt 9B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2123 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 9B on 480V REACTOR MOV BD 2A2-A _____

[14] **CLOSE** Breaker 2-BKR-67-104 at 480V REACTOR MOV BD 2A2-A Compt 9B. _____

Date _____

6.11 2-FCV-67-104, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-104C, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-104 DOES NOT OPEN (locally) (U2 ANN EL 720 AZ175) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-104C, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K3 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-104C, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-104 OPENS (locally) (U2 ANN EL 720 AZ175) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-104C, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position. _____

[20] **RELEASE** armature of K3 relay. _____

[21] **PRESS** the RESET button at Compt 9B on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2123 displays "PWR ON" _____
- Point FD2124 displays "NOT CLS". _____

Date _____

6.11 2-FCV-67-104, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-104, LWR CNTMT 2B CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/149-C, 480 RX MOV BD 2A1-A/2A2-A, CLEARS. _____
- Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB616-9 and TB616-10 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-ØB signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-104 CLOSES (locally) (U2 ANN EL 720 AZ175) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB616-9 and TB616-10 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-ØB signal RESET _____ 1st _____ CV

Date _____

6.11 2-FCV-67-104, Lower Containment 2B Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-104:

A. Handswitch 2-HS-67-104A, LWR CNTMT B CLRS RET CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 29

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2124 displays "CLOSED". _____

D. Valve 2-FCV-67-104 is CLOSED (locally) (U2 ANN EL 720 AZ175) (**ACC CRIT**). _____

[27] **PLACE** 2-HS-67-104A, LWR CNTMT B CLRS RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-104 OPENS (locally) (U2 ANN EL 720 AZ175) _____

[28] **VERIFY** the successful completion of this Subsection 6.11 (**ACC CRIT**) _____

Date _____

6.12 2-FCV-67-105, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.12 have been completed. _____

[2] **VERIFY/PERFORM** the following component alignment at 480-V REACTOR MOV BD 2B2-B, Compt 11B:

A. Breaker 2-BKR-67-105 is CLOSED _____

B. Handswitch 2-XS-67-105, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-105C, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, is in NORMAL position _____

Date _____

6.12 2-FCV-67-105, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[3] **ENSURE/OPEN** Valve 2-FCV-67-105, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, **AND**

VERIFY:

A. Handswitch 2-HS-67-105A, LWR CNTMT 2B CLRS SUP CIV-∅B, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 30

- Red light is ON _____
- Green light is OFF _____

C. 480V Reactor MOV BD 2B2-B Compt 11B

- Red light is ON _____
- Green light is OFF _____

D. Valve 2-FCV-67-105, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, is OPEN (locally) (U2 RB EL 720 AZ173). _____

[4] **PLACE** Handswitch 2-HS-67-105C, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-105 remains OPEN (locally) (U2 RB EL 720 AZ173) _____

Date _____

6.12 2-FCV-67-105, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-105A, LWR CNTMT 2B CLRS SUP CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-105 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.12 2-FCV-67-105, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **PLACE** Handswitch 2-HS-67-105A, LWR CNTMT 2B CLRS SUP CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-105 OPENS (locally) (U2 RB EL 720 AZ173). _____

[8] **PLACE** Handswitch 2-XS-67-105, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, ALARMS. _____

B. Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is in ALARM (Red). _____

C. Handswitch 2-HS-67-105A, LWR CNTMT 2B CLRS SUP CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 30

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2B2-B Compt 11B.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.12 2-FCV-67-105, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[9] **PLACE** Handswitch 2-HS-67-105A, LWR CNTMT 2B CLRS SUP CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-105 remains OPEN (locally) (U2 RB EL 720 AZ173). _____

[10] **PLACE** Handswitch 2-HS-67-105C, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 11B.

- Green Light is ON _____
- Red Light is OFF _____

[11] **OPEN** Breaker 2-BKR-67-105 at 480V REACTOR MOV BD 2B2-B Compt 11B _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[12] **MANUALLY TRIP** the thermal overload circuitry at Compt 11B on 480V REACTOR MOV BD 2B2-B _____

[13] **CLOSE** Breaker 2-BKR-67-105 at 480V REACTOR MOV BD 2B2-B Compt 11B. _____

[14] **PLACE** Handswitch 2-HS-67-105C, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-105 DOES NOT OPEN (locally) (U2 RB EL 720 AZ173) (**ACC CRIT**) _____

[15] **PLACE** Handswitch 2-HS-67-105C, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[16] **PRESS** and **HOLD** armature of overload bypass relay K8 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

Date _____

6.12 2-FCV-67-105, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[17] **PLACE** Handswitch 2-HS-67-105C, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-105 OPENS (locally) (U2 RB EL 720 AZ173) (**ACC CRIT**) _____

[18] **PLACE** Handswitch 2-HS-67-105C, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[19] **RELEASE** armature of K8 relay. _____

[20] **PRESS** the RESET button at Compt 11B on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 11B.

- Green Light is OFF _____
- Red Light is ON _____

[21] **PLACE** Handswitch 2-XS-67-105, LWR CNTMT 2B CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, CLEARS. _____
- Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is CLEAR (Blue). _____

[22] **PLACE** a Temporary Jumper wire between Terminals TB617-7 and TB617-8 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal _____ 1st _____ CV

[23] **VERIFY** valve 2-FCV-67-105 CLOSES (locally) (U2 RB EL 720 AZ173) (**ACC CRIT**). _____

Date _____

6.12 2-FCV-67-105, Lower Containment 2B Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[24] **REMOVE** the Temporary Jumper wire between Terminals TB617-7 and TB617-8 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[25] **VERIFY** the following for valve 2-FCV-67-105:

A. Handswitch 2-HS-67-105A, LWR CNTMT 2B CLRS SUP CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 30

- Red light is OFF _____
- Green light is ON _____

C. Valve 2-FCV-67-105 is CLOSED (locally) (U2 RB EL 720 AZ173) (**ACC CRIT**). _____

[26] **PLACE** 2-HS-67-105A, LWR CNTMT 2B CLRS SUP CIV-ØB in the OPEN position, **AND**

VERIFY valve 2-FCV-67-105 OPENS (locally) (U2 RB EL 720 AZ173) _____

[27] **VERIFY** the successful completion of this Subsection 6.12 (**ACC CRIT**) _____

Date _____

6.13 2-FCV-67-107, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.13 have been completed. _____

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

A. FD2115 _____

B. FD2116 _____

[3] **VERIFY/PERFORM** the following component alignment at 480V REACTOR MOV BD 2A2-A, Compt 8B:

A. Breaker 2-BKR-67-107 is CLOSED _____

B. Handswitch 2-XS-67-107, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV, is in NORMAL position _____

C. Handswitch 2-HS-67-107C, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV, is in NORMAL position _____

Date _____

6.13 2-FCV-67-107, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-107, LOWER CNTMT CLR HDR 2D ERCW SUP ISO, **AND**

VERIFY:

A. Handswitch 2-HS-67-107A, LWR CNTMT 2D CLRS SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 43

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2115 displays "PWR ON" _____
- Point FD2116 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2A2-A Compt 8B

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-107, LOWER CNTMT CLR HDR 2D ERCW SUP ISO, is OPEN (locally) (U2 ANN EL 720 AZ354). _____

[5] **PLACE** Handswitch 2-HS-67-107C, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-107 remains OPEN (locally) (U2 ANN EL 720 AZ354) _____

Date _____

6.13 2-FCV-67-107, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** Handswitch 2-HS-67-107A, LWR CNTMT 2D CLRS SUP CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-107 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.13 2-FCV-67-107, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-107A, LWR CNTMT 2D CLRS SUP CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-107 OPENS (locally) (U2 ANN EL 720 AZ354). _____

[9] **PLACE** Handswitch 2-XS-67-107, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/149-C, 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 (Red). _____

C. Handswitch 2-HS-67-107A, LWR CNTMT 2D CLRS SUP CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 43

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2A2-A Compt 8B.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.13 2-FCV-67-107, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-107A, LWR CNTMT 2D CLRS SUP CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-107 remains OPEN (locally) (U2 ANN EL 720 AZ354). _____

[11] **PLACE** Handswitch 2-HS-67-107C, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD, 2A2-A Compt 8B.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-107 at 480V REACTOR MOV BD 2A2-A Compt 8B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2115 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 8B on 480V REACTOR MOV BD 2A2-A _____

[14] **CLOSE** Breaker 2-BKR-67-107 at 480V REACTOR MOV BD 2A2-A Compt 8B. _____

Date _____

6.13 2-FCV-67-107, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-107C, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV, to OPEN position, **AND**

VERIFY valve 2-FCV-67-107 DOES NOT OPEN (locally) (U2 ANN EL 720 AZ354) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-107C, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K3 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-107C, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV, to OPEN position, **AND**

VERIFY valve 2-FCV-67-107 OPENS (locally) (U2 ANN EL 720 AZ354) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-107C, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV, to NORMAL position. _____

[20] **RELEASE** armature of K3 relay. _____

[21] **PRESS** the RESET button at Compt 8B on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2115 displays "PWR ON" _____
- Point FD2116 displays "NOT CLS". _____

Date _____

6.13 2-FCV-67-107, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-107, LWR CNTMT 2D COOLERS SUPPLY ISOL VLV, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/149-C, 480 RX MOV BD 2A1-A/2A2-A, CLEARS. _____
- Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB313-5 and TB313-6 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-107 CLOSES (locally) (U2 ANN EL 720 AZ354) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB313-5 and TB313-6 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal RESET _____ 1st _____ CV

Date _____

6.13 2-FCV-67-107, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-107:

A. Handswitch 2-HS-67-107A, LWR CNTMT 2D CLRS SUP CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 43

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2116 displays "CLOSED". _____

D. Valve 2-FCV-67-107 is CLOSED (locally) (U2 ANN EL 720 AZ354) (**ACC CRIT**). _____

[27] **PLACE**2-HS-67-107A, LWR CNTMT 2D CLRS SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-107 OPENS (locally) (U2 ANN EL 720 AZ354) _____

[28] **VERIFY** the successful completion of this Subsection 6.13 (**ACC CRIT**) _____

Date _____

6.14 2-FCV-67-111, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.14 have been completed. _____

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

A. FD2275 _____

B. FD2276 _____

[3] **VERIFY/PERFORM** the following component alignment at 480-V REACTOR MOV BD 2B2-B, Compt 8D:

A. Breaker 2-BKR-67-111 is CLOSED _____

B. Handswitch 2-XS-67-111, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-111C, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT, is in NORMAL position _____

Date _____

6.14 2-FCV-67-111, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-111, LOWER CNTMT CLR HDR 2D ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-111A, LWR CNTMT 2D CLRS RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 42

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2275 displays "PWR ON" _____
- Point FD2276 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2B2-B Compt 8D

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-111, LOWER CNTMT CLR HDR 2D ERCW RET ISOL, is OPEN (locally) (U2 RB EL 720 AZ351). _____

[5] **PLACE** Handswitch 2-HS-67-111C, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-111 remains OPEN (locally) (U2 RB EL 720 AZ351) _____

Date _____

6.14 2-FCV-67-111, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-111A, LWR CNTMT 2D CLRS RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-111 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.14 2-FCV-67-111, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-111A, LWR CNTMT 2D CLRS RET CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-111 OPENS (locally) (U2 RB EL 720 AZ351). _____

[9] **PLACE** Handswitch 2-XS-67-111, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, ALARMS. _____

B. Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is in ALARM (Red). _____

C. Handswitch 2-HS-67-111A, LWR CNTMT 2D CLRS RET CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 42

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2B2-B Compt 8D.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.14 2-FCV-67-111, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-111A, LWR CNTMT 2D CLRS RET CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-111 remains OPEN (locally) (U2 RB EL 720 AZ351). _____

[11] **PLACE** Handswitch 2-HS-67-111C, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 8D.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-111 at 480V REACTOR MOV BD 2B2-B Compt 8D, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2275 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 8D on 480V REACTOR MOV BD 2B2-B _____

[14] **CLOSE** Breaker 2-BKR-67-111 at 480V REACTOR MOV BD 2B2-B Compt 8D. _____

Date _____

6.14 2-FCV-67-111, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-111C, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-111 DOES NOT OPEN (locally) (U2 RB EL 720 AZ351) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-111C, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K3 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-111C, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-111 OPENS (locally) (U2 RB EL 720 AZ351) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-111C, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[20] **RELEASE** armature of K3 relay. _____

[21] **PRESS** the RESET button at Compt 8D on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2275 displays "PWR ON" _____
- Point FD2276 displays "NOT CLS". _____

Date _____

6.14 2-FCV-67-111, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-111, LWR CNTMT 2D CLRS DISCH ISOL VLV INSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, CLEARS. _____
- Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB817-7 and TB817-8 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-∅B signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-111 CLOSES (locally) (U2 RB EL 720 AZ351) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB817-7 and TB817-8 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-∅B signal RESET _____ 1st _____ CV

Date _____

6.14 2-FCV-67-111, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-111:

A. Handswitch 2-HS-67-111A, LWR CNTMT 2D CLRS RET CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 42

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2276 displays "CLOSED". _____

D. Valve 2-FCV-67-111 is CLOSED (locally) (U2 RB EL 720 AZ351) (**ACC CRIT**). _____

[27] **PLACE** 2-HS-67-111A, LWR CNTMT 2D CLRS RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-111 OPENS (locally) (U2 RB EL 720 AZ351) _____

[28] **VERIFY** the successful completion of this Subsection 6.14 (**ACC CRIT**) _____

Date _____

6.15 2-FCV-67-112, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.15 have been completed. _____

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

A. FD2125 _____

B. FD2126 _____

[3] **VERIFY/PERFORM** the following component alignment at 480V REACTOR MOV BD 2A2-A, Compt 10A:

A. Breaker 2-BKR-67-112 is CLOSED _____

B. Handswitch 2-XS-67-112, LOWER CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-112C, LWR CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT, is in NORMAL position _____

Date _____

6.15 2-FCV-67-112, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-112, LOWER CNTMT CLR HDR D ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-112A, LWR CNTMT 2D CLRS RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 42

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2125 displays "PWR ON" _____
- Point FD2126 displays "NOT CLS". _____

D. 480V Reactor MOV BD 2A2-A Compt 10A

- Red light is ON _____
- Green light is OFF _____

E. Valve 2-FCV-67-112, LOWER CNTMT CLR HDR D ERCW RET ISOL, is OPEN (locally) (U2 ANN EL 720 AZ350). _____

[5] **PLACE** Handswitch 2-HS-67-112C, LWR CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-112 remains OPEN (locally) (U2 ANN EL 720 AZ350) _____

Date _____

6.15 2-FCV-67-112, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[6] **SIMULTANEOUSLY PLACE** Handswitch 2-HS-67-112A, LWR CNTMT 2D CLRS RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[7] **STOP** stopwatches when 2-FCV-67-112 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.15 2-FCV-67-112, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[8] **PLACE** Handswitch 2-HS-67-112A, LWR CNTMT 2D CLRS RET CIV-ØB, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-112 OPENS (locally) (U2 ANN EL 720 AZ350). _____

[9] **PLACE** Handswitch 2-XS-67-112, LOWER CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/149-C, 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 (Red). _____

C. Handswitch 2-HS-67-112A, LWR CNTMT 2D CLRS RET CIV-ØB, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 42

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2A2-A Compt 10A.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.15 2-FCV-67-112, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[10] **PLACE** Handswitch 2-HS-67-112A, LWR CNTMT 2D CLRS RET CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-112 remains OPEN (locally) (U2 ANN EL 720 AZ350). _____

[11] **PLACE** Handswitch 2-HS-67-112C, LWR CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD, 2A2-A Compt 10A.

- Green Light is ON _____
- Red Light is OFF _____

[12] **OPEN** Breaker 2-BKR-67-112 at 480V REACTOR MOV BD 2A2-A Compt 10A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2125 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[13] **MANUALLY TRIP** the thermal overload circuitry at Compt 10A on 480V REACTOR MOV BD 2A2-A _____

[14] **CLOSE** Breaker 2-BKR-67-112 at 480V REACTOR MOV BD 2A2-A Compt 10A. _____

Date _____

6.15 2-FCV-67-112, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[15] **PLACE** Handswitch 2-HS-67-112C, LWR CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-112 DOES NOT OPEN (locally) (U2 ANN EL 720 AZ350) (**ACC CRIT**) _____

[16] **PLACE** Handswitch 2-HS-67-112C, LWR CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position. _____

[17] **PRESS** and **HOLD** armature of overload bypass relay K7 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[18] **PLACE** Handswitch 2-HS-67-112C, LWR CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-112 OPENS (locally) (U2 ANN EL 720 AZ350) (**ACC CRIT**) _____

[19] **PLACE** Handswitch 2-HS-67-112C, LWR CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position. _____

[20] **RELEASE** armature of K7 relay. _____

[21] **PRESS** the RESET button at Compt 10A on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2125 displays "PWR ON" _____
- Point FD2126 displays "NOT CLS". _____

Date _____

6.15 2-FCV-67-112, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[22] **PLACE** Handswitch 2-XS-67-112, LOWER CNTMT 2D CLRS DISCH ISOL VLV OUTSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/149-C, 480 RX MOV BD 2A1-A/2A2-A, CLEARS. _____
- Unit 2 Events Display Legend indicates 149-C, 480 RX MOV BD 2A1-A/2A2-A XS IN AUX is CLEAR (Blue). _____

[23] **PLACE** a Temporary Jumper wire between Terminals TB616-11 and TB616-12 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-∅B signal _____ 1st _____ CV

[24] **VERIFY** valve 2-FCV-67-112 CLOSES (locally) (U2 ANN EL 720 AZ350) (**ACC CRIT**). _____

[25] **REMOVE** the Temporary Jumper wire between Terminals TB616-11 and TB616-12 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-∅B signal RESET _____ 1st _____ CV

Date _____

6.15 2-FCV-67-112, Lower Containment 2D Coolers Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[26] **VERIFY** the following for valve 2-FCV-67-112:

A. Handswitch 2-HS-67-112A, LWR CNTMT 2D CLRS RET CIV-ØB, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 42

- Red light is OFF _____
- Green light is ON _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2126 displays "CLOSED". _____

D. Valve 2-FCV-67-112 is CLOSED (locally) (U2 ANN EL 720 AZ350) (**ACC CRIT**). _____

[27] **PLACE**2-HS-67-112A, LWR CNTMT 2D CLRS RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-112 OPENS (locally) (U2 ANN EL 720 AZ350) _____

[28] **VERIFY** the successful completion of this Subsection 6.15 (**ACC CRIT**) _____

Date _____

6.16 2-FCV-67-113, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.16 have been completed. _____

[2] **VERIFY/PERFORM** the following component alignment at 480-V REACTOR MOV BD 2B2-B, Compt 5C:

A. Breaker 2-BKR-67-113 is CLOSED _____

B. Handswitch 2-XS-67-113, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, is in NORMAL position _____

C. Handswitch 2-HS-67-113C, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, is in NORMAL position _____

Date _____

6.16 2-FCV-67-113, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[3] **ENSURE/OPEN** Valve 2-FCV-67-113, LOWER CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, **AND**

VERIFY:

A. Handswitch 2-HS-67-113A, LWR CNTMT 2D CLRS SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 43

- Red light is ON _____
- Green light is OFF _____

C. 480V Reactor MOV BD 2B2-B Compt 5C

- Red light is ON _____
- Green light is OFF _____

D. Valve 2-FCV-67-113, LOWER CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, is OPEN (locally) (U2 RB EL 720 AZ353). _____

[4] **PLACE** Handswitch 2-HS-67-113C, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT in the CLOSE position, **AND**

VERIFY valve 2-FCV-67-113 remains OPEN (locally) (U2 RB EL 720 AZ353) _____

Date _____

6.16 2-FCV-67-113, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-113A, LWR CNTMT 2D CLRS SUP CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-113 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.16 2-FCV-67-113, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **PLACE** Handswitch 2-HS-67-113A, LWR CNTMT 2D CLRS SUP CIV-∅B, to OPEN position, **AND**

VERIFY Valve 2-FCV-67-113 OPENS (locally) (U2 RB EL 720 AZ353). _____

[8] **PLACE** Handswitch 2-XS-67-113, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, to AUX position, **AND**

VERIFY:

A. 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, ALARMS. _____

B. Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is in ALARM (Red). _____

C. Handswitch 2-HS-67-113A, LWR CNTMT 2D CLRS SUP CIV-∅B, at 0-M-27A

- Green light is OFF _____
- Red light is OFF _____

D. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 43

- Red light is OFF _____
- Green light is OFF _____

E. 480V Reactor MOV BD, 2B2-B Compt 5C.

- Red light is ON _____
- Green light is OFF _____

Date _____

6.16 2-FCV-67-113, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[9] **PLACE** Handswitch 2-HS-67-113A, LWR CNTMT 2D CLRS SUP CIV-ØB, to CLOSE position, **AND**

VERIFY Valve 2-FCV-67-113 remains OPEN (locally) (U2 RB EL 720 AZ353). _____

[10] **PLACE** Handswitch 2-HS-67-113C, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, to CLOSE position, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 5C.

- Green Light is ON _____
- Red Light is OFF _____

[11] **OPEN** Breaker 2-BKR-67-113 at 480V REACTOR MOV BD 2B2-B Compt 5C. _____

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[12] **MANUALLY TRIP** the thermal overload circuitry at Compt 5C on 480V REACTOR MOV BD 2B2-B _____

[13] **CLOSE** Breaker 2-BKR-67-113 at 480V REACTOR MOV BD 2B2-B Compt 5C. _____

[14] **PLACE** Handswitch 2-HS-67-113C, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-113 DOES NOT OPEN (locally) (U2 RB EL 720 AZ353) (**ACC CRIT**) _____

[15] **PLACE** Handswitch 2-HS-67-113C, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[16] **PRESS** and **HOLD** armature of overload bypass relay K8 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

Date _____

6.16 2-FCV-67-113, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[17] **PLACE** Handswitch 2-HS-67-113C, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, to OPEN position, **AND**

VERIFY valve 2-FCV-67-113 OPENS (locally) (U2 RB EL 720 AZ353) (**ACC CRIT**) _____

[18] **PLACE** Handswitch 2-HS-67-113C, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position. _____

[19] **RELEASE** armature of K8 relay. _____

[20] **PRESS** the RESET button at Compt 5C on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY 480V Reactor MOV BD 2B2-B Compt 5C.

- Green Light is OFF _____
- Red Light is ON _____

[21] **PLACE** Handswitch 2-XS-67-113, LWR CNTMT 2D CLRS SUP ISOL VLV INSIDE CNTMT, to NORMAL position, **AND**

VERIFY:

- 2-XA-55-6F/150-C, 480 RX MOV BD 2B1-B/2B2-B, CLEARS. _____
- Unit 2 Events Display Legend indicates 150-C, 480 RX MOV BD 2B1-B/2B2-B XS IN AUX is CLEAR (Blue). _____

[22] **PLACE** a Temporary Jumper wire between Terminals TB617-11 and TB617-12 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal _____ 1st _____ CV

[23] **VERIFY** valve 2-FCV-67-113 CLOSES (locally) (U2 RB EL 720 AZ353) (**ACC CRIT**). _____

Date _____

6.16 2-FCV-67-113, Lower Containment 2D Coolers Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[24] **REMOVE** the Temporary Jumper wire between Terminals TB617-11 and TB617-12 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-∅B signal RESET

_____ 1st

_____ CV

[25] **VERIFY** the following for valve 2-FCV-67-113:

A. Handswitch 2-HS-67-113A, LWR CNTMT 2D CLRS SUP CIV-∅B, at 0-M-27A

- Red light is OFF _____
- Green light is ON _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 43

- Red light is OFF _____
- Green light is ON _____

C. Valve 2-FCV-67-113 is CLOSED (locally) (U2 RB EL 720 AZ353) (**ACC CRIT**). _____

[26] **PLACE** 2-HS-67-113A, LWR CNTMT 2D CLRS SUP CIV-∅B in the OPEN position, **AND**

VERIFY valve 2-FCV-67-113 OPENS (locally) (U2 RB EL 720 AZ353) _____

[27] **VERIFY** the successful completion of this Subsection 6.16 (**ACC CRIT**) _____

Date _____

6.17 2-FCV-67-130, Upper Containment Vent Coolers 2A Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.17 have been completed. _____

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

A. FD2129 _____

B. FD2130 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-130 at compartment 7F on 480V REACTOR MOV BD 2A2-A in the CLOSED position. _____

Date _____

6.17 2-FCV-67-130, Upper Containment Vent Coolers 2A Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-130, UPPER CNTMT VENT CLR 2A ERCW SUP HDR ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-130A, UPR CNTMT CLR 2A SUP CIV-∅B, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 44

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2129 displays "PWR ON" _____
- Point FD2130 displays "NOT CLS". _____

D. Valve 2-FCV-67-130, UPPER CNTMT VENT CLR 2A ERCW SUP HDR ISOL, is OPEN (locally) (U2 ANN EL 795 AZ305). _____

Date _____

6.17 2-FCV-67-130, Upper Containment Vent Coolers 2A Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-130A, UPR CNTMT CLR 2A SUP CIV-∅B, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-130 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.17 2-FCV-67-130, Upper Containment Vent Coolers 2A Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-130:

A. Handswitch 2-HS-67-130A, UPR CNTMT CLR 2A SUP CIV-∅B, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 44

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2129 displays "PWR ON" _____
- Point FD2130 displays "CLOSED" _____

D. Valve 2-FCV-67-130, UPPER CNTMT VENT CLR 2A ERCW SUP HDR ISOL, is CLOSED (locally) (U2 ANN EL 795 AZ305). _____

[8] **OPEN** Breaker 2-BKR-67-130 in compartment 7F on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2129 displays "PWR OFF" _____

Date _____

6.17 2-FCV-67-130, Upper Containment Vent Coolers 2A Supply Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 7F on 480V REACTOR MOV BD 2A2-A _____

[10] **CLOSE** Breaker 2-BKR-67-130 in compartment 7F on 480V REACTOR MOV BD 2A2-A. _____

[11] **PLACE** Handswitch 2-HS-67-130A, UPR CNTMT CLR 2A SUP CIV-∅B, to OPEN position, **AND**

VERIFY valve 2-FCV-67-130 DOES NOT OPEN (locally) (U2 ANN EL 795 AZ305) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K4 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-130A, UPR CNTMT CLR 2A SUP CIV-∅B, to OPEN position, **AND**

VERIFY valve 2-FCV-67-130 OPENS (locally) (U2 ANN EL 795 AZ305) (**ACC CRIT**) _____

[14] **RELEASE** armature of K4 relay. _____

[15] **PRESS** the RESET button at Compt 7F on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2129 displays "PWR ON" _____
- Point FD2130 displays "NOT CLS". _____

Date _____

6.17 2-FCV-67-130, Upper Containment Vent Coolers 2A Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB313-3 and TB313-4 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-130 CLOSES (locally) (U2 ANN EL 795 AZ305) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB313-3 and TB313-4 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-130 is CLOSED (locally) (U2 ANN EL 795 AZ305) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-130A, UPR CNTMT CLR 2A SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-130 OPENS (locally) (U2 ANN EL 795 AZ305) _____

[21] **VERIFY** the successful completion of this Subsection 6.17 (**ACC CRIT**) _____

Date _____

6.18 2-FCV-67-131, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.18 have been completed. _____

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

A. FD2277 _____

B. FD2278 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-131 at compartment 7F on 480V REACTOR MOV BD 2B2-B in the CLOSED position. _____

[4] **ENSURE/OPEN** Valve 2-FCV-67-131, UPPER CNTMT VENT CLR 2A ERCW RET HDR ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-131A, UPR CNTMT CLR 2A RET CIV-∅B, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 59

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2277 displays "PWR ON" _____
- Point FD2278 displays "NOT CLS". _____

D. Valve 2-FCV-67-131, UPPER CNTMT VENT CLR 2A ERCW RET HDR ISOL, is OPEN (locally) (U2 ANN EL 798 AZ318). _____

Date _____

6.18 2-FCV-67-131, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-131A, UPR CNTMT CLR 2A RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-131 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.18 2-FCV-67-131, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-131:

A. Handswitch 2-HS-67-131A, UPR CNTMT CLR 2A RET CIV-∅B, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 59

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2277 displays "PWR ON" _____
- Point FD2278 displays "CLOSED". _____

D. Valve 2-FCV-67-131, UPPER CNTMT VENT CLR 2A ERCW RET HDR ISOL, is CLOSED (locally) (U2 ANN EL 798 AZ318). _____

[8] **OPEN** Breaker 2-BKR-67-131 in compartment 7F on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2277 displays "PWR OFF" _____

Date _____

6.18 2-FCV-67-131, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 7F on 480V REACTOR MOV BD 2B2-B _____

[10] **CLOSE** Breaker 2-BKR-67-131 in compartment 7F on 480V REACTOR MOV BD 2B2-B. _____

[11] **PLACE** Handswitch 2-HS-67-131A, UPR CNTMT CLR 2A RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-131 DOES NOT OPEN (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K4 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-131A, UPR CNTMT CLR 2A RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-131 OPENS (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**) _____

[14] **RELEASE** armature of K4 relay. _____

[15] **PRESS** the RESET button at Compt 7F on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2277 displays "PWR ON" _____
- Point FD2278 displays "NOT CLS". _____

Date _____

6.18 2-FCV-67-131, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB617-1 and TB617-2 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-131 CLOSES (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB617-1 and TB617-2 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-131 is CLOSED (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-131A, UPR CNTMT CLR 2A RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-131 OPENS (locally) (U2 ANN EL 798 AZ318) _____

[21] **VERIFY** the successful completion of this Subsection 6.18 (**ACC CRIT**) _____

Date _____

6.19 2-FCV-67-133, Upper Containment Vent Coolers 2C Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.19 have been completed. _____

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

A. FD2133 _____

B. FD2134 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-133 at compartment 8F on 480V REACTOR MOV BD 2A2-A in the CLOSED position. _____

Date _____

6.19 2-FCV-67-133, Upper Containment Vent Coolers 2C Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-133, UPPER CNTMT VENT CLR 2C ERCW SUP HDR ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-133A, UPR CNTMT CLR C SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 45

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2133 displays "PWR ON" _____
- Point FD2134 displays "NOT CLS". _____

D. Valve 2-FCV-67-133, UPPER CNTMT VENT CLR 2C ERCW SUP HDR ISOL, is OPEN (locally) (U2 ANN EL 798 AZ318). _____

Date _____

6.19 2-FCV-67-133, Upper Containment Vent Coolers 2C Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-133A, UPR CNTMT CLR C SUP CIV-∅B, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-133 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.19 2-FCV-67-133, Upper Containment Vent Coolers 2C Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-133:

A. Handswitch 2-HS-67-133A, UPR CNTMT CLR C SUP CIV-ØB, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 45

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2133 displays "PWR ON" _____
- Point FD2134 displays "CLOSED". _____

D. Valve 2-FCV-67-133, UPPER CNTMT VENT CLR 2C ERCW SUP HDR ISOL, is CLOSED (locally) (U2 ANN EL 798 AZ318). _____

[8] **OPEN** Breaker 2-BKR-67-133 in compartment 8F on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2133 displays "PWR OFF" _____

Date _____

6.19 2-FCV-67-133, Upper Containment Vent Coolers 2C Supply Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 8F on 480V REACTOR MOV BD 2A2-A _____

[10] **CLOSE** Breaker 2-BKR-67-133 in compartment 8F on 480V REACTOR MOV BD 2A2-A. _____

[11] **PLACE** Handswitch 2-HS-67-133A, UPR CNTMT CLR C SUP CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-133 DOES NOT OPEN (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K4 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-133A, UPR CNTMT CLR C SUP CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-133 OPENS (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**) _____

[14] **RELEASE** armature of K4 relay. _____

[15] **PRESS** the RESET button at Compt 8F on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2133 displays "PWR ON" _____
- Point FD2134 displays "NOT CLS". _____

Date _____

6.19 2-FCV-67-133, Upper Containment Vent Coolers 2C Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB313-9 and TB313-10 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-133 CLOSES (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB313-9 and TB313-10 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-133 is CLOSED (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-133A, UPR CNTMT CLR C SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-133 OPENS (locally) (U2 ANN EL 798 AZ318) _____

[21] **VERIFY** the successful completion of this Subsection 6.19 (**ACC CRIT**) _____

Date _____

6.20 2-FCV-67-134, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.20 have been completed. _____

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

A. FD2279 _____

B. FD2280 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-134 at compartment 8F on 480V REACTOR MOV BD 2B2-B in the CLOSED position. _____

Date _____

6.20 2-FCV-67-134, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-134, UPPER CNTMT VENT CLR 2C ERCW RET HDR ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-134A, UPR CNTMT CLR 2C RET CIV-∅B, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 60

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2279 displays "PWR ON" _____
- Point FD2280 displays "NOT CLS". _____

D. Valve 2-FCV-67-134, UPPER CNTMT VENT CLR 2C ERCW RET HDR ISOL, is OPEN (locally) (U2 ANN EL 798 AZ318). _____

Date _____

6.20 2-FCV-67-134, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-134A, UPR CNTMT CLR 2C RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-134 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.20 2-FCV-67-134, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-134:

A. Handswitch 2-HS-67-134A, UPR CNTMT CLR 2C RET CIV-ØB, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 60

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2279 displays "PWR ON" _____
- Point FD2280 displays "CLOSED". _____

D. Valve 2-FCV-67-134, UPPER CNTMT VENT CLR 2C ERCW RET HDR ISOL, is CLOSED (locally) (U2 ANN EL 798 AZ318). _____

[8] **OPEN** Breaker 2-BKR-67-134 in compartment 8F on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2279 displays "PWR OFF" _____

Date _____

6.20 2-FCV-67-134, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 8F on 480V REACTOR MOV BD 2B2-B _____

[10] **CLOSE** Breaker 2-BKR-67-134 in compartment 8F on 480V REACTOR MOV BD 2B2-B. _____

[11] **PLACE** Handswitch 2-HS-67-134A, UPR CNTMT CLR 2C RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-134 DOES NOT OPEN (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K4 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-134A, UPR CNTMT CLR 2C RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-134 OPENS (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**) _____

[14] **RELEASE** armature of K4 relay. _____

[15] **PRESS** the RESET button at Compt 8F on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2279 displays "PWR ON" _____
- Point FD2280 displays "NOT CLS". _____

Date _____

6.20 2-FCV-67-134, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB617-3 and TB617-4 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-134 CLOSES (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB617-3 and TB617-4 in Separation Aux Relay Panel 2-R-51 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-134 is CLOSED (locally) (U2 ANN EL 798 AZ318) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-134A, UPR CNTMT CLR 2C RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-134 OPENS (locally) (U2 ANN EL 798 AZ318) _____

[21] **VERIFY** the successful completion of this Subsection 6.20 (**ACC CRIT**) _____

Date _____

6.21 2-FCV-67-138, Upper Containment Vent Coolers 2B Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.21 have been completed. _____

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

A. FD2281 _____

B. FD2282 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-138 at compartment 9F on 480V REACTOR MOV BD 2B2-B in the CLOSED position. _____

[4] **ENSURE/OPEN** Valve 2-FCV-67-138, UPPER CNTMT VENT CLR 2B ERCW SUP HDR ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-138A, UPR CNTMT CLR 2B SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 87

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2281 displays "PWR ON" _____
- Point FD2282 displays "NOT CLS". _____

D. Valve 2-FCV-67-138, UPPER CNTMT VENT CLR 2B ERCW SUP HDR ISOL, is OPEN (locally) (U2 ANN EL 798 AZ315). _____

Date _____

6.21 2-FCV-67-138, Upper Containment Vent Coolers 2B Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-138A, UPR CNTMT CLR 2B SUP CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-138 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.21 2-FCV-67-138, Upper Containment Vent Coolers 2B Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-138:

A. Handswitch 2-HS-67-138A, UPR CNTMT CLR 2B SUP CIV-ØB, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 87

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2281 displays "PWR ON" _____
- Point FD2282 displays "CLOSED". _____

D. Valve 2-FCV-67-138, UPPER CNTMT VENT CLR 2B ERCW SUP HDR ISOL, is CLOSED (locally) (U2 ANN EL 798 AZ315). _____

[8] **OPEN** Breaker 2-BKR-67-138 in compartment 9F on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2281 displays "PWR OFF" _____

Date _____

6.21 2-FCV-67-138, Upper Containment Vent Coolers 2B Supply Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 9F on 480V REACTOR MOV BD 2B2-B _____

[10] **CLOSE** Breaker 2-BKR-67-138 in compartment 9F on 480V REACTOR MOV BD 2B2-B. _____

[11] **PLACE** Handswitch 2-HS-67-138A, UPR CNTMT CLR 2B SUP CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-138 DOES NOT OPEN (locally) (U2 ANN EL 798 AZ315) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K4 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-138A, UPR CNTMT CLR 2B SUP CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-138 OPENS (locally) (U2 ANN EL 798 AZ315) (**ACC CRIT**) _____

[14] **RELEASE** armature of K4 relay. _____

[15] **PRESS** the RESET button at Compt 9F on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2281 displays "PWR ON" _____
- Point FD2282 displays "NOT CLS". _____

Date _____

6.21 2-FCV-67-138, Upper Containment Vent Coolers 2B Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB818-7 and TB818-8 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-138 CLOSES (locally) (U2 ANN EL 798 AZ315) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB818-7 and TB818-8 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-138 is CLOSED (locally) (U2 ANN EL 798 AZ315) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-138A, UPR CNTMT CLR 2B SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-138 OPENS (locally) (U2 ANN EL 798 AZ315) _____

[21] **VERIFY** the successful completion of this Subsection 6.20 (**ACC CRIT**) _____

Date _____

6.22 2-FCV-67-139, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.22 have been completed. _____

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

A. FD2137 _____

B. FD2138 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-139 at compartment 9F on 480V REACTOR MOV BD 2A2-A in the CLOSED position. _____

[4] **ENSURE/OPEN** Valve 2-FCV-67-139, UPPER CNTMT VENT CLR 2B ERCW RET HDR ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-139A, UPR CNTMT CLR 2B RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 57

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2137 displays "PWR ON" _____
- Point FD2138 displays "NOT CLS". _____

D. Valve 2-FCV-67-139, UPPER CNTMT VENT CLR 2B ERCW RET HDR ISOL, is OPEN (locally) (U2 ANN EL 795 AZ315). _____

Date _____

6.22 2-FCV-67-139, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-139A, UPR CNTMT CLR 2B RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-139 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.22 2-FCV-67-139, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-139:

A. Handswitch 2-HS-67-139A, UPR CNTMT CLR 2B RET CIV-∅B, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 57

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2137 displays "PWR ON" _____
- Point FD2138 displays "CLOSED". _____

D. Valve 2-FCV-67-139, UPPER CNTMT VENT CLR 2B ERCW RET HDR ISOL, is CLOSED (locally) (U2 ANN EL 795 AZ315). _____

[8] **OPEN** Breaker 2-BKR-67-139 in compartment 9F on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2137 displays "PWR OFF" _____

Date _____

6.22 2-FCV-67-139, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 9F on 480V REACTOR MOV BD 2A2-A _____

[10] **CLOSE** Breaker 2-BKR-67-139 in compartment 9F on 480V REACTOR MOV BD 2A2-A. _____

[11] **PLACE** Handswitch 2-HS-67-139A, UPR CNTMT CLR 2B RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-139 DOES NOT OPEN (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K4 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-139A, UPR CNTMT CLR 2B RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-139 OPENS (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**) _____

[14] **RELEASE** armature of K4 relay. _____

[15] **PRESS** the RESET button at Compt 9F on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2137 displays "PWR ON" _____
- Point FD2138 displays "NOT CLS". _____

Date _____

6.22 2-FCV-67-139, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB617-1 and TB617-2 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-∅B signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-139 CLOSES (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB617-1 and TB617-2 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-∅B signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-139 is CLOSED (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-139A, UPR CNTMT CLR 2B RET CIV-∅B, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-139 OPENS (locally) (U2 ANN EL 795 AZ315) _____

[21] **VERIFY** the successful completion of this Subsection 6.22 (**ACC CRIT**) _____

Date _____

6.23 2-FCV-67-141, Upper Containment Vent Coolers 2D Supply Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.23 have been completed. _____

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

A. FD2285 _____

B. FD2286 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-141 at compartment 10F on 480V REACTOR MOV BD 2B2-B in the CLOSED position. _____

Date _____

6.23 2-FCV-67-141, Upper Containment Vent Coolers 2D Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-141, UPPER CNTMT VENT CLR 2D ERCW SUP HDR ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-141A, UPR CNTMT CLR 2D SUP CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 88

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2285 displays "PWR ON" _____
- Point FD2286 displays "NOT CLS". _____

D. Valve 2-FCV-67-141, UPPER CNTMT VENT CLR 2D ERCW SUP HDR ISOL, is OPEN (locally) (U2 ANN EL 795 AZ315). _____

Date _____

6.23 2-FCV-67-141, Upper Containment Vent Coolers 2D Supply Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-141A, UPR CNTMT CLR 2D SUP CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-141 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.23 2-FCV-67-141, Upper Containment Vent Coolers 2D Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-141:

A. Handswitch 2-HS-67-141A, UPR CNTMT CLR 2D SUP CIV-ØB, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 88

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2285 displays "PWR ON" _____
- Point FD2286 displays "CLOSED". _____

D. Valve 2-FCV-67-141, UPPER CNTMT VENT CLR 2D ERCW SUP HDR ISOL, is CLOSED (locally) (U2 ANN EL 795 AZ315). _____

[8] **OPEN** Breaker 2-BKR-67-141 in compartment 10F on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2285 displays "PWR OFF" _____

Date _____

6.23 2-FCV-67-141, Upper Containment Vent Coolers 2D Supply Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 10F on 480V REACTOR MOV BD 2B2-B _____

[10] **CLOSE** Breaker 2-BKR-67-141 in compartment 10F on 480V REACTOR MOV BD 2B2-B. _____

[11] **PLACE** Handswitch 2-HS-67-141A, UPR CNTMT CLR 2D SUP CIV-∅B, to OPEN position, **AND**

VERIFY valve 2-FCV-67-141 DOES NOT OPEN (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K4 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-141A, UPR CNTMT CLR 2D SUP CIV-∅B, to OPEN position, **AND**

VERIFY valve 2-FCV-67-141 OPENS (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**) _____

[14] **RELEASE** armature of K4 relay. _____

[15] **PRESS** the RESET button at Compt 10F on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2285 displays "PWR ON" _____
- Point FD2286 displays "NOT CLS". _____

Date _____

6.23 2-FCV-67-141, Upper Containment Vent Coolers 2D Supply Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB819-7 and TB819-8 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-141 CLOSES (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB819-7 and TB819-8 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-141 is CLOSED (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-141A, UPR CNTMT CLR 2D SUP CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-141 OPENS (locally) (U2 ANN EL 795 AZ315) _____

[21] **VERIFY** the successful completion of this Subsection 6.23 (**ACC CRIT**) _____

Date _____

6.24 2-FCV-67-142, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.24 have been completed. _____

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

A. FD2139 _____

B. FD2140 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-142 at compartment 10F on 480V REACTOR MOV BD 2A2-A in the CLOSED position. _____

Date _____

6.24 2-FCV-67-142, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-142, UPPER CNTMT VENT CLR 2D ERCW RET HDR ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-142A, UPR CNTMT CLR 2D RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 58

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2139 displays "PWR ON" _____
- Point FD2140 displays "NOT CLS". _____

D. Valve 2-FCV-67-142, UPPER CNTMT VENT CLR 2D ERCW RET HDR ISOL, is OPEN (locally) (U2 ANN EL 795 AZ315). _____

Date _____

6.24 2-FCV-67-142, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-142A, UPR CNTMT CLR 2D RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-142 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.24 2-FCV-67-142, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-142:

A. Handswitch 2-HS-67-142A, UPR CNTMT CLR 2D RET CIV-ØB, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 58

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2139 displays "PWR ON" _____
- Point FD2140 displays "CLOSED". _____

D. Valve 2-FCV-67-142, UPPER CNTMT VENT CLR 2D ERCW RET HDR ISOL, is CLOSED (locally) (U2 ANN EL 795 AZ315). _____

[8] **OPEN** Breaker 2-BKR-67-142 in compartment 10F on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2139 displays "PWR OFF" _____

Date _____

6.24 2-FCV-67-142, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 10F on 480V REACTOR MOV BD 2A2-A _____

[10] **CLOSE** Breaker 2-BKR-67-142 in compartment 10F on 480V REACTOR MOV BD 2A2-A. _____

[11] **PLACE** Handswitch 2-HS-67-142A, UPR CNTMT CLR 2D RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-142 DOES NOT OPEN (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K7 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-142A, UPR CNTMT CLR 2D RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-142 OPENS (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**) _____

[14] **RELEASE** armature of K7 relay. _____

[15] **PRESS** the RESET button at Compt 10F on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2139 displays "PWR ON" _____
- Point FD2140 displays "NOT CLS". _____

Date _____

6.24 2-FCV-67-142, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB617-3 and TB617-4 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-142 CLOSES (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB617-3 and TB617-4 in Separation Aux Relay Panel 2-R-48 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-142 is CLOSED (locally) (U2 ANN EL 795 AZ315) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-142A, UPR CNTMT CLR 2D RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-142 OPENS (locally) (U2 ANN EL 795 AZ315) _____

[21] **VERIFY** the successful completion of this Subsection 6.24 (**ACC CRIT**) _____

Date _____

6.25 2-FCV-67-295, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.25 have been completed. _____

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

A. FD2131 _____

B. FD2132 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-295 at compartment 9D on 480V REACTOR MOV BD 2A2-A in the CLOSED position. _____

Date _____

6.25 2-FCV-67-295, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-295, UPPER CNTMT VENT CLR 2A ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-295A, UPR CNTMT CLR 2A RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 59

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2131 displays "PWR ON" _____
- Point FD2132 displays "NOT CLS". _____

D. Valve 2-FCV-67-295, UPPER CNTMT VENT CLR 2A ERCW RET ISOL, is OPEN (locally) (U2 RB EL 807 AZ208). _____

Date _____

6.25 2-FCV-67-295, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-295A, UPR CNTMT CLR 2A RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-295 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.25 2-FCV-67-295, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-295:

A. Handswitch 2-HS-67-295A, UPR CNTMT CLR 2A RET CIV-∅B, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 59

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2131 displays "PWR ON" _____
- Point FD2132 displays "CLOSED". _____

D. Valve 2-FCV-67-295, UPPER CNTMT VENT CLR 2A ERCW RET ISOL, is CLOSED (locally) (U2 RB EL 807 AZ208). _____

[8] **OPEN** Breaker 2-BKR-67-295 in compartment 9D on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2131 displays "PWR OFF" _____

Date _____

6.25 2-FCV-67-295, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 9D on 480V REACTOR MOV BD 2A2-A _____

[10] **CLOSE** Breaker 2-BKR-67-295 in compartment 9D on 480V REACTOR MOV BD 2A2-A. _____

[11] **PLACE** Handswitch 2-HS-67-295A, UPR CNTMT CLR 2A RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-295 DOES NOT OPEN (locally) (U2 RB EL 807 AZ208) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K5 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-295A, UPR CNTMT CLR 2A RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-295 OPENS (locally) (U2 RB EL 807 AZ208) (**ACC CRIT**) _____

[14] **RELEASE** armature of K5 relay. _____

[15] **PRESS** the RESET button at Compt 9D on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2131 displays "PWR ON" _____
- Point FD2132 displays "NOT CLS". _____

Date _____

6.25 2-FCV-67-295, Upper Containment Vent Coolers 2A Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB314-3 and TB314-4 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-295 CLOSES (locally) (U2 RB EL 807 AZ208) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB314-3 and TB314-4 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-295 is CLOSED (locally) (U2 RB EL 807 AZ208) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-295A, UPR CNTMT CLR 2A RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-295 OPENS (locally) (U2 RB EL 807 AZ208) _____

[21] **VERIFY** the successful completion of this Subsection 6.25 (**ACC CRIT**) _____

Date _____

6.26 2-FCV-67-296, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.26 have been completed. _____

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

A. FD2135 _____

B. FD2136 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-296 at compartment 10D on 480V REACTOR MOV BD 2A2-A in the CLOSED position. _____

[4] **ENSURE/OPEN** Valve 2-FCV-67-296, UPPER CNTMT VENT CLR 2C ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-296A, UPR CNTMT CLR 2C RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 60

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2135 displays "PWR ON" _____
- Point FD2136 displays "NOT CLS" _____

D. Valve 2-FCV-67-296, UPPER CNTMT VENT CLR 2C ERCW RET ISOL, is OPEN (locally) (U2 RB EL 807 AZ208). _____

Date _____

6.26 2-FCV-67-296, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-296A, UPR CNTMT CLR 2C RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-296 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.26 2-FCV-67-296, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-296:

A. Handswitch 2-HS-67-296A, UPR CNTMT CLR 2C RET CIV-∅B, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6E Window 60

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2135 displays "PWR ON" _____
- Point FD2136 displays "CLOSED". _____

D. Valve 2-FCV-67-296, UPPER CNTMT VENT CLR 2C ERCW RET ISOL, is CLOSED (locally) (U2 RB EL 807 AZ208). _____

[8] **OPEN** Breaker 2-BKR-67-296 in compartment 10D on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2135 displays "PWR OFF" _____

Date _____

6.26 2-FCV-67-296, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 10D on 480V REACTOR MOV BD 2A2-A _____

[10] **CLOSE** Breaker 2-BKR-67-296 in compartment 10D on 480V REACTOR MOV BD 2A2-A. _____

[11] **PLACE** Handswitch 2-HS-67-296A, UPR CNTMT CLR 2C RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-296 DOES NOT OPEN (locally) (U2 RB EL 807 AZ208) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K5 in rear of 480-V REACTOR MOV BD 2A2-A, Compt 6D, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-296A, UPR CNTMT CLR 2C RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-296 OPENS (locally) (U2 RB EL 807 AZ208) (**ACC CRIT**) _____

[14] **RELEASE** armature of K5 relay. _____

[15] **PRESS** the RESET button at Compt 10D on 480V REACTOR MOV BD 2A2-A, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2135 displays "PWR ON" _____
- Point FD2136 displays "NOT CLS". _____

Date _____

6.26 2-FCV-67-296, Upper Containment Vent Coolers 2C Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB314-9 and TB314-10 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-296 CLOSES (locally) (U2 RB EL 807 AZ208) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB313-9 and TB313-10 in Separation Aux Relay Panel 2-R-73 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-296 is CLOSED (locally) (U2 RB EL 807 AZ208) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-296A, UPR CNTMT CLR 2C RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-296 OPENS (locally) (U2 RB EL 807 AZ208) _____

[21] **VERIFY** the successful completion of this Subsection 6.26 (**ACC CRIT**) _____

Date _____

6.27 2-FCV-67-297, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.27 have been completed. _____

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

A. FD2283 _____

B. FD2284 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-297 at compartment 9D on 480V REACTOR MOV BD 2B2-B in the CLOSED position. _____

Date _____

6.27 2-FCV-67-297, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[4] **ENSURE/OPEN** Valve 2-FCV-67-297, UPPER CNTMT VENT CLR 2B ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-297A, UPR CNTMT CLR B RET CIV-∅B, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 57

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2283 displays "PWR ON" _____
- Point FD2284 displays "NOT CLS". _____

D. Valve 2-FCV-67-297, UPPER CNTMT VENT CLR 2B ERCW RET ISOL, is OPEN (locally) (U2 RB EL 807 AZ152). _____

Date _____

6.27 2-FCV-67-297, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-297A, UPR CNTMT CLR B RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-297 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.27 2-FCV-67-297, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-297:

A. Handswitch 2-HS-67-297A, UPR CNTMT CLR B RET CIV-∅B, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 57

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2283 displays "PWR ON" _____
- Point FD2284 displays "CLOSED". _____

D. Valve 2-FCV-67-297, UPPER CNTMT VENT CLR 2B ERCW RET ISOL, is CLOSED (locally) (U2 RB EL 807 AZ152). _____

[8] **OPEN** Breaker 2-BKR-67-297 in compartment 9D on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2283 displays "PWR OFF" _____

Date _____

6.27 2-FCV-67-297, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 9D on 480V REACTOR MOV BD 2B2-B _____

[10] **CLOSE** Breaker 2-BKR-67-297 in compartment 9D on 480V REACTOR MOV BD 2B2-B. _____

[11] **PLACE** Handswitch 2-HS-67-297A, UPR CNTMT CLR B RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-297 DOES NOT OPEN (locally) (U2 RB EL 807 AZ152) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K6 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-297A, UPR CNTMT CLR B RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-297 OPENS (locally) (U2 RB EL 807 AZ152) (**ACC CRIT**) _____

[14] **RELEASE** armature of K6 relay. _____

[15] **PRESS** the RESET button at Compt 9D on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2283 displays "PWR ON" _____
- Point FD2284 displays "NOT CLS". _____

Date _____

6.27 2-FCV-67-297, Upper Containment Vent Coolers 2B Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB818-5 and TB818-6 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-297 CLOSES (locally) (U2 RB EL 807 AZ152) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB818-5 and TB818-6 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-297 is CLOSED (locally) (U2 RB EL 807 AZ152) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-297A, UPR CNTMT CLR B RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-297 OPENS (locally) (U2 RB EL 807 AZ152) _____

[21] **VERIFY** the successful completion of this Subsection 6.27 (**ACC CRIT**) _____

Date _____

6.28 2-FCV-67-298, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.28 have been completed. _____

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

A. FD2287 _____

B. FD2288 _____

[3] **VERIFY/PLACE** Breaker 2-BKR-67-298 at compartment 10D on 480V REACTOR MOV BD 2B2-B in the CLOSED position. _____

[4] **ENSURE/OPEN** Valve 2-FCV-67-298, UPPER CNTMT VENT CLR 2D ERCW RET ISOL, **AND**

VERIFY:

A. Handswitch 2-HS-67-298A, UPR CNTMT CLR 2D RET CIV-ØB, at 0-M-27A

- Red light is ON _____
- Green light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 58

- Red light is ON _____
- Green light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2287 displays "PWR ON" _____
- Point FD2288 displays "NOT CLS". _____

D. Valve 2-FCV-67-298, UPPER CNTMT VENT CLR 2D ERCW RET ISOL, is OPEN (locally) (U2 RB EL 807 AZ335). _____

Date _____

6.28 2-FCV-67-298, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

NOTES

1) Valve stroke timing in subsequent steps requires simultaneous timing locally at the valve and remotely at the control switch (in the Control Room).
2) Local timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends with the completion of valve stem movement.
3) Remote timing begins with the initiating signal (Placing the control room switch in CLOSE) and ends when the position indication lights at the control room switch indicate FULL CLOSE (Green light is ON, Red light is OFF).

[5] **SIMULTANEOUSLY PLACE** handswitch 2-HS-67-298A, UPR CNTMT CLR 2D RET CIV-ØB, in the CLOSE position, **AND**

START stopwatches. _____

[6] **STOP** stopwatches when 2-FCV-67-298 reaches the CLOSE position, **AND**

RECORD stroke times below:

A. REMOTE closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

B. LOCAL closing time (**ACC CRIT**)
_____seconds. (≤66 Seconds) _____

M&TE_____ Cal Due Date_____

Date _____

6.28 2-FCV-67-298, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[7] **VERIFY** the following for valve 2-FCV-67-298:

A. Handswitch 2-HS-67-298A, UPR CNTMT CLR 2D RET CIV-ØB, at 0-M-27A

- Green light is ON _____
- Red light is OFF _____

B. CNTMT ISOL STATUS PNL (2-M-6), 2-XX-55-6F Window 58

- Green light is ON _____
- Red light is OFF _____

C. Unit 2 Integrated Computer System (ICS)

- Point FD2287 displays "PWR ON" _____
- Point FD2288 displays "CLOSED". _____

D. Valve 2-FCV-67-298, UPPER CNTMT VENT CLR 2D ERCW RET ISOL, is CLOSED (locally) (U2 RB EL 807 AZ335). _____

[8] **OPEN** Breaker 2-BKR-67-298 in compartment 10D on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY Unit 2 Integrated Computer System (ICS)

- Point FD2287 displays "PWR OFF" _____

Date _____

6.28 2-FCV-67-298, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for the following step.

[9] **MANUALLY TRIP** the thermal overload circuitry at Compt 10D on 480V REACTOR MOV BD 2B2-B _____

[10] **CLOSE** Breaker 2-BKR-67-298 in compartment 10D on 480V REACTOR MOV BD 2B2-B. _____

[11] **PLACE** Handswitch 2-HS-67-298A, UPR CNTMT CLR 2D RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-298 DOES NOT OPEN (locally) (U2 RB EL 807 AZ335) (**ACC CRIT**) _____

[12] **PRESS** and **HOLD** armature of overload bypass relay K5 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass _____

[13] **PLACE** Handswitch 2-HS-67-298A, UPR CNTMT CLR 2D RET CIV-ØB, to OPEN position, **AND**

VERIFY valve 2-FCV-67-298 OPENS (locally) (U2 RB EL 807 AZ335) (**ACC CRIT**) _____

[14] **RELEASE** armature of K5 relay. _____

[15] **PRESS** the RESET button at Compt 10D on 480V REACTOR MOV BD 2B2-B, **AND**

VERIFY:

A. Unit 2 Integrated Computer System (ICS)

- Point FD2287 displays "PWR ON" _____
- Point FD2288 displays "NOT CLS". _____

Date _____

6.28 2-FCV-67-298, Upper Containment Vent Coolers 2D Discharge Isolation Valve, Logic and Stroke Timing Test (continued)

[16] **PLACE** a Temporary Jumper wire between Terminals TB819-5 and TB819-6 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal

_____ 1st

_____ CV

[17] **VERIFY** valve 2-FCV-67-298 CLOSES (locally) (U2 RB EL 807 AZ335) (**ACC CRIT**). _____

[18] **REMOVE** the Temporary Jumper wire between Terminals TB819-5 and TB819-6 in Separation Aux Relay Panel 2-R-78 to simulate a CIV-ØB signal RESET

_____ 1st

_____ CV

[19] **VERIFY** Valve 2-FCV-67-298 is CLOSED (locally) (U2 RB EL 807 AZ335) (**ACC CRIT**). _____

[20] **PLACE** 2-HS-67-298A, UPR CNTMT CLR 2D RET CIV-ØB, at 0-M-27A in the OPEN position, **AND**

VERIFY valve 2-FCV-67-298 OPENS (locally) (U2 RB EL 807 AZ335) _____

[21] **VERIFY** the successful completion of this Subsection 6.28 (**ACC CRIT**) _____

Date _____

6.29 0-FCV-67-152, CCS Heat Exchanger C Discharge Control Valve to Header B, Thermal Overload Bypass and Safety Injection Signal Response Test

CAUTION

Coordinate testing with Unit 1 Operations to minimize impact to operating unit.

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.29 have been completed. _____

[2] **RECORD** the as-found position of 0-FCV-67-152 using 0-HS-67-152A, CCS HX C ALT DISCH TO HDR B, position indication lights:

OPEN ☐
CLOSED ☐
POS A ☐
POS B ☐ _____

[3] **IF** 0-FCV-67-152 is **NOT** CLOSED, **THEN**

NOTIFY the SM/US. _____

NOTE

System pressure and flow requirements should be evaluated to determine the correct position for 0-FCV-67-144 when 0-FCV-67-152 is either FULL OPEN or FULL CLOSED.

[4] **IF** 0-FCV-67-144 requires repositioning, **THEN**

PLACE 0-FCV-67-144 to the required position. _____

[5] **ENSURE** 0-FCV-67-152 is CLOSED _____

Date _____

6.29 0-FCV-67-152, CCS Heat Exchanger C Discharge Control Valve to Header B, Thermal Overload Bypass and Safety Injection Signal Response Test (continued)

[6] **PLACE** a Temporary Jumper wire between Terminals TB619-1 and TB619-2 in Separation Aux Relay Panel 2-R-51 to simulate a Unit 2 Safety Injection signal.

_____ 1st

_____ CV

[7] **VERIFY** valve 0-FCV-67-152 goes to POS A by light indication at 0-HS-67-152A (0-M-27A) (**ACC CRIT**). _____

[8] **REMOVE** the Temporary Jumper wire between Terminals TB619-1 and TB619-2 in Separation Aux Relay Panel 2-R-51 to simulate a Unit 2 Safety Injection signal RESET

_____ 1st

_____ CV

[9] **VERIFY** valve 0-FCV-67-152 remains in POS A by light indication at 0-HS-67-152A (0-M-27A) (**ACC CRIT**) _____

[10] **PLACE** handswitch 0-HS-67-152A to OPEN, **AND**

ENSURE valve 0-FCV-67-152 opens by light indication at 0-HS-67-152A (0-M-27A). _____

[11] **PLACE** a Temporary Jumper wire between Terminals TB619-1 and TB619-2 in Separation Aux Relay Panel 2-R-51 to simulate a Unit 2 Safety Injection signal.

_____ 1st

_____ CV

[12] **VERIFY** valve 0-FCV-67-152 goes to POS A by light indication at 0-HS-67-152A (0-M-27A) (**ACC CRIT**). _____

[13] **REMOVE** the Temporary Jumper wire between Terminals TB619-1 and TB619-2 in Separation Aux Relay Panel 2-R-51 to simulate a Unit 2 Safety Injection signal RESET

_____ 1st

_____ CV

Date _____

6.29 0-FCV-67-152, CCS Heat Exchanger C Discharge Control Valve to Header B, Thermal Overload Bypass and Safety Injection Signal Response Test (continued)

[14] **PLACE** handswitch 0-HS-67-152A to CLOSE, **AND**

ENSURE valve 0-FCV-67-152 closes by light indication at 0-HS-67-152A (0-M-27A). _____

[15] **PLACE** 0-BKR-67-152 in 480V REAC MOV BD 2B2-B Compartment 12B to the OFF position. _____

WARNING

Arc Flash PPE per TI-300 will be required for steps 6.29[16] through 6.29[18].

[16] **PULL** 2-MCC-213-B002-B, Compartment 12B. _____ 1st _____ CV

[17] **ENSURE** locking tabs engage to prevent bucket from re-engaging. _____

[18] **PERFORM** live-dead-live check on line side of breaker to ensure bucket is disengaged from electrical bus. _____

[19] **VERIFY** continuity between Wire 12BY1 and 12BSM in rear of 480V REAC MOV BD 2B2-B Compartment 12B. _____

[20] **REMOVE** the T1 Thermal Overload Heater for 0-BKR-67-152, CCS HX C OUT ERCW HDR B FLOW CNTL (0-FCV-67-152). _____ 1st _____ CV

[21] **ENSURE** T1 auxiliary thermal overload contact RESET switch tab is pulled outward to end of its travel. _____

[22] **MANUALLY TRIP** T1 auxiliary thermal overload contact. _____

[23] **VERIFY** no continuity between Wire 12BY1 and 12BSM in rear of 480V REAC MOV BD 2B2-B Compartment 12B. _____

Date _____

6.29 0-FCV-67-152, CCS Heat Exchanger C Discharge Control Valve to Header B, Thermal Overload Bypass and Safety Injection Signal Response Test (continued)

[24] **REINSTALL** the T1 Thermal Overload Heater for 0-BKR-67-152, CCS HX C OUT ERCW HDR B FLOW CNTL (0-FCV-67-152).

_____ 1st

_____ CV

WARNING

Arc Flash PPE per TI-300 will be required for step 6.29[25].

[25] **REINSTALL** 2-MCC-213-B002-B, Compartment 12B.

_____ 1st

_____ CV

[26] **PLACE** 0-BKR-67-152 in 480V REAC MOV BD 2B2-B Compartment 12B to the ON position. _____

[27] **PLACE** Handswitch 0-HS-67-152A, CCS HX C ALT DISCH TO HDR B to POS A position, **AND**

VERIFY valve 0-FCV-67-152 REMAINS CLOSED (locally) (A11S/737) (**ACC CRIT**) _____

[28] **PRESS** and **HOLD** armature of overload bypass relay K4 in rear of 480-V REACTOR MOV BD 2B2-B, Compt 6F, to simulate Overload Bypass. _____

[29] **PLACE** Handswitch 0-HS-67-152A, CCS HX C ALT DISCH TO HDR B to OPEN position, **AND**

VERIFY valve 0-FCV-67-152 OPENS (locally) (A11S/737) (**ACC CRIT**) _____

[30] **RELEASE** armature of K4 relay. _____

[31] **PRESS** the RESET button on 480V REAC MOV BD 2B2-B Compartment 12B. _____

Date _____

6.29 0-FCV-67-152, CCS Heat Exchanger C Discharge Control Valve to Header B, Thermal Overload Bypass and Safety Injection Signal Response Test (continued)

[32] **IF** 0-FCV-67-144 requires repositioning, **THEN**

PLACE 0-FCV-67-144 to the required position. _____

[33] **CLOSE** 0-FCV-67-152. _____

[34] **VERIFY** 0-FCV-67-152 is CLOSED _____
IV

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

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

[37] **VERIFY** the successful completion of this Subsection 6.29 (**ACC CRIT**) _____

Date _____

6.30 1-FCV-67-66, 1A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test

CAUTION

Performance of this subsection temporarily isolates ERCW supply to the 1A Emergency Diesel Generator (EDG), and is recommended to be performed during a 1A EDG maintenance outage. If it is not performed during a 1A EDG maintenance outage, testing should be evaluated for impact to Unit 1 Technical Specification 3.8.1 and 3.8.2.

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.30 have been completed. _____

[2] **ENSURE** the following Unit 1 Integrated Computer System points are in scan:

- FD2109 _____
- FD2110 _____

[3] **RECORD** as-found position of 1-FCV-67-66, DG HX 1A1/1A2 ERCW SUP HDR 1A ISOL (locally) (DG BLDG 1A DG RM EL 742)

As Found Position_____ _____

[4] **ENSURE** 1-BKR-67-66 on 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A in the ON position. _____

[5] **ENSURE** handswitch 1-XS-67-66 on 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A in NORMAL position. _____

[6] **IF** valve 1-FCV-67-66 is not CLOSED, **THEN**

PLACE 1-HS-67-66D on D/G 1A-A LOCAL CONT PNL to CLOSE, **AND**

VERIFY 1-FCV-67-66 CLOSES (locally) (DG BLDG 1A DG RM EL 742), Otherwise mark step "N/A" _____

Date _____

6.30 1-FCV-67-66, 1A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[7] **PLACE** handswitch 1-HS-67-66D on D/G 1A-A LOCAL CONT PNL to OPEN, **AND**

VERIFY

A. Unit 1 Integrated Computer System (ICS)

- Point FD2109 displays "PWR ON" _____
- Point FD2110 displays "OPEN". _____

B. Handswitch 1-HS-67-66D

- Green Light OFF _____
- Red Light ON _____

C. Valve 1-FCV-67-66 is OPEN (locally) (DG BLDG 1A DG RM EL 742) _____

Date _____

6.30 1-FCV-67-66, 1A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[8] **PLACE** handswitch 1-HS-67-66D on D/G 1A-A LOCAL CONT PNL to CLOSE, **AND**

VERIFY

A. Handswitch 1-HS-67-66A (0-M-27A)

- Red Light OFF _____
- Green Light ON _____

B. Unit 1 Integrated Computer System (ICS)

- Point FD2109 displays "PWR ON" _____
- Point FD2110 displays "NOT OPE" _____

C. Handswitch 1-HS-67-66D

- Green Light ON _____
- Red Light OFF _____

D. Valve 1-FCV-67-66 is CLOSED (locally) (DG BLDG 1A DG RM EL 742) _____

[9] **PRESS** and **RELEASE** the OPEN button on 1-HS-67-66B, **AND**

VERIFY:

A. Handswitch 1-HS-67-66B

- Red Light ON _____
- Green Light OFF _____

B. Valve 1-FCV-67-66 is OPEN (locally) (DG BLDG 1A DG RM EL 742). _____

Date _____

6.30 1-FCV-67-66, 1A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[10] **PRESS** and **RELEASE** the CLOSE button on 1-HS-67-66B, **AND**

VERIFY:

A. Handswitch 1-HS-67-66B

- Red Light OFF _____
- Green Light ON _____

B. Valve 1-FCV-67-66 is CLOSED (locally) (DG BLDG 1A DG RM EL 742). _____

[11] **PLACE** handswitch 1-XS-67-66 on 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A in AUX, **AND**

VERIFY:

A. 1-XA-55-6F/149-D, 480 DG AUX BD 1A1-A/1A2-A, ALARMS. _____

B. Unit 1 Events Display Legend indicates 149-D, 480 DG AUX BD 1A1-A/1A2-A XS IN AUX is in ALARM (Red). _____

C. 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A

- Green "Valve Closed" Light ON _____
- Red "Valve Open" Light OFF _____

Date _____

6.30 1-FCV-67-66, 1A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[12] **PLACE** handswitch 1-HS-67-66C on 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A to OPEN, **AND**

VERIFY:

A. 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A

- Green "Valve Closed" Light OFF _____
- Red "Valve Open" Light ON _____

B. Valve 1-FCV-67-66 is OPEN (locally) (DG BLDG 1A DG RM EL 742) _____

[13] **PLACE** handswitch 1-HS-67-66C on 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A to CLOSE **AND**

VERIFY:

A. 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A

- Green "Valve Closed" Light ON _____
- Red "Valve Open" Light OFF _____

B. Valve 1-FCV-67-66 is CLOSED (locally) (DG BLDG 1A DG RM EL 742) _____

Date _____

6.30 1-FCV-67-66, 1A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[14] **PLACE** handswitch 1-XS-67-66 on 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A in NOR, **AND**

VERIFY:

A. 1-XA-55-6F/149-D, 480 DG AUX BD 1A1-A/1A2-A, CLEARS. _____

B. Unit 1 Events Display Legend indicates 149-D, 480 DG AUX BD 1A1-A/1A2-A XS IN AUX is in NORMAL (Blue). _____

[15] **PLACE** 1-BKR-67-66 on 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A in the OFF position, **AND**

VERIFY Unit 1 Integrated Computer System (ICS)

- Point FD2109 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for steps 6.30[16] through 6.30[18].

[16] **PULL** 1-MCC-215-A001-A, Compartment 3A. _____ 1st _____ CV

[17] **ENSURE** locking tabs engage to prevent bucket from re-engaging. _____

[18] **PERFORM** live-dead-live check on line side of breaker to ensure bucket is disengaged from electrical bus. _____

[19] **VERIFY** continuity between Wire 3AY1 and 3ASM in rear of 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A. _____

[20] **REMOVE** the T1 Thermal Overload Heater for 1-BKR-67-66. _____ 1st _____ CV

Date _____

6.30 1-FCV-67-66, 1A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[21] **ENSURE** T1 auxiliary thermal overload contact RESET switch tab is pulled outward to end of its travel. _____

[22] **MANUALLY TRIP** T1 auxiliary thermal overload contact. _____

[23] **VERIFY** no continuity between Wire 3AY1 and 3ASM in rear of 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A. _____

[24] **REINSTALL** the T1 Thermal Overload Heater for 1-BKR-67-66. _____
1st

_____
CV

WARNING

Arc Flash PPE per TI-300 will be required for step 6.30[25].

[25] **REINSTALL** 1-MCC-215-A001-A, Compartment 3A. _____
1st

_____
CV

[26] **PLACE** 1-BKR-67-66 on 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A to the ON position. _____

[27] **PLACE** Handswitch 1-HS-67-66A, DG 1A-A NORM SUP to OPEN position, **AND**

VERIFY valve 1-FCV-67-66 REMAINS CLOSED (locally) (DG BLDG 1A DG RM EL 742) (**ACC CRIT**) _____

[28] **PRESS** and **HOLD** armature of overload bypass relay K8 in rear of 480-V REACTOR MOV BD 2A1-A, Compt 4F, to simulate Overload Bypass. _____

Date _____

6.30 1-FCV-67-66, 1A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[29] **PLACE** Handswitch 1-HS-67-66A, DG 1A-A NORM SUP to OPEN position, **AND**

VERIFY 1-FCV-67-66 OPENS (locally) (DG BLDG 1A DG RM EL 742) (**ACC CRIT**) _____

[30] **RELEASE** armature of K8 relay. _____

[31] **PRESS** RESET button on 480V DIESEL AUXILIARY BOARD 1A1-A compartment 3A. _____

[32] **RETURN** 1-FCV-67-66 to the As-Found position that was recorded in step 6.30[3].

As-Left Valve Position_____ _____

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

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

[35] **VERIFY** the successful completion of this Subsection 6.30 (**ACC CRIT**). _____

Date _____

6.31 2-FCV-67-66, 2A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test

CAUTION

Performance of this subsection temporarily isolates ERCW supply to the 2A Emergency Diesel Generator (EDG), and is recommended to be performed during a 2A EDG maintenance outage. If it is not performed during a 2A EDG maintenance outage, testing should be evaluated for impact to Unit 1 Technical Specification 3.8.1 and 3.8.2.

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.31 have been completed. _____

[2] **ENSURE** the following Unit 2 Integrated Computer System point is in scan:

- FD2102 _____

[3] **RECORD** as-found position of 2-FCV-67-66, DG HX 2A1/2A2 ERCW SUP HDR 1A ISOL (locally) (DG BLDG 2A DG RM EL 742)

As Found Position_____ _____

[4] **ENSURE** 2-BKR-67-66 on 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A in the ON position. _____

[5] **ENSURE** handswitch 2-XS-67-66 on 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A in NORMAL position. _____

[6] **IF** valve 2-FCV-67-66 is not CLOSED, **THEN**

PLACE 2-HS-67-66D on D/G 2A-A LOCAL CONT PNL to CLOSE, **AND**

VERIFY 2-FCV-67-66 CLOSES (locally) (DG BLDG 2A DG RM EL 742), Otherwise mark step "N/A" _____

Date _____

6.31 2-FCV-67-66, 2A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[7] **PLACE** handswitch 2-HS-67-66D on D/G 2A-A LOCAL CONT PNL to OPEN, **AND**

VERIFY

A. Unit 2 Integrated Computer System (ICS)

- Point FD2102 displays "PWR ON" _____

B. Handswitch 2-HS-67-66D

- Green Light OFF _____
- Red Light ON _____

C. Valve 2-FCV-67-66 is OPEN (locally) (DG BLDG 2A DG RM EL 742) _____

[8] **PLACE** handswitch 2-HS-67-66D on D/G 2A-A LOCAL CONT PNL to CLOSE, **AND**

VERIFY

A. Handswitch 2-HS-67-66A (0-M-27A)

- Red Light OFF _____
- Green Light ON _____

B. Handswitch 2-HS-67-66D

- Green Light ON _____
- Red Light OFF _____

C. Valve 2-FCV-67-66 is CLOSED (locally) (DG BLDG 2A DG RM EL 742) _____

Date _____

6.31 2-FCV-67-66, 2A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[9] **PRESS** and **RELEASE** the OPEN button on 2-HS-67-66B, **AND**

VERIFY:

A. Handswitch 2-HS-67-66B

- Red Light ON _____
- Green Light OFF _____

B. Valve 2-FCV-67-66 is OPEN (locally) (DG BLDG 2A DG RM EL 742). _____

[10] **PRESS** and **RELEASE** the CLOSE button on 2-HS-67-66B, **AND**

VERIFY:

A. Handswitch 2-HS-67-66B

- Red Light OFF _____
- Green Light ON _____

B. Valve 2-FCV-67-66 is CLOSED (locally) (DG BLDG 2A DG RM EL 742). _____

Date _____

6.31 2-FCV-67-66, 2A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[11] **PLACE** handswitch 2-XS-67-66 on 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A in AUX, **AND**

VERIFY:

A. 2-XA-55-6F/149-D, 480 DG AUX BD 2A1-A/2A2-A, ALARMS. _____

B. Unit 2 Events Display Legend indicates 149-D, 480 DG AUX BD 2A1-A/2A2-A XS IN AUX is in ALARM (Red). _____

C. 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A

- Green "Valve Closed" Light ON _____
- Red "Valve Open" Light OFF _____

[12] **PLACE** handswitch 2-HS-67-66C on 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A to OPEN **AND**

VERIFY:

A. 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A

- Green "Valve Closed" Light OFF _____
- Red "Valve Open" Light ON _____

B. Valve 2-FCV-67-66 is OPEN (locally) (DG BLDG 2A DG RM EL 742) _____

Date _____

6.31 2-FCV-67-66, 2A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[13] **PLACE** handswitch 2-HS-67-66C on 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A to CLOSE **AND**

VERIFY:

A. 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A

- Green "Valve Closed" Light ON _____
- Red "Valve Open" Light OFF _____

B. Valve 2-FCV-67-66 is CLOSED (locally) (DG BLDG 2A DG RM EL 742) _____

[14] **PLACE** handswitch 2-XS-67-66 on 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A in NOR, **AND**

VERIFY:

A. 2-XA-55-6F/149-D, 480 DG AUX BD 2A1-A/2A2-A, CLEARS. _____

B. Unit 2 Events Display Legend indicates 149-D, 480 DG AUX BD 2A1-A/2A2-A XS IN AUX is in NORMAL (Blue). _____

[15] **PLACE** 2-BKR-67-66 on 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A in the OFF position, **AND**

VERIFY Unit 2 Integrated Computer System

- Point FD2102 displays "PWR OFF". _____

Date _____

6.31 2-FCV-67-66, 2A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for steps 6.31[16] through 6.31[18].

[16] **PULL** 2-MCC-215-A001-A, Compartment 3A. _____ 1st _____ CV

[17] **ENSURE** locking tabs engage to prevent bucket from re-engaging. _____

[18] **PERFORM** live-dead-live check on line side of breaker to ensure bucket is disengaged from electrical bus. _____

[19] **VERIFY** continuity between Wire 3AY1 and 3ASM in rear of 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A. _____

[20] **REMOVE** the T1 Thermal Overload Heater for 2-BKR-67-66 _____ 1st _____ CV

[21] **ENSURE** T1 auxiliary thermal overload contact RESET switch tab is pulled outward to end of its travel. _____

[22] **MANUALLY TRIP** T1 auxiliary thermal overload contact. _____

[23] **VERIFY** no continuity between Wire 3AY1 and 3ASM in rear of 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A. _____

[24] **REINSTALL** the T1 Thermal Overload Heater for 2-BKR-67-66. _____ 1st _____ CV

Date _____

6.31 2-FCV-67-66, 2A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for step 6.31[25].

[25] **REINSTALL** 2-MCC-215-A001-A, Compartment 3A. _____ 1st _____ CV

[26] **PLACE** 2-BKR-67-66 on 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A to the ON position. _____

[27] **PLACE** Handswitch 2-HS-67-66A, DG 2A-A NORM SUP to OPEN position, **AND**

VERIFY valve 2-FCV-67-66 REMAINS CLOSED (locally) (DG BLDG 2A DG RM EL 742) (**ACC CRIT**) _____

[28] **PRESS** and **HOLD** armature of overload bypass relay K6 in rear of 480-V REACTOR MOV BD 2A1-A, Compt 4F, to simulate Overload Bypass. _____

[29] **PLACE** Handswitch 2-HS-67-66A, DG 2A-A NORM SUP to OPEN position, **AND**

VERIFY 2-FCV-67-66 OPENS (locally) (DG BLDG 2A DG RM EL 742) (**ACC CRIT**) _____

[30] **RELEASE** armature of K6 relay. _____

[31] **PRESS** RESET button on 480V DIESEL AUXILIARY BOARD 2A1-A compartment 3A. _____

[32] **RETURN** 2-FCV-67-66 to the As-Found position that was recorded in step 6.31[3].

As-Left Valve Position_____ _____

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

Date _____

6.31 2-FCV-67-66, 2A Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

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

[35] **VERIFY** the successful completion of this Subsection 6.31 (**ACC CRIT**). _____

Date _____

6.32 1-FCV-67-67, 1B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test

CAUTION

Performance of this subsection temporarily isolates ERCW supply to the 1B Emergency Diesel Generator (EDG), and is recommended to be performed during a 1B EDG maintenance outage. If it is not performed during a 1B EDG maintenance outage, testing should be evaluated for impact to Unit 1 Technical Specification 3.8.1 and 3.8.2.

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.32 have been completed. _____

[2] **ENSURE** the following Unit 1 Integrated Computer System points are in scan:

- FD2257 _____
- FD2258 _____

[3] **RECORD** as-found position of 1-FCV-67-67, DG HX 1B1/1B2 ERCW SUP HDR 1B ISOL (locally) (DG BLDG 1B DG RM EL 742)

As Found Position_____ _____

[4] **ENSURE** 1-BKR-67-67 on 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A in the ON position. _____

[5] **ENSURE** handswitch 1-XS-67-67 on 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A in NORMAL position. _____

[6] **IF** valve 1-FCV-67-67 is not CLOSED, **THEN**

PLACE 1-HS-67-67D on D/G 1B-B LOCAL CONT PNL to CLOSE, **AND**

VERIFY 1-FCV-67-67 CLOSES (locally) (DG BLDG 1B DG RM EL 742), Otherwise mark step "N/A" _____

Date _____

6.32 1-FCV-67-67, 1B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[7] **PLACE** handswitch 1-HS-67-67D on D/G 1B-B LOCAL CONT PNL to OPEN, **AND**

VERIFY

A. Unit 1 Integrated Computer System (ICS)

- Point FD2257 displays "PWR ON" _____
- Point FD2258 displays "OPEN". _____

B. Handswitch 1-HS-67-67D

- Green Light OFF _____
- Red Light ON _____

C. Valve 1-FCV-67-67 is OPEN (locally) (DG BLDG 1B DG RM EL 742) _____

Date _____

6.32 1-FCV-67-67, 1B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[8] **PLACE** handswitch 1-HS-67-67D on D/G 1B-B LOCAL CONT PNL to CLOSE, **AND**

VERIFY

A. Handswitch 1-HS-67-67A (0-M-27A)

- Red Light OFF _____
- Green Light ON _____

B. Unit 1 Integrated Computer System (ICS)

- Point FD2257 displays "PWR ON" _____
- Point FD2258 displays "NOT OPE". _____

C. Handswitch 1-HS-67-67D

- Green Light ON _____
- Red Light OFF _____

D. Valve 1-FCV-67-67 is CLOSED (locally) (DG BLDG 1B DG RM EL 742) _____

[9] **PRESS** and **RELEASE** the OPEN button on 1-HS-67-67B, **AND**

VERIFY:

A. Handswitch 1-HS-67-67B

- Red Light ON _____
- Green Light OFF _____

B. Valve 1-FCV-67-67 is OPEN (locally) (DG BLDG 1B DG RM EL 742). _____

Date _____

6.32 1-FCV-67-67, 1B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[10] **PRESS** and **RELEASE** the CLOSE button on 1-HS-67-67B, **AND**

VERIFY:

A. Handswitch 1-HS-67-67B

- Red Light OFF _____
- Green Light ON _____

B. Valve 1-FCV-67-67 is CLOSED (locally) (DG BLDG 1B DG RM EL 742). _____

[11] **PLACE** handswitch 1-XS-67-67 on 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A in AUX, **AND**

VERIFY:

A. 1-XA-55-6F/150-D, 480 DG AUX BD 1B1-B/1B2-B, ALARMS. _____

B. Unit 1 Events Display Legend indicates 150-D, 480 DG AUX BD 1B1-B/1B2-B XS IN AUX is in ALARM (Red). _____

C. 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A

- Green "Valve Closed" Light ON _____
- Red "Valve Open" Light OFF _____

Date _____

6.32 1-FCV-67-67, 1B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[12] **PLACE** handswitch 1-HS-67-67C on 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A to OPEN **AND**

VERIFY:

A. 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A

- Green "Valve Closed" Light OFF _____
- Red "Valve Open" Light ON _____

B. Valve 1-FCV-67-67 is OPEN (locally) (DG BLDG 1B DG RM EL 742) _____

[13] **PLACE** handswitch 1-HS-67-67C on 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A to CLOSE **AND**

VERIFY:

A. 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A

- Green "Valve Closed" Light ON _____
- Red "Valve Open" Light OFF _____

B. Valve 1-FCV-67-67 is CLOSED (locally) (DG BLDG 1B DG RM EL 742) _____

Date _____

6.32 1-FCV-67-67, 1B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[14] **PLACE** handswitch 1-XS-67-67 on 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A in NOR, **AND**

VERIFY:

A. 1-XA-55-6F/150-D, 480 DG AUX BD 1B1-B/1B2-B, CLEAR. _____

B. Unit 1 Events Display Legend indicates 150-D, 480 DG AUX BD 1B1-B/1B2-B XS IN AUX is in NORMAL (Blue). _____

[15] **PLACE** 1-BKR-67-67, DG HX 1B1/1B2 ERCW HDR 1B ISOL (1-FCV-67-67) on 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A in the OFF position, **AND**

VERIFY Unit 1 Integrated Computer System (ICS)

- Point FD2257 displays "PWR OFF" _____

WARNING

Arc Flash PPE per TI-300 will be required for steps 6.32[16] through 6.32[18].

[16] **PULL** 1-MCC-215-B001-B, Compartment 3A. _____ 1st _____ CV

[17] **ENSURE** locking tabs engage to prevent bucket from re-engaging. _____

[18] **PERFORM** live-dead-live check on line side of breaker to ensure bucket is disengaged from electrical bus. _____

[19] **VERIFY** continuity between Wire 3AY1 and 3ASM in rear of 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A. _____

[20] **REMOVE** the T1 Thermal Overload Heater for 1-BKR-67-67. _____ 1st _____ CV

Date _____

6.32 1-FCV-67-67, 1B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[21] **ENSURE** T1 auxiliary thermal overload contact RESET switch tab is pulled outward to end of its travel. _____

[22] **MANUALLY TRIP** T1 auxiliary thermal overload contact. _____

[23] **VERIFY** no continuity between Wire 3AY1 and 3ASM in rear of 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A. _____

[24] **REINSTALL** the T1 Thermal Overload Heater for 1-BKR-67-67. _____

_____ 1st

_____ CV

WARNING

Arc Flash PPE per TI-300 will be required for step 6.32[25].

[25] **REINSTALL** 1-MCC-215-B001-B, Compartment 3A. _____

_____ 1st

_____ CV

[26] **PLACE** 1-BKR-67-67 on 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A to the ON position. _____

[27] **PLACE** Handswitch 1-HS-67-67A, DG 1B-B NORM SUP to OPEN position, **AND**

VERIFY valve 1-FCV-67-67 REMAINS CLOSED (locally) (DG BLDG 1B DG RM EL 742) (**ACC CRIT**) _____

[28] **PRESS** and **HOLD** armature of overload bypass relay K8 in rear of 480-V REACTOR MOV BD 2B1-B, Compt 16D, to simulate Overload Bypass. _____

Date _____

6.32 1-FCV-67-67, 1B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[29] **PLACE** Handswitch 1-HS-67-67A, DG 1B-B NORM SUP to OPEN position, **AND**

VERIFY 1-FCV-67-67 OPENS (locally) (DG BLDG 1B DG RM EL 742) (**ACC CRIT**) _____

[30] **RELEASE** armature of K8 relay. _____

[31] **PRESS** RESET button on 480V DIESEL AUXILIARY BOARD 1B1-B compartment 3A. _____

[32] **RETURN** 1-FCV-67-67 to the As-Found position that was recorded in step 6.32[3].

As-Left Valve Position_____ _____

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

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

[35] **VERIFY** the successful completion of this Subsection 6.32 (**ACC CRIT**). _____

Date _____

6.33 2-FCV-67-67, 2B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test

CAUTION

Performance of this subsection temporarily isolates ERCW supply to the 2B Emergency Diesel Generator (EDG), and is recommended to be performed during a 2B EDG maintenance outage. If it is not performed during a 2B EDG maintenance outage, testing should be evaluated for impact to Unit 1 Technical Specification 3.8.1 and 3.8.2.

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.33 have been completed. _____

[2] **ENSURE** the following Unit 2 Integrated Computer System point is in scan:

- FD2103 _____

[3] **RECORD** as-found position of 2-FCV-67-67, DG HX 2B1/2B2 ERCW SUP HDR 1B ISOL (locally) (DG BLDG 2B DG RM EL 742)

As Found Position_____ _____

[4] **ENSURE** 2-BKR-67-67 on 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A in the ON position. _____

[5] **ENSURE** handswitch 2-XS-67-67 on 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A in NORMAL position. _____

[6] **IF** valve 2-FCV-67-67 is not CLOSED, **THEN**

PLACE 2-HS-67-67D on D/G 2B-B LOCAL CONT PNL to CLOSE, **AND**

VERIFY 2-FCV-67-67 CLOSES (locally) (DG BLDG 2B DG RM EL 742), Otherwise mark step "N/A" _____

Date _____

6.33 2-FCV-67-67, 2B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[7] **PLACE** handswitch 2-HS-67-67D on D/G 2B-B LOCAL CONT PNL to OPEN, **AND**

VERIFY

A. Unit 2 Integrated Computer System (ICS)

- Point FD2103 displays "PWR ON" _____

B. Handswitch 2-HS-67-67D

- Green Light OFF _____
- Red Light ON _____

C. Valve 2-FCV-67-67 is OPEN (locally) (DG BLDG 2B DG RM EL 742) _____

[8] **PLACE** handswitch 2-HS-67-67D on D/G 2B-B LOCAL CONT PNL to CLOSE, **AND**

VERIFY

A. Handswitch 2-HS-67-67A (0-M-27A)

- Red Light OFF _____
- Green Light ON _____

B. Handswitch 2-HS-67-67D

- Green Light ON _____
- Red Light OFF _____

C. Valve 2-FCV-67-67 is CLOSED (locally) (DG BLDG 2B DG RM EL 742) _____

Date _____

6.33 2-FCV-67-67, 2B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[9] **PRESS** and **RELEASE** the OPEN button on 2-HS-67-67B, **AND**

VERIFY:

A. Handswitch 2-HS-67-67B

- Red Light ON _____
- Green Light OFF _____

B. Valve 2-FCV-67-67 is OPEN (locally) (DG BLDG 2B DG RM EL 742). _____

[10] **PRESS** and **RELEASE** the CLOSE button on 2-HS-67-67B, **AND**

VERIFY:

A. Handswitch 2-HS-67-67B

- Red Light OFF _____
- Green Light ON _____

B. Valve 2-FCV-67-67 is CLOSED (locally) (DG BLDG 2B DG RM EL 742). _____

Date _____

6.33 2-FCV-67-67, 2B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[11] **PLACE** handswitch 2-XS-67-67 on 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A in AUX, **AND**

VERIFY:

A. 2-XA-55-6F/150-D, 480 DG AUX BD 2B1-B/2B2-B, ALARMS. _____

B. Unit 2 Events Display Legend indicates 150-D, 480 DG AUX BD 2B1-B/2B2-B XS IN AUX is in ALARM (Red). _____

C. 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A

- Green "Valve Closed" Light ON _____
- Red "Valve Open" Light OFF _____

[12] **PLACE** handswitch 2-HS-67-67C on 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A to OPEN **AND**

VERIFY:

A. 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A

- Green "Valve Closed" Light OFF _____
- Red "Valve Open" Light ON _____

B. Valve 2-FCV-67-67 is OPEN (locally) (DG BLDG 2B DG RM EL 742) _____

Date _____

6.33 2-FCV-67-67, 2B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

[13] **PLACE** handswitch 2-HS-67-67C on 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A to CLOSE **AND**

VERIFY:

A. 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A

- Green "Valve Closed" Light ON _____
- Red "Valve Open" Light OFF _____

B. Valve 2-FCV-67-67 is CLOSED (locally) (DG BLDG 2B DG RM EL 742) _____

[14] **PLACE** handswitch 2-XS-67-67 on 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A in NOR, **AND**

VERIFY:

A. 2-XA-55-6F/150-D, 480 DG AUX BD 2B1-B/2B2-B, CLEARS. _____

B. Unit 2 Events Display Legend indicates 150-D, 480 DG AUX BD 2B1-B/2B2-B XS IN AUX is in Normal (Blue). _____

[15] **PLACE** 2-BKR-67-67 on 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A in the OFF position, **AND**

VERIFY

A. Unit 2 Integrated Computer System (ICS)

- Point FD2103 displays "PWR OFF" _____

Date _____

6.33 2-FCV-67-67, 2B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for steps 6.33[16] through 6.33[18].

[16] **PULL** 2-MCC-215-B001-B, Compartment 3A. _____ 1st _____ CV

[17] **ENSURE** locking tabs engage to prevent bucket from re-engaging. _____

[18] **PERFORM** live-dead-live check on line side of breaker to ensure bucket is disengaged from electrical bus. _____

[19] **VERIFY** continuity between Wire 3AY1 and 3ASM in rear of 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A. _____

[20] **REMOVE** the T1 Thermal Overload Heater for 2-BKR-67-67. _____ 1st _____ CV

[21] **ENSURE** T1 auxiliary thermal overload contact RESET switch tab is pulled outward to end of its travel. _____

[22] **MANUALLY TRIP** T1 auxiliary thermal overload contact. _____

[23] **VERIFY** no continuity between Wire 3AY1 and 3ASM in rear of 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A. _____

[24] **REINSTALL** the T1 Thermal Overload Heater for 2-BKR-67-67. _____ 1st _____ CV

Date _____

6.33 2-FCV-67-67, 2B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

WARNING

Arc Flash PPE per TI-300 will be required for step 6.33[25].

[25] **REINSTALL** 2-MCC-215-B001-B, Compartment 3A. _____ 1st _____ CV

[26] **PLACE** 2-BKR-67-67 on 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A to the ON position. _____

[27] **PLACE** Handswitch 2-HS-67-67A, DG 2B-B NORM SUP to OPEN position, **AND**

VERIFY valve 2-FCV-67-67 REMAINS CLOSED (locally) (DG BLDG 2B DG RM EL 742) (**ACC CRIT**) _____

[28] **PRESS** and **HOLD** armature of overload bypass relay K5 in rear of 480-V REACTOR MOV BD 2B1-B, Compt 16D, to simulate Overload Bypass. _____

[29] **PLACE** Handswitch 2-HS-67-67A, DG 2B-B NORM SUP to OPEN position, **AND**

VERIFY 2-FCV-67-67 OPENS (locally) (DG BLDG 2B DG RM EL 742) (**ACC CRIT**) _____

[30] **RELEASE** armature of K5 relay. _____

[31] **PRESS** RESET button on 480V DIESEL AUXILIARY BOARD 2B1-B compartment 3A. _____

[32] **RETURN** 2-FCV-67-67 to the As-Found position that was recorded in step 6.33[3].

As-Left Valve Position_____ _____

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

Date _____

6.33 2-FCV-67-67, 2B Emergency Diesel Generator ERCW Supply Valve Logic, Unit 2 Thermal Overload Bypass Test (continued)

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

[35] **VERIFY** the successful completion of this Subsection 6.33 (**ACC CRIT**). _____

Date _____

6.34 1-FCV-67-143, CCS Heat Exchanger A Outlet ERCW Flow Control Bypass Valve, Unit 2 Thermal Overload Bypass Test

CAUTION

Coordinate testing with Unit 1 Operations to minimize impact to operating unit.

NOTE

LCO 3.7.8 may be applicable anytime 1-FCV-67-143 is fully closed (reference 1-SI-67-1).

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.34 have been completed. _____

[2] **RECORD** the as-found position of 1-FCV-67-146 using 1-HS-67-146A, CCS HX A ALT DISCH TO HDR B, position indication lights:

OPEN ☐
POSITION A ☐
POSITION B ☐
CLOSED ☐ _____

[3] **IF** 1-FCV-67-146 is **NOT** CLOSED, **THEN**

NOTIFY the Unit Supervisor (US), or designee. _____

NOTE

The Unit Supervisor (US), or designee, needs to consider current heat loads on CCS HX A and Header 2A pressure before swapping flows.

[4] **PLACE** 1-FCV-67-146 to position "A" to allow adequate flow through CCS Heat Exchanger A and to prevent ERCW Header 2A over-pressurization. _____

Date _____

6.34 1-FCV-67-143, CCS Heat Exchanger A Outlet ERCW Flow Control Bypass Valve, Unit 2 Thermal Overload Bypass Test (continued)

[5] **RECORD** the as-found position of 1-FCV-67-143 using 1-HS-67-143A, CCS HX A DISCH TO HDR B, position indication lights:

OPEN ☐
CLOSED ☐
THROTTLED ☐

_____

[6] **IF** 1-FCV-67-143 is CLOSED, **THEN**

NOTIFY the Unit Supervisor (US), or designee. _____

[7] **ENSURE** 1-FCV-67-143 is OPEN _____

[8] **PLACE** handswitch 1-HS-67-143A to CLOSE, **AND**

ENSURE valve 1-FCV-67-143 closes by light indication at 1-HS-67-143A (0-M-27A). _____

[9] **PLACE** 1-BKR-67-143 in 480V REAC MOV BD 1A2-A Compartment 15A to the OFF position. _____

WARNING

Arc Flash PPE per TI-300 will be required for steps 6.34[10] through 6.34[12]

[10] **PULL** 1-MCC-213-A002-A, Compartment 15A. _____ 1st _____ CV

[11] **ENSURE** locking tabs engage to prevent bucket from re-engaging. _____

[12] **PERFORM** live-dead-live check on line side of breaker to ensure bucket is disengaged from electrical bus. _____

[13] **VERIFY** continuity between Wire 15AY1 and 15ASM in rear of 480V REAC MOV BD 1A2-A Compartment 15A. _____

Date _____

6.34 1-FCV-67-143, CCS Heat Exchanger A Outlet ERCW Flow Control Bypass Valve, Unit 2 Thermal Overload Bypass Test (continued)

[14] **REMOVE** the T1 Thermal Overload Heater for 1-BKR-67-143, CCS HX A OUT ERCW FLOW CNTL BYP (1-FCV-67-143).

_____ 1st

_____ CV

[15] **ENSURE** T1 auxiliary thermal overload contact RESET switch tab is pulled outward to end of its travel. _____

[16] **MANUALLY TRIP** T1 auxiliary thermal overload contact. _____

[17] **VERIFY** no continuity between Wire 15AY1 and 15ASM in rear of 480V REAC MOV BD 1A2-A Compartment 15A. _____

[18] **REINSTALL** the T1 Thermal Overload Heater for 1-BKR-67-143, CCS HX A OUT ERCW FLOW CNTL BYP (1-FCV-67-143).

_____ 1st

_____ CV

WARNING

Arc Flash PPE per TI-300 will be required for step 6.34[19].

[19] **REINSTALL** 1-MCC-213-A002-A, Compartment 15A.

_____ 1st

_____ CV

[20] **PLACE** 1-BKR-67-143 in 480V REAC MOV BD 1A2-A Compartment 15A to the ON position. _____

[21] **PLACE** Handswitch 1-HS-67-143A, CCS HX C ALT DISCH TO HDR B to CLOSE, **AND**

VERIFY valve 1-FCV-67-143 REMAINS OPEN (locally) (A10T/737) (**ACC CRIT**) _____

[22] **PRESS** and **HOLD** armature of overload bypass relay K9 in rear of 480-V REACTOR MOV BD 1A2-A, Compt 5C, to simulate Overload Bypass. _____

Date _____

6.34 1-FCV-67-143, CCS Heat Exchanger A Outlet ERCW Flow Control Bypass Valve, Unit 2 Thermal Overload Bypass Test (continued)

[23] **PLACE** Handswitch 1-HS-67-143A, CCS HX C ALT DISCH TO HDR B to CLOSE position, **AND**

VERIFY valve 1-FCV-67-143 CLOSES (locally) (A10T/737) (**ACC CRIT**) _____

[24] **RELEASE** armature of K9 relay. _____

[25] **PRESS** the RESET button on 480V REAC MOV BD 1A2-A Compartment 15A. _____

[26] **CLOSE** 1-FCV-67-146. _____

[27] **VERIFY** 1-FCV-67-146 is CLOSED. _____ IV

[28] **THROTTLE** 1-FCV-67-143 to control ERCW flow as needed. _____

[29] **VERIFY** 1-FCV-67-143 is **NOT** CLOSED. _____ CV

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

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

Date _____

6.35 1-FCV-67-146, CCS Heat Exchanger A Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Bypass Test

CAUTION

Coordinate testing with Unit 1 Operations to minimize impact to operating unit.

NOTE

LCO 3.7.8 may be applicable anytime 1-FCV-67-146 is NOT fully closed (reference 1-SI-67-1).

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.35 have been completed. _____

[2] **RECORD** the as-found position of 1-FCV-67-146 using 1-HS-67-146A, CCS HX A ALT DISCH TO HDR B, position indication lights:

OPEN ☐
POSITION A ☐
POSITION B ☐
CLOSED ☐

_____

[3] **IF** 1-FCV-67-146 is **NOT** CLOSED, **THEN**

NOTIFY the Unit Supervisor (US), or designee. _____

[4] **RECORD** the as-found position of 1-FCV-67-143 using 1-HS-67-143A, CCS HX A DISCH TO HDR B, position indication lights:

OPEN ☐
CLOSED ☐
THROTTLED ☐

_____

[5] **IF** 1-FCV-67-143 is CLOSED, **THEN**

NOTIFY the Unit Supervisor (US), or designee,. _____

Date _____

6.35 1-FCV-67-146, CCS Heat Exchanger A Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Bypass Test (continued)

NOTE

1-FCV-67-143 will be left at least partially open in order to reduce possibility of over-pressurization of ERCW Header 2A while testing 1-FCV-67-146.

[6] **ENSURE** 1-FCV-67-143 is NOT CLOSED. _____

[7] **PLACE** 1-BKR-67-146 in 480V REAC MOV BD 1A2-A Compartment 11A to the OFF position. _____

WARNING

Arc Flash PPE per TI-300 will be required for steps 6.35[8] through 6.35[10].

[8] **PULL** 1-MCC-213-A002-A, Compartment 11A. _____ 1st _____ CV

[9] **ENSURE** locking tabs engage to prevent bucket from re-engaging. _____

[10] **PERFORM** live-dead-live check on line side of breaker to ensure bucket is disengaged from electrical bus. _____

[11] **VERIFY** continuity between Wire 11AY1 and 11ASM in rear of 480V REAC MOV BD 1A2-A Compartment 11A. _____

[12] **REMOVE** the T1 Thermal Overload Heater for 1-BKR-67-146, CCS HX A OUT ERCW FLOW CNTL (1-FCV-67-146). _____ 1st _____ CV

[13] **ENSURE** T1 auxiliary thermal overload contact RESET switch tab is pulled outward to end of its travel. _____

[14] **MANUALLY TRIP** T1 auxiliary thermal overload contact. _____

Date _____

6.35 1-FCV-67-146, CCS Heat Exchanger A Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Bypass Test (continued)

[15] **VERIFY** no continuity between Wire 11AY1 and 11ASM in rear of 480V REAC MOV BD 1A2-A Compartment 11A. _____

[16] **REINSTALL** the T1 Thermal Overload Heater for 1-BKR-67-146, CCS HX A OUT ERCW FLOW CNTL (1-FCV-67-146). _____

1st

_____

CV

WARNING

Arc Flash PPE per TI-300 will be required for step 6.35[17].

[17] **REINSTALL** 1-MCC-213-A002-A, Compartment 11A. _____

1st

_____

CV

[18] **PLACE** 1-BKR-67-146 in 480V REAC MOV BD 1A2-A Compartment 11A to the ON position. _____

NOTE

The Unit Supervisor (US), or designee, needs to consider current heat loads on CCS HX A and Header 2A pressure before swapping flows.

[19] **PLACE** Handswitch 1-HS-67-146A, CCS HX C ALT DISCH TO HDR B to OPEN, **AND**

VERIFY valve 1-FCV-67-146 REMAINS CLOSED (locally) (A10T/746) (**ACC CRIT**) _____

[20] **PRESS** and **HOLD** armature of overload bypass relay K9 in rear of 480-V REACTOR MOV BD 1A2-A, Compt 5C, to simulate Overload Bypass. _____

Date _____

6.35 1-FCV-67-146, CCS Heat Exchanger A Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Bypass Test (continued)

[21] **PLACE** Handswitch 1-HS-67-146A, CCS HX C ALT DISCH TO HDR B to OPEN position, **AND**

VERIFY valve 1-FCV-67-146 OPENS (locally) (A10T/746) (**ACC CRIT**) _____

[22] **RELEASE** armature of K9 relay. _____

[23] **PRESS** the RESET button on 480V REAC MOV BD 1A2-A Compartment 11A. _____

[24] **CLOSE** 1-FCV-67-146. _____

[25] **VERIFY** 1-FCV-67-146 is CLOSED _____ IV

[26] **THROTTLE** 1-FCV-67-143 to control ERCW flow as needed. . _____

[27] **VERIFY** 1-FCV-67-143 is **NOT** CLOSED. _____ CV

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

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

Date _____

6.36 0-FCV-67-144, CCS Heat Exchanger C Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Test

CAUTION

Coordinate testing with Unit 1 Operations to minimize impact to operating unit.

[1] **VERIFY** prerequisites listed in Section 4.0 for Subsection 6.36 have been completed. _____

[2] **RECORD** the as-found position of 0-FCV-67-144 using 0-HS-67-144A, CCS HX C DISCH TO HDR A, position indication lights:

OPEN ☐
CLOSED ☐
THROTTLED ☐ _____

[3] **IF** 0-FCV-67-144 is **NOT** OPEN, **THEN**

NOTIFY the SM/US. _____

[4] **ENSURE** 0-FCV-67-144 is OPEN. _____

[5] **RECORD** the as-found position of 0-FCV-67-152 using 0-HS-67-152A, CCS HX C ALT DISCH TO HDR B, position indication lights:

OPEN ☐
POSITION A ☐
POSITION B ☐
CLOSED ☐ _____

[6] **IF** 0-FCV-67-152 is **NOT** CLOSED, **THEN**

NOTIFY the SM/US. _____

Date _____

6.36 0-FCV-67-144, CCS Heat Exchanger C Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Test (continued)

NOTE

The Unit Supervisor (US), or designee, needs to consider current heat loads on CCS HX C and Header 2B pressure before swapping flows.

[7] **PLACE** 0-FCV-67-152 to position "A" "B" or "OPEN" as necessary to allow adequate flow through CCS Heat Exchanger C and to prevent ERCW Header 2B over-pressurization, **AND**

RECORD POSITION_____ _____

[8] **PLACE** 0-BKR-67-144 in 480V REAC MOV BD 1B2-B Compartment 17D to the OFF position. _____

WARNING

Arc Flash PPE per TI-300 will be required for steps 6.36[9] through 6.35[10].

[9] **PULL** 1-MCC-213-B002-B, Compartment 17D. _____ 1st _____ CV

[10] **ENSURE** locking tabs engage to prevent bucket from re-engaging. _____

[11] **PERFORM** live-dead-live check on line side of breaker to ensure bucket is disengaged from electrical bus. _____

[12] **VERIFY** continuity between Wire 17DY1 and 17DSM in rear of 480V REAC MOV BD 1B2-B Compartment 17D. _____

Date _____

6.36 0-FCV-67-144, CCS Heat Exchanger C Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Test (continued)

[13] **REMOVE** the T1 Thermal Overload Heater for 0-BKR-67-144, CCS HX C OUT ERCW FLOW CNTL BYP (0-FCV-67-144).

_____ 1st

_____ CV

[14] **ENSURE** T1 auxiliary thermal overload contact RESET switch tab is pulled outward to end of its travel. _____

[15] **MANUALLY TRIP** T1 auxiliary thermal overload contact. _____

[16] **VERIFY** no continuity between Wire 17DY1 and 17DSM in rear of 480V REAC MOV BD 1B2-B Compartment 17D. _____

[17] **REINSTALL** the T1 Thermal Overload Heater for 0-BKR-67-144, CCS HX C OUT ERCW FLOW CNTL BYP (0-FCV-67-144).

_____ 1st

_____ CV

WARNING

Arc Flash PPE per TI-300 will be required for step 6.36[18].

[18] **REINSTALL** 1-MCC-213-B002-B, Compartment 17D.

_____ 1st

_____ CV

[19] **PLACE** 0-BKR-67-144 in 480V REAC MOV BD 1B2-B Compartment 17D to the ON position. _____

[20] **PLACE** Handswitch 0-HS-67-144A, CCS HX C ALT DISCH TO HDR B to CLOSE, **AND**

VERIFY valve 0-FCV-67-144 REMAINS OPEN (locally) (A11S/737) (**ACC CRIT**) _____

[21] **PRESS** and **HOLD** armature of overload bypass relay K8 in rear of 480-V REACTOR MOV BD 1B2-B, Compt 6F, to simulate Overload Bypass. _____

Date _____

6.36 0-FCV-67-144, CCS Heat Exchanger C Outlet ERCW Flow Control Valve, Unit 2 Thermal Overload Test (continued)

[22] **PLACE** Handswitch 0-HS-67-144A, CCS HX C ALT DISCH TO HDR B to CLOSE position, **AND**

VERIFY valve 0-FCV-67-144 CLOSES (locally) (A11S/737) (**ACC CRIT**) _____

[23] **RELEASE** armature of K8 relay. _____

[24] **PRESS** the RESET button on 480V REAC MOV BD 1B2-B Compartment 17D. _____

[25] **THROTTLE** 0-FCV-67-144 to control ERCW flow as needed. _____

[26] **VERIFY** 0-FCV-67-144 is **NOT** CLOSED. _____ CV

[27] **CLOSE** 0-FCV-67-152. _____

[28] **VERIFY** 0-FCV-67-152 is CLOSED _____ IV

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

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

Date _____

7.0 POST PERFORMANCE ACTIVITY

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

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

[3] **VERIFY** that Post-test calibration of the M&TE used to record quantitative acceptance criteria has been satisfactorily performed, **AND**

RECORD the results on Measuring and Test Equipment (M&TE) Log. _____

Date _____

8.0 RECORDS

P. QA Records

Completed Test Package

Q. Non-QA Records

None

Appendix A
(Page 1 of 1)
TEST PROCEDURES/INSTRUCTIONS REFERENCE REVIEW

Date _____

NOTES

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

PROCEDURE/ INSTRUCTION	REVISION/CHANGES	IMPACT YES/NO	INITIAL AND DATE (N/A FOR NO CHANGE)
Unit 2 FSAR Section 9.2.1 Table 14.2-1 Sheet 4 and 5 of 89			
WBN2-67-4002			
2-TSD-67			
2-TSD-88-5			