

WBN2Public Resource

From: Boyd, Desiree L [dlboyd@tva.gov]
Sent: Wednesday, June 20, 2012 3:23 PM
To: Epperson, Dan; Wilson, George; Poole, Justin; Milano, Patrick
Cc: Arent, Gordon; Hamill, Carol L; Boyd, Desiree L
Subject: TVA letter to NRC_06-20-12_2-PTI-099-03 transmittal to NRC
Attachments: 06-20-12_2-PTI-099-03 transmittal to NRC_Final.pdf

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

Thank You,

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

Desiree L. Boyd

WBN Unit 2 Licensing

dlboyd@tva.gov

423-365-8764

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June 20, 2012

U.S. Nuclear Regulatory Commission
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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-099-03	0	Reactor Protection System Operational Check

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

Respectfully,

A handwritten signature in black ink, appearing to read "R.A. Hruby, Jr.", is written over the typed name.

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

Enclosure

U.S. Nuclear Regulatory Commission
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cc (Enclosure):

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Atlanta, Georgia 30303-1257

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U.S. Nuclear Regulatory Commission
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bcc (Enclosure):

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Fred Brown, Deputy Regional Administrator for Construction
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Atlanta, Georgia 30303-1257

**WATTS BAR NUCLEAR PLANT
UNIT 2 PREOPERATIONAL TEST**

TITLE: REACTOR PROTECTION SYSTEM OPERATIONAL CHECK

Instruction No: 2-PTI-099-03

Revision No: 0000

PREPARED BY: Bryan T. Mack / Bryan T. Mack **DATE:** 6/12/12
PRINT NAME / SIGNATURE

REVIEWED BY: Mark D. Runion / Mark D. Runion **DATE:** 6-14-12
PRINT NAME / SIGNATURE

INSTRUCTION APPROVAL

JTG MEETING No: 2-12-011

JTG CHAIRMAN: Paul A. Welch **DATE:** 6/14/12

APPROVED BY: Paul A. Welch **DATE:** 6/14/12
PREOPERATIONAL STARTUP MANAGER

TEST RESULTS APPROVAL

JTG MEETING No: _____

JTG CHAIRMAN: _____ **DATE:** _____

APPROVED BY: _____ **DATE:** _____
PREOPERATIONAL STARTUP MANAGER

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Revision Log

Revision or Change Number	Effective Date	Affected Page Numbers	Description of Revision/Change
000	6/15/2012		Initial Issue. Created from microfilm copy of 1-PTI-099-03, Rev 0, CN-1 thru CN-7.

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1.0 INTRODUCTION

1.1 Test Objectives

Demonstrate proper operation of controls and interlocks in the Reactor Protection System (RPS).

NOTE

Once the proper operation of the reactor trip breakers has been verified, further verification of reactor trip signals will be done by monitoring the SSPS UV Coil Voltmeter to prevent excessive cycling of the breakers.

1.2 Scope

Verify the operability of the Reactor Protection System (RPS) to perform protective functions for the following:

- A. Manual Reactor Breaker Operations
- B. Permissive P-4 logic combinations to generate Reactor Trip - Turbine Trip
- C. Permissive P-6
- D. Permissive P-7 and P-13
- E. Permissive P-8
- F. Permissive P-9
- G. Permissive P-10 and Intermediate Range High Flux Reactor Trip
- H. Source Range High Flux Reactor Trip
- I. Power Range High Flux (Low Setpoint) Reactor Trip and Power Range Low Power Trip Block
- J. Power Range High Flux (High Setpoint) Reactor Trip
- K. Power Range High Positive Flux Rate Reactor Trip
- L. Overtemperature Delta T Reactor Trip
- M. Overpower Delta T Reactor Trip
- N. Reactor Coolant Low Flow Reactor Trip

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1.2 Scope (continued)

- O. Pressurizer High Pressure Reactor Trip
- P. Pressurizer Low Pressure Reactor Trip
- Q. Pressurizer High Level Reactor Trip
- R. Turbine Trip Reactor Trip
- S. Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start
- T. Undervoltage (UV) RCP Busses Reactor Trip
- U. Underfrequency (UF) Reactor Coolant Pump (RCP) Busses Reactor Trip

2.0 REFERENCES

2.1 Performance References

- A. SMP-9.0, Watts Bar Nuclear Plant Unit 2 Conduct of Test
- B. SMP-15.0, Watts Bar Nuclear Plant Unit 2 Status and Control of Isolation Devices

2.2 Developmental References

- A. Final Safety Analysis Report (FSAR) - Amendment 108
 - 1. Table 14.2-1, Sheet 57 of 89,
Reactor Protection System Test Summary
 - 2. Section 7.2, Reactor Trip System
- B. SMP-4.0, Watts Bar Nuclear Plant Unit 2 System Turnover, Rev. 4
- C. SMP-8.0, Watts Bar Nuclear Plant Unit 2 Administration of Preoperational Test Instructions. Rev. 8
- D. 2-TSD-99-3, Reactor Protection System Operational Test, Rev 1
- E. WBN2-99-4003, System Description For Reactor Protection System, Rev. 0
- F. PTI-099-03 Rev. 0, Unit 1 Reactor Protection System Operational Check, Unit 1 Test Summary Report. Rev. 0

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2.2 Developmental References (continued)

G. Vendor Manuals

1. VTM-W120-2991, Rev 5
Westinghouse Energy Systems Eagle 21™ Process Upgrade System,
Contract 54114-1
2. VTM-W120-2452, Rev 2
Westinghouse Solid State Protection System Technical Manual,
Contract 54114-1
3. VTM-W120-2824, Rev 10
Westinghouse Nuclear Instrumentation System Technical Manual
4. VTM-W120-2414, Rev 10
Westinghouse Reactor Trip Circuit Breakers Technical Manual
5. VTM-G077-0010, Rev 12
Gamma-Metric Neutron Monitoring System Source and Intermediate
Range Equipment
6. "Ex-core Neutron Flux Monitoring Systems - WR Channel Instruction
Manual for Watts Bar Unit 2," MN868 Rev. 2

2.2.1 Drawings

A. Flow Diagrams NONE

B. Electrical

1. 2-45W600-1-1, Rev 1
Wiring Diagram Main Steam System Schematic Diagrams
2. 2-45W600-99-1, Rev 0
Wiring Diagram Reactor Protection System Schematic Diagrams
3. 2-45W600-47-1, Rev 0
Wiring Diagram Turbo-Generator Auxiliaries Schematic Diagrams
4. 2-45W600-47-2, Rev 6
Wiring Diagram Turbo-Generator Auxiliaries Schematic Diagrams
5. 2-45W600-55-41, Rev 0
DRA 52453-02, Rev 0
Wiring Diagram Annunciator System Schematic Diagram

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2.2.1 Drawings (continued)

6. 2-45W600-55-42, Rev 0
DRA 52453-03, Rev 0
Wiring Diagram Annunciator System Schematic Diagram
7. 2-45W706-1, Rev 0
Wiring Diagram, 120V AC Vital Inst Pwr BDS 1-I & 2-I Connection
Diagram Sheet 1
8. 2-45W706-2, Rev 0
Wiring Diagram, 120V AC Vital Inst Pwr BDS 1-II & 2-II Connection
Diagram
9. 2-45W706-3, Rev 0
Wiring Diagram 120V AC Vital Inst Pwr BDS 1-III & 2-III Connection
Diagram
10. 2-45W706-4, Rev 0
Wiring Diagram, 120V AC Vital Inst Pwr BDS 1-IV & 2-IV Connection
Diagram
11. 2-45W760-68-5, Rev 1
Wiring Diagram, Reactor Coolant System Schematic Diagrams
12. 2-45W760-85-1, Rev 2
Wiring Diagram, Control Rod Drive System Schematic Diagrams
13. 45N2621-1, Rev 3
Wiring Diagrams Nuclear Instrumentation System Connection
Diagrams
14. 45N2624-11, Rev 2
Wiring Diagram Reactor Trip Switchgear Connection Diagram
15. 45N2632-10, Rev 7
Wiring Diagrams Miscellaneous Controls Connection Diagram
16. 45N2632-13, Rev 3
Wiring Diagrams Miscellaneous Controls Connection Diagram
17. 45N2652-1, Rev 1
Wiring Diagrams Unit Control Board Panel 2-M-13 Connection
Diagrams
18. 45N2652-2, Rev 4
Wiring Diagrams Unit Control Board Panel 2-M-13 Connection
Diagrams

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19. 45N2652-3, Rev 3
Wiring Diagrams Unit Control Board Panel 2-M-13 Connection
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20. 45N2652-4, Rev 3
Wiring Diagrams Unit Control Board Panel 2-M-13 Connection
Diagrams
21. 45N2652-5, Rev 3
Wiring Diagrams Unit Control Board Panel 2-M-13 Connection
Diagrams
22. 45N2652-6, Rev 3
Wiring Diagrams Unit Control Board Panel 2-M-13 Connection
Diagrams
23. 45N2676-1, Rev 5
Wiring Diagrams solid State Protection Sys Train-A Connection
Diagram
24. 45N2676-2, Rev 7
Wiring Diagrams Solid state Protection Sys Train-A Connection
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25. 45N2676-3, Rev 1
Wiring Diagrams Solid State Protection Sys Train-A Connection
Diagram
26. 45N2676-4, Rev 16
Wiring Diagrams Solid State Protection Sys Train-A Connection
Diagram
27. 45N2676-5, Rev 10
Wiring Diagrams Solid State Protection Sys Train-A Connection
Diagram
28. 45N2676-6, Rev 3
Wiring Diagrams Solid State Protection Sys Train-A Connection
Diagram
29. 45N2676-7, Rev 7
Wiring Diagrams Solid state Protection Sys Train-A Connection
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30. 45N2677-1, Rev 5
Wiring Diagrams Solid State protection Sys Train-B Connection
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31. 45N2677-2, Rev 6
Wiring Diagrams Solid State Protection Sys Train-B Connection Diagram
32. 45N2677-3, Rev 1
Wiring Diagrams Solid State Protection Sys Train-B Connection Diagram
33. 45N2677-4, Rev 18
Wiring Diagrams Solid State Protection Sys Train-B Connection Diagram
34. 45N2677-5, Rev 9
Wiring Diagrams Solid State Protection Sys Train-B Connection Diagram
35. 45N2677-6, Rev 5
Wiring Diagrams Solid State Protection Sys Train-B Connection Diagram
36. 45N2677-7, Rev 7
Wiring Diagrams Solid State Protection Sys Train-B Connection Diagram
37. 45W2720-1, Rev 2
Wiring Diagrams 6900V Reactor Coolant Pump BDS Connection Diagrams
38. 45W2747-1, Rev 4
Wiring Diagrams 480V Unit Boards Connection Diagram
39. 2-47B601-55-70, Rev 1
Electrical Instrument Tabulation, Trip Status Light Box 2-XX-55-5
DRA 52352-36, Rev 0 and DRA 53188-7, Rev 0
40. 2-47B601-55-71, Rev 1
Electrical Instrument Tabulation, Trip Status Light Box 2-XX-55-6A
41. 2-47B601-55-72, Rev 1
Electrical Instrument Tabulation, Trip Status Light Box 2-XX-55-6B
42. 2-45B640-79, Rev 0
Contact Development of Control and Instrument Switches, 2-M-4
DRA 52361-31, Rev 0 and DRA 52363-53, Rev 0

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2.2.1 Drawings (continued)

43. 2-45B640-85, Rev 0
Contact Development of Control and Instrument Switches
DRA 52361-36, Rev 0
44. 45B640-93, Rev 0
Contact Development of Selector Switches and Pushbuttons
DRA 52361-40, Rev 0
45. 45B640-94, Rev 0
Contact Development of Control and Instrument Switches
DRA 52361-41 Rev 0
46. 45B640-103, Rev 0
Contact Development of Control and Instrument Switches
47. 2-45W600-92-1, Rev 0
Wiring Diagrams Neutron Monitoring Schematic Diagram
DRA 52421-3 Rev 0, DRA 52421-4 Rev 0, DRA 52421-5 Rev 0,
DRA 52421-6 Rev 0, DRA 52421-7 Rev 0
48. 2-45W600-92-2, Rev 0
Wiring Diagrams Neutron Monitoring Schematic Diagram, Sheet 2
DRA 52421-92 Rev 0, DRA 52421-93 Rev 0, DRA 52421-94 Rev 0,
DRA 52421-95 Rev 0
49. 2-45W600-57-13, Rev 0
Wiring Diagram Separation and Misc Aux Relays Schematic Diagrams
50. 2-45W600-57-14, Rev 1
Wiring Diagram Separation and Misc Aux Relays Schematic Diagrams
51. 2-45W600-57-17, Rev 0
Wiring Diagram Separation and Misc Aux Relays Schematic Diagrams

C. Logic/Control Diagrams

1. 2-47W611-63-1, Rev 1
Electrical Logic Diagram Safety Injection System
2. 2-47W611-99-1, Rev 2
Electrical Logic Diagram Reactor Protection System
3. 2-47W611-99-2, Rev 1
Electrical Logic Diagram Reactor Protection System
4. 47W611-99-6, Rev 2
Electrical Logic Diagram Reactor Protection System

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2.2.1 Drawings (continued)

5. 2-47A615-0, Rev 1
Computer Termination and I/O List

D. Vendor Drawings

Westinghouse Drawings; Contract 54114-1

1. 2-112361-1082H70-1A, Rev 0
DRA 52328-9, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Functional Diagram (Safeguards), Sheet 1A
2. 2-112361-1082H70-1B, Rev 0
DRA 52328-10, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Functional Diagram (Safeguards), Sheet 1B
3. 2-112361-1082H70-1C, Rev 0
DRA 52328-11, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Functional Diagram (Safeguards), Sheet 1C
4. 2-112361-1082H70-1D, Rev 0
DRA 52328-12, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Functional Diagram (Safeguards), Sheet 1D
5. 2-112361-1082H70-2A, Rev 0
DRA 52328-13, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Functional Diagram (Trips), Sheet 1A
6. 2-112361-1082H70-2B, Rev 0
DRA 52328-14, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Functional Diagram (Trips), Sheet 2B
7. 2-112361-1082H70-2C, Rev 0
DRA 52328-15, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Functional Diagram (Trips), Sheet 2C
8. 2-54114-1-1082H70-3A, Rev 0
DRA 52328-16, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Source Range Trip Logic, Sheet 3A

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9. 2-54114-1-1082H70-3B, Rev 0
DRA 52328-17, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Source Range Trip Logic, Sheet 3B
10. 2-54114-1-1082H70-4, Rev 0
DRA 52328-18, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Intermediate Range Trip Logic, Sheet 4
11. 2-112361-1-1082H70-5, Rev 0
DRA 52328-19, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Power Range Trip Logic, Sheet 5
12. 2-54114-1-1082H70-6, Rev 0
DRA 52328-20, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Permissives, Sheet 6
13. 2-54114-1-1082H70-7, Rev 0
DRA 52328-21, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Pzr Press. & Level Trips, Sheet 7
14. 2-54114-1-1082H70-8, Rev 0
DRA 52328-22, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Low Feedwater Flow, Sheet 8
15. 2-54114-1-1082H70-9, Rev 0
DRA 52328-23, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Loss of Flow, Sheet 9
16. 2-54114-1-1082H70-10, Rev 0
DRA 52328-24, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Turbine Trip, Sheet 10
17. 2-54114-1-1082H70-11, Rev 0
DRA 52328-25, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Pzr Press. & Level Trips, Sheet 11

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18. 2-54114-1-1082H70-12, Rev 0
DRA 52328-26, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Underfrequency Trips, Sheet 12
19. 2-54114-1-1082H70-13A, Rev 0
DRA 52328-27, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
UV Output, Sheet 13A
20. 2-54114-1-1082H70-13B, Rev 0
DRA 52328-28, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
UV Output, Sheet 13B
21. 2-54114-1-1082H70-15, Rev 0
DRA 52328-30, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
High Steam Pressure Rate, Sheet 15
22. 2-54114-1082H70-16, Rev 0
DRA 52328-31, Rev 0
Four Loop, Four Bus—WAT/WBT Solid State Protection System,
Low Steamline Pressure, Sheet 16
23. 2-54114-1-1082H70-17, Rev 0
DRA 52328-32, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Pressurizer Pressure Safeguards, Sheet 17
24. 2-54114-1-1082H70-18, Rev 0
DRA 52328-33, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Steam Gen Low Low Water Level, Sheet 18
25. 2-54114-1-1082H70-20A, Rev 1
DRA 52328-35, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Safeguards Actuation, Sheet 20A
26. 2-54114-1-1082H70-20B, Rev 0
DRA 52328-36, Rev 0
Four Loop, Four Bus-WAT/WET Solid State Protection System,
Safety Injection, Sheet 20B

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27. 2-54114-1-1082H70-21A, Rev 0
DRA 52328-37, Rev 0
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28. 2-54114-1-1082H70-21B, Rev 0
DRA 52328-38, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Feedwater control, Sheet 21B
29. 2-54114-1-1082H70-22A, Rev 0
DRA 52328-39, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Tester, Failure Alarm, Sheet 22A
30. 2-54114-1-1082H70-22B, Rev 0
DRA 52328-40, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Tester, Failure Alarm, Sheet 22B
31. 2-54114-1-1082H70-22C, Rev 0
DRA 52328-41, Rev 0
Four Loop, Four Bus-WAT/WET Solid State Protection System,
Tester, Failure Alarm, Sheet 22C
32. 2-54114-1-1082H70-23A, Rev 0
DRA 52328-42, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Semi Auto Tester Switches, Sheet 23A
33. 2-54114-1-1082H70-23B, Rev 0
DRA 52328-43, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Semi Auto Tester Switches, Sheet 23B
34. 2-54114-1-1082H70-24A, Rev 0
DRA 52328-45, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
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35. 2-54114-1-1082H70-24B, Rev 0
DRA 52328-46, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
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36. 2-54114-1-1082H70-24C, Rev 0
DRA 52328-47, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
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37. 2-54114-1-1082H70-24D, Rev 0
DRA 52328-48, Rev 0
Four Loop, Four Bus-WAT/WBT Solid State Protection System,
Multiplexing, Sheet 24D
38. 2-54114-1-1082H70-25A, Rev 0
DRA 52328-49, Rev 0
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39. 2-54114-1-1082H70-25B, Rev 0
DRA 52328-50, Rev 0
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40. 2-54114-1-1082H70-26A, Rev 0
DRA 52328-51, Rev 0
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41. 2-54114-1-1082H70-26B, Rev 0
DRA 52328-52, Rev 0
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42. 2-54114-1-1082H70-26C, Rev 0
DRA 52328-53, Rev 0
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43. 2-54114-1-1082H70-27A, Rev 0
DRA 52328-54, Rev 0
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44. 2-54114-1-1082H70-27B, Rev 0
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45. 2-54114-1-1082H70-27C, Rev 0
DRA 52328-56, Rev 0
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46. 2-54114-1-1082H70-27D, Rev 0
DRA 52328-57, Rev 0
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47. 2-54114-1-1082H70-27E, Rev 0
DRA 52328-58, Rev 0
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48. 2-54114-1-1082H70-28, Rev 0
DRA 52328-59, Rev 0
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49. 2-54114-1-1082H70-29, Rev 0
DRA 52328-60, Rev 0
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50. 2-54114-1-1082H70-30C, Rev 0
DRA 52328-63, Rev 0
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51. 1188E39-1, Rev 2
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52. 1188E39-2, Rev 2
Tennessee Valley Authority, Watts Bar Units No. 1 & 2,
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53. 1188E39-3, Rev 2
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54. 5655D52, Rev 6
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55. 2-65717-8758D35, Rev 0
DRA 52352-39, Rev 0
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56. 2-65717-108D408-1, Rev 0
DRA 52319-153, Rev 0 and DRA-52351-20 Rev 0
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57. 2-65717-108D408-2, Rev 0
DRA 52319-154, Rev 1
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58. 2-65717-108D408-3, Rev 0
DRA 52319-155, Rev 1
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59. 2-65717-108D408-4, Rev 0
DRA 52319-156, Rev 1
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60. 2-65717-108D408-5, Rev 0
DRA 52319-157, Rev 1 and DRA 52351-21, Rev 0
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61. 2-65717-108D408-6, Rev 0
DRA 52319-158, Rev 1 and DRA 52351-22, Rev 0
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62. 2-65717-108D408-7, Rev 0
DRA 52319-159, Rev 1 and DRA 52351-23, Rev 0
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63. 2-65717-108D408-8, Rev 0
DRA 52319-160, Rev 1 and DRA 52351-24, Rev 0
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64. 2-65717-108D408-9, Rev 0
DRA 52319-161, Rev 1
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65. 2-65717-108D408-10, Rev 0
DRA 52319-162, Rev 1
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66. 2-65717-108D408-11, Rev 0
DRA 52319-163, Rev 1
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67. 2-65717-108D408-12, Rev 0
DRA 52319-164, Rev 0
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68. 2-65717-108D408-13, Rev 0
DRA 52319-165, Rev 1
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69. 2-65717-108D408-14, Rev 0
DRA 52319-166, Rev 1
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70. 2-65717-108D408-15, Rev 0
DRA 52319-167, Rev 1
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71. 2-65717-108D408-16, Rev 0
DRA 52319-168, Rev 1
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72. 2-65717-108D408-17, Rev 0
DRA 52319-169, Rev 1
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73. 2-65717-108D408-18, Rev 0
DRA 52319-170, Rev 1
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74. 2-65717-108D408-19, Rev 0
DRA 52319-171, Rev 1
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75. 2-65717-108D408-20, Rev 0
DRA 52319-172, Rev 1
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76. 2-65717-108D408-21, Rev 0
DRA 52319-173, Rev 1
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77. 2-65717-108D408-22, Rev 0
DRA 52319-174, Rev 1
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78. 2-65717-108D408-34, Rev 0
DRA 52319-175, Rev 1
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79. 2-65717-108D408-36, Rev 0
DRA 52319-176, Rev 1
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80. 2-65717-108D408-42, Rev 0
DRA 52319-181, Rev 1 and DRA 52351-25, Rev 0
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81. 2-65717-108D408-43, Rev 0
DRA 52319-182, Rev 1
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82. 2-65717-108D408-44, Rev 0
DRA 52319-183, Rev 1
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83. 2-65717-108D408-45, Rev 0
DRA 52319-184, Rev 1
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84. 2-65717-108D408-46, Rev 0
DRA 52319-185, Rev 1
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85. 2-65717-108D408-47, Rev 0
DRA 52319-186, Rev 1
Tennessee Valley Authority, Watts Bar Units 1 & 2, Process Control Block Diagram, Steamline Break Protection Protection Set II Loop 3, Sheet 47
86. 2-65717-108D408-48, Rev 0
DRA 52319-187, Rev 1
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87. 2-65717-108D408-49, Rev 0
DRA 52319-188, Rev 1
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88. 2-65717-108D408-50, Rev 0
DRA 52319-189, Rev 1
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89. 2-65717-108D408-54, Rev 0
DRA 52319-193, Rev 0
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DRA 52319-194, Rev 0
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91. 2-65717-108D408-56, Rev 0
DRA 52319-195, Rev 0
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92. 2-65717-108D408-57, Rev 0
DRA 52319-196, Rev 0
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93. 2-54114-1-1457F06-1, Rev 0
DRA 52384-64, Rev 0, DRA 52384-43 Rev. 1, DRA 55180-52
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Status Lights Interconnection Diagram,
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94. 2-54114-1-1457F06-2, Rev 0
DRA 52384-65, Rev 0, DRA 52384-45 Rev. 1, DRA 55180-53 Rev. 0
Tennessee Valley Authority, Watts Bar Units No. 1 & 2,
Status Lights Interconnection Diagram,
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95. 2-54114-1-1457F06-3, Rev 0
DRA 52384-66, Rev 0, DRA 55180-54 Rev. 0, DRA 52384-14 Rev. 0
Tennessee Valley Authority, Watts Bar Units No. 1 & 2,
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96. 2-54114-1-1457F06-4, Rev 0
DRA 52384-67, Rev 0, DRA 55180-55 Rev. 0, DRA 52384 Rev. 1
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97. 2-54114-1-1457F06-5, Rev 0
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DRA 52384-16 Rev. 1, DRA 52384-18 Rev. 0
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98. 2-65717-1856E61-10, Rev 0
DRA 52319-328, Rev 0
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Wiring Diag Rack 5 Protection Set II, TTD Loops 1, 2, 3, & 4
99. 2-65717-1856E61-11, Rev 0
DRA 52319-329, Rev 0
Tennessee Valley Authority, Watts Bar Units 1 & 2, Eagle 21 Internal
Wiring Diag Rack 5 Protection Set II, TTD Loops 1, 2, 3, & 4
100. 2-65717-1856E61-12, Rev 0
DRA 52319-330, Rev 0
Tennessee Valley Authority, Watts Bar Units 1 & 2, Eagle 21 Internal
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101. 2-54114-1-7246D11-1, Rev 0
DRA 52328-758, Rev 0 and DRA 55180-58, Rev 0
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102. 2-54114-1-7246D11-2, Rev 0
DRA 52328-759, Rev 0
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103. 2-54114-1-7246D11-3, Rev 0
DRA 52328-760, Rev 0
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2, Solid
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104. 2-54114-1-7246D11-4, Rev 0
DRA 52328-761, Rev 0
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105. 2-54114-1-7246D11-5, Rev 0
DRA 52328-762, Rev 0
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106. 2-54114-1-7246D11-6, Rev 0
DRA 52328-763, Rev 0
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107. 2-54114-1-7246D11-7, Rev 0
DRA 52328-764, Rev 0
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108. 2-54114-1-7246D11-8, Rev 0
DRA 52328-765, Rev 0
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
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109. 2-54114-1-7246D11-9, Rev 0
DRA 52328-766, Rev 0
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Sheet 9
110. 2-54114-1-7246D11-10, Rev 0
DRA 52328-767, Rev 0
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
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111. 2-54114-1-7246D11-11, Rev 0
DRA 52328-768, Rev 0
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
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112. 2-54114-1-7246D11-12, Rev 0
DRA 52328-769, Rev 0
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113. 2-54114-1-7246D11-13, Rev 0
DRA 52328-770, Rev 0
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114. 2-54114-1-7246D11-14, Rev 0
DRA 52328-771, Rev 0
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115. 2-54114-1-7246D11-15, Rev 0
DRA 52328-772, Rev 0
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116. 2-54114-1-7246D11-16, Rev 0
DRA 52328-773, Rev 0
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117. 2-54114-1-7246D11-17, Rev 0
DRA 52328-774, Rev 0, DCA 54208-01-5 Rev. 1, DCA 54208-01-5
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02-10 Rev. 1, DCA 54208-03-15 Rev. 1, DCA 54208-03-16 Rev. 1,
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118. 2-54114-1-7246D11-18, Rev 0
DRA 52328-775, Rev 0
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119. 2-54114-1-7246D11-19, Rev 0
DRA 52328-776, Rev 0 and DRA 53352-95 Rev 0
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120. 2-54114-1-7246D11-20, Rev 0
DRA 52328-777, Rev 0 and DRA 53352-96, Rev 0
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121. 2-54114-1-7246D11-21, Rev 0
DRA 52328-778, Rev 0
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122. 2-54114-1-7246D11-22, Rev 0
DRA 52328-779, Rev 0
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123. 2-54114-1-7246D11-23, Rev 0
DRA 52328-780, Rev 0
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124. 2-54114-1-7246D11-24, Rev 0
DRA 52328-781, Rev 0
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125. 2-54114-1-7246D11-25, Rev 0
DRA 52328-782, Rev 0
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126. 2-54114-1-7246D11-26, Rev 0
DRA 52328-783, Rev 0
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127. 2-54114-1-7246D11-27, Rev 0
DRA 52328-784, Rev 0, DRA 52384-32 Rev. 1
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128. 2-54114-1-7246D11-28, Rev 0
DRA 52328-785, Rev 0, DRA 52384-1 Rev. 1
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129. 2-54114-1-7246D11-29, Rev 0
DRA 52328-786, Rev 0, DRA 52384-2 Rev. 1
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130. 2-54114-1-7246D11-30, Rev 0
DRA 52328-787, Rev 0, DRA 52384-3 Rev. 1
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131. 2-54114-1-7246D11-31, Rev 0
DRA 52328-788, Rev 0, DRA 52384-4 Rev. 1
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132. 2-54114-1-7246D11-32, Rev 0
DRA 52328-789, Rev 0, , DRA 52384-5 Rev. 1
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133. 2-54114-1-7246D11-33, Rev 0
DRA 52328-790, Rev 0, DRA 52384-6 Rev. 1
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134. 2-54114-1-7246D11-34, Rev 0
DRA 52328-791, Rev 0, DRA 52384-7 Rev. 1
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135. 2-54114-1-7246D11-35, Rev 0
DRA 52328-792, Rev 0, DRA 52384-8 Rev. 1
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2, Solid State Protection System Interconnection Diagrams, Sheet 35
136. 2-54114-1-7246D11-36, Rev 0
DRA 52328-793, Rev 0, DRA 52384-9 Rev. 1
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2, Solid State Protection System Interconnection Diagrams, Sheet 36
137. 2-54114-1-7246D11-37, Rev 0
DRA 52328-794, Rev 0, DRA 52384-10 Rev. 1
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138. 2-54114-1-7246D11-38, Rev 0
DRA 52328-795, Rev 0, DRA 52384-11 Rev. 1
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139. 2-54114-1-7246D11-39, Rev 0
DRA 52328-796, Rev 0, DRA 52384-12 Rev. 1
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140. 2-54114-1-7246D11-40, Rev 0
DRA 52328-797, Rev 0, DRA 52384-31 Rev. 1
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142. 2-54114-1-7246D11-42, Rev 0
DRA 52328-799, Rev 0
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143. 2-54114-1-7246D11-43, Rev 0
DRA 52328-800, Rev 1
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144. 2-54114-1-7246D11-44, Rev 0
DRA 52328-801, Rev 1
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145. 2-54114-1-7246D11-45, Rev 0
DRA 52328-802, Rev 1
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146. 2-54114-1-7246D11-46, Rev 0
DRA 52328-803, Rev 1
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147. 2-54114-1-7246D11-47, Rev 0
DRA 52328-804, Rev 1
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148. 2-54114-1-7246D11-48, Rev 0
DRA 52328-805, Rev 1
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149. 2-54114-1-7246D11-49, Rev 0
DRA 52328-806, Rev 1
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150. 2-54114-1-7246D11-50, Rev 0
DRA 52328-807, Rev 1
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Solid State Protection system Interconnection Diagrams,
Sheet 50
151. 2-54114-1-7246D11-51, Rev 0
DRA 52328-808, Rev 1
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
Solid state Protection System Interconnection Diagrams,
Sheet 51
152. 2-54114-1-7246D11-52, Rev 0
DRA 52328-809, Rev 1
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
Solid state Protection System Interconnection Diagrams,
Sheet 52
153. 2-54114-1-7246D11-53, Rev 0
DRA 52328-810, Rev 1
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
Solid State Protection System Interconnection Diagrams,
Sheet 53
154. 2-54114-1-7246D11-54, Rev 0
DRA 52328-811, Rev 0
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
Solid State Protection System Interconnection Diagrams,
Sheet 54

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2.2.1 Drawings (continued)

155. 2-54114-1-7246D11-55, Rev 0
DRA 52328-812, Rev 0
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
Solid State Protection System Interconnection Diagrams,
Sheet 55
156. 2-54114-1-7246D11-56, Rev 0
DRA 52328-813, Rev 0
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
Solid State Protection System Interconnection Diagrams,
Sheet 56
157. 2-54114-1-7246D11-57, Rev 0
DRA 52328-814, Rev 0, DRA 52351-37 Rev. 0
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
Solid State Protection System Interconnection Diagrams,
Sheet 57
158. 2-54114-1-7246D11-58, Rev 0
DRA 52328-815, Rev 0 and DRA 52384-13, Rev 1
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
Solid State Protection System Interconnection Diagrams,
Sheet 58
159. 2-54114-1-7246D11-59, Rev 0
DRA 52328-816, Rev 0 and DRA 52384-44 Rev 1
Tennessee Valley Authority, Watts Bar Nuclear Plant Units 1 & 2,
Solid State Protection System Interconnection Diagrams,
Sheet 59
160. 9124D47, Rev 6
DRA T93110531001 and DRA 54819-9 Rev 0
WNES Westinghouse PWR Systems Division Low Volt Met ENCL
Swgr - Reactor Trip Swgr 260V 3PH 58.3Hz Schemes
161. 9124D48, Rev 7
DRA T93110531001 and DRA 54819-8 Rev 0
WNES Westinghouse PWR Systems Division Low Volt Met ENCL Swgr
- Reactor Trip Swgr 260V 3PH 58.3Hz conn Diag. Cab-1
162. 9124D49, Rev 7
DRA T93110531001 and DRA 54819-6 Rev 0
WNES Westinghouse PWR Systems Division Low Volt Met ENCL Swgr
- Reactor Trip Swgr 260V 3PH 58.3Hz Conn Diag Cab-2

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2.2.1 Drawings (continued)

- 163. 687C364, Rev 2
WNES Westinghouse PWR Systems Div Low Volt Met ENCLSwgr -
Reactor Trip Swgr 260V 3PH 58.3Hz Notes and Internals
- 164. 2-65717-8758D35, Rev 0
DRA 52352-39 Rev 0
Nuclear Instrumentation Sys. Power Range N-41 Functional Block
Diagram Drawings

E. Annunciator Drawings

- 1. 2-45B655-1, Rev 0
Main Control Room Annunciator Inputs
- 2. 2-45B655-E3C, Rev 0
2-XA-55-3C Lamp Box Engraving
- 3. 2-45B655-E4A, Rev 0
2-XA-55-4A Lamp Box Engraving
- 4. 2-45B655-E4B, Rev 0
2-XA-55-4B Lamp Box Engraving
- 5. 2-45B655-E4C, Rev 0
2-XA-55-4C Lamp Box Engraving
- 6. 2-45B655-E4D, Rev 0
2-XA-55-4D Lamp Box Engraving
- 7. 2-45B655-E5A, Rev 0
2-XA-55-5A Lamp Box Engraving
- 8. 2-45B655-E6A, Rev 0
2-XA-55-6A Lamp Box Engraving
- 9. 2-45B655-E6B, Rev 0
2-XA-55-6B Lamp Box Engraving
- 10. 2-45B655-E6C, Rev 0
2-XA-55-6C Lamp Box Engraving
- 11. 2-45W600-55-8, Rev 0
Wiring Diagram Annunciator System Key Diagram Panel 3C
- 12. 2-45W600-55-9, Rev 0
Wiring Diagram Annunciator System Key Diagram Panel 4A

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2.2.1 Drawings (continued)

13. 2-45W600-55-11, Rev 0
Wiring Diagram Annunciator System Key Diagram Panel 4C
14. 2-45W600-55-12, Rev 0
Wiring Diagram Annunciator System Key Diagram Panel 4D
15. 2-45W600-55-47, Rev 0
Wiring Diagram Annunciator System Key Diagram Panel 6B and 6E
16. 2-45W600-55-18, Rev 0
Wiring Diagram Annunciator System Key Diagram Panel 6C and 6F

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3.0 PRECAUTIONS AND LIMITATIONS

- A. Standard precautions shall be followed for working around energized electrical equipment in accordance with TVA Safety Manual Procedure 1021.
- B. Steps may be repeated if all components cannot be tested in a step. However, if the test has been exited, prerequisite steps must be re-verified and a Chronological Test Log (CTL) entry made.
- C. Discrepancies between component ID tags and the description in a procedure/instruction 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 CTL from SMP-9.0 including a description of the problem, the procedure step when/where the problem was identified, corrective action steps taken to resolve the problem, and the number of the corrective action document, if one was required.
- G. Observe all Radiation Protection (RP) requirements when working in or near radiological areas.
- H. Ensure there are no adverse effects to the operation of Unit 1 structures, systems, or components.
- I. Test personnel will coordinate with Unit 1 Operations when manipulating Unit 1 equipment.
- J. Portions of this test will be conducted in or around electrically energized equipment.
- K. All terminal points and connections are to be considered energized. Instrumentation must be used to determine if the circuits are de-energized.
- L. Table 4, Nuclear Instrumentation System (NIS) Channel Trip/Return to Normal provides instructions on how to "trip/return to normal" bistables.

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3.0 PRECAUTIONS AND LIMITATIONS (continued)

- M. During the conduct of this test, performance of all Nuclear Steam Supply System (NSSS) calibrations should be coordinated with the Test Director.
- N. All equipment specified in this procedure will be Unit 2, unless designated otherwise.
- O. During testing of both trains, if the Trip Status Lights under test flash at approximately one cycle per second, investigate the problem.
- P. The status of contacts will be verified using a multimeter at terminal blocks and/or across lifted leads, throughout this procedure. The state of a contact may be determined by a continuity check at the indicated terminals. A reading of less than 5 ohms will indicate a closed contact and a reading greater than 5 ohms will indicate an open contact. Contact state may also be determined by measuring the presence of Voltage (open circuit) or NO Voltage (closed circuit).

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4.0 PREREQUISITE ACTIONS

NOTE

Preliminary action steps may be performed in any order with Test Directors approval 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 they will NOT adversely affect the test performance and results. _____
- [2] **ENSURE** changes to the references listed on Appendix A, have been reviewed, and determined NOT to adversely affect the test performance. _____
- [3] **VERIFY** current revisions and change paper for referenced drawings has been reviewed and determined NOT to adversely affect the test performance, **AND**

ATTACH documentation of current drawing revision numbers and change paper that were reviewed to the data package. _____
- [4] **VERIFY** the test/performance copy of this Preoperational Test Instruction (PTI) is the current revision including any change notices and as needed, each test person assisting in this test has the current revision including any change notices. _____
- [5] **ENSURE** special environmental conditions are available for testing if required. _____
- [6] **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. _____
- [7] **ENSURE** required Component Testing has been completed prior to start of test. _____

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4.1 Preliminary Actions (continued)

- [8] **CONDUCT** a pretest briefing with Test and Operations personnel in accordance with SMP-9.0. _____
- [9] **ENSURE** that communications are available for areas where testing is to be conducted. _____
- [10] **VERIFY** plant instruments, listed on Appendix C, Permanent Plant Instrumentation Log, are placed in service and are within their calibration interval. _____
- [11] **ENSURE** the Integrated Computer System (ICS) points listed in Table 5 are in scan and match the description for each status. _____
- [12] **ENSURE** components contained within the boundaries of this test are under the jurisdictional control of Preoperational Startup Engineering (PSE) and/or Plant Operations. _____
- [13] **ENSURE** a review of outstanding Clearances has been coordinated with Operations for impact to the test performance, **AND**
RECORD in Appendix B, Temporary Condition Log if required. _____
- [14] **OBTAIN** copies of the applicable forms from the latest revision of SMP-9.0, **AND**
ATTACH to this PTI for use during the performance of this PTI. _____
- [15] **VERIFY** Measuring and Test Equipment (M&TE) required for test performance has been (as required) filled, vented, place in service and recorded on Measuring and Test Equipment Log.
Subsection 6.1 _____
Subsection 6.8 _____
Subsection 6.13 _____
Subsection 6.17 _____
Subsection 6.18 _____
Subsection 6.19 _____

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4.1 Preliminary Actions (continued)

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

Subsection 6.1 _____

Subsection 6.8 _____

Subsection 6.13 _____

Subsection 6.17 _____

Subsection 6.18 _____

Subsection 6.19 _____

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

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

VERIFY no conditions exist that will impact test performance. _____

- [19] **ENSURE** Nuclear Instrumentation System, Solid State Protection System, and Process Protection System have been energized for at least 4 hours prior to beginning this test. _____

- [20] **ENSURE** that the following systems and equipment are in service or functional to the extent necessary to perform this test:

A. System 99, Reactor Protection System (Solid State Protection System); including, _____

- Train A Automated Logic Check Test _____
- Train B Automated Logic Check Test _____

B. System 92, Nuclear Instrumentation System; including, _____

- NIS bistable setpoints have been properly set to the nominal levels in the Westinghouse Precautions, Limitations & Setpoints for Nuclear Steam Supply Systems (PLS) document. _____

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4.1 Preliminary Actions (continued)

- Nuclear Instrumentation Source Range Channel
N31/NI-92-131D _____
- Nuclear Instrumentation Source Range Channel
N32/NI-92-132E _____
- Nuclear Instrumentation Intermediate Range Channel
N35/NI-92-135D _____
- Nuclear Instrumentation Intermediate Range Channel
N36/NI-92-136E _____
- Nuclear Instrumentation Power Range Channel N41 _____
- Nuclear Instrumentation Power Range Channel N42 _____
- Nuclear Instrumentation Power Range Channel N43 _____
- Nuclear Instrumentation Power Range Channel N44 _____
- C. System 235, 120VAC Vital Power System _____
- D. System 55, Annunciator and Sequential Events Recording
System _____
- E. System 261, Integrated Computer System (ICS) _____
- F. System 236, 125 VDC Vital Power System _____
- G. System 239, 250 VDC Power System _____
- H. System 68, Reactor Coolant System - Reactor Coolant
Pump Undervoltage and Underfrequency Circuits _____
- I. System 47, Turbogenerator Control System - 2-HS-47-73-
D, 2-HS-47-74-E, 2-HS-47-75-F _____

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

[1] **ENSURE** the following M&TE is available and within their calibration due dates:

- A. One Volt Ohm Meter (VOM) or Digital Multimeter (DMM) to monitor relay contact status
0-500 VAC-for OPEN/CLOSED circuit indication
0-500 VDC-for OPEN/CLOSED circuit indication
0-infinity Ohms-for continuity only _____
- B. Four Digital Multi-Meters: (Subsection 6.1) 0-300 VDC - Accuracy; 0.016% +3 digits. 0-infinity ohms- For continuity only. _____
- C. A minimum of 12 switched test jumpers. _____
- D. A minimum of 30 test jumpers. _____
- E. At least one Eagle 21 Man Machine Interface (MMI) Test Cart is available for use during this test. _____
- F. Four 120VAC monitored variable power supplies for use in step 6.13[4] and 6.8[114]. _____

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4.3 Field Preparations

- [1] **PERFORM** Breaker Lineup listed in Table 1. _____
- [2] **ENSURE** plastic screws and washers are installed at the SSPS field terminals listed on Table 6. _____
- [3] **ENSURE** the K600 Relay outputs are hard-landed at the SSPS field terminals listed on Table 7. _____
- [4] **ENSURE** no Reactor Trip signals are present _____
- [5] **ENSURE** the SSPS lineup/verification in Table 2. _____
- [6] **ENSURE** the Nuclear Instrumentation System (NIS) lineup/verification in Table 3. _____
- [7] **PERFORM** the following substeps at 2-NM-92-138-D, OPTICAL ISOLATOR, located in the Auxiliary Building Additional Equipment Room, Column (A11W), EL 737'.
 - [7.1] **OPEN** the enclosure to gain access to the TEST/STATUS CONTROL switch. _____
 - [7.2] **ENSURE** TEST/STATUS CONTROL switch to CTL ROOM position. _____
- [8] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-1, in BYPASS:
 - A. F-414 RCS FLOW LP1 _____
 - B. F-424 RCS FLOW LP2 _____
 - C. F-434 RCS FLOW LP3 _____
 - D. F-444 RCS FLOW LP4 _____
 - E. P-455 PZR PRESSURE _____
 - F. L-459 PZR LEVEL _____
- [9] **ENSURE** Eagle 21 Protection Channel T-411/412 DTTA LP1, at 2-R-2, in BYPASS. _____

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4.3 Field Preparations (continued)

[10] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-3, in BYPASS:

A. P-514 STM PRESS LP1 _____

B. P-524 STM PRESS LP2 _____

C. P-937 CONTNMT PRESS _____

[11] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-4, in BYPASS:

A. P-505 TURB IMP PR _____

B. P-534 STM PRESS LP3 _____

C. P-544 STM PRESS LP4 _____

[12] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-5, in BYPASS:

A. F-415 RCS FLOW LP1 _____

B. F-425 RCS FLOW LP2 _____

C. F-435 RCS FLOW LP3 _____

D. F-445 RCS FLOW LP4 _____

E. L-519-549 TTD _____

F. L-519 SG LEVEL LP1 _____

G. L-529 SG LEVEL LP2 _____

H. L-539 SG LEVEL LP3 _____

I. L-549 SG LEVEL LP4 _____

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4.3 Field Preparations (continued)

- J. P-456 PZR PRESSURE _____
- K. L-460 PZR LEVEL _____
- [13] **ENSURE** Eagle 21 Protection Channel, T-421/422 DTTA LP2,
at 2-R-6, in BYPASS. _____
- [14] **ENSURE** the following Eagle 21 Protection Channels, at
2-R-7, in BYPASS:
 - A. P-515 STM PRESS LP1 _____
 - B. P-535 STM PRESS LP3 _____
 - C. P-936 CONTNMT PRESS _____
- [15] **ENSURE** the following Eagle 21 Protection Channels, at
2-R-8, in BYPASS:
 - A. P-506 TURB IMP PR _____
 - B. P-525 STM PRESS LP2 _____
 - C. P-545 STM PRESS LP4 _____
- [16] **ENSURE** the following Eagle 21 Protection Channels, at
2-R-9, in BYPASS:
 - A. F-416 RCS FLOW LP1 _____
 - B. F-426 RCS FLOW LP2 _____
 - C. F-436 RCS FLOW LP3 _____
 - D. F-446 RCS FLOW LP4 _____
 - E. P-457 PZR PRESSURE _____
 - F. L-461 PZR-LEVEL _____
- [17] **ENSURE** Eagle 21 Protection Channel T-431/432 DTTA LP3,
at 2-R-10, in BYPASS. _____

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4.3 Field Preparations (continued)

[18] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-11, in BYPASS:

A. L-518, 528, 538, and 548 TTD _____

B. L-518 SG LEVEL LP1 _____

C. L-528 SG LEVEL LP2 _____

D. L-538 SG LEVEL LP3 _____

E. L-548 SG LEVEL LP4 _____

F. P-526 STM PRESS LP2 _____

G. P-536 STM PRESS LP3 _____

H. P-935 CONTNMT PRESS _____

[19] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-12, in BYPASS:

A. L-517-547 TTD _____

B. L-517 SG LEVEL LP1 _____

C. L-527 SG LEVEL LP2 _____

D. L-537 SG LEVEL LP3 _____

E. L-547 SG LEVEL LP4 _____

F. P-516 STM PRESS LP1 _____

G. P-546 STM PRESS LP4 _____

[20] **ENSURE** Eagle 21 Protection Channel T-441/442 DTTA LP4, at 2-R-13, in BYPASS. _____

[21] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-28, in BYPASS.

Date _____

4.3 Field Preparations (continued)

A. P-458 PZR PRESSURE _____

B. P-934 CONTNMT PRESS _____

[22] **ENSURE** no General Warning alarms are present on either
SSPS Train A (2-R-47) or Train B (2-R-50). _____

NOTE

Any Annunciator points associated with 2-MUX-55-12 and 2-MUX-55-13 ONLY have master switches at the bottom of each terminal strip.

All points associated with 2-TBK-55-25, 2-TBK-55-26, 2-TBK-55-27, and 2-TBK-55-28 will not have individual switches or a master switch.

[23] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, Field Termination Assembly (FTA) switches in the ON position, and window software input(s) are ENABLED for the following Annunciator windows for Subsection 6.1:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
73C	V/FRONT	13	SW13	
74C	V/FRONT	13	SW14	
76A	V/FRONT	13	SW51	
76G	V/FRONT	13	SW56	
84B	VI/REAR	03	SW11	
84C	VI/REAR	03	SW12	
85B	VI/REAR	03	SW18	
85C	VI/REAR	03	SW19	
114A	VI/REAR	04	SW74	
115A	VI/REAR	04	SW81	

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4.3 Field Preparations (continued)

- [24] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position, and window software input(s) are ENABLED for the following Annunciator windows for Subsection 6.2:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
78C	V/FRONT	13	SW54	
64C	VII/FRONT	TB4	SW15	
65D	VII/FRONT	TB4	SW23	
81B	VI/FRONT	03	SW08	
81C	VI/REAR	03	SW15	

- [25] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position, and window software input(s) are ENABLED for the following Annunciator windows for Subsection 6.3:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
70D	VII/FRONT	TB4	SW12	
64E	VII/FRONT	TB4	SW26	
70E	VII/FRONT	TB4	SW27	

- [26] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position, and window software input(s) are ENABLED for the following Annunciator windows for Subsection 6.4:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
70C	VII/FRONT	TB4	SW19	

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4.3 Field Preparations (continued)

- [27] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position, and window software input(s) are ENABLED for the following Annunciator windows for Subsection 6.5:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
69E	VII/FRONT	TB4	SW32	
121C	V/REAR	05	SW18	
121D	V/REAR	05	SW17	

- [28] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position, and window software input(s) are ENABLED for the following Annunciator windows for Subsection 6.6:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
79C	V/FRONT	13	SW59	
64B	VII/FRONT	TB4	SW2	
64C	VII/FRONT	TB4	SW15	
65B	VII/FRONT	TB4	SW9	
65C	VII/FRONT	TB4	SW16	
64D	VII/FRONT	TB4	SW22	
64E	VII/FRONT	TB4	SW26	
70D	VII/FRONT	TB4	SW12	
81E	VI/REAR	04	SW51	
82B	VI/REAR	03	SW9	

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4.3 Field Preparations (continued)

- [29] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position, and window software input(s) are ENABLED for the following Annunciator windows for Subsection 6.7:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
78C	V/FRONT	13	SW54	
64A	VII/FRONT	TB4	SW1	
65A	VII/FRONT	TB4	SW8	
64C	VII/FRONT	TB4	SW15	
65D	VII/FRONT	TB4	SW23	
64E	VII/FRONT	TB4	SW26	
81E	VI/REAR	04	SW51	

- [30] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position, and window software input(s) are ENABLED for the following Annunciator windows for Subsection 6.8:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
80D	V/FRONT	13	SW64	
64D	VII/FRONT	TB4	SW22	
64E	VII/FRONT	TB4	SW26	
115D	VI/REAR	04	SW65	

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4.3 Field Preparations (continued)

- [31] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.9:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
80C	V/FRONT	13	SW69	
64D	VII/FRONT	TB4	SW22	
115C	VI/REAR	04	SW72	

- [32] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.10:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
80E	V/FRONT	13	SW74	
115E	VI/REAR	04	SW58	

- [33] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.11:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
76C	V/FRONT	13	SW61	
123C	VI/REAR	04	SW52	

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4.3 Field Preparations (continued)

- [34] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.12:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
76D	V/FRONT	13	SW66	
122C	VI/REAR	04	SW59	

- [35] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.13:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
78E	V/FRONT	13	SW73	
78D	V/FRONT	13	SW78	
70D	VII/FRONT	TB4	SW12	
70C	VII/FRONT	TB4	SW19	
120B	VI/REAR	04	SW54	
121B	VI/REAR	04	SW61	
122B	VI/REAR	04	SW68	
123B	VI/REAR	04	SW75	

- [36] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.14:

Annunciator	2-M-21	Terminal Block	FTA Switch	Initial
77C	V/FRONT	13	SW71	
124B	VI/REAR	04	SW69	

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4.3 Field Preparations (continued)

- [37] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.15:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
77D	V/FRONT	13	SW76	
70D	VII/FRONT	TB4	SW12	
124C	VI/REAR	04	SW62	

- [38] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.16:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
77E	V/FRONT	13	SW81	
70D	VII/FRONT	TB4	SW12	
124A	VI/REAR	04	SW55	

- [39] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.17:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
76B	V/FRONT	13	SW70	
69E	VII/FRONT	TB4	SW32	
121D	V/REAR	05	SW17	
121C	V/REAR	05	SW18	

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4.3 Field Preparations (continued)

[40] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.18:

Annunciator	2-M-21 Cabinet	Terminal Block	FTA Switch	Initial
77B	V/FRONT	13	SW53	
78B	V/FRONT	13	SW58	
79B	V/FRONT	13	SW63	
80B	V/FRONT	13	SW68	
118E	V/REAR	05	SW03	
119E	V/REAR	05	SW10	
116E	VI/REAR	04	SW89	
117E	VI/REAR	04	SW96	

[41] **ENSURE** the following System 55, Annunciator and Sequential Events Recording System, FTA switches in the ON position for Subsection 6.19:

Annunciator	2-M-21	Terminal Block	FTA Switch	Initial
79D	V/FRONT	13	SW55	
79E	V/FRONT	13	SW60	
122E	VI/FRONT	16	SW13	
122E	VI/FRONT	16	SW14	
70D	VII/FRONT	TB4	SW12	

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4.3 Field Preparations (continued)

[42] **REMOVE** the following fuses for Train A (Input Cabinet 2-R-46):

- A. 2-FU-99-R46/D4 for 2-ZS-47-28

- CV
- B. 2-FU-99-R46/E3 for 2-ZS-47-30

- CV
- C. 2-FU-99-R46/F3 for 2-ZS-47-32

- CV
- D. 2-FU-99-R46/G4 for 2-ZS-47-34

- CV

[43] **REMOVE** the following fuses for Train B (Input Cabinet 2-R-49):

- A. 2-FU-99-R49/D4 for 2-ZS-47-28

- CV
- B. 2-FU-99-R49/E3 for 2-ZS-47-30

- CV
- C. 2-FU-99-R49/F3 for 2-ZS-47-32

- CV
- D. 2-FU-99-R49/G4 for 2-ZS-47-34

- CV

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4.3 Field Preparations (continued)

[44] **PLACE** a CLOSED switched jumper (to simulate Turbine Stop Valves OPEN) across the following terminals field side (Train A Input Cabinet 2-R-46):

A. TB109 Terminals 3 and 4 for 2-ZS-47-28

CV

B. TB209 Terminals 3 and 4 for 2-ZS-47-30

CV

C. TB308 Terminals 3 and 4 for 2-ZS-47-32

CV

D. TB407 Terminals 3 and 4 for 2-ZS-47-34

CV

[45] **PLACE** a CLOSED switched jumper (to simulate Turbine Stop Valves OPEN) across the following terminals field side (Train B Input Cabinet 2-R-49):

A. TB109 Terminals 3 and 4 for 2-ZS-47-28

CV

B. TB209 Terminals 3 and 4 for 2-ZS-47-30

CV

C. TB308 Terminals 3 and 4 for 2-ZS-47-32

CV

D. TB407 Terminals 3 and 4 for 2-ZS-47-34

CV

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4.3 Field Preparations (continued)

[46] **INSTALL** a jumper (to simulate Normal Auto Stop Oil pressure) across Terminal Points 10A and 10902A in 2-JB-290-1666-D (Aux Inst. Rm).

CV

[47] **INSTALL** a jumper (to simulate Normal Auto Stop Oil pressure) across Terminal Points 10B and 10902B in 2-JB-290-1666-D (Aux Inst. Rm).

CV

[48] **INSTALL** a jumper (to simulate Normal Auto Stop Oil pressure) across Terminal Points 20A and 20902A in 2-JB-290-1669-E (Aux Inst. Rm).

CV

[49] **INSTALL** a jumper (to simulate Normal Auto Stop Oil pressure) across Terminal Points 20B and 20902B in 2-JB-290-1669-E (Aux Inst. Rm).

CV

[50] **INSTALL** a jumper (to simulate Normal Auto Stop Oil pressure) across Terminal Points 30A and 30802A in 2-JB-290-1668-F (Aux Inst. Rm).

CV

[51] **INSTALL** a jumper (to simulate Normal Auto Stop Oil pressure) across Terminal Points 30B and 30802B in 2-JB-290-1668-F (Aux Inst. Rm).

CV

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4.3 Field Preparations (continued)

- [52] **INSTALL** a jumper (to simulate RCP 1 Bus normal voltage) across Terminal Points TA-7 (10907A1) and TA-8 (10908A) in 2-JB-290-3404-D (Aux Inst. Rm).

CV

- [53] **INSTALL** a jumper (to simulate RCP 1 Bus normal voltage) across Terminal Points TA-10 (10907B1) and TA-11 (10908B) in 2-JB-290-3404-D (Aux Inst. Rm).

CV

- [54] **INSTALL** a jumper (to simulate RCP 2 Bus normal voltage) across Terminal Points TA-7 (20907A1) and TA-8 (20908A) in 2-JB-290-3405-E (Aux Inst. Rm).

CV

- [55] **INSTALL** a jumper (to simulate RCP 2 Bus normal voltage) across Terminal Points TA-10 (20907B1) and TA-11 (20908B) in 2-JB-290-3405-E (Aux Inst. Rm).

CV

- [56] **INSTALL** a jumper (to simulate RCP 3 Bus normal voltage) across Terminal Points TA-7 (30807A1) and TA-8 (30808A) in 2-JB-290-3406-F (Aux Inst. Rm).

CV

- [57] **INSTALL** a jumper (to simulate RCP 3 Bus normal voltage) across Terminal Points TA-10 (30807B1) and TA-11 (30808B) in 2-JB-290-3406-F (Aux Inst. Rm).

CV

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4.3 Field Preparations (continued)

- [58] **INSTALL** a jumper (to simulate RCP 4 Bus normal voltage) across Terminal Points TA-7 (40707A1) and TA-8 (40708A) in 2-JB-290-3407-G (Aux Inst. Rm).

CV

- [59] **INSTALL** a jumper (to simulate RCP 4 Bus normal voltage) across Terminal Points TA-10 (40707B1) and TA-11 (40708B) in 2-JB-290-3407-G (Aux Inst. Rm).

CV

- [60] **INSTALL** a jumper (to simulate RCP 1 Bus Normal Frequency) across Terminal Points TA-1 (10811A1) and TA-2 (10812A) in 2-JB-290-3404-D (Aux Inst. Rm).

CV

- [61] **INSTALL** a jumper (to simulate RCP 1 Bus Normal Frequency) across Terminal Points TA-4 (10811B1) and TA-5 (10812B) in 2-JB-290-3404-D (Aux Inst. Rm).

CV

- [62] **INSTALL** a jumper (to simulate RCP 2 Bus Normal Frequency) across Terminal Points TA-1 (20811A1) and TA-2 (20812A) in 2-JB-290-3405-E (Aux Inst. Rm).

CV

- [63] **INSTALL** a jumper (to simulate RCP 2 Bus Normal Frequency) across Terminal Points TA-4 (20811B1) and TA-5 (20812B) in 2-JB-290-3405-E (Aux Inst. Rm).

CV

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4.3 Field Preparations (continued)

- [64] **INSTALL** a jumper (to simulate RCP 3 Bus Normal, Frequency) across Terminal Points TA-1 (30711A1) and TA-2 (30712A) in 2-JB-290-3406-F (Aux Inst. Rm).

CV

- [65] **INSTALL** a jumper (to simulate RCP 3 Bus Normal Frequency) across Terminal Points TA-4 (30711B1) and TA-5 (30712B) in 2-JB-290-3406-F (Aux Inst. Rm).

CV

- [66] **INSTALL** a jumper (to simulate RCP 4 Bus Normal Frequency) across Terminal Points TA-1 (40903A1) and TA-2 (40904A) in 2-JB-290-3407-G (Aux Inst. Rm).

CV

- [67] **INSTALL** a jumper (to simulate RCP 4 Bus Normal Frequency) across Terminal Points TA-4 (40903B1) and TA-5 (40904B) in 2-JB-290-3407-G (Aux Inst. Rm).

CV

- [68] **ENSURE** the following RCP UV & UF Test Switches in NORMAL:

A. 2-HS-68-343 at 2-JB-290-3404-D (Aux Inst. Rm).

B. 2-HS-68-344 at 2-JB-290-3404-D (Aux Inst. Rm).

C. 2-HS-68-345 at 2-JB-290-3405-E (Aux Inst. Rm).

D. 2-HS-68-346 at 2-JB-290-3405-E (Aux Inst. Rm).

E. 2-HS-68-347 at 2-JB-290-3406-F (Aux Inst. Rm).

F. 2-HS-68-348 at 2-JB-290-3406-F (Aux Inst. Rm).

G. 2-HS-68-349 at 2-JB-290-3407-G (Aux Inst. Rm).

H. 2-HS-68-350 at 2-JB-290-3407-G (Aux Inst. Rm).

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4.3 Field Preparations (continued)

[69] **ENSURE** the following, AUTO STOP OIL PRESSURE LOW Test Switches, in NORMAL:

A. 2-HS-47-73 at 2-JB-290-1666-D (Aux Inst. Rm). _____

B. 2-HS-47-74 at 2-JB-290-1669-E (Aux Inst. Rm). _____

C. 2-HS-47-75 at 2-JB-290-1668-F (Aux Inst. Rm). _____

[70] **ENSURE** Train A SSPS Multiplexer Test Switch in the A+B position. _____

NOTE

Annunciator 2-XA-55-4B-82E will be affected anytime the OPERATION SELECTOR switch on the NIS Power Range Drawers are placed in and out of NORMAL positions

[71] **ENSURE** NIS Power Range N41, N42, N43, and N44 Operation Selector Switches in the DET A+B position, **AND**

VERIFY annunciator 2-XA-55-4B-82E is in ALARM. _____

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4.4 Approvals and Notifications

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

Preoperational Startup Manager
Signature

Date

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

US/SRO/SM Signature

Date

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5.0 ACCEPTANCE CRITERIA

A. Reactor Trip Breakers RTA and RTB and Reactor Trip Bypass Breakers BYA and BYB shall function properly and provide correct indications:

1. Breaker RTA trips when it receives a manual trip signal from any of the following sources: 2-RT-1, 2-RT-2, 2-HS-63-133A, 2-HS-63-133B, manual trip plate. (Steps 6.1[45], 6.1[52], 6.1[56], 6.1[65], 6.1[74])
2. Breaker RTB trips when it receives a manual trip signal from any of the following sources: 2-RT-1, 2-RT-2, 2-HS-63-133A, 2-HS-63-133B, manual trip plate. (Steps 6.1[177], 6.1[184], 6.1[188], 6.1[192], 6.1[196])
3. Breaker BYA trips when it receives a manual trip signal from any of the following sources: 2-RT-1, 2-RT-2, 2-HS-63-133A, 2-HS-63-133B, manual trip plate or test trip pushbutton.(Steps 6.1[117], 6.1[124], 6.1[128], 6.1[132], 6.1[136], 6.1[140])
4. Breaker BYB trips when it receives a manual trip signal from any of the following sources: 2-RT-1, 2-RT-2, 2-HS-63-133A, 2-HS-63-133B, manual trip plate or test trip pushbutton.(Steps 6.1[239], 6.1[246], 6.1[250], 6.1[254], 6.1[258], 6.1[262])

B. RTA, RTB, BYA, and BYB, Interlock Trip Logic

1. With RTA, RTB and BYA closed, attempting to close BYB will cause RTA, RTB, BYA, and BYB to trip. (Step 6.1[279])
2. With RTA, RTB and BYB closed, attempting to close BYA will cause RTA, RTB, BYB, and BYA to trip. (Step 6.1[284])
3. With a reactor trip signal present, RTA, RTB, BYA, and BYB cannot be closed.(Steps 6.1[310], 6.1[312], 6.1[344], 6.1[346])
4. With SSPS General Warning Trips jumpered out and with BYA CLOSED, attempting to close BYB will cause BYA to Trip and BYB to remain OPEN. (Step 6.1[268])
5. With SSPS General Warning Trips jumpered out and with BYB CLOSED, attempting to close BYA will cause BYB to Trip and BYA to remain OPEN. (Step 6.1[272])

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5.0 ACCEPTANCE CRITERIA (continued)

C. RTA, RTB, BYA, and BYB Test Trip Logic

1. With RTA, RTB and BYA closed, placing SSPS Train B in TEST will cause a General Warning trip of RTA, RTB and BYA. (Step 6.1[413])
2. With RTA, RTB and BYB closed, placing SSPS Train A in TEST will cause a General warning trip of RTA, RTB and BYB. (Step 6.1[421])

D. RTA, RTB, BYA, and BYB provide P-4 input to SSPS.(Steps 6.1[48], 6.1[120], 6.1[180], 6.1[242])

1. RTA, RTB, BYA, and BYB will trip by means of the Shunt Trip Coil.(Steps 6.1[45], 6.1[124], 6.1[177], 6.1[246])
2. RTA, RTB, BYA, and BYB will trip by means of the Undervoltage Trip Device.(Steps 6.1[308], 6.1[342], 6.1[362], 6.1[371])

E. The P-6 Permissive will be available and will allow a Source Range High Flux Reactor Trip Block when any 1 out of 2 Intermediate Range Channels are above the P-6 Permissive setpoint. (Steps 6.2[36], 6.2[52], 6.2[80])

1. The Source Range High Flux Reactor Trip Block with automatically unblock when 2 of 2 Intermediate Range Channels decrease below the P-6 Permissive setpoint. (Step 6.2[41])
2. The Source Range High Flux Reactor Trip will be reset by 2/N33A SR TRIP TR A RESET-BLOCK P-6 and 2/N33B SR TR B RESET-BLOCK P-6 at the same time. (Step 6.2[68])

F. The P-7 Permissive will be available when the P-13 Permissive (any 1 out of 2 Turbine Impulse Chamber Pressure channels above the P-13 setpoint) is available as indicated by Annunciator 70D.(Steps 6.3[9], 6.3[16], 6.3[22], 6.3[88])

G. The P-8 Permissive will be available when any 2 out of 4 Power Range Channels are above the P-8 setpoint and will result in a reactor trip when 1 of 4 RCPs are tripped.(Steps 6.4[32], 6.4[38], 6.4[44], 6.4[50], 6.4[56], 6.4[62], 6.4[68])

H. The P-9 Permissive will be available when any 2 out of 4 Power Range Channels are above the P-9 setpoint.(Steps 6.5[30], 6.5[37], 6.5[43], 6.5[49], 6.5[55], 6.5[61], 6.5[67])

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5.0 ACCEPTANCE CRITERIA (continued)

- I. The P-10 Permissive will be available when any 2 out of 4 Power Range Channels are above the P-10 setpoint. P-10 will generate P-7 permissive as indicated by Annunciator 70D. (Steps 6.3[52], 6.3[58], 6.3[64], 6.3[70], 6.3[76], 6.3[82], 6.3[85])
 1. The Intermediate Range High Flux will cause a Reactor Trip when any 1 out of 2 channels are actuated if the Intermediate Range Trip Block P-10 Permissive is not blocked properly with a P-10 signal and both IR TRIP BLOCK P-10 switches in BLOCK (2-N38A&B). (Steps 6.6[14], 6.6[22], 6.6[26], 6.6[36], 6.6[45], 6.6[58], 6.6[71], 6.6[74], 6.6[93], 6.6[115])
- J. The Source Range High Flux will cause a Reactor Trip when at least 1 out of 2 Source Range High Flux Block P-6 Permissive is not actuated, and the manual Source Range Block is not actuated; or the P-10 Permissive is not actuated. (Steps 6.7[18], 6.7[21], 6.7[28], 6.7[37], 6.7[46], 6.7[59], 6.7[69], 6.7[100], 6.7[119])
- K. The Power Range High Flux (Low Setpoint) will cause a Reactor Trip when any 2 out of 4 channels are actuated if the Power Range Low Power Trip Block P-10 Permissive is not actuated. (Steps 6.8[40], 6.8[48], 6.8[54], 6.8[60], 6.8[66], 6.8[72], 6.8[78])
 1. The Power Range Low Power Trip block P-10 cannot be activated until 2/N47A&B PR LO POWER TRIP BLOCK P-10 are placed in BLOCK with the P-10 Permissive actuated. (Steps 6.8[86], 6.8[95], 6.8[105])
- L. The Power Range High Flux (High Setpoint) will cause a Reactor Trip when any 2 out of 4 channels are actuated. (Steps 6.9[43], 6.9[51], 6.9[57], 6.9[63], 6.9[69], 6.9[75], 6.9[81])
- M. The Power Range High Positive Flux Rate will cause a Reactor Trip when any 2 out of 4 Positive Rate Channels are actuated. (Steps 6.10[39], 6.10[47], 6.10[53], 6.10[59], 6.10[65], 6.10[71], 6.10[76])
- N. The Overtemperature Delta T will cause a Reactor Trip when any 2 out of 4 channels are actuated. (Steps 6.11[39], 6.11[47], 6.11[53], 6.11[59], 6.11[65], 6.11[71], 6.11[74])
- O. The Overpower Delta T will cause a Reactor Trip when any 2 out of 4 channels are actuated. (Steps 6.12[39], 6.12[47], 6.12[53], 6.12[59], 6.12[65], 6.12[71], 6.12[77])

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5.0 ACCEPTANCE CRITERIA (continued)

- P. The Reactor Coolant Low Flow will cause a Reactor Trip when any 2 out of 3 Reactor Coolant Flow channels in any one Reactor Coolant Flow loop are actuated (low) with the P-8 Permissive actuated. (Steps 6.13[37], 6.13[45], 6.13[53], 6.13[61], 6.13[96], 6.13[104], 6.13[112], 6.13[120], 6.13[155], 6.13[163], 6.13[171], 6.13[178], 6.13[214], 6.13[222], 6.13[230], 6.13[238])
 - 1. The Reactor Coolant Low Flow will cause a Reactor Trip when any 2 out of 4 Reactor Coolant loops each have any 2 out of 3 flow channels actuated (low) with the P-7 Permissive actuated. (Steps 6.13[250], 6.13[282], 6.13[274], 6.13[259], 6.13[267], 6.13[290], 6.13[294])
- Q. The Pressurizer High Pressure will cause a Reactor Trip when any 2 out of 4 channels are actuated. (steps 6.14[39], 6.14[47], 6.14[53], 6.14[59], 6.14[65], 6.14[71], 6.14[77])
- R. The Pressurizer Low Pressure will cause a Reactor Trip when any 2 out of 4 channels are actuated with the P-7 Permissive actuated. (Steps 6.15[39], 6.15[47], 6.15[53], 6.15[59], 6.15[65], 6.15[71], 6.15[77])
- S. The Pressurizer High Level will cause a Reactor Trip when any 2 out of 3 channels are actuated with the P-7 Permissive actuated. (Steps 6.16[31], 6.16[39], 6.16[45], 6.16[51])
- T. The Turbine Trip will cause a Reactor Trip when any 2 out of 3 Turbine Auto Stop Oil Pressure Low Signals or all four Turbine Stop Valves CLOSED Signals are actuated with the P-9 Permissive actuated. (Steps 6.17[69], 6.17[75], 6.17[87], 6.17[116], 6.17[128], 6.17[136])
- U. The Steam Generator Low Low Level will cause a Reactor Trip when any 2 out of 3 channels in any one loop are actuated. (Steps 6.18[60], 6.18[75], 6.18[87], 6.18[99], 6.18[160], 6.18[176], 6.18[190], 6.18[204], 6.18[266], 6.18[282], 6.18[296], 6.18[310], 6.18[372], 6.18[388], 6.18[402], 6.18[416], 6.18[430], 6.18[441], 6.18[452], 6.18[466], 6.18[477], 6.18[488], 6.18[495])
 - 1. The Steam Generator Low Low Level will cause Auxiliary Feedwater Pump (Motor Driven) start signal when any 2 out of 3 channels in any one loop are actuated. (Steps 6.18[62], 6.18[64], 6.18[76], 6.18[78], 6.18[88], 6.18[90], 6.18[100], 6.18[102], 6.18[162], 6.18[164], 6.18[177], 6.18[179], 6.18[191], 6.18[193], 6.18[205], 6.18[207], 6.18[268], 6.18[270], 6.18[283], 6.18[285], 6.18[297], 6.18[299], 6.18[311], 6.18[313], 6.18[374], 6.18[376], 6.18[389], 6.18[391], 6.18[403], 6.18[405], 6.18[417], 6.18[419])

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5.0 ACCEPTANCE CRITERIA (continued)

2. The Steam Generator Low Low Level will cause Auxiliary Feedwater Pump (Turbine Driven) start signal when any 2 out of 3 channels in any 2 out of 4 loops are actuated.(Steps 6.18[432], 6.18[434], 6.18[443], 6.18[445], 6.18[454], 6.18[456], 6.18[468], 6.18[470], 6.18[479], 6.18[481], 6.18[490], 6.18[492], 6.18[497], 6.18[499])
- V. The Reactor Coolant Pump Bus Undervoltage will cause a Reactor Trip when any 2 out of 4 channels are actuated and the P-7 Permissive is actuated.(Steps 6.19[117], 6.19[125], 6.19[131], 6.19[137], 6.19[143], 6.19[149], 6.19[155])
- W. The Reactor Coolant Pump Bus Underfrequency will cause a Reactor Trip when any 2 out of 4 channels are actuated and the P-7 Permissive is actuated. (Steps 6.19[239], 6.19[255], 6.19[269], 6.19[283], 6.19[297], 6.19[311], 6.19[325])

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6.0 PERFORMANCE

NOTES

- 1) Subsections of this procedure must be performed in order.
- 2) All equipment specified in this procedure will be Unit 2, unless designated otherwise.
- 3) Undervoltage Trip Verification for the Reactor Trip Breakers may be accomplished by measuring a loss of voltage condition at the following locations, unless otherwise specified:

Train A: UV COIL VOLTAGE Meter (M-501) at Panel 2-R-47

Train B: UV COIL VOLTAGE Meter (M-501) at Panel 2-R-50

The meter is used strictly as a GO/NO-GO indication, NOT a quantitative measuring device.

A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor Tripped Status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor Not Tripped" status.

- 4) Unless otherwise noted, Slave Relay actuation will be verified by observing the relay contactor armature position as follows:

Relay Actuated:

Non-latching relays - the center bar is pulled in

Latching relays - the Opaque/White plunger is pulled in

Relay Reset:

Non-latching relays - the center bar is flush with the relay face

Latching relays - the Opaque/White plunger is protruding from the relay face.

- 5) When toggle switches in Eagle 21 are used to place a bistable in trip or normal throughout the procedure, the associated TRIP LED indicator on the Test Panel in the cabinet should also be verified to light and clear.
- 6) During performance of this procedure status lights, annunciators, and events display lights will illuminate and clear as steps are performed. Those which are required to have a certain status will be verified as directed by the procedure.
- 7) For steps which required verification of a status light in ALARM the status light should be LIT. For a status light in NORMAL the light will be clear or NOT LIT.

Date _____

6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip

NOTES			
1) Relay state will be verified in this subsection by observing the position of the relay contactor armature (unless otherwise noted)			
Relay Energized - Contactor IN			
Relay De-energized - Contactor OUT			
2) In this subsection, the following breaker identifiers will be used:			
<u>Breaker ID At Panel 2- PNL-99-L116</u>	<u>Location</u>	<u>Description</u>	<u>Section Identifier</u>
2-BKR-99-L116/1B	786/A11-U	Reactor Trip Breaker A	RTA
2-BKR-99-L116/2B	786/A11-U	Reactor Trip Breaker A Bypass	BYA
2-BKR-99-L116/1C	786/A11-U	Reactor Trip Breaker B	RTB
2-BKR-99-L116/2C	786/A11-U	Reactor Trip Breaker B Bypass	BYB

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

- [2] **ENSURE** the following breakers are Racked Out to the DISCONNECT position at Panel 2-L-116:
- A. Breaker RTA

CV
- B. Breaker RTB

CV
- C. Breaker BYA

CV

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

D. Breaker BYB

CV

[3] **REMOVE** the following fuses:

A. Fuse 2-FU-275-R71/R3 "250V DC Turbine Trip Bus A", at
Panel 2-R-71

CV

B. Fuse 2-FU-275-R70/R2 "250V DC Turbine Trip Bus B", at
Panel 2-R-70

CV

[4] **VERIFY** the following:

A. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS
RTA & BYA OPEN, is in ALARM

B. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS
RTB & BYB OPEN, is in ALARM

C. Annunciator 76A (2-XA-55-4D, 2-M-4), MANUAL, is
CLEAR

D. Annunciator 76G (2-XA-55-4D, 2-M-4), SI MANUAL, is
CLEAR

E. Annunciator 84B (2-XA-55-4B, 2-M-4), BYPASS BKR A
RACKED IN, is CLEAR

F. Annunciator 85B (2-XA-55-4B, 2-M-4), BYPASS BKR B
RACKED IN, is CLEAR

G. Annunciator 84C (2-XA-55-4B, 2-M-4), BYPASS BKR A
CLOSED, is CLEAR

H. Annunciator 85C (2-XA-56-4B, 2-M-4), BYPASS BKR B
CLOSED, is CLEAR

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

I. Computer Point Y0006D, REAC MAIN TR BKR A,
indicates OPEN

J. Computer Point Y0007D, REAC MAIN TR BKR B,
indicates OPEN

K. Computer Point Y0026D, REAC AUX TR BKR A,
indicates OPEN

L. Computer Point Y0027D, REAC AUX TR BKR B,
indicates OPEN

[5] **CONNECT** the cable plug to the UV receptacle on the
following breakers at Panel 2-L-116:

A. BYA

CV

B. BYB

CV

[6] **LIFT** wires at the following locations:

A. Internal (vendor) wire at TB506, Terminal 5, Panel 2-R-47

CV

B. Internal (vendor) wire at TB506, Terminal 5, Panel 2-R-50

CV

[7] **INSTALL** a jumper at the following locations:

A. TB507 Terminals 1 and 2, Panel 2-R-47 (Internal side)

CV

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

B. TB507 Terminals 1 and 2, Panel 2-R-50 (Internal side) _____
_____ CV

[8] **LIFT** wires at the following locations:

A. Internal (vendor) wire at TB505, Terminal 4, Panel 2-R-47 _____
_____ CV

B. Internal (vendor) wire at TB505, Terminal 4, Panel 2-R-50 _____
_____ CV

[9] **VERIFY** the following:

- A. Breaker RTA, Panel 2-L-116, OPEN _____
- B. Green Indicating Light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is OFF _____
- C. Red Indicating Light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is OFF _____
- D. Relay X5A, Panel 2-L-116 is DE-ENERGIZED _____
- E. Computer Point Y0006D, REAC MAIN TR BKR A, indicates OPEN _____
- F. Computer Point Y0007D, REAC MAIN TR BKR B, indicates OPEN _____
- G. Computer Point Y0004D, REAC MANUAL TR 1 CAUSES RX TRIP, indicates NOT TR _____
- H. Computer Point Y0005D, REAC MANUAL TR 2 CAUSES RX TRIP, indicates NOT TR _____
- I. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates TRIP _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

J. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B,
indicates TRIP _____

- [10] **VERIFY** approximately 0 VAC across TB11, Terminal 1 (X1A3)
and Terminal 2 (X1A4) at Panel 2-L-116 Train A Cabinet 2 (P-
4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal
protection.

- [11] **VERIFY** approximately 0 VDC across TB4, Terminal 1
(TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A
Cabinet 2 (P-4 contacts associated with Turbine Trip). _____

M&TE _____ Cal Due Date _____

- [12] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5,
Panel 2-R-47 (P-4). _____

M&TE _____ Cal Due Date _____

- [13] **VERIFY** the following at Panel 2-L-116:

A. Relay X1A is ENERGIZED. _____

B. Relay X4A is ENERGIZED. _____

- [14] **RACK** Breaker RTA, Panel 2-L-116, into the TEST position. _____

CV

- [15] **VERIFY** the following:

A. Breaker RTA, Panel 2-L-116, is OPEN _____

B. Green Indicating Light, 2-52RTA, RX TRIP BKR A, Panel
2-M-4, is ON _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

C. Red indicating light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is OFF _____

D. Annunciator 73C (XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is in ALARM _____

E. Computer Point Y0006D, REAC MAIN TR BKR A, indicates OPEN _____

F. Relay X1A, Panel 2-L-116, is ENERGIZED _____

G. Relay X5A, Panel 2-L-116, is DE-ENERGIZED _____

[16] **VERIFY** approximately 0 VAC across TB11, Terminal 1 (X1A3) and Terminal 2 (X1A4) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[17] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip). _____

M&TE _____ Cal Due Date _____

[18] **VERIFY** the following:

A. Computer Point Y0006D, REAC MAIN TR BKR A, indicates OPEN _____

B. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates NOT TR _____

[19] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5, Panel 2-R-47 (P-4). _____

M&TE _____ Cal Due Date _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[20] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____

[21] **VERIFY** the following:

A. Breaker RTA, Panel 2-L-116, is CLOSED _____

B. Red Indicating Light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is ON _____

C. Green indicating light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is OFF _____

D. Computer Point Y0006D, REAC MAIN TR BKR A, indicates CLOSED. _____

E. Computer Point Y0004D, REAC MANUAL TR 1 CAUSES RX TRIP, indicates NOT TR. _____

F. Computer Point Y0005D, REAC MANUAL TR 2 CAUSES RX TRIP, indicates NOT TR. _____

G. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates TRIP _____

H. Annunciator 76A (2-XA-55-4D, 2-M-4), MANUAL, is CLEAR _____

I. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is in ALARM _____

J. Relay X1A, Panel 2-L-116, is ENERGIZED _____

K. Relay X5A, Panel 2-L-116, is DE-ENERGIZED _____

[22] **VERIFY** approximately 0 VAC across TB11, Terminal 1 (X1A3) and Terminal 2 (X1A4) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

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6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [23] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip). _____
- M&TE _____ Cal Due Date _____
- [24] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5, Panel 2-R-47. _____
- M&TE _____ Cal Due Date _____
- [25] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the TRIP position. _____
- [26] **VERIFY** the following:
- A. Breaker RTA, Panel 2-L-116, is OPEN _____
 - B. Green Indicating Light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is ON _____
 - C. Red indicating light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is OFF _____
 - D. Computer Point Y0006D, REAC MAIN TR BKR A, indicates OPEN. _____
 - E. Computer Point Y0004D, REAC MANUAL TR 1 CAUSES RX TRIP, indicates TRIP. _____
 - F. Computer Point Y0005D, REAC MANUAL TR 2 CAUSES RX TRIP, indicates NOT TR. _____
 - G. Annunciator 76A (XA-55-4D, 2-M-4), MANUAL, is in ALARM _____
 - H. Unit 2 Event Display Monitor indicates 76-A RT-MANUAL is in ALARM (Red) _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[27] **VERIFY** that Relay X5A, Panel 2-L-116, is DE-ENERGIZED. _____

[28] **DEPRESS** Breaker RTA, PUSH TO CLOSE Manual Close Bar at Panel 2-L-116. _____

[29] **VERIFY** the following:

A. Breaker RTA, Panel 2-L-116, is CLOSED _____

B. Annunciator 76A (2-XA-55-4D, 2-M-4), MANUAL, is CLEAR _____

C. Computer Point Y0004D, REAC MANUAL TR 1 CAUSES RX TRIP, indicates NOT TR _____

D. Unit 2 Event Display Monitor indicates 76-A RT-MANUAL is in NORMAL (Blue) _____

[30] **DEPRESS** Breaker RTA Manual TRIP plate at Panel 2-L-116. _____

[31] **VERIFY** Breaker RTA, Panel 2-L-116, remains CLOSED. _____

[32] **ROTATE** REACTOR TRIP Control Switch 2-RT-2, Panel 2-M-6, momentarily to the TRIP position. _____

[33] **VERIFY** the following:

A. Breaker RTA, Panel 2-L-116, is OPEN _____

B. Annunciator 76A (2-XA-55-4D, 2-M-4), MANUAL, is in ALARM. _____

C. Computer Point Y0005D, REAC MANUAL TR 2 CAUSES RX TRIP, indicates TRIP. _____

[34] **RACK** Breaker RTA, Panel 2-L-116, into the CONNECTED position. _____

CV

[35] **VERIFY** the following:

A. Breaker RTA, Panel 2-L-116, is OPEN _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- B. Green Indicating Light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is ON _____
- C. Red indicating light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is OFF _____
- D. Computer Point Y0006D, REAC MAIN TR BKR A, indicates OPEN. _____
- E. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates NOT TR _____
- F. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is in ALARM. _____
- G. Unit 2 Event Display Monitor indicates 73-C TT-RX TRIP BKRS RTA & BYA is in ALARM (Red) _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [36] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip). _____
M&TE _____ Cal Due Date _____
- [37] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5, Panel 2-R-47. _____
M&TE _____ Cal Due Date _____
- [38] **VERIFY** approximately 0 VDC across TB11, Terminal 1 (X1A3) and Terminal 2 (X1A4) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Steam Dump). _____
M&TE _____ Cal Due Date _____
- [39] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[40] **VERIFY** the following:

- A. Breaker RTA, Panel 2-L-116, is CLOSED _____
- B. Green Indicating Light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is OFF _____
- C. Red indicating light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is ON _____
- D. Computer Point Y0006D, REAC MAIN TR BKR A, indicates CLOSED. _____
- E. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates NOT TR _____
- F. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is in CLEAR. _____
- G. Unit 2 Event Display Monitor indicates 73-C TT-RX TRIP BKRS RTA & BYA is in NORMAL (Blue) _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[41] **VERIFY** approximately 250 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip). _____

M&TE _____ Cal Due Date _____

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Date _____

6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

CAUTION

120 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [42] **VERIFY** approximately 120 VDC across TB11, Terminal 1 (X1A3) and Terminal 2 (X1A4) at Panel 2-L-116 Train A Cabinet 2.

M&TE _____ Cal Due Date _____

- [43] **VERIFY** OPEN circuit across TB506, Terminals 4 and 5, Panel 2-R-47.

M&TE _____ Cal Due Date _____

- [44] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-6, momentarily to the TRIP position.

- [45] **VERIFY** the following:

- A. Breaker RTA, Panel 2-L-116, is OPEN. **[Acc Crit]**
- B. Green Indicating Light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is ON
- C. Red indicating light, 2-52RTA, RX TRIP BKR A, Panel 2-M-4, is OFF
- D. Computer Point Y0006D, REAC MAIN TR BKR A, indicates OPEN.
- E. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates TRIP.
- F. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is in ALARM.

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6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [46] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip). _____
M&TE _____ Cal Due Date _____
- [47] **VERIFY** approximately 0 VDC across TB11, Terminal 1 (X1A3) and Terminal 2 (X1A4) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Steam Dump). _____
M&TE _____ Cal Due Date _____
- [48] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5, Panel 2-R-47. **[Acc Crit]** _____
M&TE _____ Cal Due Date _____
- [49] **DEPRESS** Breaker RTA PUSH TO CLOSE Manual Close at Panel 2-L-116. _____
- [50] **VERIFY** RTA Breaker, Panel 2-L-116, is CLOSED. _____
- [51] **DEPRESS** Breaker RTA Manual TRIP plate at Panel 2-L-116. _____
- [52] **VERIFY** Breaker RTA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____
- [53] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____
- [54] **VERIFY** Breaker RTA, Panel 2-L-116, is CLOSED. _____
- [55] **ROTATE** REACTOR TRIP Control Switch 2-RT-2, Panel 2-M-6, momentarily to the TRIP position. _____
- [56] **VERIFY** Breaker RTA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- [57] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____
- [58] **VERIFY** Breaker RTA, Panel 2-L-116, is CLOSED. _____
- [59] **ROTATE** and **HOLD** Control Switch 2-HS-63-133A, Panel 2-M-6, SI ACTUATE TR A&B, to the ACTUATE position. _____
- [60] **VERIFY** Annunciator 76G (2-XA-55-4D, 2-M-4), SI MANUAL, is in ALARM _____
- [61] **VERIFY** Unit 2 Event Display Monitor indicates 76-G SI MANUAL is in ALARM (Red) _____
- [62] **RELEASE** Control Switch 2-HS-63-133A, Panel 2-M-6, SI ACTUATE TR A&B. _____
- [63] **VERIFY** Annunciator 76G (2-XA-55-4D, 2-M-4), SI MANUAL, is CLEAR _____
- [64] **VERIFY** Unit 2 Event Display Monitor indicates 76-G SI MANUAL is in NORMAL (Blue) _____
- [65] **VERIFY** Breaker RTA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____
- [66] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____
- [67] **VERIFY** Breaker RTA, Panel 2-L-116, is CLOSED. _____
- [68] **ROTATE** and **HOLD** Control Switch 2-HS-63-133B, Panel 2-M-4, SI ACTUATE TR A&B, to the ACTUATE position. _____
- [69] **VERIFY** Annunciator 76G (2-XA-55-4D, 2-M-4), SI MANUAL, is in ALARM _____
- [70] **VERIFY** Unit 2 Event Display Monitor indicates 76-G SI MANUAL is in ALARM (Red) _____
- [71] **RELEASE** Control Switch 2-HS-63-133B, Panel 2-M-6, SI ACTUATE TR A&B. _____
- [72] **VERIFY** Annunciator 76G (2-XA-55-4D, 2-M-4), SI MANUAL, is CLEAR _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[73] **VERIFY** Unit 2 Event Display Monitor indicates 76-G SI
MANUAL is in NORMAL (Blue) _____

[74] **VERIFY** Breaker RTA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____

[75] **RACK** Breaker RTA, Panel 2-L-116, into the DISCONNECT
position. _____

CV

[76] **VERIFY** the following:

A. Breaker BYA, Panel 2-L-116, is OPEN. _____

B. Green Indicating Light, 2-52BYA, BYPASS BKR A,
Panel 2-M-4, is OFF _____

C. Red indicating light, 2-52BYA, BYPASS BKR A,
Panel 2-M-4, is OFF _____

D. GENERAL WARNING Lamp, 2-R-47, is NOT LIT _____

E. Relay XA, Panel 2-L-116, is DE-ENERGIZED _____

F. Relay X2A, Panel 2-L-116, is DE-ENERGIZED _____

G. Relay X3A, Panel 2-L-116, is DE-ENERGIZED _____

H. Relay X4A, Panel 2-L-116, is ENERGIZED _____

I. Relay X6A, Panel 2-L-116, is DE-ENERGIZED _____

J. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN
WARNING, is CLEAR _____

K. Computer Point Y0026D, REAC AUX TR BKR A,
indicates OPEN _____

L. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A,
indicates TRIP _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- [77] **VERIFY** approximately 0 VDC across TB11, Terminal 9 (X4A3) and Terminal 10 (X4A4) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [78] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip). _____

M&TE _____ Cal Due Date _____

- [79] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5, Panel 2-R-47. _____

M&TE _____ Cal Due Date _____

- [80] **RACK** Breaker BYA, Panel 2-L-116, into the TEST position. _____

CV

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[81] **VERIFY** the following:

- A. Breaker BYA, Panel 2-L-116, is OPEN. _____
- B. Green Indicating Light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is OFF _____
- C. Red indicating light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is OFF _____
- D. GENERAL WARNING Lamp, 2-R-47, is NOT LIT _____
- E. Annunciator 84B (2-XA-55-4B, 2-M-4), BYPASS BKR A RACKED IN, is CLEAR _____
- F. Annunciator 84C (2-XA-55-4B, 2-M-4), BYPASS BKR A CLOSED, is CLEAR _____
- G. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is CLEAR _____
- H. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is in ALARM. _____
- I. Computer Point Y0026D, REAC AUX TR BKR A, indicates OPEN _____
- J. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates TRIP _____
- K. Relay X2A, Panel 2-L-116, is DE-ENERGIZED _____
- L. Relay X4A, Panel 2-L-116, is ENERGIZED _____
- M. Relay XA, Panel 2-L-116, is DE-ENERGIZED _____
- N. Relay X3A, Panel 2-L-116, is DE-ENERGIZED _____
- O. Relay X6A, Panel 2-L-116, is DE-ENERGIZED _____

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6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [82] **VERIFY** approximately 0 VDC across TB11, Terminal 9 (X4A3) and Terminal 10 (X4A4) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Steam Dump).

M&TE _____ Cal Due Date _____

- [83] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip).

M&TE _____ Cal Due Date _____

- [84] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5, Panel 2-R-47.

M&TE _____ Cal Due Date _____

- [85] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116, momentarily.

- [86] **VERIFY** the following:

- A. Breaker BYA, Panel 2-L-116, is CLOSED.
- B. Green Indicating Light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is OFF
- C. Red indicating light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is OFF
- D. GENERAL WARNING Lamp, 2-R-47, is NOT LIT
- E. Annunciator 84C (2-XA-55-4B, 2-M-4), BYPASS BKR A CLOSED, is in ALARM.
- F. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is CLEAR

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

G. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS
RTA & BYA OPEN, is in ALARM. _____

H. Computer Point Y0026D, REAC AUX TR BKR A,
indicates CLOSED _____

I. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A,
indicates TRIP _____

J. Unit 2 Event Display Monitor indicates 84-C BYPASS
BKR A CLOSED is in ALARM (Red) _____

K. Relay X2A, Panel 2-L-116, is ENERGIZED _____

L. Relay X4A, Panel 2-L-116, is ENERGIZED _____

M. Relay XA, Panel 2-L-116, is DE-ENERGIZED _____

N. Relay X3A, Panel 2-L-116, is DE-ENERGIZED _____

[87] **VERIFY** approximately 0 VDC across TB11, Terminal 9 (X4A3)
and Terminal 10 (X4A4) at Panel 2-L-116 Train A Cabinet 2
(P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[88] **VERIFY** approximately 0 VDC across TB4, Terminal 1
(TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A
Cabinet 2 (P-4 contacts associated with Turbine Trip). _____

M&TE _____ Cal Due Date _____

[89] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5,
Panel 2-R-47. _____

M&TE _____ Cal Due Date _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- [90] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the TRIP position. _____
- [91] **VERIFY** Breaker BYA, Panel 2-L-116, remains CLOSED. _____
- [92] **ROTATE** REACTOR TRIP Control Switch 2-RT-2, Panel 2-M-6, momentarily to the TRIP position. _____
- [93] **VERIFY** Breaker BYA, Panel 2-L-116, remains CLOSED. _____
- [94] **ROTATE** Control Switch 2-HS-63-133A, Panel 2-M-6, SI ACTUATE TR A&B, to the ACTUATE position. _____
- [95] **VERIFY** Breaker BYA, Panel 2-L-116, remains CLOSED. _____
- [96] **ROTATE** Control Switch 2-HS-63-133B, Panel 2-M-4, SI ACTUATE TR A&B, to the ACTUATE position. _____
- [97] **VERIFY** Breaker BYA, Panel 2-L-116, remains CLOSED. _____
- [98] **PUSH** Breaker BYA TRIP test pushbutton, Panel 2-L-116, momentarily. _____
- [99] **VERIFY** the following:
 - A. Breaker BYA, Panel 2-L-116, is OPEN. _____
 - B. Green Indicating Light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is OFF _____
 - C. Red indicating light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is OFF _____
 - D. Computer Point Y0026D, REAC AUX TR BKR A, indicates OPEN _____
 - E. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates TRIP _____
 - F. Annunciator 84C (2-XA-55-4B, 2-M-4), BYPASS BKR A CLOSED, is CLEAR. _____
 - G. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is in ALARM. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- H. Unit 2 Event Display Monitor indicates 84-C BYPASS BKR A CLOSED is in NORMAL (Blue) _____
- I. Relay X2A, Panel 2-L-116, is DE-ENERGIZED _____
- J. Relay X4A, Panel 2-L-116, is ENERGIZED _____
- [100] **PUSH** Breaker BYA, PUSH TO CLOSE Manual Close Bar, Panel 2-L-116, momentarily. _____
- [101] **VERIFY** that Breaker BYA, Panel 2-L-116, is CLOSED. _____
- [102] **DEPRESS** Breaker BYA manual TRIP plate at Panel 2-L-116. _____
- [103] **VERIFY** Breaker BYA, Panel 2-L-116, remains CLOSED. _____
- [104] **PUSH** Breaker BYA TRIP test pushbutton, Panel 2-L-116, momentarily _____
- [105] **VERIFY** Breaker BYA, Panel 2-L-116, is OPEN. _____
- [106] **RACK** Breaker BYA, Panel 2-L-116, into the CONNECTED position _____
- _____ CV
- [107] **VERIFY** the following:
 - A. Breaker BYA, Panel 2-L-116, is OPEN. _____
 - B. Green Indicating Light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is ON _____
 - C. Red indicating light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is OFF _____
 - D. GENERAL WARNING Lamp, 2-R-47, is NOT LIT _____
 - E. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is in ALARM. _____
 - F. Annunciator 84B (2-XA-55-4B, 2-M-4), BYPASS BKR A RACKED IN, is in ALARM. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

G. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is CLEAR. _____

H. Annunciator 84C (2-XA-55-4B, 2-M-4), BYPASS BKR A CLOSED, is CLEAR. _____

I. Computer Point Y0026D, REAC AUX TR BKR A, indicates OPEN _____

J. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates TRIP _____

K. Unit 2 Event Display Monitor indicates 84-B BYPASS BKR A RACKED IN is in ALARM (Red) _____

L. Relay X2A, Panel 2-L-116, is DE-ENERGIZED _____

M. Relay X3A, Panel 2-L-116, is DE-ENERGIZED _____

N. Relay XA, Panel 2-L-116, is DE-ENERGIZED _____

O. Relay X4A, Panel 2-L-116, is ENERGIZED _____

P. Relay X6A, Panel 2-L-116, is ENERGIZED _____

[108] **VERIFY** approximately 0 VDC across TB11, Terminal 9 (X4A3) and Terminal 10 (X4A4) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[109] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip). _____

M&TE _____ Cal Due Date _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[110] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5,
Panel 2-R-47.

M&TE _____ Cal Due Date _____

[111] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116,
momentarily.

[112] **VERIFY** the following:

- A. Breaker BYA, Panel 2-L-116, is CLOSED.
- B. Green Indicating Light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is OFF
- C. Red indicating light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is ON
- D. GENERAL WARNING Lamp, 2-R-47, is LIT
- E. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is CLEAR.
- F. Annunciator 84C (2-XA-55-4B, 2-M-4), BYPASS BKR A CLOSED, is in ALARM.
- G. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is in ALARM.
- H. Relay X2A, Panel 2-L-116, is ENERGIZED
- I. Relay XA, Panel 2-L-116, is ENERGIZED
- J. Relay X3A, Panel 2-L-116, is ENERGIZED
- K. Relay X4A, Panel 2-L-116, is DE-ENERGIZED
- L. Computer Point Y0026D, REAC AUX TR BKR A, indicates CLOSED.
- M. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates NOT TR

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- [113] **VERIFY** approximately 120 VAC across TB11, Terminal 9 (X4A3) and Terminal 10 (X4A4) at Panel 2-L-116, Train A Cabinet 2 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [114] **VERIFY** 250 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip). _____

M&TE _____ Cal Due Date _____

- [115] **VERIFY** OPEN circuit across TB506, Terminals 4 and 5, Panel 2-R-47. _____

M&TE _____ Cal Due Date _____

- [116] **DEPRESS** Breaker BYA manual TRIP plate at Panel 2-L-116. _____

- [117] **VERIFY** the following:

- A. Breaker BYA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____
- B. Green Indicating Light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is ON _____
- C. Red indicating light, 2-52BYA, BYPASS BKR A, Panel 2-M-4, is OFF _____
- D. GENERAL WARNING Lamp, 2-R-47, is NOT LIT. _____
- E. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTA & BYA OPEN, is in ALARM. _____
- F. Annunciator 84C (2-XA-55-4B, 2-M-4), BYPASS BKR A CLOSED, is CLEAR. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

G. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is CLEAR. _____

H. Computer Point Y0026D, REAC AUX TR BKR A, indicates OPEN. _____

I. Computer Point Y2407D, SSPS TURBINE TRIP TRAIN A, indicates TRIP _____

J. Relay X3A, Panel 2-L-116, is DE-ENERGIZED _____

K. Relay XA, Panel 2-L-116, is DE-ENERGIZED _____

L. Relay X2A, Panel 2-L-116, is DE-ENERGIZED _____

M. Relay X4A, Panel 2-L-116, is ENERGIZED _____

[118] **VERIFY** approximately 0 VAC across TB11, Terminal 9 (X4A3) and Terminal 10 (X4A4) at Panel 2-L-116, Train A Cabinet 2 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[119] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP1) and Terminal 2 (TTB31) at Panel 2-L-116 Train A Cabinet 2 (P-4 contacts associated with Turbine Trip). _____

M&TE _____ Cal Due Date _____

[120] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5, Panel 2-R-47. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[121] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116, momentarily. _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- [122] **VERIFY** Breaker BYA, Panel 2-L-116, is CLOSED. _____
- [123] **ROTATE** Reactor Trip Control Switch 2-RT-1, Panel 2-M-4,
momentarily to the TRIP position. _____
- [124] **VERIFY** Breaker BYA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____
- [125] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116,
momentarily. _____
- [126] **VERIFY** Breaker BYA, Panel 2-L-116, is CLOSED. _____
- [127] **ROTATE** Reactor Trip Control Switch 2-RT-2, Panel 2-M-6,
momentarily to the TRIP position. _____
- [128] **VERIFY** Breaker BYA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____
- [129] **PUSH** Breaker BYA CLOSE Test pushbutton, Panel 2-L-116
momentarily _____
- [130] **VERIFY** Breaker BYA, Panel 2-L-116, is CLOSED. _____
- [131] **ROTATE** Control Switch 2-HS-63-133A, Panel 2-M-6,
ACTUATE TR A&B, to the ACTUATE position. _____
- [132] **VERIFY** Breaker BYA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____
- [133] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116,
momentarily _____
- [134] **VERIFY** Breaker BYA, Panel 2-L-116, is CLOSED. _____
- [135] **ROTATE** Control Switches 2-HS-63-133B, Panel 2-M-6, SI
ACTUATE TR A&B, to the ACTUATE position. _____
- [136] **VERIFY** Breaker BYA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____
- [137] **PUSH** Breaker BYA CLOSE Test pushbutton, Panel 2-L-116
momentarily. _____
- [138] **VERIFY** Breaker BYA, Panel 2-L-116, is CLOSED. _____
- [139] **PUSH** Breaker BYA TRIP Test pushbutton, Panel 2-L-116
momentarily. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[140] **VERIFY** Breaker BYA, Panel 2-L-116, is OPEN. **[Acc Crit]** _____

[141] **RACK** Breaker BYA, Panel 2-L-116 into the DISCONNECT position. _____

CV

[142] **VERIFY** the following:

A. Breaker RTB, Panel 2-L-116, is OPEN _____

B. Annunciator 84B (2-XA-55-4B, 2-M-4), BYPASS BKR A RACKED IN, is CLEAR _____

C. Green Indicator Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF _____

D. Red Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF. _____

E. Relay X5B, Panel 2-L-116, is DE-ENERGIZED _____

F. Computer Point Y0007D, REAC MAIN TR BKR B, indicates OPEN _____

G. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B, indicates TRIP _____

H. Unit 2 Event Display Monitor indicates 84-B BYPASS BKR A RACKED IN is in NORMAL (Blue) _____

[143] **VERIFY** approximately 0 VDC across TB11, Terminal 1 (X1B3) and Terminal 2 (X1B4) at Panel 2-L-116 Train B Cabinet 1 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

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6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [144] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B Cabinet 1.

M&TE _____ Cal Due Date _____

- [145] **VERIFY** CLOSED circuit continuity across TB506; Terminals 4 and 5, Panel 2-R-50 (P-4).

- [146] **VERIFY** Relay X1B at Panel 2-L-116 is ENERGIZED.

- [147] **RACK** Breaker RTB, Panel 2-L-116, into the TEST position.

CV

- [148] **VERIFY** the following:

- A. Breaker RTB, Panel 2-L-116, is OPEN
- B. Green Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is ON
- C. Red Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF
- D. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTB & BYB OPEN, is in ALARM
- E. Computer Point Y0007D, REAC MAIN TR BKR B, indicates OPEN
- F. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B, indicates TRIP
- G. Relay X1B, Panel 2-L-116, is ENERGIZED

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6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

H. Relay X5B, Panel 2-L-116, is DE-ENERGIZED _____

[149] **VERIFY** approximately 0 VAC across TB11, Terminal 1 (X1B3) and Terminal 2 (X1B4) at Panel 2-L-116 Train B Cabinet 1 (P-4 contacts associated with Steam Dump). _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[150] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B Cabinet 1. _____

M&TE _____ Cal Due Date _____

[151] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5, Panel 2-R-50. _____

M&TE _____ Cal Due Date _____

[152] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position _____

[153] **VERIFY** the following:

A. Breaker RTB, Panel 2-L-116, is CLOSED _____

B. Green Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF _____

C. Red Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is ON _____

D. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTB & BYB OPEN, is in ALARM _____

E. Computer Point Y0007D, REAC MAIN TR BKR B, indicates CLOSED. _____

F. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B, indicates TRIP _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

G. Relay X1B, Panel 2-L-116, is ENERGIZED _____

H. Relay X5B, Panel 2-L-116, is ENERGIZED _____

[154] **VERIFY** approximately 0 VAC across TB11, Terminal 1 (X1B3) and Terminal 2 (X1B4) at Panel 2-L-116 Train B Cabinet 1 (P-4 contacts associated with Steam Dump). _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[155] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B Cabinet 1. _____

M&TE _____ Cal Due Date _____

[156] **VERIFY** CLOSED circuit continuity across TB506, Terminals 4 and 5, Panel 2-R-50. _____

M&TE _____ Cal Due Date _____

[157] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the TRIP position. _____

[158] **VERIFY** the following:

A. Breaker RTB, Panel 2-L-116, is OPEN _____

B. Green Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is ON _____

C. Red Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF _____

D. Computer Point Y0007D, REAC MAIN TR BKR B, indicates OPEN. _____

[159] **VERIFY** that Relay X5B, Panel 2-L-116, is DE-ENERGIZED. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[160] **DEPRESS** Breaker RTB, PUSH TO CLOSE Manual Close Bar at Panel 2-L-116.

[161] **VERIFY** Breaker RTB, Panel 2-L-116, is CLOSED.

[162] **DEPRESS** Breaker RTB Manual TRIP plate at Panel 2-L-116.

[163] **VERIFY** Breaker RTB, Panel 2-L-116, remains CLOSED.

[164] **ROTATE** REACTOR TRIP Control Switch 2-RT-2, Panel 2-M-6, momentarily to the TRIP position.

[165] **VERIFY** Breaker RTB, Panel 2-L-116, is OPEN.

[166] **RACK** Breaker RTB, Panel 2-L-116, into the CONNECTED position.

CV

[167] **VERIFY** the following:

A. Breaker RTB, Panel 2-L-116, is OPEN.

B. Green Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is ON.

C. Red Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF.

D. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTB & BYB OPEN, is in ALARM

E. Computer Point Y0007D, REAC MAIN TR BKR B, indicates OPEN.

F. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B, indicates TRIP

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6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [168] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B Cabinet 1.

M&TE _____ Cal Due Date _____

- [169] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5, Panel 2-R-50.

M&TE _____ Cal Due Date _____

- [170] **VERIFY** approximately 0 VAC across TB11, Terminal 1 (X1B3) and Terminal 2 (X1B4) at Panel 2-L-116 Train B Cabinet 1 (P-4 contacts associated with Steam Dump)

- [171] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position.

- [172] **VERIFY** the following:

- A. Breaker RTB, Panel 2-L-116, is CLOSED.
- B. Green Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF.
- C. Red Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is ON.
- D. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTB & BYB OPEN, is CLEAR.
- E. Computer Point Y0007D, REAC MAIN TR BKR B, indicates CLOSED.
- F. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B, indicates NOT TR

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6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

- G. Unit 2 Event Display Monitor indicates 74-C TT-RX TRIP
BKRS RTB & BYB is in NORMAL (Blue) _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [173] **VERIFY** approximately 250 VDC across TB4, Terminal 1 (TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B Cabinet 1. _____

M&TE _____ Cal Due Date _____

- [174] **VERIFY** approximately 120 VAC across TB11, Terminal 1 (X1B3) and Terminal 2 (X1B4) at Panel 2-L-116 Train B Cabinet 1 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

- [175] **VERIFY** OPEN circuit across TB506, Terminals 4 and 5, Panel 2-R-50. _____

M&TE _____ Cal Due Date _____

- [176] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the TRIP position. _____

- [177] **VERIFY** the following:

- A. Breaker RTB, Panel 2-L-116, is OPEN. **[Acc Crit]** _____
- B. Green Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is ON. _____
- C. Red Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF. _____
- D. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTB & BYB OPEN, is in ALARM. _____
- E. Computer Point Y0007D, REAC MAIN TR BKR B, indicates OPEN. _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- F. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B,
indicates TRIP _____
- G. Unit 2 Event Display Monitor indicates 74-C TT-RX TRIP
BKRS RTB & BYB is in ALARM (Red) _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [178] **VERIFY** approximately 0 VDC across TB4, Terminal 1
(TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B
Cabinet 1. _____

M&TE _____ Cal Due Date _____

- [179] **VERIFY** approximately 0 VAC across TB11, Terminal 1 (X1B3)
and Terminal 2 (X1B4) at Panel 2-L-116 Train B Cabinet 1 (P-
4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

- [180] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5,
Panel 2-R-50. **[Acc Crit]** _____

- [181] **DEPRESS** Breaker RTB, PUSH TO CLOSE Manual Close Bar
at Panel 2-L-116. _____

- [182] **VERIFY** Breaker RTB, Panel 2-L-116, is CLOSED. _____

- [183] **DEPRESS** Breaker RTB Manual TRIP plate at Panel 2-L-116. _____

- [184] **VERIFY** Breaker RTB, Panel 2-L-116 is OPEN. **[Acc Crit]** _____

- [185] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-
4, momentarily to the CLOSE position. _____

- [186] **VERIFY** Breaker RTB, Panel 2-L-116, is CLOSED. _____

- [187] **ROTATE** REACTOR TRIP Control Switch 2-RT-2, Panel
2-M-6, momentarily to the TRIP position. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[188] **VERIFY** Breaker RTB, Panel 2-L-116, is OPEN. **[Acc Crit]** _____

[189] **ROTATE** REACTOR TRIP CONTROL SWITCH 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____

[190] **VERIFY** Breaker RTB, Panel 2-L-116, is CLOSED. _____

[191] **ROTATE** Control Switch 2-HS-63-133A, Panel 2-M-6, SI ACTUATE TR A&B, to the ACTUATE position. _____

[192] **VERIFY** Breaker RTB, Panel 2-L-116, is OPEN. **[Acc Crit]** _____

[193] **ROTATE** Reactor Trip Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____

[194] **VERIFY** that Breaker RTB, Panel 2-L-116, is CLOSED. _____

[195] **ROTATE** Control Switch 2-HS-63-133B, Panel 2-M-4, SI ACTUATE TR A&B, to the ACTUATE position. _____

[196] **VERIFY** Breaker RTB, Panel 2-L-116, is OPEN. **[Acc Crit]** _____

[197] **RACK** Breaker RTB, Panel 2-L-116, into the DISCONNECT position. _____

CV

[198] **VERIFY** the following:

A. Breaker BYB, Panel 2-L-116, is OPEN _____

B. Green Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF. _____

C. Red Indicating Light, 2-52RTB, RX TRIP BKR B, Panel 2-M-4, is OFF. _____

D. GENERAL WARNING Lamp, Panel 2-R-50, is NOT LIT _____

E. Relay XB, Panel 2-L-116, is DE-ENERGIZED _____

F. Relay X2B, Panel 2-L-116, is DE-ENERGIZED _____

G. Relay X3B, Panel 2-L-116, is DE-ENERGIZED _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

H. Relay X4B, Panel 2-L-116, is ENERGIZED _____

I. Relay X6B, Panel 2-L-116, is DE-ENERGIZED. _____

J. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN
WARNING, is CLEAR _____

K. Computer Point Y0027D, REAC AUX TR BKR B,
indicates OPEN _____

L. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B,
indicates TRIP _____

[199] **VERIFY** approximately 0 VAC across TB11, Terminal 9 (X4B3)
and Terminal 10 (X4B4) at Panel 2-L-116, Train B Cabinet 1
(P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[200] **VERIFY** approximately 0 VDC across TB4, Terminal 1
(TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B
Cabinet 1. _____

M&TE _____ Cal Due Date _____

[201] **VERIFY** CLOSED circuit across TB506, Terminal 4 and 5,
Panel 2-R-50. _____

M&TE _____ Cal Due Date _____

[202] **RACK** Breaker BYB, Panel 2-L-116, into the TEST position. _____

CV

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[203] **VERIFY** the following:

- A. Breaker BYB, Panel 2-L-116, is OPEN _____
- B. Green Indicating Light, 2-52BYB, BYPASS BKR B, Panel 2-M-4, is OFF. _____
- C. Red Indicating Light, 2-52BYB, BYPASS BKR B, Panel 2-M-4, is OFF. _____
- D. GENERAL WARNING Lamp, Panel 2-R-50, is NOT LIT _____
- E. Annunciator 85B (2-XA-55-4B, 2-M-4), BYPASS BKR B RACKED IN, is CLEAR _____
- F. Annunciator 85C (2-XA-55-4B, 2-M-4), BYPASS BKR B CLOSED, is CLEAR _____
- G. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN WARNING, is CLEAR _____
- H. Annunciator 74C (XA-55-4C, 2-M-4), RX TRIP BKRS RTB & BYB OPEN, is in ALARM _____
- I. Computer Point Y0027D, REAC AUX TR BKR B, indicates OPEN _____
- J. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B, indicates TRIP _____
- K. Relay X2B, Panel 2-L-116, is DE-ENERGIZED _____
- L. Relay X4B, Panel 2-L-116, is ENERGIZED _____
- M. Relay XB, Panel 2-L-116, is DE-ENERGIZED _____
- N. Relay X3B, Panel 2-L-116, is DE-ENERGIZED _____
- O. Relay X6B, Panel 2-L-116, is DE-ENERGIZED. _____

[204] **VERIFY** approximately 0 VAC across TB11, Terminal 9 (X4B3) and Terminal 10 (X4B4) at Panel 2-L-116, Train B Cabinet 1 (P-4 contacts associated with Steam Dump). _____

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Date _____

6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [205] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B Cabinet 1.

M&TE _____ Cal Due Date _____

- [206] **VERIFY** CLOSED circuit across TB506, Terminal 4 and 5, Panel 2-R-50.

M&TE _____ Cal Due Date _____

- [207] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116, momentarily.

- [208] **VERIFY** the following:

- A. Breaker BYB, Panel 2-L-116, is CLOSED. _____
- B. Green Indicating Light, 2-52BYB, BYPASS BKR B, Panel 2-M-4, is OFF. _____
- C. Red Indicating Light, 2-52BYB, BYPASS BKR B, Panel 2-M-4, is OFF. _____
- D. GENERAL WARNING Lamp, Panel 2-R-50, is NOT LIT _____
- E. Annunciator 85C (2-XA-55-4B, 2-M-4), BYPASS BKR B CLOSED, is in ALARM. _____
- F. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN WARNING, is CLEAR _____
- G. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTB & BYB OPEN, is in ALARM _____
- H. Computer Point Y0027D, REAC AUX TR BKR B, indicates CLOSED. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

I. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B,
indicates TRIP _____

J. Unit 2 Event Display Monitor indicates 85-C BYPASS
BKR B CLOSED is in ALARM (Red) _____

K. Relay X2B, Panel 2-L-116, is ENERGIZED _____

L. Relay X4B, Panel 2-L-116, is ENERGIZED _____

M. Relay XB, Panel 2-L-116, is DE-ENERGIZED _____

N. Relay X3B, Panel 2-L-116, is DE-ENERGIZED _____

[209] **VERIFY** approximately 0 VAC across TB11, Terminal 9 (X4B3)
and Terminal 10 (X4B4) at Panel 2-L-116, Train B Cabinet 1
(P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[210] **VERIFY** approximately 0 VDC across TB4, Terminal 1
(TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B
Cabinet 1. _____

M&TE _____ Cal Due Date _____

[211] **VERIFY** CLOSED circuit across TB506, Terminals 4 and 5,
Panel 2-R-50. _____

M&TE _____ Cal Due Date _____

[212] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-
4, momentarily to the TRIP position. _____

[213] **VERIFY** Breaker BYB, Panel 2-L-116, remains CLOSED. _____

[214] **ROTATE** REACTOR TRIP Control Switch 2-RT-2, Panel 2-M-
6, momentarily to the TRIP position. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- [215] **VERIFY** Breaker BYB, Panel 2-L-116, remains CLOSED. _____
- [216] **ROTATE** Control Switch 2-HS-63-133A, Panel 2-M-6, SI
ACTUATE TR A&B, to the ACTUATE position. _____
- [217] **VERIFY** Breaker BYB, Panel 2-L-116, remains CLOSED. _____
- [218] **ROTATE** Control Switch 2-HS-63-133B, Panel 2-M-4, SI
ACTUATE TR A&B, to the ACTUATE position. _____
- [219] **VERIFY** Breaker BYB, Panel 2-L-116, remains CLOSED. _____
- [220] **PUSH** Breaker BYB TRIP test pushbutton, Panel 2-L-116,
momentarily. _____
- [221] **VERIFY** the following:
 - A. Breaker BYB, Panel 2-L-116, is OPEN _____
 - B. Green Indicating Light, 2-52BYB, BYPASS BKR B, Panel
2-M-4, is OFF. _____
 - C. Red Indicating Light, 2-52BYB, BYPASS BKR B, Panel 2-
M-4, is OFF. _____
 - D. Computer Point Y0027D, REAC AUX TR BKR B,
indicates OPEN _____
 - E. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B,
indicates TRIP _____
 - F. Annunciator 85C (2-XA-55-4B, 2-M-4), BYPASS BKR B
CLOSED, is CLEAR. _____
 - G. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS
RTB & BYB OPEN is in ALARM. _____
 - H. Unit 2 Event Display Monitor indicates 85-C BYPASS
BKR B CLOSED is in NORMAL (Blue) _____
 - I. Relay X2B, Panel 2-L-116, is DE-ENERGIZED _____
 - J. Relay X4B, Panel 2-L-116, is ENERGIZED _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[222] **PUSH** Breaker BYB PUSH TO CLOSE Manual Close Bar,
Panel 2-L-116, momentarily. _____

[223] **VERIFY** that Breaker BYB, Panel 2-L-116, is CLOSED. _____

[224] **DEPRESS** Breaker BYB Manual Trip plate at Panel 2-L-116 _____

[225] **VERIFY** Breaker BYB, Panel 2-L-116, remains CLOSED. _____

[226] **PUSH** Breaker BYB TRIP test pushbutton, Panel 2-L-116,
momentarily. _____

[227] **VERIFY** Breaker BYB, Panel 2-L-116, is OPEN. _____

[228] **RACK** Breaker BYB, Panel 2-L-116, into the CONNECTED
position. _____

CV

[229] **VERIFY** the following:

A. Breaker BYB, Panel 2-L-116, is OPEN _____

B. Green Indicating Light, 2-52BYB, BYPASS BKR B, Panel
2-M-4, is ON. _____

C. Red Indicating Light, 2-52BYB, BYPASS BKR B, Panel
2-M-4, is OFF. _____

D. GENERAL WARNING Lamp, Panel 2-R-50, is NOT LIT _____

E. Annunciator 85B (2-XA-55-4B, 2-M-4), BYPASS BKR B
RACKED IN, is in ALARM. _____

F. Annunciator 85C (2-XA-55-4B, 2-M-4), BYPASS BKR B
CLOSED, is CLEAR _____

G. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN
WARNING, is CLEAR _____

H. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS
RTB & BYB OPEN, is in ALARM _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- I. Computer Point Y0027D, REAC AUX TR BKR B, indicates OPEN _____
- J. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B, indicates TRIP _____
- K. Unit 2 Event Display Monitor indicates 85-B BYPASS BKR B RACKED IN is in ALARM (Red) _____
- L. Relay X2B, Panel 2-L-116, is DE-ENERGIZED _____
- M. Relay X4B, Panel 2-L-116, is ENERGIZED _____
- N. Relay XB, Panel 2-L-116, is DE-ENERGIZED _____
- O. Relay X3B, Panel 2-L-116, is DE-ENERGIZED _____
- P. Relay X6B, Panel 2-L-116, is ENERGIZED. _____

[230] **VERIFY** approximately 0 VAC across TB11, Terminal 9 (X4B3) and Terminal 10 (X4B4) at Panel 2-L-116, Train B Cabinet 1 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[231] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B Cabinet 1. _____

M&TE _____ Cal Due Date _____

[232] **VERIFY** CLOSED circuit across TB506, Terminal 4 and 5, Panel 2-R-50. _____

M&TE _____ Cal Due Date _____

[233] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116, momentarily. _____

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[234] **VERIFY** the following:

- A. Breaker BYB, Panel 2-L-116, is CLOSED. _____
- B. Green Indicating Light, 2-52BYB, BYPASS BKR B, Panel 2-M-4, is OFF. _____
- C. Red Indicating Light, 2-52BYB, BYPASS BKR B, Panel 2-M-4, is ON. _____
- D. GENERAL WARNING Lamp, Panel 2-R-50, is LIT _____
- E. Annunciator 85C (2-XA-55-4B, 2-M-4), BYPASS BKR B CLOSED, is in ALARM _____
- F. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN WARNING, is in ALARM. _____
- G. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTB & BYB OPEN, is CLEAR _____
- H. Computer Point Y0027D, REAC AUX TR BKR B, indicates CLOSED _____
- I. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B, indicates NOT TR _____
- J. Relay X2B, Panel 2-L-116, is ENERGIZED _____
- K. Relay X4B, Panel 2-L-116, is DE-ENERGIZED _____
- L. Relay XB, Panel 2-L-116, is ENERGIZED _____
- M. Relay X3B, Panel 2-L-116, is ENERGIZED _____

[235] **VERIFY** 120 VAC across TB11, Terminal 9 (X4B3) and Terminal 10 (X4B4) at Panel 2-L-116, Train B Cabinet 1 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

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Date _____

6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip (continued)

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

- [236] **VERIFY** approximately 250 VDC across TB4, Terminal 1 (TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B Cabinet 1.

M&TE _____ Cal Due Date _____

- [237] **VERIFY** OPEN circuit across TB506, Terminal 4 and 5, Panel 2-R-50.

M&TE _____ Cal Due Date _____

- [238] **DEPRESS** Breaker BYB Manual TRIP plate at Panel 2-L-116.

- [239] **VERIFY** the following:

- A. Breaker BYB, Panel 2-L-116, is OPEN. **[Acc Crit]**
- B. Green Indicating Light, 2-52BYB, BYPASS BKR B, Panel 2-M-4, is ON.
- C. Red Indicating Light, 2-52BYB, BYPASS BKR B, Panel 2-M-4, is OFF.
- D. GENERAL WARNING Lamp, Panel 2-R-50, is NOT LIT.
- E. Annunciator 85C (2-XA-55-4B, 2-M-4), BYPASS BKR B CLOSED, is CLEAR.
- F. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN WARNING, is CLEAR.
- G. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS RTB & BYB OPEN, is in ALARM.
- H. Computer Point Y0027D, REAC AUX TR BKR B, indicates OPEN

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Date _____

**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

I. Computer Point Y2417D, SSPS TURBINE TRIP TRAIN B, indicates TRIP _____

J. Relay X2B, Panel 2-L-116, is DE-ENERGIZED _____

K. Relay X4B, Panel 2-L-116, is ENERGIZED _____

L. Relay XB, Panel 2-L-116, is DE-ENERGIZED _____

M. Relay X3B, Panel 2-L-116, is DE-ENERGIZED _____

[240] **VERIFY** approximately 0 VAC across TB11, Terminal 9 (X4B3) and Terminal 10 (X4B4) at Panel 2-L-116, Train B Cabinet 1 (P-4 contacts associated with Steam Dump). _____

M&TE _____ Cal Due Date _____

CAUTION

250 VDC may be present in the following step. Follow all safety precautions for personal protection.

[241] **VERIFY** approximately 0 VDC across TB4, Terminal 1 (TTRP2) and Terminal 2 (TTB32) at Panel 2-L-116 Train B Cabinet 1. _____

M&TE _____ Cal Due Date _____

[242] **VERIFY** CLOSED circuit across TB506, Terminal 4 and 5, Panel 2-R-50. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[243] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116, momentarily. _____

[244] **VERIFY** Breaker BYB, Panel 2-L-116 is CLOSED. _____

[245] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the TRIP position. _____

[246] **VERIFY** Breaker BYB, Panel 2-L-116 is OPEN. **[Acc Crit]** _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- [247] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116,
momentarily. _____
- [248] **VERIFY** Breaker BYB, Panel 2-L-116 is CLOSED. _____
- [249] **ROTATE** REACTOR TRIP Control Switch 2-RT-2, Panel 2-M-
6, momentarily to the TRIP position. _____
- [250] **VERIFY** Breaker BYB, Panel 2-L-116 is OPEN. **[Acc Crit]** _____
- [251] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116,
momentarily. _____
- [252] **VERIFY** Breaker BYB, Panel 2-L-116 is CLOSED. _____
- [253] **ROTATE** Control Switch 2-HS-63-133A, Panel 2-M-6, SI
ACTUATE TR A&B, to the ACTUATE position. _____
- [254] **VERIFY** Breaker BYB, Panel 2-L-116 is OPEN **[Acc Crit]** _____
- [255] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116,
momentarily. _____
- [256] **VERIFY** Breaker BYB, Panel 2-L-116 is CLOSED. _____
- [257] **ROTATE** Control Switch 2-HS-63-133B, Panel 2-M-6, SI
ACTUATE TR A&B, to the ACTUATE position. _____
- [258] **VERIFY** Breaker BYB, Panel 2-L-116 is OPEN. **[Acc Crit]** _____
- [259] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116,
momentarily. _____
- [260] **VERIFY** Breaker BYB, Panel 2-L-116 is CLOSED. _____
- [261] **PUSH** Breaker BYB TRIP test pushbutton, Panel 2-L-116,
momentarily. _____
- [262] **VERIFY** Breaker BYB, Panel 2-L-116 is OPEN. **[Acc Crit]** _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[263] **RACK** the following breakers at Panel 2-L-116, into the CONNECTED position:

A. RTA

CV

B. RTB

CV

C. BYA

CV

NOTES

The following step will jumper out the SSPS General Warning Trips.

With SSPS General Warning Trips jumpered out and with BYA CLOSED, attempting to close BYB will cause BYA to Trip and BYB to remain OPEN. (Step 6.1[268])

With SSPS General Warning Trips jumpered out and with BYB CLOSED, attempting to close BYA will cause BYB to Trip and BYA to remain OPEN. (Step 6.1[272])

[264] **INSTALL** a jumper at the following locations:

A. TB507 Terminal 4 and 5, Panel 2-R-47 (Internal side).

CV

B. TB516 Terminal 1 and 2, Panel 2-R-47 (Internal side).

CV

[265] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116, momentarily.

[266] **VERIFY** Breaker BYA, Panel 2-L-116 is CLOSED.

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[267] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116,
momentarily.

[268] **VERIFY** the following:

A. Breaker BYA, Panel 2-L-116, is OPEN. **[Acc Crit]**

B. Breaker BYB, Panel 2-L-116, remains OPEN. **[Acc Crit]**

[269] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116,
momentarily.

[270] **VERIFY** Breaker BYB, Panel 2-L-116 is CLOSED.

[271] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116,
momentarily.

[272] **VERIFY** the following:

A. Breaker BYA, Panel 2-L-116, remains OPEN. **[Acc Crit]**

B. Breaker BYB, Panel 2-L-116, is OPEN. **[Acc Crit]**

[273] **REMOVE** the jumpers at the following locations:

A. TB507 Terminal 1 and 2, Panel 2-R-47 (Internal side)

CV

B. TB507 Terminal 4 and 5, Panel 2-R-47 (Internal side).

CV

C. TB507 Terminal 1 and 2, Panel 2-R-50 (Internal side).

CV

D. TB516 Terminal 1 and 2, Panel 2-R-47 (Internal side)

CV

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[274] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position.

[275] **VERIFY** the following:

A. Breaker RTA, Panel 2-L-116, is CLOSED.

B. Breaker RTB, Panel 2-L-116, is CLOSED.

[276] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116, momentarily.

[277] **VERIFY** the following:

A. Breaker BYA, Panel 2-L-116, is CLOSED.

B. Breaker BYB, Panel 2-L-116, remains OPEN.

[278] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116, momentarily.

[279] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA is OPEN. **[Acc Crit]**

B. Breaker RTB is OPEN. **[Acc Crit]**

C. Breaker BYA is OPEN. **[Acc Crit]**

D. Breaker BYB is OPEN. **[Acc Crit]**

[280] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position.

[281] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116, momentarily.

[282] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA is CLOSED.

B. Breaker RTB is CLOSED.

C. Breaker BYA is OPEN.

D. Breaker BYB is CLOSED.

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[283] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116,
momentarily.

[284] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA is OPEN. **[Acc Crit]**

B. Breaker RTB is OPEN. **[Acc Crit]**

C. Breaker BYA is OPEN. **[Acc Crit]**

D. Breaker BYB is OPEN. **[Acc Crit]**

[285] **CONNECT** a DMM to Test Points TP1 (+) and TP2 (-) on the
AUTO SHUNT TRIP panel, Breaker RTA, inside rear of Panel
2-L-116.

CV

[286] **VERIFY** greater than +38VDC across TP1 (+) and TP2 (-).

M&TE _____ Cal Due Date _____

[287] **DISCONNECT** DMM from test points TP1 and TP2.

CV

[288] **CONNECT** DMM to Test Points TP3(+) and TP4(-) on Breaker
RTA, inside rear of Panel 2-L-116

CV

[289] **VERIFY** OPEN contact condition across TP3(+) and TP4(-)

[290] **DEPRESS** Breaker RTA PUSH TO CLOSE Manual Close Bar
at Panel 2-L-116

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[291] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA is CLOSED. _____

B. CLOSED contact condition across TP3(+) and TP4(-) _____

M&TE _____ Cal Due Date _____

[292] **DEPRESS** momentarily the AUTO SHUNT TRIP-TRIP pushbutton. _____

[293] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA, Panel 2-L-116, is OPEN. _____

B. OPEN contact condition across TP3(+) and TP4(-) _____

M&TE _____ Cal Due Date _____

[294] **DISCONNECT** DMM from test points TP3 and TP4. _____

CV

[295] **DEPRESS** Breaker RTA PUSH TO CLOSE Manual Close Bar at Panel 2-L-116 _____

[296] **VERIFY** that Breaker RTA, is CLOSED. _____

[297] **DEPRESS** and **HOLD** the AUTO SHUNT TRIP-BLOCK pushbutton, breaker RTA, inside rear of Panel 2-L-116. _____

[298] **DEPRESS** and **HOLD** the AUTO SHUNT TRIP-TRIP pushbutton, breaker RTA, inside rear of Panel 2-L-116. _____

[299] **VERIFY** that Breaker RTA, remains CLOSED. _____

[300] **RELEASE** the AUTO SHUNT TRIP-TRIP pushbutton only. _____

[301] **RELEASE** the AUTO SHUNT TRIP-BLOCK pushbutton. _____

[302] **ROTATE** the INPUT ERROR INHIBIT switch to the INHIBIT position on the SSPS Logic Test Panel, 2-R-47. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- [303] **ROTATE** the MULTIPLEXER TEST switch to the INHIBIT position on the SSPS Logic Test Panel, 2-R-47. _____
- [304] **ROTATE** the MODE SELECTOR switch to the TEST position on the SSPS Output Relay Test Panel, 2-R-48. _____
- [305] **ROTATE** LOGIC A TEST switch to Position 7 on the Logic Test Panel, 2-R-47. _____
- [306] **DEPRESS** and **HOLD** the AUTO SHUNT TRIP-BLOCK pushbutton, Breaker RTA, inside rear of Panel 2-L-116. _____
- [307] **DEPRESS** and **HOLD** MANUAL INPUT FUNCTION TEST panel Channels I and III, on the Logic Test Panel, 2-R-47. _____
- [308] **VERIFY** that Breaker RTA is OPEN. **[Acc Crit]** _____
- [309] **DEPRESS** Breaker RTA PUSH TO CLOSE Manual Close Bar at Panel 2-L-116. _____
- [310] **VERIFY** that Breaker RTA remains OPEN. **[Acc Crit]** _____
- [311] **DEPRESS** Breaker BYB CLOSE test pushbutton, Panel 2-L-116, momentarily. _____
- [312] **VERIFY** that Breaker BYB remains OPEN. **[Acc Crit]** _____
- [313] **RELEASE** MANUAL INPUT FUNCTION TEST panel Channels I and III _____
- [314] **RELEASE** the AUTO SHUNT TRIP-BLOCK pushbutton. _____
- [315] **ROTATE** LOGIC A TEST switch to the OFF position on the Logic Test Panel, 2-R-47. _____
- [316] **ROTATE** the MODE SELECTOR switch to the OPERATE position on the SSPS Output Relay Test Panel, 2-R-48. _____
- [317] **ROTATE** the MULTIPLEXER TEST switch to the A+B position on the SSPS Logic Test Panel, 2-R-47. _____
- [318] **ROTATE** the INPUT ERROR INHIBIT switch to the NORMAL position on the SSPS Logic Test Panel, 2-R-47. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[319] **CONNECT** a DMM to test points TP1 (+) and TP2 (-) on the
AUTO SHUNT TRIP panel, Breaker RTB, inside rear of Panel
2-L-116.

_____ CV

[320] **VERIFY** greater than +38VDC across TP1 (+) and TP2 (-)

[321] **DISCONNECT** DMM from test points TP1 and TP2.

_____ CV

[322] **CONNECT** a DMM to test points TP3 (+) and TP4 (-) on the
AUTO SHUNT TRIP panel, Breaker RTB, inside rear of Panel
2-L-116.

_____ CV

[323] **VERIFY** OPEN contact condition across TP3 (+) and TP4 (-)

M&TE _____ Cal Due Date _____

[324] **DEPRESS** Breaker RTB PUSH TO CLOSE Manual-Close Bar
at Panel 2-L-116.

[325] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTB is CLOSED.

B. CLOSED contact condition across TP3(+) and TP4(-)

M&TE _____ Cal Due Date _____

[326] **DEPRESS** momentarily the AUTO SHUNT TRIP-TRIP
pushbutton.

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[327] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTB is OPEN. _____

B. OPEN contact condition across TP3(+) and TP4(-) _____

M&TE _____ Cal Due Date _____

[328] **DISCONNECT** DMM from TP3 and TP4. _____

CV

[329] **DEPRESS** Breaker RTB PUSH TO CLOSE Manual Close Bar
at Panel 2-L-116. _____

[330] **VERIFY** Breaker RTB is CLOSED. _____

[331] **DEPRESS** and **HOLD** the AUTO SHUNT TRIP-BLOCK
pushbutton, Breaker RTB, inside rear of Panel 2-L-116. _____

[332] **DEPRESS** and **HOLD** the AUTO SHUNT TRIP-TRIP
pushbutton, Breaker RTB, inside rear of Panel 2-L-116. _____

[333] **VERIFY** that Breaker RTB, 2-L-116 remains CLOSED. _____

[334] **RELEASE** the AUTO SHUNT TRIP-TRIP pushbutton only. _____

[335] **RELEASE** the AUTO SHUNT TRIP-BLOCK pushbutton. _____

[336] **ROTATE** the INPUT ERROR INHIBIT switch to the INHIBIT
position on the SSPS Logic Test Panel, 2-R-50. _____

[337] **ROTATE** the MULTIPLEXER TEST switch to the INHIBIT
position on the SSPS Logic Test Panel, 2-R-50. _____

[338] **ROTATE** the MODE SELECTOR switch to the TEST position
on the SSPS Output Relay Test Panel, 2-R-51. _____

[339] **ROTATE** LOGIC A TEST switch to Position 7 on the Logic
Test Panel, 2-R-50. _____

[340] **DEPRESS** and **HOLD** the AUTO SHUNT TRIP-BLOCK
Pushbutton, Breaker RTB, inside rear of Panel 2-L-116. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[341] **DEPRESS** and **HOLD** MANUAL INPUT FUNCTION TEST panel Channels I and III, on the Logic Test Panel, 2-R-50. _____

[342] **VERIFY** that Breaker RTB, Panel 2-L-116, is OPEN.
[Acc Crit] _____

[343] **DEPRESS** Breaker RTB PUSH TO CLOSE Manual-Close Bar at Panel 2-L-116. _____

[344] **VERIFY** Breaker RTB remains OPEN. **[Acc Crit]** _____

[345] **DEPRESS** Breaker BYA CLOSE Test pushbutton, Panel 2-L-116, momentarily. _____

[346] **VERIFY** Breaker BYA remains OPEN. **[Acc Crit]** _____

[347] **RELEASE** MANUAL INPUT FUNCTION TEST panel Channels I and III. _____

[348] **RELEASE** the AUTO SHUNT TRIP-BLOCK pushbutton. _____

[349] **ROTATE** the LOGIC A TEST switch to the OFF position on the Logic Test Panel, 2-R-50. _____

[350] **ROTATE** the MODE SELECTOR switch to the OPERATE position on SSPS Output Relay Test Panel, 2-R-51. _____

[351] **ROTATE** the MULTIPLEXER TEST switch to the NORMAL position on the SSPS Logic Test Panel, 2-R-50. _____

[352] **ROTATE** the INPUT ERROR INHIBIT switch to the NORMAL position on the SSPS Logic Test Panel, 2-R-50. _____

[353] **LIFT** the following Field side leads: (rear of Panel 2-L-116)

A. TB3, Terminal 5 (cabinet 2) _____

CV

B. TB3, Terminal 9 (cabinet 2) _____

CV

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

C. TB3, Terminal 5 (cabinet 1) _____

CV

D. TB3, Terminal 9 (cabinet 1) _____

CV

[354] **CONNECT** 2 multimeters, one at each of the following locations:

A. TB508 - 1 and 2 (2-R-47) _____

CV

B. TB508 - 1 and 2 (2-R-50) _____

CV

[355] **RECORD** voltage as displayed on multimeters connected in Step 6.1[354].

A. 2-R-47 _____ Volts (39 to 45volts) _____

M&TE _____ Cal Due Date _____

B. 2-R-50 _____ Volts (39 to 45volts) _____

M&TE _____ Cal Due Date _____

[356] **RECORD** voltage on the following Logic Panel Meters (39 to 45volts):

A. UV COIL VOLTAGE Meter (2-R-47) _____ VOLTS _____

B. UV COIL VOLTAGE Meter (2-R-50) _____ VOLTS _____

[357] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[358] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA is CLOSED. _____

B. Breaker RTB is CLOSED. _____

[359] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116, momentarily. _____

[360] **VERIFY** the following at Panel 2-L-116:

A. Breaker BYA is CLOSED. _____

B. Breaker BYB is OPEN. _____

[361] **ROTATE** and **HOLD** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, in the TRIP position. _____

[362] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA is OPEN. _____

B. Breaker RTB is OPEN. _____

C. Breaker BYA is OPEN. **[Acc Crit]** _____

D. Breaker BYB is OPEN. _____

[363] **RECORD** voltage as displayed on multimeters connected in Step 6.1[354].

A. 2-R-47 _____ Volts (-1 to +3 VDC) _____

M&TE _____ Cal Due Date _____

B. 2-R-50 _____ Volts (-1 to +3 VDC) _____

M&TE _____ Cal Due Date _____

[364] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[365] **RELEASE** REACTOR TRIP Control Switch 2-RT-1. _____

[366] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116,
momentarily. _____

[367] **VERIFY** that Breaker BYB is CLOSED. _____

[368] **RECORD** voltage as displayed on multimeter connected in
Step 6.1[354] for 2-R-47.

_____ volts (39 to 42 VDC) _____

M&TE _____ Cal Due Date _____

[369] **VERIFY** voltage on the UV COIL VOLTAGE Meter for 2-R-47
(approximately 42 VDC). _____

[370] **ROTATE** and **HOLD** REACTOR TRIP Control Switch 2-RT-1,
Panel 2-M-4, in the TRIP position. _____

[371] **VERIFY** Breaker BYB is OPEN. **[Acc Crit]** _____

[372] **RECORD** voltage as displayed on multimeter connected in
Step 6.1[354] for 2-R-47.

_____ volts (approximately 0 VDC) _____

M&TE _____ Cal Due Date _____

[373] **VERIFY** voltage on the UV COIL VOLTAGE Meter for 2-R-47
(approximately 0 VDC). _____

[374] **RELEASE** REACTOR TRIP Control Switch 2-RT-1. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[375] **REMOVE** multimeter from the following locations:

A. TB508 - 1 and 2 (2-R-47)

CV

B. TB508 - 1 and 2 (2-R-50)

CV

[376] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position.

[377] **VERIFY** the following:

A. Breaker RTA is CLOSED

B. Breaker RTB is CLOSED

[378] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116, momentarily.

[379] **VERIFY** Breaker BYB is CLOSED.

[380] **ROTATE** Control Switch 2-HS-63-133B Panel 2-M-4, SI ACTUATE TR A&B, to the ACTUATE position.

[381] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA is OPEN.

B. Breaker RTB is OPEN.

C. Breaker BYB is OPEN.

[382] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116, momentarily.

[383] **VERIFY** Breaker BYA is CLOSED.

[384] **ROTATE** Control Switch 2-HS-63-133B Panel 2-M-4, SI ACTUATE TR A&B, to the ACTUATE position.

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[385] **VERIFY** Breaker BYA is OPEN. _____

[386] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____

[387] **VERIFY** the following :

A. Breaker RTA is CLOSED. _____

B. Breaker RTB is CLOSED. _____

[388] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116, momentarily. _____

[389] **VERIFY** Breaker BYB is CLOSED. _____

[390] **ROTATE** REACTOR TRIP Control Switch 2-RT-2, Panel 2-M-6, momentarily to the TRIP position. _____

[391] **VERIFY** the following :

A. Breaker RTA is OPEN. _____

B. Breaker RTB is OPEN. _____

C. Breaker BYB is OPEN. _____

[392] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116, momentarily. _____

[393] **VERIFY** Breaker BYA is CLOSED. _____

[394] **ROTATE** REACTOR TRIP Control Switch 2-RT-2, Panel 2-M-6, momentarily to the TRIP position. _____

[395] **VERIFY** Breaker BYA is OPEN. _____

[396] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____

[397] **VERIFY** the following:

A. Breaker RTA is CLOSED. _____

B. Breaker RTB is CLOSED. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[398] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116,
momentarily.

[399] **VERIFY** Breaker BYA is CLOSED.

[400] **ROTATE** Control Switch 2-HS-63-133A Panel 2-M-4, SI
ACTUATE TR A&B, to the ACTUATE position.

[401] **VERIFY** the following:

A. Breaker RTA is OPEN.

B. Breaker RTB is OPEN.

C. Breaker BYA is OPEN.

[402] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116,
momentarily.

[403] **VERIFY** Breaker BYB is CLOSED.

[404] **ROTATE** Control Switch 2-HS-63-133A Panel 2-M-4, SI
ACTUATE TR A&B, to the ACTUATE position.

[405] **VERIFY** Breaker BYB is OPEN.

[406] **LAND** the following field side leads in the rear of Panel 2-L-116:

A. TB3, Terminal 5 (Cabinet 2)

CV

B. TB3, Terminal 9 (Cabinet 2)

CV

C. TB3, Terminal 5 (Cabinet 1)

CV

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

D. TB3, Terminal 9 (Cabinet 1)

CV

[407] **LAND** the following wires at the following locations:

A. Internal (Vendor) wires at TB505, Terminal 4, 2-R-47

CV

B. Internal (Vendor) wires at TB505, Terminal 4, 2-R-50

CV

[408] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position.

[409] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA is CLOSED.

B. Breaker RTB is CLOSED.

C. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is CLEAR

D. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN WARNING, is CLEAR

E. GENERAL WARNING Lamp on the front of Panel 2-R-47 is OFF.

F. GENERAL WARNING Lamp on the front of Panel 2-R-50 is OFF.

[410] **PUSH** Breaker BYA CLOSE test pushbutton, Panel 2-L-116, momentarily.

[411] **VERIFY** the following :

A. Breaker BYA is CLOSED.

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

B. Breaker BYB is OPEN. _____

C. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is in ALARM. _____

D. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN WARNING, is CLEAR _____

E. GENERAL WARNING Lamp on the front of Panel 2-R-47 is ON. _____

F. GENERAL WARNING Lamp on the front of Panel 2-R-50 is OFF. _____

[412] **ROTATE** the MODE SELECTOR Switch to the TEST position on the SSPS Output Relay Test Panel, 2-R-51. _____

[413] **VERIFY** the following at Panel 2-L-116:

A. Breaker RTA is OPEN. **[Acc Crit]** _____

B. Breaker RTB is OPEN. **[Acc Crit]** _____

C. Breaker BYA is OPEN. **[Acc Crit]** _____

D. Breaker BYB is OPEN. _____

[414] **ROTATE** the MODE SELECTOR Switch to the OPERATE position on the SSPS Output Relay Test Panel, 2-R-51. _____

[415] **VERIFY** the following at Panel 2-L-116:

A. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is CLEAR. _____

B. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN WARNING, is CLEAR _____

C. GENERAL WARNING Lamp on the front of Panel 2-R-47 is OFF. _____

D. GENERAL WARNING Lamp on the front of Panel 2-R-50 is OFF. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- [416] **ROTATE** REACTOR TRIP Control Switch 2-RT-1, Panel 2-M-4, momentarily to the CLOSE position. _____
- [417] **VERIFY** the following :
- A. Breaker RTA is CLOSED. _____
 - B. Breaker RTB is CLOSED. _____
- [418] **PUSH** Breaker BYB CLOSE test pushbutton, Panel 2-L-116, momentarily. _____
- [419] **VERIFY** the following at Panel 2-L-116 :
- A. Breaker BYA is OPEN. _____
 - B. Breaker BYB is CLOSED. _____
 - C. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is CLEAR. _____
 - D. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN WARNING, is ALARM. _____
 - E. GENERAL WARNING Lamp on the front of Panel 2-R-47 is OFF. _____
 - F. GENERAL WARNING Lamp on the front of Panel 2-R-50 is ON. _____
- [420] **ROTATE** the MODE SELECTOR Switch to the TEST position on the SSPS Output Relay Test Panel, 2-R-48. _____
- [421] **VERIFY** the following at Panel 2-L-116:
- A. Breaker RTA is OPEN. **[Acc Crit]** _____
 - B. Breaker RTB is OPEN. **[Acc Crit]** _____
 - C. Breaker BYA is OPEN. _____
 - D. Breaker BYB is OPEN. **[Acc Crit]** _____
- [422] **ROTATE** the MODE SELECTOR Switch to the OPERATE position on the SSPS Output Relay Test Panel, 2-R-48. _____

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[423] **VERIFY** the following:

- A. Annunciator 114A (2-XA-55-6A, 2-M-6), SSPS-A GEN WARNING, is CLEAR. _____
- B. Annunciator 115A (2-XA-55-6A, 2-M-6), SSPS-B GEN WARNING, is CLEAR. _____
- C. GENERAL WARNING Lamp on the front of Panel 2-R-47 is OFF. _____
- D. GENERAL WARNING Lamp on the front of Panel 2-R-50 is OFF. _____

[424] **LAND** the following wires:

- A. Internal (vendor) wire at TB506, Terminal 5, Panel 2-R-50. _____
_____ CV
- B. Internal (vendor) wire at TB506, Terminal 5, Panel 2-R-47. _____
_____ CV

[425] **REINSTALL** the following fuses:

- A. Fuse 2-FU-275-R71/R3, at Panel 2-R-71. _____
_____ CV
- B. Fuse 2-FU-275-R70/R2, at Panel 2-R-70. _____
_____ CV

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

[426] **RACK OUT** the following breakers to the DISCONNECT position at Panel 2-L-116.

A. Breaker RTA.

CV

B. Breaker RTB.

CV

C. Breaker BYA.

CV

D. Breaker BYB.

CV

[427] **DISCONNECT** the cable plug from the UV receptacle on the following breakers at Panel 2-L-116:

A. Breaker BYA.

CV

B. Breaker BYB.

CV

[428] **VERIFY** the following:

A. Annunciator 73C (2-XA-55-4C, 2-M-4), RX TRIP BKRS
RTA & BYA OPEN, is in ALARM

B. Annunciator 74C (2-XA-55-4C, 2-M-4), RX TRIP BKRS
RTB & BYB OPEN, is in ALARM

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**6.1 Manual Reactor Trip and Bypass Breaker Operations and Trip
(continued)**

- C. Annunciator 84B (2-XA-55-4B, 2-M-4), BYPASS BKR A
RACKED IN, is CLEAR _____
- D. Annunciator 85B (2-XA-55-4B, 2-M-4), BYPASS BKR B
RACKED IN, is CLEAR _____
- E. Annunciator 84C (2-XA-55-4B, 2-M-4), BYPASS BKR A
CLOSED, is CLEAR _____
- F. Annunciator 85C (2-XA-56-4B, 2-M-4), BYPASS BKR B
CLOSED, is CLEAR _____
- G. Unit 2 Event Display Monitor indicates 85-B BYPASS
BKR B RACKED IN is in NORMAL (Blue) _____

Date _____

6.2 Permissive P-6

NOTES

- 1) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables used in this Subsection.
- 2) In this subsection, the following identifiers will be used:

<u>RELAY ID</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>	<u>SECTION DESCRIPTION</u>
2-RLY-99-K629	2-R-48	Source Range Block Relay 120 VAC	2-RLY-99-K629 (Train A/2-R-48)
2-RLY-99-K629	2-R-51	Source Range Block Relay 120 VAC	2-RLY-99-K629 (Train B/2-R-51)
- 3) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.

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

[2] **ENSURE** the following: _____

A. 2-N33A, SR TRIP TR A RESET-BLOCK P-6, at 2-M-4 in NORMAL _____

B. 2-N33B, SR TRIP TR B RESET-BLOCK P-6, at 2-M-4 in NORMAL _____

C. NC41M, PR CH1 POWER ABOVE PERMISSIVE P-10 bistable, at 2-M-13 in NORMAL _____

D. NC42M, PR CH2 POWER ABOVE PERMISSIVE P-10 bistable, at 2-M-13 in NORMAL. _____

E. NC43M, PR CH3 POWER ABOVE PERMISSIVE P-10 bistable, at 2-M-13 in NORMAL. _____

F. NC44M, PR CH4 POWER ABOVE PERMISSIVE P-10 bistable, at 2-M-13 in NORMAL. _____

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6.2 Permissive P-6 (continued)

G. 2-N31B, SR CH1 LEVEL TRIP switch, at 2-M-13 in
NORMAL.

H. 2-N32B, SR CH2 LEVEL TRIP switch, at 2-M-13 in
NORMAL.

I. NC35D, IR CH1 POWER ABOVE PERMISSIVE P-6
bistable, at 2-M-13 in NORMAL.

J. NC36D, IR CH2 POWER ABOVE PERMISSIVE P-6
bistable, at 2-M-13 in NORMAL.

K. NC31D, SR CH1 LEVEL TRIP bistable, at 2-M-13 in
NORMAL.

L. NC32D, SR CH2 LEVEL TRIP bistable, at 2-M-13 in
NORMAL.

M. HIGH FLUX AT SHUTDOWN, on N31, at 2-M-13 in
NORMAL

N. HIGH FLUX AT SHUTDOWN, on N32, at 2-M-13 in
NORMAL

[3] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M,
is CLEAR

B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10
NC42M, is CLEAR

C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10
NC43M, is CLEAR

D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10
NC44M, is CLEAR

E. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI
NC31D, is CLEAR

F. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI
NC32D, is CLEAR

G. Trip Status Light 3 (2-XX-55-5, 2-M-5) , IR >P6 NC35D, is
CLEAR

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6.2 Permissive P-6 (continued)

- H. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is CLEAR _____
- I. Annunciator 64A (2-XA-55-4A, 2-M-4), 2-NI-92-131-D SOURCE RANGE TRIP BYPASSED, is CLEAR. _____
- J. Annunciator 65A (2-XA-55-4A, 2-M-4), 2-NI-92-132-E SOURCE RANGE TRIP BYPASSED, is CLEAR. _____
- K. Annunciator 64C (2-XA-55-4A, 2-M-4) SOURCE RANGE TRIP BLOCKED, is CLEAR _____
- L. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is CLEAR _____
- M. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR _____
- N. Annunciator 81B (2-XA-55-4B, 2-M-4), SOURCE RANGE HI FLUX AT SHUTDOWN, is CLEAR _____
- O. Annunciator 81C (2-XA-55-4B, 2-M-4), SOURCE RANGE HI FLUX AT SHUTDOWN ALM BLOCKED, is CLEAR _____
- [4] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [5] **VERIFY** contact state for 2-RLY-99-K629 (Train A/2-R-48), TB607-9, 10 is CLOSE. _____
- [6] **VERIFY** contact state for 2-RLY-99-K629 (Train B/2-R-51), TB607-9, 10 is CLOSE. _____

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6.2 Permissive P-6 (continued)

NOTE

The following step removes the leads to the Source and Intermediate Range Trip Bypass output. This allows both channels to be used in Level Trip Bypass while still providing RPS output logic.

[7] **LIFT** the following internal/vendor leads:

2-M-13, NIS Rack I/Rear

A. TB122, Terminal 3

CV

B. TB122, Terminal 4

CV

C. TB123, Terminal 5

CV

D. TB123, Terminal 6

CV

2-M-13, NIS Rack II/Rear

E. TB222, Terminal 3

CV

F. TB222, Terminal 4

CV

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6.2 Permissive P-6 (continued)

G. TB223, Terminal 5

CV

H. TB223, Terminal 6

CV

[8] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to
BYPASS.

[9] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to
BYPASS.

[10] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR
switch to TEST ENABLE.

[11] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR switch
to ADJUST.

[12] **POSITION** 2-NI-92-131-D (2-M-13) HIGH FLUX AT
SHUTDOWN switch to BLOCK.

[13] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to
BYPASS.

[14] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to
BYPASS.

[15] **POSITION** 2-NI-92-136-E (2-M-13) OPERATION SELECTOR
switch to TEST ENABLE.

[16] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR switch
to ADJUST.

[17] **POSITION** 2-NI-92-132-E (2-M-13) HIGH FLUX AT
SHUTDOWN switch to BLOCK.

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6.2 Permissive P-6 (continued)

NOTE

The following steps will test that the HIGH FLUX SR TRIP can NOT be blocked when both IR channels are below the P-6 setpoint.

- [18] **POSITION** 2-N33A (2-M-4), SR TRIP TR A RESET-BLOCK P6, in BLOCK. _____
- [19] **POSITION** 2-N33B (2-M-4), SR TRIP TR B RESET-BLOCK P6, in BLOCK. _____
- [20] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH1 NC31D bistable in TRIP. _____
- [21] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH2 NC32D bistable in TRIP. _____
- [22] **VERIFY** the following:
 - A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is in ALARM. _____
 - B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in ALARM. _____
 - C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is CLEAR. _____
 - D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is CLEAR. _____
 - E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR. _____
 - F. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is CLEAR. _____
 - G. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is in ALARM. _____
 - H. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE RANGE FLUX HI is in ALARM (Red) _____

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6.2 Permissive P-6 (continued)

- I. Annunciator 81B (2-XA-55-4B, 2-M-4), SOURCE RANGE HI FLUX AT SHUTDOWN, is CLEAR. _____
- J. Annunciator 81C (2-XA-55-4B, 2-M-4), SOURCE RANGE HI FLUX AT SHUTDOWN ALM BLOCKED, is in ALARM. _____
- K. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates TRIP. _____
- L. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates TRIP. _____
- M. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates RESET _____
- N. Computer Point N0033D, INTERM RNG 2 RE TR P6 PERM, indicates RESET. _____
- O. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates RESET. _____
- P. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates RESET. _____
- Q. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP. _____
- [23] **VERIFY** voltage on the following Logic Panel Meters :
 - A. UV COIL VOLTAGE Meter (2-R-47) (approximately 0 VDC) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) (approximately 0 VDC) _____
- [24] **VERIFY** contact state for 2-RLY-99-K629 (Train A/2-R-48), TB607-9, 10 is CLOSE. _____
- [25] **VERIFY** contact state for 2-RLY-99-K629 (Train B/2-R-51), TB607-9, 10 is CLOSE. _____
- [26] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH1 NC31D bistable in NORMAL _____

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6.2 Permissive P-6 (continued)

[27] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH2 NC32D bistable in NORMAL

[28] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR.
- B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in CLEAR.
- C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is CLEAR.
- D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is CLEAR.
- E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR.
- F. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is CLEAR.
- G. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR.
- H. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE RANGE FLUX HI is CLEAR (BLUE)
- I. Annunciator 81B (2-XA-55-4B, 2-M-4), SOURCE RANGE HI FLUX AT SHUTDOWN, is CLEAR.
- J. Annunciator 81C (2-XA-55-4B, 2-M-4), SOURCE RANGE HI FLUX AT SHUTDOWN ALM BLOCKED, is in ALARM.
- K. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NOT TR.
- L. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates NOT TR.
- M. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates RESET

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6.2 Permissive P-6 (continued)

- N. Computer Point N0033D, INTERM RNG 2 RE TR P6
PERM, indicates RESET. _____
- O. Computer Point N0034D, SOURCE RNG HI Q TR A
BLOCK, indicates RESET. _____
- P. Computer Point N0035D, SOURCE RNG HI Q TR B
BLOCK, indicates RESET. _____
- Q. Computer Point N0036D, SOURCE RNG HI Q CAUSES
RX TRIP, indicates NOT TR. _____

[29] **VERIFY** voltage on the following Logic Panel Meters :

- A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 42 VDC) _____
- B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 42 VDC) _____

NOTE

The following steps test that when IR CH1 is above the P-6 setpoint the High Flux SR Trip can be blocked. The block should remove indications from the SR monitors and clear the trip bistables.

- [30] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW
UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to
put SR CH1 NC31D bistable in TRIP. _____
- [31] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW
UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to
put SR CH2 NC32D bistable in TRIP. _____
- [32] **ROTATE** 2-NI-92-135 (2-M-13) ADJUST potentiometer CW
UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of
drawer is in ALARM to put IR CH1 NC35D bistable in
TRIPPED. _____
- [33] **POSITION** 2-N33A (2-M-4), SR TRIP TR A RESET-BLOCK
P6, in BLOCK. _____

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6.2 Permissive P-6 (continued)

[34] **POSITION** 2-N33B (2-M-4), SR TRIP TR B RESET-BLOCK P6, in BLOCK. _____

[35] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____
- B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is CLEAR. _____
- C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is ALARM. _____
- D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is CLEAR. _____
- E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is in ALARM. _____
- F. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is in ALARM. _____
- G. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR. _____
- H. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NO TR. _____
- I. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates NO TR. _____
- J. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates SET _____
- K. Computer Point N0033D, INTERM RNG 2 RE TR P6 PERM, indicates RESET. _____
- L. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates SET. _____
- M. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates SET. _____
- N. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NO TR. _____

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6.2 Permissive P-6 (continued)

- O. Unit 2 Event Display Monitor indicates 65-D P-6 INTERM RANGE PERMISSIVE is in ALARM (Red) _____
- [36] **VERIFY** voltage on the following Logic Panel Meters :
 - A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 42 VDC) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 42 VDC) **[Acc Crit]** _____
- [37] **VERIFY** contact state for 2-RLY-99-K629 (Train A/2-R-48), TB607-9, 10 is OPEN. _____
- [38] **VERIFY** contact state for 2-RLY-99-K629 (Train B/2-R-51), TB607-9, 10 is OPEN. _____

NOTE

The following test that when both channels of the IR decrease below the P-6 setpoint the SR High Flux Trip is re-enabled.

- [39] **ROTATE** 2-NI-92-135 (2-M-13) ADJUST potentiometer CCW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in CLEAR to put IR CH1 NC35D bistable in NORMAL. _____
- [40] **VERIFY** the following:
 - A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is in ALARM. _____
 - B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in ALARM. _____
 - C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is CLEAR. _____
 - D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is CLEAR. _____
 - E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR. _____

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6.2 Permissive P-6 (continued)

- F. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is CLEAR. _____
- G. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is in ALARM. _____
- H. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates TRIP. _____
- I. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates TRIP. _____
- J. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates RESET _____
- K. Computer Point N0033D, INTERM RNG 2 RE TR P6 PERM, indicates RESET. _____
- L. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates RESET. _____
- M. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates RESET. _____
- N. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP. _____
- [41] **VERIFY** voltage on the following Logic Panel Meters :
 - A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 0 VDC) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 0 VDC) **[Acc Crit]** _____
- [42] **VERIFY** contact state for 2-RLY-99-K629 (Train A/2-R-48), TB607-9, 10 is CLOSE. _____
- [43] **VERIFY** contact state for 2-RLY-99-K629 (Train B/2-R-51), TB607-9, 10 is CLOSE. _____
- [44] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH1 NC31D bistable in NORMAL. _____

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6.2 Permissive P-6 (continued)

- [45] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH2 NC32D bistable in NORMAL. _____

NOTE

The following steps test that when IR CH2 is above the P-6 setpoint the High Flux SR Trip can be blocked. The block should remove indications from the SR monitors and clear the trip bistables.

- [46] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH1 NC31D bistable in TRIP. _____
- [47] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH2 NC32D bistable in TRIP. _____
- [48] **ROTATE** 2-NI-92-136-E (2-M-13) ADJUST potentiometer CW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in ALARM to put IR CH2 NC36D bistable in TRIPPED. _____
- [49] **POSITION** 2-N33A (2-M-4), SR TRIP TR A RESET-BLOCK P6, in BLOCK. _____
- [50] **POSITION** 2-N33B (2-M-4), SR TRIP TR B RESET-BLOCK P6, in BLOCK. _____
- [51] **VERIFY** the following:
- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____
 - B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is CLEAR. _____
 - C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is Clear _____
 - D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is in ALARM. _____

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6.2 Permissive P-6 (continued)

E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is in ALARM. _____

F. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is in ALARM. _____

G. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR. _____

H. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NOT TR. _____

I. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates NOT TR. _____

J. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates RESET _____

K. Computer Point N0033D, INTERM RNG 2 RE TR P6 PERM, indicates SET. _____

L. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates SET. _____

M. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates SET. _____

N. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR. _____

O. Unit 2 Event Display Monitor indicates 65-D P-6 INTERM RANGE PERMISSIVE is in ALARM (Red) _____

[52] **VERIFY** voltage on the following Logic Panel Meters :

A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 42 VDC) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 42 VDC) **[Acc Crit]** _____

[53] **VERIFY** contact state for 2-RLY-99-K629 (Train A/2-R-48), TB607-9, 10 is OPEN. _____

[54] **VERIFY** contact state for 2-RLY-99-K629 (Train B/2-R-51), TB607-9, 10 is OPEN. _____

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6.2 Permissive P-6 (continued)

NOTE

The following steps test the P-6 Permissive reset capability of N33A and N33B hand switches on 2-M-4. For P-6 to be reset both switches must be actuated **simultaneously**

- [55] **POSITION** 2-N33A (2-M-4), SR TRIP TR A RESET-BLOCK P-6, in RESET. _____
- [56] **VERIFY** the following:
 - A. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates SET. _____
 - B. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates SET. _____
 - C. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is in ALARM. _____
- [57] **VERIFY** voltage on the following Logic Panel Meters :
 - A. UV COIL VOLTAGE Meter (2-R-47) (approximately 42 VDC) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) (approximately 42 VDC) _____
- [58] **VERIFY** contact state for 2-RLY-99-K629 (Train A/2-R-48), TB607-9, 10 is OPEN _____
- [59] **VERIFY** contact state for 2-RLY-99-K629 (Train B/2-R-51), TB607-9, 10 is OPEN _____
- [60] **POSITION** 2-N33B (2-M-4), SR TRIP TR B RESET-BLOCK P-6, in RESET. _____
- [61] **VERIFY** the following:
 - A. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates SET. _____
 - B. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates SET _____

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6.2 Permissive P-6 (continued)

- C. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is in ALARM. _____
- [62] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____
- [63] **ROTATE** and **HOLD** the following handswitches (2-M-4) in the RESET position:
- A. 2-N33A, SR TRIP TR A RESET-BLOCK P-6 _____
- B. 2-N33B, SR TRIP TR B RESET-BLOCK P-6 _____
- [64] **VERIFY** approximately 0 VDC on the following Logic Panel Meters:
- A. UV COIL VOLTAGE Meter (2-R-47). _____
- B. UV COIL VOLTAGE Meter (2-R-50). _____
- [65] **VERIFY** contact state for 2-RLY-99-K629 (2-R-48), TB607-9, 10 is CLOSED. _____
- [66] **VERIFY** contact state for 2-RLY-99-K629 (2-R-51), TB607-9, 10 is CLOSED. _____
- [67] **RELEASE** the following handswitches on 2-M-4:
- A. 2-N33A, SR TRIP TR A RESET-BLOCK P-6 _____
- B. 2-N33B, SR TRIP TR B RESET-BLOCK P-6. _____
- [68] **VERIFY** approximately 0 VDC on the following Logic Panel Meters:
- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [69] **VERIFY** contact state for 2-RLY-99-K629 (2-R-48), TB607-9,10 is CLOSED. _____
- [70] **VERIFY** contact state for 2-RLY-99-K629 (2-R-51), TB607-9,10 is CLOSED. _____

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6.2 Permissive P-6 (continued)

- [71] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH1 NC31D bistable in NORMAL. _____
- [72] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH2 NC32D bistable in NORMAL. _____

NOTE

The following steps test that when IR CH1 and IR CH2 are above the P-6 setpoint the High Flux SR Trip can be blocked. The block should remove indications from the SR monitors and clear the trip bistables.

- [73] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH1 NC31D bistable in TRIP. _____
- [74] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH2 NC32D bistable in TRIP. _____
- [75] **ROTATE** 2-NI-92-135-D (2-M-13) ADJUST potentiometer CW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in ALARM to put IR CH1 NC35D bistable in TRIPPED. _____
- [76] **ROTATE** 2-NI-92-136-E (2-M-13) ADJUST potentiometer CW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in ALARM to put IR CH2 NC36D bistable in TRIPPED. _____
- [77] **POSITION** 2-N33A (2-M-4), SR TRIP TR A RESET-BLOCK P6, in BLOCK. _____
- [78] **POSITION** 2-N33B (2-M-4), SR TRIP TR B RESET-BLOCK P6, in BLOCK. _____
- [79] **VERIFY** the following:
- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____

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6.2 Permissive P-6 (continued)

- B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is CLEAR. _____
- C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is in ALARM _____
- D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is in ALARM. _____
- E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is in ALARM. _____
- F. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is in ALARM. _____
- G. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR. _____
- H. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NOT TR. _____
- I. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates NOT TR. _____
- J. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates SET _____
- K. Computer Point N0033D, INTERM RNG 2 RE TR P6 PERM, indicates SET. _____
- L. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates SET. _____
- M. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates SET. _____
- N. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR. _____
- O. Unit 2 Event Display Monitor indicates 65-D P-6 INTERM RANGE PERMISSIVE is in ALARM (Red) _____

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6.2 Permissive P-6 (continued)

[80] **VERIFY** voltage on the following Logic Panel Meters :

A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 42 VDC) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 42 VDC) **[Acc Crit]** _____

[81] **VERIFY** contact state for 2-RLY-99-K629 (Train A/2-R-48),
TB607-9, 10 is OPEN. _____

[82] **VERIFY** contact state for 2-RLY-99-K629 (Train B/2-R-51),
TB607-9, 10 is OPEN. _____

NOTE

The following returns the SR and IR cabinets to their normal configuration.

[83] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer fully
CCW UNTIL bottom of adjustment scale. _____

[84] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer fully
CCW UNTIL bottom of adjustment scale. _____

[85] **ROTATE** 2-NI-92-135-D (2-M-13) ADJUST potentiometer fully
CCW UNTIL bottom of adjustment scale. _____

[86] **ROTATE** 2-NI-92-136-E (2-M-13) ADJUST potentiometer fully
CCW UNTIL bottom of adjustment scale. _____

[87] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR switch
to OPR. _____

[88] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR
switch to NORMAL. _____

[89] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to
NORMAL. _____

[90] **POSITION** 2-NI-92-131-D (2-M-13) HIGH FLUX AT
SHUTDOWN switch to NORMAL. _____

[91] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to
NORMAL. _____

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6.2 Permissive P-6 (continued)

- [92] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR switch to OPR. _____
- [93] **POSITION** 2-NI-92-136-E (2-M-13) OPERATION SELECTOR switch to NORMAL. _____
- [94] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to NORMAL. _____
- [95] **POSITION** 2-NI-92-132-E (2-M-13) HIGH FLUX AT SHUTDOWN switch to NORMAL. _____
- [96] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to NORMAL. _____
- [97] **VERIFY** the following:
- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____
 - B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in CLEAR. _____
 - C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is CLEAR. _____
 - D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is CLEAR. _____
 - E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR. _____
 - F. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is CLEAR. _____
 - G. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR. _____
 - H. Annunciator 81B (2-XA-55-4B, 2-M-4), SOURCE RANGE HI FLUX AT SHUTDOWN, is CLEAR. _____
 - I. Annunciator 81C (2-XA-55-4B, 2-M-4), SOURCE RANGE HI FLUX AT SHUTDOWN ALM BLOCKED, is CLEAR. _____
 - J. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NOT TR. _____

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6.2 Permissive P-6 (continued)

- K. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates NOT TR. _____
- L. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates RESET _____
- M. Computer Point N0033D, INTERM RNG 2 RE TR P6 PERM, indicates RESET. _____
- N. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates RESET. _____
- O. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates RESET. _____
- P. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR. _____
- [98] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [99] **VERIFY** contact state for 2-RLY-99-K629 (2-R-48), TB607-9,10 is CLOSED. _____
- [100] **VERIFY** contact state for 2-RLY-99-K629 (2-R-51), TB607-9,10 is CLOSED. _____

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6.2 Permissive P-6 (continued)

NOTE

The following steps land the leads to the Source and Intermediate Range Trip Bypass output. This places both channels in their normal configuration.

[101] **LAND** the disconnected internal/vendor leads at the following locations:

2-M-13, NIS Rack I/Rear

A. TB122, Terminal 3

CV

B. TB122, Terminal 4

CV

C. TB123, Terminal 5

CV

D. TB123, Terminal 6

CV

2-M-13, NIS Rack II/Rear

E. TB222, Terminal 3

CV

F. TB222, Terminal 4

CV

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6.2 Permissive P-6 (continued)

G. TB223, Terminal 5 _____

_____ CV

H. TB223, Terminal 6 _____

_____ CV

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6.3 Permissives P-7, P-10 and P-13

NOTES

1. The UV Coil Voltage meter (M501) will be used to verify Reactor trip status. A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.
2. Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables used in this subsection.
3. Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.
4. During manipulation of the Power Range potentiometers, if indicated power level is increased greater than 5% within 2 seconds a PR Rate Trip bistable will occur. If this condition is encountered the bistable can be cleared by holding the Rate Mode switch in RESET until the Positive Rate TRIP lamp on the drawer clears then releasing the switch.

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

[2] **ENSURE** the following:

A. NC41M, POWER ABOVE PERMISSIVE P10 bistable, at 2-M-13 in NORMAL _____

B. NC42M, POWER ABOVE PERMISSIVE P10 bistable, at 2-M-13 in NORMAL _____

C. NC43M, POWER ABOVE PERMISSIVE P10 bistable, at 2-M-13 in NORMAL _____

D. NC44M, POWER ABOVE PERMISSIVE P10 bistable at 2-M-13 in NORMAL _____

E. PS/505A, HI Press to P-7, at 2-R-4 to the left (NORMAL). _____

F. PS/506A, HI Press to P-7, at 2-R-8 to the left (NORMAL). _____

G. LS/459A, Pzr High Level Reactor Trip, at 2-R-1 to the left (NORMAL) _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

H. LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the left
(NORMAL) _____

I. LS/461A, Pzr High Level Reactor Trip, at 2-R-9 to the left
(NORMAL) _____

[3] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR > P10 NC41M,
is CLEAR _____

B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR > P10
NC42M, is CLEAR _____

C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR > P10
NC43M, is CLEAR _____

D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR > P10
NC44M, is CLEAR _____

E. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR
> P13 PS-1-73A, is CLEAR _____

F. Trip Status Light 36 (2-XX-55-6A, 2-M-6), TURBINE PWR
> P13 2-PS-1-72A, is CLEAR _____

G. Trip Status Light 9 (2-XX-55-6A, 2-M-6), PZR LEVEL HI
LS-68-339A, is CLEAR _____

H. Trip Status Light 29 (2-XX-55-6A, 2-M-6), PZR LEVEL HI
LS-68-335A, is CLEAR _____

I. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is CLEAR _____

J. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is
CLEAR _____

K. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is in ALARM _____

L. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is in ALARM _____

M. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI,
is CLEAR. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- [4] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [5] **POSITION** the following:
- A. LS/459A, Pzr High Level Reactor Trip, at 2-R-1 to the right (TRIP) _____
 - B. LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the right (TRIP) _____
- [6] **VERIFY** the following:
- A. Trip Status Light 9 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-339A, is in ALARM) _____
 - B. Trip Status Light 29 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-335A, is in ALARM) _____
 - C. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
 - D. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____
 - E. Unit 2 Event Display Monitor indicates 77-E RT-PZR LEVEL HI is in NORMAL (BLUE) _____
 - F. Unit 2 Event Display Monitor indicates 124-A PZR LEVEL HI is in ALARM (Red) _____
- [7] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [8] **POSITION** PS/505A, Hi Press To P-7, at 2-R-4 to the right (TRIP). _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[9] **VERIFY** the following:

A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-73A, is in ALARM _____

B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____

C. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR _____

D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____

E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____

F. Computer Point Y0003D, NUCLEAR & TB PWR RE TR P7 PERM, indicates SET _____

G. Computer Point Y0001D, TB PWR 1 RE TR P13 PERM, indicates SET _____

H. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates TRIP. _____

I. Unit 2 Event Display Monitor indicates 70-E P-13 LO TURBINE IMPULSE PRESS is in NORMAL (Blue) _____

J. Unit 2 Event Display Monitor indicates 70-D P-7 LO POWER TRIPS BLOCKED is in NORMAL (Blue) _____

K. Unit 2 Event Display Monitor indicates 77-E RT-PZR LEVEL HI is in ALARM (RED). _____

[10] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[11] **POSITION** PS/505A, Hi Press To P-7, at 2-R-4 to the left (NORMAL). _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[12] **VERIFY** the following:

A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-73A, is CLEAR. _____

B. Annunciator 70D (2XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

C. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

D. Unit 2 Event Display Monitor indicates 70-E P-13 LO TURBINE IMPULSE PRESS is in ALARM (Red). _____

E. Unit 2 Event Display Monitor indicates 70-D P-7 LO POWER TRIPS BLOCKED is in ALARM (Red). _____

[13] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[14] **VERIFY** the following computer points:

A. Y0001D, TB PWR 1 RE TR P13 PERM, indicates RESET _____

B. Y0003D, NUCLEAR & TB PWR RE TR P7 PERM, indicates RESET _____

[15] **POSITION** PS/506A, Hi Press to P-7, at 2-R-8 to the right (TRIP). _____

[16] **VERIFY** the following:

A. Trip Status Light 36 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-72A, is in ALARM. _____

B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR. _____

C. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____
- E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____
- F. Computer Point Y0002D, TB PWR 2 RE TR P13 PERM, indicates SET. _____
- G. Computer Point Y0001D, TB PWR 1 RE TR P13 PERM, indicates RESET. _____
- H. Computer Point Y0003D, NUCLEAR & TB PWR RE TR P7 PERM indicates SET. _____
- I. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates TRIP. _____
- [17] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [18] **POSITION** PS/506A, HI Press to P-7, at 2-R-8 to the left (NORMAL). _____
- [19] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [20] **VERIFY** the following:
 - A. Computer Point Y0002D, TB PWR 2 RE TR P13 PERM, indicates RESET _____
 - B. Computer Point Y0003D, NUCLEAR & TB PWR RE TR P7 PERM, indicates RESET _____
 - C. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-73A, is in CLEAR _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

D. Trip Status Light 36 (2-XX-55-6A, 2-M-6), TURBINE PWR
> P13 PS-1-72A, is in CLEAR _____

E. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is in ALARM _____

F. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is in ALARM _____

[21] **POSITION** the following:

A. PS/505A, HI Press to P-7, at 2-R-4 to the right (TRIP) _____

B. PS/506A, HI Press to P-7, at 2-R-8 to the right (TRIP) _____

[22] **VERIFY** the following:

A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR
> P13 PS-1-73A, is in ALARM. _____

B. Trip Status Light 36 (2-XX-55-6A, 2-M-6), TURBINE PWR
> P13 PS-1-72A, is in ALARM. _____

C. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is CLEAR. _____

D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is CLEAR. _____

E. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____

F. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is
in ALARM. _____

G. Unit 2 Event Display Monitor indicates 77-E RT-PZR
LEVEL HI is in ALARM (RED). _____

H. Computer Point Y0003D, NUCLEAR & TB PWR RE TR
P7 PERM, indicates SET. _____

I. Computer Point Y0002D, TB PWR 2 RE TR P13 PERM,
indicates SET. _____

J. Computer Point Y0001D, TB PWR 1 RE TR P13 PERM,
indicates SET. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- K. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates TRIP. _____
- [23] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [24] **POSITION** the following:
 - A. PS/505A, HI Press to P-7, at 2-R-4 to the left (NORMAL). _____
 - B. PS/506A, HI Press to P-7, at 2-R-8 to the left (NORMAL). _____
- [25] **VERIFY** the following:
 - A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-73A, is CLEAR _____
 - B. Trip Status Light 36 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-72A, is CLEAR _____
 - C. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
 - D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____
 - E. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
 - F. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
 - G. Computer Point Y0003D, NUCLEAR & TB PWR RE TR P7 PERM, indicates RESET _____
 - H. Computer Point Y0002D, TB PWR 2 RE TR P13 PERM, indicates RESET _____
 - I. Computer Point Y0001D, TB PWR 1 RE TR P13 PERM, indicates RESET _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- J. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____
- K. Unit 2 Event Display Monitor indicates 77-E RT-PZR LEVEL HI is in NORMAL (Blue) _____
- [26] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [27] **POSITION** N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC41M bistable, at 2-M-13 in TRIPPED _____
- [28] **VERIFY** the following:
 - A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM. _____
 - B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
 - C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____
 - D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
 - E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
 - F. Computer Point N0011D, NUCL PWR 1 RE TR P10 PART PERM, indicates SET _____
 - G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[29] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[30] **POSITION** N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC41M bistable, at 2-M-13 in NORMAL _____

[31] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is CLEAR. _____

B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____

C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____

F. Computer Point N0011D, NUCL PWR 1 RE TR P10 PART PERM, indicates RESET _____

G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

[32] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[33] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, at 2-M-13 in TRIPPED _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[34] **VERIFY** the following:

- A. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM. _____
- B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
- C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____
- D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
- F. Computer Point N0012D, NUCL PWR 2 RE TR P10 PART PERM, indicates SET _____
- G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

[35] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[36] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC42M bistable, at 2-M-13 in NORMAL _____

[37] **VERIFY** the following:

- A. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR _____
- B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
- C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
- F. Computer Point N0012D, NUCL PWR 2 RE TR P10 PART PERM, indicates RESET. _____
- G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____
- [38] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [39] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC43M bistable, at 2-M-13 in TRIPPED _____
- [40] **VERIFY** the following:
 - A. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is in ALARM. _____
 - B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
 - C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____
 - D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
 - E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
 - F. Computer Point N0013D, NUCL PWR 3 RE TR P10 PART PERM, indicates SET _____
 - G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[41] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[42] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC43M bistable, at 2-M-13 in NORMAL _____

[43] **VERIFY** the following:

A. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is CLEAR. _____

B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____

C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____

F. Computer Point N0013D, NUCL PWR 3 RE TR P10 PART PERM, indicates RESET _____

G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

[44] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[45] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC44M bistable, at 2-M-13 in TRIPPED _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[46] **VERIFY** the following:

- A. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is in ALARM. _____
- B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
- C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____
- D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
- F. Computer Point N0014D, NUCL PWR 4 RE TR P10 PART PERM, indicates SET _____
- G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

[47] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[48] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC44M bistable, at 2-M-13 in NORMAL _____

[49] **VERIFY** the following:

- A. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is CLEAR. _____
- B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
- C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____

F. Computer Point N0014D, NUCL PWR 4 RE TR P10 PART PERM, indicates RESET _____

G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

[50] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[51] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC41M bistable, at 2-M-13 in TRIPPED _____

B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, at 2-M-13 in TRIPPED _____

[52] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM. _____

B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM. _____

C. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____

D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- E. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- F. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____
- G. Computer Point N0011D, NUCL PWR 1 RE TR P10 PART PERM, indicates SET _____
- H. Computer Point N0012D, NUCL PWR 2 RE TR P10 PART PERM, indicates SET _____
- I. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates TRIP _____
- J. Unit 2 Event Display Monitor indicates 64-E P-10 NUC AT POWER PERMISSIVE is in ALARM (Red) _____
- [53] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [54] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC42M bistable, at 2-M-13 in NORMAL _____
- [55] **VERIFY** the following:
 - A. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR. _____
 - B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
 - C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____
 - D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
 - E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- F. Computer Point N0012D, NUCL PWR 2 RE TR P10
PART PERM, indicates RESET _____
- G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES
RX TRIP, indicates NOT TR _____
- H. Unit 2 Event Display Monitor indicates 64-E P-10 NUC AT
POWER PERMISSIVE is in NORMAL (Blue) _____
- [56] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [57] **POSITION** N43 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE
P10 lamp on front of drawer is in ALARM to put NC43M
bistable, at 2-M-13 in TRIPPED _____
- [58] **VERIFY** the following:
 - A. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10
NC43M, is in ALARM. _____
 - B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is in ALARM _____
 - C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____
 - D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is in ALARM. _____
 - E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is
in ALARM. _____
 - F. Computer Point N0013D, NUCL PWR 3 RE TR P10
PART PERM, indicates SET _____
 - G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES
RX TRIP, indicates TRIP _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[59] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[60] **POSITION** N43 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE
P10 lamp on front of drawer is CLEAR to put NC43M bistable,
at 2-M-13 in NORMAL _____

[61] **VERIFY** the following:

A. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10
NC43M, is CLEAR. _____

B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is CLEAR _____

C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is in ALARM. _____

D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is in ALARM. _____

E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is
CLEAR. _____

F. Computer Point N0013D, NUCL PWR 3 RE TR P10
PART PERM, indicates RESET _____

G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES
RX TRIP, indicates NOT TR _____

[62] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[63] **POSITION** N44 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE
P10 lamp on front of drawer is in ALARM to put NC44M
bistable, at 2-M-13 in TRIPPED _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[64] **VERIFY** the following:

- A. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is in ALARM. _____
- B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____
- C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____
- D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____
- F. Computer Point N0014D, NUCL PWR 4 RE TR P10 PART PERM, indicates SET _____
- G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates TRIP _____

[65] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[66] **POSITION** N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC41M bistable, at 2-M-13 in NORMAL _____

[67] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is CLEAR. _____
- B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
- C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in CLEAR. _____
- F. Computer Point N0011D, NUCL PWR 1 RE TR P10 PART PERM, indicates RESET _____
- G. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____
- [68] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [69] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, at 2-M-13 in TRIPPED _____
- [70] **VERIFY** the following:
 - A. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM. _____
 - B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____
 - C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____
 - D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
 - E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[71] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[72] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC42M bistable, at 2-M-13 in NORMAL _____

[73] **VERIFY** the following:

A. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR. _____

B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____

C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____

[74] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[75] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC43M bistable, at 2-M-13 in TRIPPED _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[76] **VERIFY** the following:

- A. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is in ALARM. _____
- B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM. _____
- C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____
- D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____

[77] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[78] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC44M bistable, at 2-M-13 in NORMAL _____

[79] **VERIFY** the following:

- A. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is CLEAR. _____
- B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
- C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____
- D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[80] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[81] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, at 2-M-13 in TRIPPED _____

[82] **VERIFY** the following:

A. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM. _____

B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM. _____

C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____

D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____

[83] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[84] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC41M bistable, at 2-M-13 in TRIPPED _____

B. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC44M bistable, at 2-M-13 in TRIPPED _____

[85] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM. _____

B. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is in ALARM. _____

C. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____

D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____

E. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

F. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____

[86] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[87] **POSITION** the following:

A. PS/505A, HI Press to P-7, at 2-R-4 to the right (TRIP) _____

B. PS/506A, HI Press to P-7, at 2-R-8 to the right (TRIP) _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[88] **VERIFY** the following:

- A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-73A, is in ALARM _____
- B. Trip Status Light 36 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-72A, is in ALARM _____
- C. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM. _____
- D. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR _____
- E. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. **[Acc Crit]** _____
- F. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____
- G. Computer Point Y0003D, NUCLEAR & TB PWR RE TR P7 PERM, indicates SET _____
- H. Computer Point Y0002D, TB PWR 2 RE TR P13 PERM, indicates SET _____
- I. Computer Point Y0001D, TB PWR 1 RE TR P13 PERM, indicates SET _____
- J. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates TRIP. _____

[89] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

[90] **POSITION** the following:

- A. PS/505A, HI Press to P-7, at 2-R-4 to the left (NORMAL). _____
- B. PS/506A, HI Press to P-7, at 2-R-8 to the left (NORMAL). _____
- C. LS/459A, Pzr High Level Reactor Trip, at 2-R-1 to the left (NORMAL) _____
- D. LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the left (NORMAL) _____
- E. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC41M bistable, at 2-M-13 in NORMAL _____
- F. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC42M bistable, at 2-M-13 in NORMAL _____
- G. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC43M bistable, at 2-M-13 in NORMAL _____
- H. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC44M bistable, at 2-M-13 in NORMAL _____

[91] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is CLEAR. _____
- B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR. _____
- C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is CLEAR. _____
- D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is CLEAR. _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- E. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-73A, is CLEAR _____
- F. Trip Status Light 36 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-72A, is CLEAR _____
- G. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
- H. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____
- I. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- J. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
- K. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is CLEAR. _____
- L. Computer Point N0011D, NUCL PWR 1 RE TR P10 PART PERM, indicates RESET _____
- M. Computer Point N0012D, NUCL PWR 2 RE TR P10 PART PERM, indicates RESET _____
- N. Computer Point N0013D, NUCL PWR 3 RE TR P10 PART PERM, indicates RESET _____
- O. Computer Point N0014D, NUCL PWR 4 RE TR P10 PART PERM, indicates RESET _____
- P. Computer Point Y0003D, NUCLEAR & TB PWR RE TR P7 PERM, indicates RESET _____
- Q. Computer Point Y0002D, TB PWR 2 RE TR P13 PERM, indicates RESET _____
- R. Computer Point Y0001D, TB PWR 1 RE TR P13 PERM, indicates RESET _____
- S. Computer Point L0480D, PZR HI LEVEL 1 PARTIAL RX TRIP, indicates NOT TR _____

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6.3 Permissives P-7, P-10 and P-13 (continued)

- T. Computer Point L0481D, PZR HI LEVEL 2 PARTIAL RX
TRIP, indicates NOT TR _____
- U. Computer Point L0483D, PZR HI LEVEL & P7 CAUSES
RX TRIP, indicates NOT TR _____
- V. Unit 2 Event Display Monitor indicates 124-A PZR LEVEL
HI is in NORMAL (BLUE) _____

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6.4 Permissive P-8

NOTES

- 1) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables used in this subsection.
- 2) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status. A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status
- 3) During the simulation of NIS Power Range Bistables NC41N, NC42N NC43N and NC44N at 48%- power, the NIS Power Range Bistables, Trip Status lights and annunciators associated with NC41P - NC44P will activate at greater than 25% power and the NC41M - NC44M will activate at greater than 10% power. To prevent an unwanted Reactor Trip, the 2-N47A and 2-N47B "PR TR (A/B) Block P10" Main Control Board block switches will be placed to BLOCK in Steps 6.4[5] thru Steps 6.4[8]. When returning Bistables NC41N, NC42N NC43N and NC44N to NORMAL in this subsection, the performer should not drop below 10% indicated power unless directed to ensure that the 2-N47A/B Blocks do not reset and cause an unwanted Reactor Trip. The Power Range High Neutron Flux Low Setpoint Reactor Trip (NC41P, NC42P, NC43P and NC44P) will automatically unblock with any 3 out of 4 Channels below the P-10 setpoint (10% indicated power).

Should the Power Range High Neutron Flux Low Setpoint Reactor Trip become unblocked and cause an unwarranted reactor trip, repeat Steps 6.4[5] thru Steps 6.4[8] to block the trip and make a note in the Chronological Test Log.
- 4) The NC41N, NC42N, NC43N and NC44N bistables setpoint for P-8 is 48%. The NC41S, NC42S, NC43S and NC44S bistables setpoint for P-9 is 50%. When tripping the P-8 bistables, if the test signal pots are adjusted slightly higher, the P-9 bistables may alarm but will clear once below the setpoint at the end of the section.
- 5) Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.
- 6) During manipulation of the Power Range potentiometers, if indicated power level is increased greater than 5% within 2 seconds a PR Rate Trip bistable will occur. If this condition is encountered the bistable can be cleared by holding the Rate Mode switch in RESET until the Positive Rate TRIP lamp on the drawer clears then releasing the switch.

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

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6.4 Permissive P-8 (continued)

[2] **ENSURE** the following:

- A. NC41N, POWER ABOVE PERMISSIVE P8 bistable, at 2-M-13 in NORMAL _____
- B. NC42N, POWER ABOVE PERMISSIVE P8 bistable, at 2-M-13 in NORMAL _____
- C. NC43N, POWER ABOVE PERMISSIVE P8 bistable, at 2-M-13 in NORMAL _____
- D. NC44N, POWER ABOVE PERMISSIVE P8 bistable, at 2-M-13 in NORMAL _____
- E. NC41M, PR CH1 POWER ABOVE PERMISSIVE P-10 bistable, at 2-M-13 in NORMAL _____
- F. NC42M, PR CH2 POWER ABOVE PERMISSIVE P-10 bistable, at 2-M-13 in NORMAL. _____
- G. NC43M, PR CH3 POWER ABOVE PERMISSIVE P-10 bistable, at 2-M-13 in NORMAL. _____
- H. NC44M, PR CH4 POWER ABOVE PERMISSIVE P-10 bistable, at 2-M-13 in NORMAL. _____
- I. FS/414A, Lo Flow Reactor Trip, at 2-R-1 to the left (NORMAL) _____
- J. FS/415A, Lo Flow Reactor Trip, at 2-R-5 to the left (NORMAL) _____
- K. FS/416A, Lo Flow Reactor Trip, at 2-R-9 to the left (NORMAL) _____

[3] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is CLEAR _____
- B. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is CLEAR _____
- C. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is CLEAR _____

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6.4 Permissive P-8 (continued)

- D. Trip Status Light 64 (2-XX-55-5, 2-M-5), PR >P8 NC44N,
is CLEAR _____
- E. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M,
is CLEAR. _____
- F. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10
NC42M, is CLEAR. _____
- G. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10
NC43M, is CLEAR. _____
- H. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10
NC44M, is CLEAR. _____
- I. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6A, is CLEAR _____
- J. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6B, is CLEAR _____
- K. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP
FLOW LO, is CLEAR _____
- L. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW
LO, is CLEAR _____
- M. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR
FLOW TRIP BLOCKED, is in ALARM _____
- N. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1
FLOW LO, is CLEAR _____
- O. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2
FLOW LO, is CLEAR _____
- P. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3
FLOW LO, is CLEAR _____
- Q. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4
FLOW LO, is CLEAR _____

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6.4 Permissive P-8 (continued)

[4] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[5] **POSITION** the following:

A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC41M bistable, in TRIPPED. _____

B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, in TRIPPED. _____

C. N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC43M bistable, in TRIPPED. _____

D. N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC44M bistable, in TRIPPED. _____

[6] **POSITION** the following:

A. 2-N47A, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____

B. 2-N47B, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____

[7] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM. _____

B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM. _____

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6.4 Permissive P-8 (continued)

- C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is in ALARM. _____
- D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is in ALARM. _____
- E. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM. _____
- F. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is in ALARM. _____

[8] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[9] **POSITION** the following:

- A. FS/414A, Lo Flow Reactor Trip, at 2-R-1 to the right (TRIP). _____
- B. FS/415A, Lo Flow Reactor Trip, at 2-R-5 to the right (TRIP) _____

[10] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is in ALARM _____
- B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is in ALARM _____
- C. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is in ALARM _____

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6.4 Permissive P-8 (continued)

[11] **VERIFY** the following computer points:

- A. F0400D, RCL1 1 LO FLOW PARTIAL RX TRIP, indicates TRIP _____
- B. F0401D, RCL1 2 LO FLOW PARTIAL RX TRIP, indicates TRIP _____
- C. F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR _____

[12] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[13] **POSITION** N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC41N bistable, in TRIPPED. _____

[14] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is in ALARM _____
- B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM _____
- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

[15] **VERIFY** the following computer points:

- A. F0495D, RCL LO FLOW LOOP TR P8 PART PERM 1, indicates SET _____
- B. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET _____

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6.4 Permissive P-8 (continued)

[16] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[17] **POSITION** the following:

A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC41N bistable, in NORMAL _____

B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC42N bistable, in TRIPPED _____

[18] **VERIFY** the following:

A. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is in CLEAR _____

B. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is in ALARM _____

C. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM _____

[19] **VERIFY** the following computer points:

A. F0495D, RCL LO FLOW LOOP TR P8 PART PERM 1, indicates RESET _____

B. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET _____

C. F0496D, RCL LO FLOW LOOP TR P8 PART PERM 2, indicates SET _____

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6.4 Permissive P-8 (continued)

[20] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47). _____

B. UV COIL VOLTAGE Meter (2-R-50). _____

[21] **POSITION** the following:

A. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC42N bistable, in NORMAL _____

B. N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC43N bistable, in TRIPPED _____

[22] **VERIFY** the following:

A. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is CLEAR _____

B. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is in ALARM. _____

C. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM _____

[23] **VERIFY** the following computer points:

A. F0496D, RCL LO FLOW LOOP TR P8 PART PERM 2, indicates RESET _____

B. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET _____

C. F0497D, RCL LO FLOW LOOP TR P8 PART PERM 3, indicates SET _____

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6.4 Permissive P-8 (continued)

[24] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[25] **POSITION** the following:

A. N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC43N bistable, in NORMAL _____

B. N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC44N bistable, in TRIPPED _____

[26] **VERIFY** the following:

A. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is CLEAR _____

B. Trip Status Light 64 (2-XX-55-5, 2-M-5), PR >P8 NC44N, is in ALARM. _____

C. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM _____

[27] **VERIFY** the following computer points:

A. F0497D, RCL LO FLOW LOOP TR P8 PART PERM 3, indicates RESET _____

B. F0498D, RCL LO FLOW LOOP TR P8 PART PERM 4, indicates SET. _____

C. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET. _____

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6.4 Permissive P-8 (continued)

[28] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[29] **POSITION** the following:

A. N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC44N P8 bistable, in NORMAL _____

B. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC41N bistable, in TRIPPED _____

C. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC42N bistable, in TRIPPED _____

[30] **VERIFY** the following:

A. Trip Status Light 64 (2-XX-55-5, 2-M-5), PR >P8 NC44N, is CLEAR. _____

B. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is in ALARM _____

C. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, in ALARM _____

D. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is CLEAR. _____

E. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____

F. Unit 2 Event Display Monitor indicates 70-C P-8 LO PWR FLOW TRIP BLOCKED is in NORMAL (Blue) _____

G. Unit 2 Event Display Monitor indicates 78-D RT-ONE LOOP FLOW LO is in ALARM (Red) _____

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6.4 Permissive P-8 (continued)

[31] **VERIFY** the following computer points:

- A. F0498D, RCL LO FLOW LOOP TR P8 PART PERM 4, indicates RESET _____
- B. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates SET _____

[32] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

NOTE

In Step 6.4[33], N42 Power Range Channel must be maintained above 10% indicated power level.

[33] **POSITION** N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC42N bistable, at 2-M-13 in NORMAL. _____

[34] **VERIFY** the following:

- A. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is CLEAR. _____
- B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM. _____
- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- D. Computer point F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET. _____
- E. Unit 2 Event Display Monitor indicates 70-C P-8 LO PWR FLOW TRIP BLOCKED is in ALARM (Red) _____
- F. Unit 2 Event Display Monitor indicates 78-D RT-ONE LOOP FLOW LO is in NORMAL (Blue) _____

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6.4 Permissive P-8 (continued)

[35] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[36] **POSITION** N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC43N bistable, in TRIPPED. _____

[37] **VERIFY** the following:

A. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is in ALARM _____

B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is CLEAR. _____

C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____

D. Computer point F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates SET. _____

[38] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

NOTE

In Step 6.4[39], N43 Power Range Channel must be maintained above 10% indicated power level.

[39] **POSITION** N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC43N bistable, in NORMAL. _____

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6.4 Permissive P-8 (continued)

[40] **VERIFY** the following:

- A. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is CLEAR _____
- B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM. _____
- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- D. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET _____

[41] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[42] **POSITION** N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC44N bistable, at 2-M-13 in TRIPPED. _____

[43] **VERIFY** the following:

- A. Trip Status Light 64 (2-XX-55-5, 2-M-5), PR >P8 NC44N, is in ALARM _____
- B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is CLEAR. _____
- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____
- D. Computer point F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates SET. _____

[44] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.4 Permissive P-8 (continued)

NOTE

In Step 6.4[45], N41 Power Range Channel must be maintained above 10% indicated power level.

[45] **POSITION** N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC41N bistable, at 2-M-13 in NORMAL.

[46] **VERIFY** the following:

A. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is CLEAR

B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM.

C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR

D. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET

[47] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[48] **POSITION** N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC42N bistable, at 2-M-13 in TRIPPED.

[49] **VERIFY** the following:

A. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is in ALARM

B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is CLEAR.

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6.4 Permissive P-8 (continued)

C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____

D. Computer point F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates SET. _____

[50] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

NOTE

In Step 6.4[51], N42 Power Range Channel must be maintained above 10% indicated power level.

[51] **POSITION** N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC42N bistable, at 2-M-13 in NORMAL. _____

[52] **VERIFY** the following:

A. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is CLEAR _____

B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM. _____

C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

D. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET _____

[53] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.4 Permissive P-8 (continued)

[54] **POSITION** N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC43N bistable, at 2-M-13 in TRIPPED. _____

[55] **VERIFY** the following:

- A. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is in ALARM _____
- B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is CLEAR. _____
- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____
- D. Computer point F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates SET. _____

[56] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

NOTE

In Step 6.4[57], N44 Power Range Channel must be maintained above 10% indicated power level.

[57] **POSITION** N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC43N bistable, at 2-M-13 in NORMAL. _____

[58] **VERIFY** the following:

- A. Trip Status Light 64 (2-XX-55-5, 2-M-5), PR >P8 NC44N, is CLEAR _____
- B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM. _____

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6.4 Permissive P-8 (continued)

- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
 - D. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET _____
- [59] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [60] **POSITION** N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC42N bistable, at 2-M-13 in TRIPPED. _____
- [61] **VERIFY** the following:
 - A. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is in ALARM _____
 - B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is CLEAR. _____
 - C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____
 - D. Computer point F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates SET. _____
- [62] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.4 Permissive P-8 (continued)

NOTE

In Step 6.4[63], N42 Power Range Channel must be maintained above 10% indicated power level.

[63] **POSITION** N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC42N bistable, at 2-M-13 in NORMAL.

[64] **VERIFY** the following:

A. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is CLEAR

B. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is in ALARM.

C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR

D. F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates RESET

[65] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

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6.4 Permissive P-8 (continued)

[66] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC41N bistable, at 2-M-13 in TRIPPED _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC42N bistable, at 2-M-13 in TRIPPED. _____
- C. N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC44N bistable, at 2-M-13 in TRIPPED _____

[67] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is in ALARM _____
- B. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is in ALARM _____
- C. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is in ALARM _____
- D. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is CLEAR. _____
- E. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____
- F. Computer point F0499D, RCL LO FLOW LOOP TR P8 PERM, indicates SET. _____

[68] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.4 Permissive P-8 (continued)

CAUTION

In Step 6.4[69], N41, N42, N43 and N44 Power Range Channels will be returned to a signal level below P-10, 10% indicated power. This will also reinstate the Power Range High Neutron Flux Low Setpoint Reactor Trip (NC41P, NC42P, NC43P and NC44P) by automatically unblocking P-10.

[69] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is CLEAR to
put all NC41 bistables, in NORMAL _____
- B. N42 Detector A and, if necessary Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is CLEAR to
put all NC42 bistables, in NORMAL _____
- C. N43 Detector A and, if necessary Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is CLEAR to
put all NC43 bistables, in NORMAL _____
- D. N44 Detector A and, if necessary Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is CLEAR to
put all NC44 bistables, in NORMAL _____

[70] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[71] **VERIFY** computer point F0499D, RCL LO FLOW LOOP TR P8
PERM, indicates RESET. _____

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6.4 Permissive P-8 (continued)

[72] **POSITION** the following:

- A. FS/414A, Lo Flow Reactor Trip, at 2-R-1 to the left (NORMAL). _____
- B. FS/415A, Lo Flow Reactor Trip, at 2-R-5 to the left (NORMAL). _____

[73] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is CLEAR _____
- B. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is CLEAR _____
- C. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is CLEAR _____
- D. Trip Status Light 64 (2-XX-55-5, 2-M-5), PR >P8 NC44N, is CLEAR _____
- E. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is CLEAR _____
- F. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR _____
- G. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is CLEAR _____
- H. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is CLEAR _____
- I. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is CLEAR _____
- J. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is CLEAR _____
- K. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- L. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

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6.4 Permissive P-8 (continued)

- M. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR
FLOW TRIP BLOCKED, is in ALARM _____
- N. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is CLEAR _____
- O. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE
LO SETPOINT TRIP BLOCKED, is CLEAR. _____
- P. Computer Point F0495D, RCL LO FLOW LOOP TR P8
PART PERM 1, indicates RESET _____
- Q. Computer Point F0496D, RCL LO FLOW LOOP TR P8
PART PERM 2, indicates RESET _____
- R. Computer Point F0497D, RCL LO FLOW LOOP TR P8
PART PERM 3, indicates RESET _____
- S. Computer Point F0498D, RCL LO FLOW LOOP TR P8
PART PERM 4, indicates RESET _____
- T. Computer Point F0499D, RCL LO FLOW LOOP TR P8
PERM, indicates RESET _____

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6.5 Permissive P-9

NOTES

- 1) Both the Stop Valve Switch (STPV-) and the Auto Stop Oil Pressure Low Switch (63-/AST) provide separate contacts for Train A (2-R-46) and Train B (2-R-49) SSPS input logic. Thus when the procedure step indicates a certain logic input, the requirement is for both Train A and Train B input logic signals to be activated. Verification for Train A input will be the proper activation of the annunciator window. The verification of the Train B input will be the activation of the proper computer point.
- 2) SSPS Switch contacts jumpered in Subsection 4.3 are Open for the Stop Valve Closed position, and Closed for the Stop Valve Open position. Thus, the following will apply throughout this subsection:

Open jumper - Valve Closed Tripped
Closed jumper - Valve Open Normal
- 3) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables used in this subsection.
- 4) In this subsection, the following identifiers will be used:

<u>Relay ID</u>	<u>Location</u>	<u>Description</u>	<u>Section Identifier</u>
63-3/AST (2-PS-47-73-D)	2-HS-47-73	Auto Stop Oil Pressure Low	Turb Auto Stop Oil Press Lo
63-4/AST (2-PS-47-74-E)	2-HS-47-74	Auto Stop Oil Pressure Low	Turb Auto Stop Oil Press Lo
63-5/AST (2-PS-47-75-F)	2-HS-47-75	Auto Stop Oil Pressure Low	Turb Auto Stop Oil Press Lo

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6.5 Permissive P-9 (continued)

NOTES

- 5) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status. A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status
- 6) The NC41S, NC42S, NC43S and NC44S setpoints to P9 are 50% power on the power range detectors.
- 7) When clearing and tripping the NC41S, NC42S, NC43S and NC44S bistables, the bistables NC41N, NC42N, NC43N and NC44N, whose setpoint are 48% power on the power range detectors and their trip status lights and annunciators may be affected.
- 8) During the simulation of NIS Power Range Bistables NC41S, NC42S, NC43S and NC44S at 50%- power, the NIS Power Range Bistables, Trip Status lights and annunciators associated with NC41P - NC44P will activate at greater than 25% power and the NC41M - NC44M will activate at greater than 10% power. To prevent an unwanted Reactor Trip, the 2-N47A and 2-N47B "PR Tr (A/B) Block P10" Main Control Board block switches will be placed to BLOCK in Steps 6.5[2] thru Steps 6.5[5]. When returning Bistables NC41S, NC42S, NC43S and NC44S to NORMAL in this subsection, the performer should not drop below 10% indicated power unless directed to ensure that the 2-N47A/B Blocks do not reset and cause an unwanted Reactor Trip. The Power Range High Neutron Flux Low Setpoint Reactor Trip (NC41P, NC42P, NC43P and NC44P) will automatically unblock with any 3 out of 4 Channels below the P-10 setpoint (10% indicated power)

Should the Power Range High Neutron Flux Low Setpoint Reactor Trip become unblocked and cause an unwarranted reactor trip, repeat Steps 6.5[2] thru Steps 6.5[5] to block the trip and make a note in the Chronological Test Log.
- 9) Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.
- 10) During manipulation of the Power Range potentiometers, if indicated power level is increased greater than 5% within 2 seconds a PR Rate Trip bistable will occur. If this condition is encountered the bistable can be cleared by holding the Rate Mode switch in RESET until the Positive Rate TRIP lamp on the drawer clears then releasing the switch.

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

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6.5 Permissive P-9 (continued)

[2] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC41M bistable, in TRIPPED. _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, in TRIPPED. _____
- C. N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC43M bistable, in TRIPPED. _____
- D. N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC44M bistable, in TRIPPED. _____

[3] **POSITION** the following:

- A. 2-N47A, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____
- B. 2-N47B, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____

[4] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM. _____
- B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM. _____
- C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is in ALARM. _____
- D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is in ALARM. _____
- E. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM. _____

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6.5 Permissive P-9 (continued)

F. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE
LO SETPOINT TRIP BLOCKED, is in ALARM. _____

[5] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[6] **VERIFY** the following:

A. NC41S, PR CH 1 POWER ABOVE PERMISSIVE P9
bistable, at 2-M-13, in NORMAL _____

B. NC42S, PR CH 2 POWER ABOVE PERMISSIVE P9
bistable, at 2-M-13, in NORMAL _____

C. NC43S, PR CH 3 POWER ABOVE PERMISSIVE P9
bistable, at 2-M-13, in NORMAL _____

D. NC44S, PR CH 4 POWER ABOVE PERMISSIVE P9
bistable, at 2-M-13, in NORMAL _____

E. 2-HS-47-73, AUTO STOP OIL PRESSURE LOW TEST
SW, at 2-JB-290-1666-D (Aux Inst. Rm) in NORMAL _____

F. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST
SW, at 2-JB-290-1669-E (Aux Inst. Rm) in NORMAL _____

G. 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST
SW, at 2-JB-290-1668-F (Aux Inst. Rm) in NORMAL _____

[7] **VERIFY** the following:

A. Trip Status Light 9 (2-XX-55-5, 2-M-5) , PR >P9 NC41S,
is CLEAR _____

B. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S,
is CLEAR _____

C. Trip Status Light 49 (2-XX-55-5, 2-M-5) , PR >P9 NC43S,
is CLEAR _____

D. Trip Status Light 69 (2-XX-55-5, 2-M-5) , PR >P9 NC44S,
is CLEAR _____

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6.5 Permissive P-9 (continued)

- E. Trip Status Light 17 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-1, is CLEAR _____
- F. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is CLEAR _____
- G. Trip Status Light 57 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-3, is CLEAR _____
- H. Annunciator window 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is CLEAR _____
- I. Annunciator window 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM _____
- J. Annunciator window 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is CLEAR _____
- K. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

[8] **POSITION** the following:

- A. 2-HS-47-73, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1666-D (Aux Inst. Rm), in TEST. _____
- B. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW at 2-JB-290-1669-E (Aux Inst. Rm), in TEST. _____

[9] **VERIFY** the following:

- A. Trip Status Light 17 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-1, is in ALARM _____
- B. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is in ALARM _____
- C. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is in ALARM. _____
- D. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____
- E. Unit 2 Event Display Monitor indicates 121-D TURB AUTO-STOP OIL PRESS LO is in ALARM (Red) _____

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6.5 Permissive P-9 (continued)

[10] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[11] **POSITION** N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC41S bistable, at 2-M-13 in TRIPPED. _____

[12] **VERIFY** the following:

A. Trip Status Light 9 (2-XX-55-5, 2-M-5), PR >P9 NC41S, is in ALARM _____

B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

[13] **VERIFY** the following computer points:

A. Y2917D, NUC PWR 1 RE TR P9 PART PERM, indicates SET _____

B. Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET _____

[14] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.5 Permissive P-9 (continued)

[15] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC41S bistable, at 2-M-13 in NORMAL. _____
- B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC42S bistable, at 2-M-13 in TRIPPED. _____

[16] **VERIFY** the following:

- A. Trip Status Light 9 (2-XX-55-5, 2-M-5) , PR >P9 NC41S, is CLEAR _____
- B. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is IN ALARM _____
- C. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM _____
- D. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

[17] **VERIFY** the following computer points:

- A. Y2917D, NUC PWR 1 RE TR P9 PART PERM, indicates RESET _____
- B. Y2918D, NUC PWR 2 RE TR P9 PART PERM, indicates SET _____
- C. Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET _____

[18] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.5 Permissive P-9 (continued)

[19] **POSITION** the following:

- A. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC42S bistable, at 2-M-13 in NORMAL. _____
- B. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC43S bistable, at 2-M-13 in TRIPPED. _____

[20] **VERIFY** the following:

- A. Trip Status Light 29 (2-XX-55-5, 2-M-5), PR >P9 NC42S, is CLEAR. _____
- B. Trip Status Light 49 (2-XX-55-5, 2-M-5), PR >P9 NC43S, is in ALARM _____
- C. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM _____
- D. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

[21] **VERIFY** the following computer points:

- A. Y2918D, NUC PWR 2 RE TR P9 PART PERM, indicates RESET _____
- B. Y2919D, NUC PWR 3 RE TR P9 PART PERM, indicates SET _____
- C. Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET _____

[22] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.5 Permissive P-9 (continued)

[23] **ENSURE** the following:

- A. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC43S bistable, at 2-M-13 in NORMAL. _____
- B. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC44S bistable, at 2-M-13 in TRIPPED. _____

[24] **VERIFY** the following:

- A. Trip Status Light 49 (2-XX-55-5, 2-M-5), PR >P9 NC43S, is CLEAR. _____
- B. Trip Status Light 69 (2-XX-55-5, 2-M-5), PR >P9 NC44S, is in ALARM _____
- C. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM _____
- D. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

[25] **VERIFY** the following computer points:

- A. Y2919D, NUC PWR 3 RE TR P9 PART PERM, indicates RESET _____
- B. Y2920D, NUC PWR 4 RE TR P9 PART PERM, indicates SET _____
- C. Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET _____

[26] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.5 Permissive P-9 (continued)

[27] **ENSURE** the following:

- A. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC44S bistable, at 2-M-13 in NORMAL. _____
- B. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC41S bistable, at 2-M-13 in TRIPPED. _____
- C. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC42S bistable, at 2-M-13 in TRIPPED. _____

[28] **VERIFY** the following:

- A. Trip Status Light 69 (2-XX-55-5, 2-M-5), PR >P9 NC44S, is CLEAR _____
- B. Trip Status Light 9 (2-XX-55-5, 2-M-5) , PR >P9 NC41S, is in ALARM _____
- C. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is in ALARM _____
- D. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is CLEAR. _____
- E. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM _____
- F. Unit 2 Event Display Monitor indicates 76-B RT-TURBINE TRIP is in ALARM (Red) _____
- G. Unit 2 Event Display Monitor indicates 69-E P-9 RX TRIP FROM TURB TRIP BLOCKED is in NORMAL (Blue) _____

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6.5 Permissive P-9 (continued)

[29] **VERIFY** the following computer points:

A. Y2920D, NUC PWR 4 RE TR P9 PART PERM, indicates RESET _____

B. Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates SET _____

[30] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[31] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC42S bistable, at 2-M-13 in NORMAL. _____

[32] **VERIFY** the following:

A. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is CLEAR _____

B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET _____

E. Unit 2 Event Display Monitor indicates 76-B RT-TURBINE TRIP is in NORMAL (Blue) _____

F. Unit 2 Event Display Monitor indicates 69-E P-9 RX TRIP FROM TURB TRIP BLOCKED is in ALARM (Red) _____

[33] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.5 Permissive P-9 (continued)

[34] **VERIFY** computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET. _____

[35] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC43S bistable, at 2-M-13 in TRIPPED. _____

[36] **VERIFY** the following:

A. Trip Status Light 49 (2-XX-55-5, 2-M-5) , PR >P9 NC43S, is in ALARM _____

B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is CLEAR. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM _____

D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates SET _____

[37] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[38] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC43S bistable, at 2-M-13 in NORMAL. _____

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6.5 Permissive P-9 (continued)

[39] **VERIFY** the following:

- A. Trip Status Light 49 (2-XX-55-5, 2-M-5) , PR >P9 NC43S, is CLEAR _____
- B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM. _____
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____
- D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET _____

[40] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[41] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC44S bistable, at 2-M-13 in TRIPPED. _____

[42] **VERIFY** the following:

- A. Trip Status Light 69 (2-XX-55-5, 2-M-5) , PR >P9 NC44S, is in ALARM _____
- B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is CLEAR. _____
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM _____
- D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates SET _____

[43] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.5 Permissive P-9 (continued)

[44] **POSITION** N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC41S bistable, at 2-M-13 in NORMAL.

[45] **VERIFY** the following:

- A. Trip Status Light 9 (2-XX-55-5, 2-M-5) , PR >P9 NC41S, is CLEAR
- B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM.
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR
- D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET

[46] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47)
- B. UV COIL VOLTAGE Meter (2-R-50)

[47] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC42S bistable, at 2-M-13 in TRIPPED.

[48] **VERIFY** the following:

- A. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is in ALARM
- B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is CLEAR.
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM
- D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates SET

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6.5 Permissive P-9 (continued)

[49] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[50] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC42S bistable, at 2-M-13 in NORMAL. _____

[51] **VERIFY** the following:

A. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is CLEAR _____

B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET _____

[52] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[53] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC43S bistable, in TRIPPED. _____

[54] **VERIFY** the following:

A. Trip Status Light 49 (2-XX-55-5, 2-M-5) , PR >P9 NC43S, is in ALARM _____

B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is CLEAR. _____

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6.5 Permissive P-9 (continued)

- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM _____
 - D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates SET _____
- [55] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [56] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC44S bistable, at 2-M-13 in NORMAL. _____
- [57] **VERIFY** the following:
 - A. Trip Status Light 69 (2-XX-55-5, 2-M-5) , PR >P9 NC44S, is in CLEAR _____
 - B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM. _____
 - C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____
 - D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET _____
- [58] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [59] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC42S bistable, at 2-M-13 in TRIPPED. _____

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6.5 Permissive P-9 (continued)

[60] **VERIFY** the following:

- A. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is in ALARM _____
- B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is CLEAR. _____
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM _____
- D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates SET _____

[61] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[62] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is CLEAR to put NC42S bistable, at 2-M-13 in NORMAL. _____

[63] **VERIFY** the following:

- A. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is CLEAR _____
- B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM. _____
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____
- D. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates RESET _____

[64] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.5 Permissive P-9 (continued)

[65] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC41S bistable, at 2-M-13 in TRIPPED. _____
- B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC42S, PR CH 2 POWER ABOVE PERMISSIVE P9 bistable in TRIPPED. _____
- C. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC44S bistable, at 2-M-13 in TRIPPED. _____

[66] **VERIFY** the following:

- A. Trip Status Light 9 (2-XX-55-5, 2-M-5) , PR >P9 NC41S, is in ALARM _____
- B. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is in ALARM _____
- C. Trip Status Light 69 (2-XX-55-5, 2-M-5) , PR >P9 NC44S, is in ALARM _____
- D. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is CLEAR _____
- E. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM _____
- F. Computer point Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates SET _____

[67] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.5 Permissive P-9 (continued)

NOTE

In Step 6.5[68], N41, N42, N43 and N44 Power Range Channel will be returned to a signal level below P-10, 10% indicated power. This will also reinstate the Power Range High Neutron Flux Low Setpoint Reactor Trip (NC41P, NC42P, NC43P and NC44P) by automatically unblocking P-10.

[68] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put all NC41 bistables, in NORMAL _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put all NC42 bistables, in NORMAL _____
- C. N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put all NC43 bistables, in NORMAL _____
- D. N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put all NC44 bistables, in NORMAL _____

[69] **VERIFY** the following:

- A. Trip Status Light 9 (2-XX-55-5, 2-M-5), PR >P9 NC41S, is CLEAR _____
- B. Trip Status Light 29 (2-XX-55-5, 2-M-5), PR >P9 NC42S, is CLEAR _____
- C. Trip Status Light 49 (2-XX-55-5, 2-M-5), PR >P9 NC43S, is CLEAR _____
- D. Trip Status Light 69 (2-XX-55-5, 2-M-5), PR >P9 NC44S, is CLEAR _____

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6.5 Permissive P-9 (continued)

- E. Trip Status Light 5 (2-XX-55-5, 2-M-5) , PR >P10 NC41M, is CLEAR _____
- F. Trip Status Light 25 (2-XX-55-5, 2-M-5) , PR >P10 NC42M, is CLEAR _____
- G. Trip Status Light 45 (2-XX-55-5, 2-M-5) , PR >P10 NC43M, is CLEAR _____
- H. Trip Status Light 65 (2-XX-55-5, 2-M-5) , PR >P10 NC44M, is CLEAR _____
- I. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
- J. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR. _____
- K. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM. _____
- L. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

[70] **POSITION** the following:

- A. 2-HS-47-73, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1666-D (Aux Inst. Rm), in NORMAL. _____
- B. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW at 2-JB-290-1669-E (Aux Inst. Rm), in NORMAL. _____

[71] **VERIFY** the following:

- A. Trip Status Light 17 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-1, is CLEAR _____
- B. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is CLEAR _____
- C. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is CLEAR. _____
- D. Unit 2 Event Display Monitor indicates 121-D TURB AUTO-STOP OIL PRESS LO is in NORMAL (Blue) _____

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6.5 Permissive P-9 (continued)

[72] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[73] **VERIFY** the following computer points:

A. Y2917D, NUC PWR 1 RE TR P9 PART PERM, indicates
RESET _____

B. Y2918D, NUC PWR 2 RE TR P9 PART PERM, indicates
RESET _____

C. Y2919D, NUC PWR 3 RE TR P9 PART PERM, indicates
RESET _____

D. Y2920D, NUC PWR 4 RE TR P9 PART PERM, indicates
RESET _____

E. Y2921D, NUCLEAR POWER P9 PERMISSIVE, indicates
RESET _____

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6.6 Intermediate Range High Flux Reactor Trip

NOTES

- 1) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables used in this - subsection.
- 2) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status. A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status
- 3) The NC41M, NC42M, NC43M and NC44M bistable setpoints for P10 are 10% power on the power range detectors.
- 4) Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.
- 5) During manipulation of the Power Range potentiometers, if indicated power level is increased greater than 5% within 2 seconds a PR Rate Trip bistable will occur. If this condition is encountered the bistable can be cleared by holding the Rate Mode switch in RESET until the Positive Rate TRIP lamp on the drawer clears then releasing the switch.

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

[2] **ENSURE** the following:

- A. NC41M, PR CH 1 POWER ABOVE PERMISSIVE P10 bistable, at 2-M-13 in NORMAL. _____
- B. NC42M, PR CH 2 POWER ABOVE PERMISSIVE P10 bistable, at 2-M-13 in NORMAL. _____
- C. NC43M, PR CH 3 POWER ABOVE PERMISSIVE P10 bistable, at 2-M-13 in NORMAL. _____
- D. NC44M, PR CH 4 POWER ABOVE PERMISSIVE P10 bistable, at 2-M-13 in NORMAL. _____
- E. 2-N35A, IR CH1 LEVEL TRIP switch, at 2-M-13 in NORMAL. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

F. 2-N36A, IR CH2 LEVEL TRIP switch, at 2-M-13 in
NORMAL _____

G. NC35F, IR CH1 HIGH LEVEL TRIP bistable, at 2-M-13 in
NORMAL _____

H. NC36F, IR CH2 HIGH LEVEL TRIP bistable, at 2-M-13 in
NORMAL _____

[3] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M,
is CLEAR. _____

B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10
NC42M, is CLEAR. _____

C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10
NC43M, is CLEAR. _____

D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10
NC44M, is CLEAR. _____

E. Trip Status Light 2 (2-XX-55-5, 2-M-5), IR-FLUX HI
NC35F, is CLEAR _____

F. Trip Status Light 22 (2-XX-55-5, 2-M-5), IR-FLUX HI
NC36F, is CLEAR _____

G. Annunciator 65C (2-XA-55-4A, 2-M-4), INTERM RANGE
TRIP BLOCKED, is CLEAR _____

H. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE
TRIP BLOCKED, is CLEAR _____

I. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED
RANGE FLUX HI, is CLEAR _____

J. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE
LO SETPOINT TRIP BLOCKED, is CLEAR _____

K. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is CLEAR _____

L. Annunciator 82B (2-XA-55-4B, 2-M-4), INTERM RANGE
HI FLUX ROD WD STOP, is CLEAR _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

M. Annunciator 64B (2-XA-55-4A, 2-M-4), 2-NI-92-135-D
INTERM RANGE TRIP BYPASSED, is CLEAR _____

N. Annunciator 65B (2-XA-55-4A, 2-M-4), 2-NI-92-136-E
INTERM RANGE TRIP BYPASSED, is CLEAR _____

O. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is in ALARM. _____

[4] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

NOTE

The following step removes the leads to the Intermediate and Source Range Trip Bypass output. This allows the Intermediate and Source Range channels to be used in Level Trip Bypass while still providing RPS output logic.

[5] **LIFT** the following internal/vendor leads:

2-M-13, NIS Rack I/Rear

A. TB122, Terminal 3 _____

CV

B. TB122, Terminal 4 _____

CV

C. TB123, Terminal 5 _____

CV

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6.6 Intermediate Range High Flux Reactor Trip (continued)

D. TB123, Terminal 6

CV

2-M-13, NIS Rack II/Rear

E. TB222, Terminal 3

CV

F. TB222, Terminal 4

CV

G. TB223, Terminal 5

CV

H. TB223, Terminal 6

CV

[6] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to BYPASS.

[7] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to BYPASS.

[8] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR switch to TEST ENABLE.

[9] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to BYPASS.

[10] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to BYPASS.

[11] **POSITION** 2-NI-92-136-E (2-M-13) OPERATION SELECTOR switch to TEST ENABLE.

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[12] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to MSV 6 to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in TRIPPED.

[13] **VERIFY** the following:

A. Trip Status Light 2 (2-XX-55-5, 2-M-5), IR FLUX HI NC35F, is in ALARM

B. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is in ALARM

C. Unit 2 Event Display Monitor indicates 79-C RT-INTERMED RANGE FLUX HI is in ALARM (Red)

[14] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**

[15] **VERIFY** the following computer points:

A. N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates TRIP

B. N0020D, INTERM RNG 1 HI Q INITIATES RE, indicates TRIP

[16] **POSITION** 2-NI-92-135-D (2-M-13) Test SELECTOR to OPR to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in NORMAL.

[17] **VERIFY** the following:

A. Trip Status Light 2 (2-XX-55-5, 2-M-5), IR FLUX HI NC35F, is CLEAR

B. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is CLEAR

C. Unit 2 Event Display Monitor indicates 79-C RT-INTERMED RANGE FLUX HI is in NORMAL (Blue)

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[18] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[19] **VERIFY** the following computer points:

A. N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates NOT TR _____

B. N0020D, INTERM RNG 1 HI Q INITIATES RE, indicates NOT TR _____

[20] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to MSV 6 to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in TRIPPED. _____

[21] **VERIFY** the following:

A. Trip Status Light 22 (2-XX-55-5, 2-M-5), IR FLUX HI NC36F, is in ALARM _____

B. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is in ALARM. _____

C. Computer Point N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates TRIP _____

D. Computer Point N0021D, INTERM RNG 2 HI Q INITIATES RE, indicates TRIP _____

[22] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[23] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to MSV 6 to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in TRIPPED. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[24] **VERIFY** the following:

- A. Trip Status Light 2 (2-XX-55-5, 2-M-5), IR FLUX HI NC35F, is in ALARM _____
- B. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is in ALARM _____

[25] **VERIFY** the following computer points:

- A. N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates TRIP _____
- B. N0020D, INTERM RNG 1 HI Q INITIATES RE, indicates TRIP _____

[26] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[27] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to OPR to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in NORMAL. _____

[28] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to OPR to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in NORMAL. _____

[29] **VERIFY** the following:

- A. Trip Status Light 2 (2-XX-55-5, 2-M-5), IR FLUX HI NC35F, is CLEAR _____
- B. Trip Status Light 22 (2-XX-55-5, 2-M-5), IR FLUX HI NC36F, is in CLEAR _____
- C. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is CLEAR. _____
- D. Computer Point N0020D, INTERM RNG 1 HI Q INITIATES RE, indicates NOT TR _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

E. Computer Point N0021D, INTERM RNG 2 HI Q
INITIATES RE, indicates NOT TR _____

F. N0024D, INTERM RNG HI Q CAUSES RX TRIP,
indicates NOT TR _____

[30] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[31] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is in ALARM to
put NC41M bistable, at 2-M-13 in TRIPPED. _____

B. N42 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is in ALARM to
put NC42M bistable, at 2-M-13 in TRIPPED. _____

[32] **POSITION** the following (2-M-4):

A. 2-N47A, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in
BLOCK _____

B. 2-N47B, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in
BLOCK _____

[33] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to
MSV 6 to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in
TRIP. _____

[34] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to
MSV 6 to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in
TRIP. _____

[35] **VERIFY** the following:

A. Trip Status Light 2 (2-XX-55-5, 2-M-5), IR FLUX HI
NC35F, is ALARM _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

- B. Trip Status Light 22 (2-XX-55-5, 2-M-5), IR FLUX HI NC36F, is in ALARM _____
- C. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM. _____
- D. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM _____
- E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is in ALARM _____
- F. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is ALARM _____
- G. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____
- H. Annunciator 65C (2-XA-55-4A, 2-M-4), INTERM RANGE TRIP BLOCKED, is CLEAR _____
- I. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. _____
- J. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is in ALARM. _____
- K. Annunciator 82B (2-XA-55-4B, 2-M-4), INTERM RANGE HI FLUX ROD WD STOP, is in ALARM _____
- L. Unit 2 Event Display Monitor indicates 82-B INTERMED RANGE HI FLUX ROD WD STOP is in ALARM (Red) _____
- M. Unit 2 Event Display Monitor indicates 64-C SOURCE RANGE TRIP BLOCKED is in ALARM (Red) _____
- N. Unit 2 Event Display Monitor indicates 64-E P-10 NUC AT POWER PERMISSIVE is in ALARM (Red) _____
- O. Computer Point Y0003D, NUCLEAR & TB PWR RE TR P7 PERM, indicates SET _____
- P. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates SET _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

- Q. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates SET _____
- R. Computer Point N0022D, INTERN RNG HI Q RE TR A BLOCK, indicates RESET _____
- S. Computer Point N0023D, INTERN RNG HI Q RE TR B BLOCK, indicates RESET _____
- T. Computer Point N0015D, PWR RNG CHAN LO Q RE TR A BLOCK, indicates SET _____
- U. Computer Point N0016D, PWR RNG CHAN LO Q RE TR B BLOCK, indicates SET _____
- V. Computer Point N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates TRIP _____
- [36] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [37] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to OPR to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in NORMAL. _____
- [38] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to OPR to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in NORMAL. _____
- [39] **VERIFY** the following:
 - A. Trip Status Light 2 (2-XX-55-5, 2-M-5), IR FLUX HI NC35F, is CLEAR _____
 - B. Trip Status Light 22 (2-XX-55-5, 2-M-5), IR FLUX HI NC36F, is in CLEAR _____
 - C. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is CLEAR. _____
 - D. Computer Point N0020D, INTERM RNG 1 HI Q INITIATES RE, indicates NO TR _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

- E. Computer Point N0021D, INTERM RNG 2 HI Q INITIATES RE, indicates NOT TR _____
- F. N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates NOT TR _____
- [40] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [41] **POSITION** 2-N38A, IR TRIP BLOCK P-10, at 2-M-4 in BLOCK. _____
- [42] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to MSV 6 to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in TRIP. _____
- [43] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to MSV 6 to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in TRIP. _____
- [44] **VERIFY** the following:
 - A. Annunciator 65C (2-XA-55-4A, 2-M-4), INTERM RANGE TRIP BLOCKED, is CLEAR _____
 - B. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is in ALARM. _____
 - C. Annunciator 82B (2-XA-55-4B, 2-M-4), INTERM RANGE HI FLUX ROD WD STOP, is in ALARM _____
 - D. Unit 2 Event Display Monitor indicates 82-B INTERMED RANGE HI FLUX ROD WD STOP is in ALARM (Red) _____
 - E. Computer Point N0022D, INTERN RNG HI Q RE TR A BLOCK, indicates SET _____
 - F. Computer Point N0023D, INTERN RNG HI Q RE TR B BLOCK, indicates RESET _____
 - G. Computer Point N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates TRIP. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[45] **VERIFY** voltage on the following Logic Panel Meters :

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**
(approximately 42 VDC) _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**
(approximately 0 VDC) _____

[46] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to OPR
to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in
NORMAL. _____

[47] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to OPR
to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in
NORMAL. _____

[48] **VERIFY** the following:

A. Trip Status Light 2 (2-XX-55-5, 2-M-5), IR FLUX HI
NC35F, is CLEAR _____

B. Trip Status Light 22 (2-XX-55-5, 2-M-5), IR FLUX HI
NC36F, is in CLEAR _____

C. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED
RANGE FLUX HI, is CLEAR. _____

D. Computer Point N0020D, INTERM RNG 1 HI Q
INITIATES RE, indicates NOT TR _____

E. Computer Point N0021D, INTERM RNG 2 HI Q
INITIATES RE, indicates NOT TR _____

F. N0024D, INTERM RNG HI Q CAUSES RX TRIP,
indicates NOT TR _____

[49] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[50] **POSITION** 2-N38A, IR TRIP BLOCK P-10, at 2-M-4 in BLOCK. _____

[51] **POSITION** 2-N38B, IR TRIP BLOCK P-10, at 2-M-4 in BLOCK. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[52] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to MSV 6 to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in TRIP.

[53] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to MSV 6 to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in TRIP.

[54] **VERIFY** the following:

A. Annunciator 65C (2-XA-55-4A, 2-M-4), INTERM RANGE TRIP BLOCKED, is in ALARM

B. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is in ALARM

C. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is CLEAR.

D. Unit 2 Event Display Monitor indicates 65-C INTERMEDIATE RANGE TRIP BLOCKED is in ALARM (Red)

E. Unit 2 Event Display Monitor indicates 64-D POWER RANGE LO SETPOINT TRIP BLOCKED is in ALARM (Red)

F. Computer Point N0022D, INTERN RNG HI Q RE TR A BLOCK, indicates SET

G. Computer Point N0023D, INTERN RNG HI Q RE TR B BLOCK, indicates SET

H. Computer Point N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates NOT TR

I. Computer Point N0015D, PWR RNG CHAN LO Q RE TR A BLOCK, indicates SET

J. Computer Point N0016D, PWR RNG CHAN LO Q RE TR B BLOCK, indicates SET

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[55] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[56] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC42M bistable, at 2-M-13 in NORMAL. _____

[57] **VERIFY** the following:

A. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR _____

B. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____

C. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

D. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR _____

E. Annunciator 65C (2-XA-55-4A, 2-M-4), INTERM RANGE TRIP BLOCKED, is CLEAR _____

F. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR _____

G. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is in ALARM. _____

H. Annunciator 82B (2-XA-55-4B, 2-M-4), INTERM RANGE HI FLUX ROD WD STOP, is in ALARM. _____

I. Unit 2 Event Display Monitor indicates 82-B INTERMED RANGE HI FLUX ROD WD STOP is in ALARM (Red) _____

J. Unit 2 Event Display Monitor indicates 64-C SOURCE RANGE TRIP BLOCKED is in NORMAL (Blue) _____

K. Unit 2 Event Display Monitor indicates 64-E P-10 NUC AT POWER PERMISSIVE is in NORMAL (Blue) _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

- L. Unit 2 Event Display Monitor indicates 65-C INTERMEDIATE RANGE TRIP BLOCKED is in NORMAL (Blue) _____
- M. Unit 2 Event Display Monitor indicates 64-D POWER RANGE LO SETPOINT TRIP BLOCKED is in NORMAL (Blue) _____
- N. Computer Point Y0003D, NUCLEAR & TB PWR RE TR P7 PERM, indicates RESET _____
- O. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates RESET _____
- P. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates RESET _____
- Q. Computer Point N0022D, INTERN RNG HI Q RE TR A BLOCK, indicates RESET _____
- R. Computer Point N0023D, INTERN RNG HI Q RE TR B BLOCK, indicates RESET _____
- S. Computer Point N0015D, PWR RNG CHAN LO Q RE TR A BLOCK, indicates RESET _____
- T. Computer Point N0016D, PWR RNG CHAN LO Q RE TR B BLOCK, indicates RESET _____
- U. Computer Point N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates TRIP _____
- [58] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [59] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to OPR to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in NORMAL. _____
- [60] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to OPR to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in NORMAL. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[61] **VERIFY** the following:

- A. Trip Status Light 2 (2-XX-55-5, 2-M-5), IR FLUX HI NC35F, is CLEAR _____
- B. Trip Status Light 22 (2-XX-55-5, 2-M-5), IR FLUX HI NC36F, is in CLEAR _____
- C. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is CLEAR. _____
- D. Computer Point N0020D, INTERM RNG 1 HI Q INITIATES RE, indicates NO TR _____
- E. Computer Point N0021D, INTERM RNG 2 HI Q INITIATES RE, indicates NOT TR _____
- F. N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates NOT TR _____

[62] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[63] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, at 2-M-13 in TRIPPED. _____

[64] **POSITION** the following (2-M-4):

- A. 2-N47A, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____
- B. 2-N47B, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____

[65] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

- B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10
NC42M, is in ALARM _____
- C. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE
LO SETPOINT TRIP BLOCKED, is ALARM _____
- D. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is in ALARM _____
- [66] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [67] **POSITION** 2-N38B, IR TRIP BLOCK P-10, at 2-M-4 in -
BLOCK. _____
- [68] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to
MSV 6 to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in
TRIP. _____
- [69] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to
MSV 6 to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in
TRIP. _____
- [70] **VERIFY** the following:
 - A. Annunciator 65C (2-XA-55-4A, 2-M-4), INTERM RANGE
TRIP BLOCKED, is CLEAR _____
 - B. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED
RANGE FLUX HI, is ALARM. _____
 - C. Annunciator 82B (2-XA-55-4B, 2-M-4), INTERM RANGE
HI FLUX ROD WD STOP, is in ALARM _____
 - D. Computer Point N0022D, INTERN RNG HI Q RE TR A
BLOCK, indicates RESET _____
 - E. Computer Point N0023D, INTERN RNG HI Q RE TR B
BLOCK, indicates SET _____
 - F. Computer Point N0024D, INTERM RNG HI Q CAUSES
RX TRIP, indicates TRIP _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[71] **VERIFY** voltage on the following Logic Panel Meters :

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**
(approximately 0 VDC) _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**
(approximately 42 VDC) _____

[72] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is CLEAR to
put NC41M bistable, at 2-M-13 in NORMAL _____
- B. N42 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is CLEAR to
put NC42M bistable, at 2-M-13 in NORMAL _____

[73] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M,
is CLEAR. _____
- B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10
NC42M, is CLEAR. _____
- C. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is CLEAR _____
- D. Computer Point N0022D, INTERN RNG HI Q RE TR A
BLOCK, indicates RESET _____
- E. Computer Point N0023D, INTERN RNG HI Q RE TR B
BLOCK, indicates RESET _____
- F. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED
RANGE FLUX HI, is in ALARM _____
- G. Annunciator 82B (2-XA-55-4B, 2-M-4), INTERM RANGE
HI FLUX ROD WD STOP, is in ALARM. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[74] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[75] **POSITION** the following:

A. 2-NI-92-135-D (2-M-13) TEST SELECTOR to OPR to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in NORMAL. _____

B. 2-NI-92-136-E (2-M-13) TEST SELECTOR to OPR to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in NORMAL. _____

[76] **VERIFY** the following:

A. TRIP STATUS LIGHT 2 (2-XX-55-5), IR FLUX HI NC35F, is CLEAR. _____

B. TRIP STATUS LIGHT 22 (2-XX-55-5), IR FLUX HI NC36F, is CLEAR. _____

C. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is CLEAR. _____

[77] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[78] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR switch to NORMAL. _____

[79] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to NORMAL. _____

[80] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to NORMAL. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

NOTE

The following steps will test the functionality of the LEVEL TRIP BYPASS switches on the Intermediate Range Drawers. Landing leads will enable the Source and Intermediate Range to be placed in BYPASS.

- [81] **LAND** the disconnected internal/vendor leads at the following locations:

2-M-13, NIS Rack I/Rear

A. TB122, Terminal 3

CV

B. TB122, Terminal 4

CV

C. TB123, Terminal 5

CV

D. TB123, Terminal 6

CV

- [82] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to BYPASS.

- [83] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to BYPASS.

- [84] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR switch to TEST ENABLE

- [85] **POSITION**-NI-92-135 (2-M-13) TEST SELECTOR switch to MSV 6 to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in TRIP.

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[86] **VERIFY** the following:

- A. Annunciator 64A (2-XA-55-4A, 2-M-4), 2-NI-92-131-D
SOURCE RANGE TRIP BYPASSED, is in ALARM. _____
- B. Annunciator 64B (2-XA-55-4A, 2-M-4), 2-NI-92-135-D
INTERM RANGE TRIP BYPASSED, is in ALARM. _____
- C. Unit 2 Event Display Monitor indicates 64-B 2-NI-92-135-D
INTERMEDIATE RANGE TRIP BYPASSED is in
ALARM (Red) _____

[87] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[88] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR switch
to OPR to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in
NORMAL. _____

[89] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR
switch to NORMAL. _____

[90] **ENSURE** 2-NI-92-136-E (2-M-13) OPERATION SELECTOR
switch to TEST ENABLE. _____

[91] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR switch
to MSV 6 to put NC36F, IR CH2 HIGH LEVEL TRIP bistable,
in TRIPPED. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[92] **VERIFY** the following:

- A. TRIP STATUS LIGHT 2 (2-XX-55-5), IR FLUX HI NC35F, is CLEAR. _____
- B. TRIP STATUS LIGHT 22 (2-XX-55-5), IR FLUX HI NC36F, is in ALARM. _____
- C. Annunciator 64B (2-XA-55-4A, 2-M-4) , 2-NI-92-135-D INTERM RANGE TRIP BYPASSED, is in ALARM _____
- D. Annunciator 82B (2-XA-55-4B, 2-M-4), INTERM RANGE HI FLUX ROD WD STOP, is in ALARM. _____
- E. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is in ALARM _____

[93] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[94] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR switch to OPR to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in NORMAL. _____

[95] **POSITION** 2-NI-92-136-E (2-M-13) OPERATION SELECTOR switch to NORMAL. _____

[96] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to NORMAL. _____

[97] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to NORMAL. _____

[98] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to NORMAL. _____

[99] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to NORMAL. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

NOTE

Landing leads will enable Channel 2 Source and Intermediate Range to be placed in BYPASS. Disconnecting leads will allow the Channel 1 Source and Intermediate Range to be used in LEVEL TRIP BYPASS while still providing the RPS output logic.

[100] **LAND** the disconnected internal/vendor leads at the following locations:

2-M-13, NIS Rack II/Rear

A. TB222, Terminal 3

CV

B. TB222, Terminal 4

CV

C. TB223, Terminal 5

CV

D. TB223, Terminal 6

CV

[101] **LIFT** the following internal/vendor leads:

2-M-13, NIS Rack I/Rear

A. TB122, Terminal 3

CV

B. TB122, Terminal 4

CV

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6.6 Intermediate Range High Flux Reactor Trip (continued)

C. TB123, Terminal 5

CV

D. TB123, Terminal 6

CV

[102] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to BYPASS.

[103] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to BYPASS.

[104] **POSITION** 2-NI-92-136-E (2-M-13) OPERATION SELECTOR switch to TEST ENABLE.

[105] **POSITION**-NI-92-136 (2-M-13) TEST SELECTOR switch to MSV 6 to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in TRIP.

[106] **VERIFY** the following:

A. Annunciator 64B (2-XA-55-4A, 2-M-4), 2-NI-92-135-D INTERM RANGE TRIP BYPASSED, is CLEAR.

B. Annunciator 65B (2-XA-55-4A, 2-M-4), 2-NI-92-136-E INTERM RANGE TRIP BYPASSED, is in ALARM

C. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is CLEAR.

D. Unit 2 Event Display Monitor indicates 64-B 2-NI-92-135-D INTERMEDIATE RANGE TRIP BYPASSED is in NORMAL (Blue)

E. Unit 2 Event Display Monitor indicates 65-B 2-NI-92-136-E INTERMEDIATE RANGE TRIP BYPASSED is in ALARM (Red)

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[107] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[108] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR switch to OPR to put NC36F, IR CH2 HIGH LEVEL TRIP bistable, in NORMAL. _____

[109] **POSITION** 2-NI-92-136-E (2-M-13) OPERATION SELECTOR switch to NORMAL. _____

[110] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to BYPASS. _____

[111] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to BYPASS. _____

[112] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR switch to TEST ENABLE. _____

[113] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR switch to MSV 6 to put NC35F, IR CH1 HIGH LEVEL TRIP bistable, in TRIPPED. _____

[114] **VERIFY** the following:

A. TRIP STATUS LIGHT 2 (2-XX-55-5), IR FLUX HI NC35F, is in ALARM _____

B. TRIP STATUS LIGHT 22 (2-XX-55-5), IR FLUX HI NC36F, is CLEAR. _____

C. Annunciator 79C (2-XA-55-4D, 2-M-4), INTERMED RANGE FLUX HI, is in ALARM. _____

D. Annunciator 82B (2-XA-55-4B, 2-M-4), INTERM RANGE HI FLUX ROD WD STOP, is in ALARM. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[115] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[116] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to OPR to put NC35F, IR CH 1 HIGH LEVEL TRIP bistable, in NORMAL. _____

[117] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR switch to NORMAL. _____

[118] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to NORMAL. _____

[119] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to NORMAL. _____

[120] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to NORMAL. _____

[121] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to NORMAL. _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

NOTE

Landing leads will restore Channel 1 Source and Intermediate Range to their normal configuration.

[122] **LAND** the disconnected internal/vendor leads at the following locations:

2-M-13, NIS Rack I/Rear

A. TB122, Terminal 3

CV

B. TB122, Terminal 4

CV

C. TB123, Terminal 5

CV

D. TB123, Terminal 6

CV

[123] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[124] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5) , PR >P10 NC41M, is CLEAR

B. Trip Status Light 25 (2-XX-55-5, 2-M-5) , PR >P10 NC42M, is CLEAR

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6.6 Intermediate Range High Flux Reactor Trip (continued)

- C. Trip Status Light 45 (2-XX-55-5, 2-M-5) , PR >P10
NC43M, is CLEAR _____
- D. Trip Status Light 65 (2-XX-55-5, 2-M-5) , PR >P10
NC44M, is CLEAR _____
- E. Trip Status Light 2 (2-XX-55-5, 2-M-5) , IR FLUX HI,
NC35F, is CLEAR _____
- F. Trip Status Light 22 (2-XX-55-5, 2-M-5) , IR FLUX HI,
NC36F, is CLEAR _____
- G. Annunciator 64B (2-XA-55-4A, 2-M-4), 2-NI-92-135-D
INTERN RANGE TRIP BYPASSED, is CLEAR. _____
- H. Annunciator 65B (2-XA-55-4A, 2-M-4), 2-NI-92-136-E
INTERM RANGE TRIP BYPASSED, is CLEAR. _____
- I. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE
TRIP BLOCKED, is CLEAR _____
- J. Annunciator 65C (2-XA-55-4A, 2-M-4), INTERM RANGE
TRIP BLOCKED, is CLEAR _____
- K. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE
LO SETPOINT TRIP BLOCKED, is CLEAR _____
- L. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is CLEAR _____
- M. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is in ALARM. _____
- N. Annunciator 79C (2-XA-55-4D, 2-M-4) INTERMED
RANGE FLUX HI, is CLEAR _____
- O. Annunciator 82B (2-XA-55-4B, 2-M-4), INTERM RANGE
HI FLUX ROD WD STOP, is CLEAR _____
- P. Unit 2 Event Display Monitor indicates 65-B 2-NI-92-136-
E INTERMEDIATE RANGE TRIP BYPASSED is in
NORMAL (Blue) _____

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6.6 Intermediate Range High Flux Reactor Trip (continued)

[125] **VERIFY** the following Computer Points:

- A. N0011D, NUCL PWR 1 RE TR P10 PART PERM, indicates RESET _____
- B. N0012D, NUCL PWR 2 RE TR P10 PART PERM, indicates RESET _____
- C. N0013D, NUCL PWR 3 RE TR P10 PART PERM, indicates RESET _____
- D. N0014D, NUCL PWR 4 RE TR P10 PART PERM, indicates RESET _____
- E. Y0003D, NUCLEAR & TB PWR RE TR P7 PERM, indicates RESET _____
- F. N0020D, INTERM RNG 1 HI Q INITIATES RE, indicates NOT TR _____
- G. N0021D, INTERM RNG 2 HI Q INITIATES RE, indicates NOT TR _____
- H. N0022D, INTERN RNG HI Q RE TR A BLOCK, indicates RESET _____
- I. N0023D, INTERN RNG HI Q RE TR B BLOCK, indicates RESET _____
- J. N0024D, INTERM RNG HI Q CAUSES RX TRIP, indicates NOT TR _____
- K. N0034D, SOURCE RNG HI Q TR A BLOCK, indicates RESET _____
- L. N0035D, SOURCE RNG HI Q TR B BLOCK, indicates RESET _____
- M. N0015D, PWR RNG CHAN LO Q RE TR A BLOCK, indicates RESET _____
- N. N0016D, PWR RNG CHAN LO Q RE TR B BLOCK, indicates RESET _____

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6.7 Source Range High Flux Reactor Trip

NOTES

- 1) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables used in this subsection
- 2) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.
- 3) Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.
- 4) During manipulation of the Power Range potentiometers, if indicated power level is increased greater than 5% within 2 seconds a PR Rate Trip bistable will occur. If this condition is encountered the bistable can be cleared by holding the Rate Mode switch in RESET until the Positive Rate TRIP lamp on the drawer clears then releasing the switch.

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

[2] **ENSURE** the following:

A. NC31D, SR CH1 LEVEL TRIP bistable, at 2-M-13 in NORMAL _____

B. NC32D, SR CH2 LEVEL TRIP bistable, at 2-M-13 in NORMAL _____

C. NC35D, IR CH1 POWER ABOVE PERMISSIVE P6 bistable, at 2-M-13 in NORMAL _____

D. NC36D, IR CH2 POWER ABOVE PERMISSIVE P6 bistable, at 2-M-13 in NORMAL _____

E. NC41M, PR CH1 POWER ABOVE PERMISSIVE P10 bistable, at 2-M-13 in NORMAL _____

F. NC42M, PR CH2 POWER ABOVE PERMISSIVE P10 bistable, at 2-M-13 in NORMAL _____

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6.7 Source Range High Flux Reactor Trip (continued)

- G. NC43M, PR CH3 POWER ABOVE PERMISSIVE P10
bistable, at 2-M-13 in NORMAL _____
- H. NC44M, PR CH4 POWER ABOVE PERMISSIVE P10
bistable, at 2-M-13 in NORMAL _____
- I. 2-N33A, SR TRIP TR A RESET-BLOCK P-6, at 2-M-4 in
NORMAL _____
- J. 2-N33B, SR TRIP TR B RESET-BLOCK P-6, at 2-M-4 in
NORMAL _____
- K. 2-N31B, SR CH1 LEVEL TRIP switch, at 2-M-13 in
NORMAL _____
- L. 2-N32B, SR CH2 LEVEL TRIP switch, at 2-M-13 in
NORMAL _____

[3] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI
NC31D, is CLEAR. _____
- B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI
NC32D, is CLEAR. _____
- C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is
CLEAR _____
- D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D,
is CLEAR _____
- E. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M,
is CLEAR. _____
- F. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10
NC42M, is CLEAR. _____
- G. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10
NC43M, is CLEAR. _____
- H. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10
NC44M, is CLEAR. _____
- I. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
POWER PERMISSIVE, is CLEAR. _____

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6.7 Source Range High Flux Reactor Trip (continued)

- J. Annunciator 64A (2-XA-55-4A, 2-M-4), 2-NI-92-131-D
SOURCE RANGE TRIP BYPASSED, is CLEAR. _____
 - K. Annunciator 65A (2-XA-55-4A, 2-M-4), 2-NI-92-132-E
SOURCE RANGE TRIP BYPASSED, is CLEAR. _____
 - L. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE
FLUX HI, is CLEAR _____
 - M. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM
RANGE PERMISSIVE, is CLEAR. _____
 - N. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE
TRIP BLOCKED, is CLEAR. _____
- [4] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____

NOTE

The following step removes the leads to the Source and Intermediate Range Trip Bypass output. This allows both channels to be used in Level Trip Bypass while still providing RPS output logic.

- [5] **LIFT** the following internal/vendor leads:

2-M-13, NIS Rack I/Rear

- A. TB122, Terminal 3 _____
_____ CV
- B. TB122, Terminal 4 _____
_____ CV

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6.7 Source Range High Flux Reactor Trip (continued)

C. TB123, Terminal 5

CV

D. TB123, Terminal 6

CV

2-M-13, NIS Rack II/Rear

E. TB222, Terminal 3

CV

F. TB222, Terminal 4

CV

G. TB223, Terminal 5

CV

H. TB223, Terminal 6

CV

[6] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to BYPASS.

[7] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to BYPASS.

[8] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR switch to TEST ENABLE.

[9] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR switch to ADJUST.

[10] **POSITION** 2-NI-92-131-D (2-M-13) HIGH FLUX AT SHUTDOWN switch to BLOCK.

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6.7 Source Range High Flux Reactor Trip (continued)

- [11] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to BYPASS. _____
- [12] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to BYPASS. _____
- [13] **POSITION** 2-NI-92-136-E (2-M-13) OPERATION SELECTOR switch to TEST ENABLE. _____
- [14] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR switch to ADJUST. _____
- [15] **POSITION** 2-NI-92-132-E (2-M-13) HIGH FLUX AT SHUTDOWN switch to BLOCK. _____
- [16] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH1 NC31D bistable in TRIP. _____
- [17] **VERIFY** the following:
- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is in ALARM _____
 - B. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is in ALARM _____
 - C. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE RANGE FLUX HI is in ALARM (Red) _____
 - D. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates TRIP _____
 - E. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP _____
- [18] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [19] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH2 NC32D bistable in TRIP. _____

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6.7 Source Range High Flux Reactor Trip (continued)

[20] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is in ALARM _____
- B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in ALARM _____
- C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is ALARM _____
- D. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE RANGE FLUX HI is in ALARM (Red) _____
- E. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates TRIP _____
- F. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates TRIP _____
- G. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP _____

[21] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[22] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH1 NC31D bistable in NORMAL. _____

[23] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH2 NC32D bistable in NORMAL. _____

[24] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____
- B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in CLEAR. _____

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6.7 Source Range High Flux Reactor Trip (continued)

- C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR. _____
- D. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE RANGE FLUX HI is NORMAL (Blue). _____
- E. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NOT TR. _____
- F. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates NOT TR. _____
- G. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR. _____
- [25] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [26] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH2 NC32D bistable in TRIP. _____
- [27] **VERIFY** the following:
 - A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____
 - B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in ALARM _____
 - C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is ALARM _____
 - D. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE RANGE FLUX HI is in ALARM (Red) _____
 - E. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NOT TR. _____
 - F. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates TRIP _____

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6.7 Source Range High Flux Reactor Trip (continued)

- G. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP _____
- [28] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [29] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH2 NC32D bistable in NORMAL. _____
- [30] **VERIFY** the following:
 - A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____
 - B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in CLEAR. _____
 - C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR. _____
 - D. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE RANGE FLUX HI is NORMAL (Blue). _____
 - E. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NOT TR. _____
 - F. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates NOT TR. _____
 - G. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR. _____
- [31] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.7 Source Range High Flux Reactor Trip (continued)

[32] **ROTATE** 2-NI-92-135-D (2-M-13) ADJUST potentiometer CW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in ALARM to put IR CH1 NC35D bistable in TRIPPED.

[33] **ROTATE** 2-NI-92-136-E (2-M-13) ADJUST potentiometer CW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in ALARM to put IR CH2 NC36D bistable in TRIPPED.

[34] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH1 NC31D bistable in TRIP.

[35] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH2 NC32D bistable in TRIP.

[36] **VERIFY** the following:

A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is in ALARM.

B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in ALARM.

C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is in ALARM.

D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is in ALARM.

E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR.

F. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is in ALARM.

G. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates TRIP.

H. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates TRIP.

I. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates SET

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6.7 Source Range High Flux Reactor Trip (continued)

J. Computer Point N0033D, INTERM RNG 2 RE TR P6
PERM, indicates SET. _____

K. Computer Point N0034D, SOURCE RNG HI Q TR A
BLOCK, indicates RESET. _____

L. Computer Point N0035D, SOURCE RNG HI Q TR B
BLOCK, indicates RESET. _____

M. Computer Point N0036D, SOURCE RNG HI Q CAUSES
RX TRIP, indicates TRIP. _____

N. Unit 2 Event Display Monitor indicates 65-D P-6 INTERM
RANGE PERMISSIVE is in ALARM (Red) _____

[37] **VERIFY** voltage on the following Logic Panel Meters :

A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 0 VDC) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 0 VDC) **[Acc Crit]** _____

[38] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer
CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to
put SR CH1 NC31D bistable in NORMAL. _____

[39] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer
CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to
put SR CH2 NC32D bistable in NORMAL. _____

[40] **VERIFY** the following:

A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI
NC31D, is CLEAR. _____

B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI
NC32D, is in CLEAR. _____

C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE
FLUX HI, is CLEAR. _____

D. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE
RANGE FLUX HI is NORMAL (Blue). _____

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6.7 Source Range High Flux Reactor Trip (continued)

- E. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NOT TR. _____
- F. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates NOT TR. _____
- G. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR. _____
- [41] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [42] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is ALARM to put SR CH1 NC31D bistable in TRIP. _____
- [43] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is ALARM to put SR CH2 NC32D bistable in TRIP. _____
- [44] **POSITION** 2-N33A (2-M-4), SR TRIP TR A RESET-BLOCK P6, in BLOCK. _____
- [45] **VERIFY** the following:
 - A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____
 - B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in ALARM. _____
 - C. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR. _____
 - D. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates SET. _____
 - E. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates RESET. _____
 - F. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP. _____

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6.7 Source Range High Flux Reactor Trip (continued)

[46] **VERIFY** voltage on the following Logic Panel Meters :

A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 42 VDC) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 0 VDC) **[Acc Crit]** _____

[47] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer
CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to
put SR CH1 NC31D bistable in NORMAL. _____

[48] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer
CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to
put SR CH2 NC32D bistable in NORMAL. _____

[49] **VERIFY** the following:

A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI
NC31D, is CLEAR. _____

B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI
NC32D, is in CLEAR. _____

C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE
FLUX HI, is CLEAR. _____

D. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE
RANGE FLUX HI is NORMAL (Blue). _____

E. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE,
indicates NOT TR. _____

F. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE,
indicates NOT TR. _____

G. Computer Point N0036D, SOURCE RNG HI Q CAUSES
RX TRIP, indicates NOT TR. _____

[50] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.7 Source Range High Flux Reactor Trip (continued)

- [51] **POSITION** 2-N33B (2-M-4), SR TRIP TR B RESET-BLOCK P6, in BLOCK. _____
- [52] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is ALARM to put SR CH1 NC31D bistable in TRIP. _____.
- [53] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is ALARM to put SR CH2 NC32D bistable in TRIP. _____
- [54] **VERIFY** the following:
- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____
 - B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in CLEAR. _____
 - C. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is ALARM. _____
 - D. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates SET. _____
 - E. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates SET. _____
 - F. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR. _____
- [55] **VERIFY** voltage on the following Logic Panel Meters :
- A. UV COIL VOLTAGE Meter (2-R-47) (approximately 42 VDC) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) (approximately 42 VDC) _____
- [56] **ROTATE** 2-NI-92-135-D (2-M-13) ADJUST potentiometer CCW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is CLEAR to put IR CH1 NC35D bistable in NORMAL. _____

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6.7 Source Range High Flux Reactor Trip (continued)

[57] **ROTATE** 2-NI-92-136-E (2-M-13) ADJUST potentiometer CCW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is CLEAR to put IR CH2 NC36D bistable in NORMAL.

[58] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is ALARM.
- B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in ALARM.
- C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is CLEAR.
- D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is CLEAR.
- E. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR.
- F. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is CLEAR.
- G. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates TRIP.
- H. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates TRIP.
- I. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates RESET
- J. Computer Point N0033D, INTERM RNG 2 RE TR P6 PERM, indicates RESET.
- K. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates RESET.
- L. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates RESET.
- M. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP.

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6.7 Source Range High Flux Reactor Trip (continued)

[59] **VERIFY** voltage on the following Logic Panel Meters :

A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 0 VDC) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 0 VDC) **[Acc Crit]** _____

[60] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer
CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to
put SR CH1 NC31D bistable in NORMAL. _____

[61] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer
CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to
put SR CH2 NC32D bistable in NORMAL. _____

[62] **VERIFY** the following:

A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI
NC31D, is CLEAR. _____

B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI
NC32D, is in CLEAR. _____

C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE
FLUX HI, is CLEAR. _____

D. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE
RANGE FLUX HI is NORMAL (Blue). _____

E. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE,
indicates NOT TR. _____

F. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE,
indicates NOT TR. _____

G. Computer Point N0036D, SOURCE RNG HI Q CAUSES
RX TRIP, indicates NOT TR. _____

[63] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.7 Source Range High Flux Reactor Trip (continued)

- [64] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is ALARM to put SR CH1 NC31D bistable in TRIP. _____.
- [65] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is ALARM to put SR CH2 NC32D bistable in TRIP. _____.
- [66] **ROTATE** 2-NI-92-136-E (2-M-13) ADJUST potentiometer CW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in ALARM to put IR CH2 NC36D bistable in TRIPPED. _____.
- [67] **POSITION** 2-N33B (2-M-4), SR TRIP TR B RESET-BLOCK P6, in BLOCK. _____.
- [68] **VERIFY** the following:
- A. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is CLEAR. _____.
 - B. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is in ALARM. _____.
 - C. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is in ALARM. _____.
 - D. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in CLEAR. _____.
 - E. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is ALARM. _____.
 - F. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR. _____.
 - G. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is in ALARM. _____.
 - H. Computer Point N0032D, INTERM RNG 1 RE TR P6 PERM, indicates RESET. _____.
 - I. Computer Point N0033D, INTERM RNG 2 RE TR P6 PERM, indicates SET. _____.

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6.7 Source Range High Flux Reactor Trip (continued)

- J. Computer Point N0034D, SOURCE RNG HI Q TR A BLOCK, indicates RESET. _____
- K. Computer Point N0035D, SOURCE RNG HI Q TR B BLOCK, indicates SET. _____
- L. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP. _____
- [69] **VERIFY** voltage on the following Logic Panel Meters :
 - A. UV COIL VOLTAGE Meter (2-R-47) (approximately 0 VDC) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) (approximately 42 VDC) **[Acc Crit]** _____
- [70] **ROTATE** and **HOLD** the following handswitches (2-M-4) in the RESET position:
 - A. 2-N33A, SR TRIP TR A RESET-BLOCK P-6 _____
 - B. 2-N33B, SR TRIP TR B RESET-BLOCK P-6 _____
- [71] **RELEASE** the following handswitches on 2-M-4:
 - A. 2-N33A, SR TRIP TR A RESET-BLOCK P-6 _____
 - B. 2-N33B, SR TRIP TR B RESET-BLOCK P-6. _____
- [72] **VERIFY** approximately 0 VDC on the following Logic Panel Meters:
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [73] **ROTATE** 2-NI-92-136-E (2-M-13) ADJUST potentiometer CCW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is CLEAR to put IR CH2 NC36D bistable in NORMAL. _____
- [74] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH1 NC31D bistable in NORMAL. _____.

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6.7 Source Range High Flux Reactor Trip (continued)

[75] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH2 NC32D bistable in NORMAL. _____

[76] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR. _____
- B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in CLEAR. _____
- C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is CLEAR. _____
- D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is in CLEAR. _____
- E. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR. _____
- F. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE RANGE FLUX HI is NORMAL (Blue). _____
- G. Computer Point N0030D, SOURCE RNG 1 HI Q INIT RE, indicates NOT TR. _____
- H. Computer Point N0031D, SOURCE RNG 2 HI Q INIT RE, indicates NOT TR. _____
- I. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR. _____

[77] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[78] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is ALARM to put SR CH1 NC31D bistable in TRIP. _____

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6.7 Source Range High Flux Reactor Trip (continued)

[79] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is ALARM to put SR CH2 NC32D bistable in TRIP. _____

[80] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC41M bistable, at 2-M-13 in TRIPPED. _____

B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, at 2-M-13 in TRIPPED. _____

[81] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM. _____

B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM. _____

C. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____

D. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is in ALARM. _____

E. Unit 2 Event Display Monitor indicates 64-C SOURCE RANGE TRIP BLOCKED is in ALARM (Red) _____

F. Unit 2 Event Display Monitor indicates 64-E P-10 NUC AT POWER PERMISSIVE is in ALARM (Red) _____

G. Computer Point N0011D, NUCL PWR 1 RE TR P10 PART PERM, indicates SET _____

H. Computer Point N0012D, NUCL PWR 2 RE TR P10 PART PERM, indicates SET _____

[82] **VERIFY** voltage on the following Logic Panel Meters :

A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 42 VDC) _____

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6.7 Source Range High Flux Reactor Trip (continued)

- B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 42 VDC) _____

[83] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC41M bistable, at 2-M-13 in NORMAL. _____
- B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC42M bistable, at 2-M-13 in NORMAL. _____

[84] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is CLEAR. _____
- B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR. _____
- C. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____
- D. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR. _____

[85] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[86] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH1 NC31D bistable in NORMAL. _____

[87] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH2 NC32D bistable in NORMAL. _____

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6.7 Source Range High Flux Reactor Trip (continued)

[88] **VERIFY** voltage on the following Logic Panel Meters :

A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 42 VDC) _____

B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 42 VDC) _____

[89] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to
NORMAL. _____

[90] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to
NORMAL. _____

NOTE

The following steps will test the functionality of the LEVEL TRIP BYPASS switches on the Source Range Drawers. Landing leads will enable the Source Range Channel to be placed in BYPASS.

[91] **LAND** the disconnected internal/vendor leads at the following
locations:

2-M-13, NIS Rack I/Rear

A. TB122, Terminal 3 _____

CV

B. TB122, Terminal 4 _____

CV

C. TB123, Terminal 5 _____

CV

D. TB123, Terminal 6 _____

CV

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6.7 Source Range High Flux Reactor Trip (continued)

- [92] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to BYPASS. _____
- [93] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to BYPASS. _____
- [94] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH1 NC31D bistable in TRIP. _____
- [95] **VERIFY** the following:
- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is ALARM. _____
 - B. Annunciator 64A (2-XA-55-4A, 2-M-4), 2-NI-92-131-D SOURCE RANGE TRIP BYPASSED, is in ALARM. _____
 - C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR _____
 - D. Unit 2 Event Display Monitor indicates 78-C RT-SOURCE RANGE FLUX HI is in NORMAL (Blue) _____
 - E. Unit 2 Event Display Monitor indicates 64-A 2-NI-92-131-D SOURCE RANGE TRIP BYPASSED is in ALARM (Red) _____
 - F. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR _____
- [96] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [97] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH1 NC31D bistable in NORMAL. _____
- [98] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH2 NC32D bistable in TRIP. _____

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6.7 Source Range High Flux Reactor Trip (continued)

[99] **VERIFY** the following:

- A. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in ALARM. _____
- B. Annunciator 65A (2-XA-55-4A, 2-M-4), 2-NI-92-132-E SOURCE RANGE TRIP BYPASSED, is CLEAR. _____
- C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is in ALARM. _____
- D. Unit 2 Event Display Monitor indicates 65-A 2-NI-92-132-E SOURCE RANGE TRIP BYPASSED is in NORMAL (Blue). _____
- E. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP. _____

[100] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[101] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH2 NC32D bistable in NORMAL. _____

[102] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[103] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to NORMAL. _____

[104] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to NORMAL. _____

[105] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to NORMAL. _____

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6.7 Source Range High Flux Reactor Trip (continued)

[106] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to
NORMAL. _____

NOTE

Landing leads will enable Channel 2 Source Range to be placed in BYPASS. Lifting leads will allow the Channel 1 Source Range to be used in LEVEL TRIP BYPASS while still providing the RPS output logic.

[107] **LAND** the disconnected internal/vendor leads at the following
locations:

2-M-13, NIS Rack II/Rear

A. TB222, Terminal 3

CV

B. TB222, Terminal 4

CV

C. TB223, Terminal 5

CV

D. TB223, Terminal 6

CV

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6.7 Source Range High Flux Reactor Trip (continued)

[108] **LIFT** the following internal/vendor leads:

2-M-13, NIS Rack I/Rear

A. TB122, Terminal 3

CV

B. TB122, Terminal 4

CV

C. TB123, Terminal 5

CV

D. TB123, Terminal 6

CV

[109] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to BYPASS.

[110] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to BYPASS.

[111] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to BYPASS.

[112] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to BYPASS.

[113] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH2 NC32D bistable in TRIP.

[114] **VERIFY** the following:

A. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is in ALARM.

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6.7 Source Range High Flux Reactor Trip (continued)

- B. Annunciator 65A (2-XA-55-4A, 2-M-4), 2-NI-92-132-E SOURCE RANGE TRIP BYPASSED, is in ALARM. _____
- C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR. _____
- D. Unit 2 Event Display Monitor indicates 65-A 2-NI-92-132-E SOURCE RANGE TRIP BYPASSED is in ALARM (Red). _____
- E. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates NOT TR. _____

[115] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[116] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is CLEAR to put SR CH2 NC32D bistable in NORMAL. _____

[117] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM to put SR CH1 NC31D bistable in TRIP. _____

[118] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is in ALARM. _____
- B. Annunciator 64A (2-XA-55-4A, 2-M-4), 2-NI-92-131-D SOURCE RANGE TRIP BYPASSED, is CLEAR. _____
- C. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is in ALARM. _____
- D. Unit 2 Event Display Monitor indicates 64-A 2-NI-92-131-D SOURCE RANGE TRIP BYPASSED is in NORMAL (Blue). _____
- E. Computer Point N0036D, SOURCE RNG HI Q CAUSES RX TRIP, indicates TRIP. _____

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6.7 Source Range High Flux Reactor Trip (continued)

[119] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[120] **ROTATE** 2-NI-92-131-D (2-M-13) ADJUST potentiometer fully
CCW UNTIL bottom of adjustment scale. _____

[121] **ROTATE** 2-NI-92-132-E (2-M-13) ADJUST potentiometer fully
CCW UNTIL bottom of adjustment scale. _____

[122] **ROTATE** 2-NI-92-135-D (2-M-13) ADJUST potentiometer fully
CCW UNTIL bottom of adjustment scale. _____

[123] **ROTATE** 2-NI-92-136-E (2-M-13) ADJUST potentiometer fully
CCW UNTIL bottom of adjustment scale. _____

[124] **POSITION** 2-NI-92-135-D (2-M-13) TEST SELECTOR to OPR. _____

[125] **POSITION** 2-NI-92-135-D (2-M-13) OPERATION SELECTOR
switch to NORMAL. _____

[126] **POSITION** 2-NI-92-131-D (2-M-13) HIGH FLUX AT
SHUTDOWN to NORMAL. _____

[127] **POSITION** 2-NI-92-131-D (2-M-13) LEVEL TRIP switch to
NORMAL. _____

[128] **POSITION** 2-NI-92-135-D (2-M-13) LEVEL TRIP switch to
NORMAL. _____

[129] **POSITION** 2-NI-92-136-E (2-M-13) TEST SELECTOR to OPR. _____

[130] **POSITION** 2-NI-92-136-E (2-M-13) OPERATION SELECTOR
switch to NORMAL. _____

[131] **POSITION** 2-NI-92-132-E (2-M-13) HIGH FLUX AT
SHUTDOWN to NORMAL. _____

[132] **POSITION** 2-NI-92-132-E (2-M-13) LEVEL TRIP switch to
NORMAL. _____

[133] **POSITION** 2-NI-92-136-E (2-M-13) LEVEL TRIP switch to
NORMAL. _____

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6.7 Source Range High Flux Reactor Trip (continued)

NOTE

Landing the leads will place Source and Intermediate Range Channel 1 back to the normal configuration.

[134] **LAND** the disconnected internal/vendor leads at the following locations:

2-M-13, NIS Rack I/Rear

A. TB122, Terminal 3

CV

B. TB122, Terminal 4

CV

C. TB123, Terminal 5

CV

D. TB123, Terminal 6

CV

[135] **VERIFY** the following:

A. Trip Status Light 1 (2-XX-55-5, 2-M-5), SR FLUX HI NC31D, is CLEAR.

B. Trip Status Light 21 (2-XX-55-5, 2-M-5), SR FLUX HI NC32D, is CLEAR.

C. Trip Status Light 3 (2-XX-55-5, 2-M-5), IR >P6 NC35D, is CLEAR

D. Trip Status Light 23 (2-XX-55-5, 2-M-5), IR >P6 NC36D, is CLEAR

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6.7 Source Range High Flux Reactor Trip (continued)

- E. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is CLEAR. _____
- F. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR. _____
- G. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is CLEAR. _____
- H. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is CLEAR. _____
- I. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR. _____
- J. Annunciator 64A (2-XA-55-4A, 2-M-4), 2-NI-92-131-D SOURCE RANGE TRIP BYPASSED, is CLEAR. _____
- K. Annunciator 65A (2-XA-55-4A, 2-M-4), 2-NI-92-132-E SOURCE RANGE TRIP BYPASSED, is CLEAR. _____
- L. Annunciator 78C (2-XA-55-4D, 2-M-4), SOURCE RANGE FLUX HI, is CLEAR _____
- M. Annunciator 65D (2-XA-55-4A, 2-M-4), P-6 INTERM RANGE PERMISSIVE, is CLEAR. _____
- N. Annunciator 64C (2-XA-55-4A, 2-M-4), SOURCE RANGE TRIP BLOCKED, is CLEAR. _____

[136] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip

NOTES

- 1) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables used in this subsection.
- 2) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status. A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.
- 3) Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.
- 4) During manipulation of the Power Range potentiometers, if indicated power level is increased greater than 5% within 2 seconds a PR Rate Trip bistable will occur. If this condition is encountered the bistable can be cleared by holding the Rate Mode switch in RESET until the Positive Rate TRIP lamp on the drawer clears then releasing the switch.

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

[2] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC41M bistable, in TRIP. _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, in TRIP. _____
- C. N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC43M bistable, in TRIP. _____
- D. N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC44M bistable, in TRIP _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[3] **ENSURE** the following:

- A. NC41P, PR CH 1 OVERPOWER TRIP LOW RANGE
bistable, at 2-M-13 in NORMAL _____
- B. NC42P, PR CH 2 OVERPOWER TRIP LOW RANGE
bistable, at 2-M-13 in NORMAL _____
- C. NC43P, PR CH 3 OVERPOWER TRIP LOW RANGE
bistable, at 2-M-13 in NORMAL _____
- D. NC44P, PR CH 4 OVERPOWER TRIP LOW RANGE
bistable, at 2-M-13 in NORMAL _____
- E. 2-N47A, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in
NORMAL _____
- F. 2-N47B, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in
NORMAL _____

[4] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SET PT NC41P, is CLEAR _____
- B. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC42P, is CLEAR _____
- C. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC43P, is CLEAR _____
- D. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC44P, is CLEAR _____
- E. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M,
is in ALARM _____
- F. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10
NC42M, is in ALARM _____
- G. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10
NC43M, is in ALARM _____
- H. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10
NC44M, is in ALARM _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

- I. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____
- J. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____
- K. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR _____
- L. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____
- [5] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [6] **POSITION** N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC41P bistable, at 2-M-13 in TRIPPED _____
- [7] **VERIFY** the following:
 - A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is in ALARM. _____
 - B. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____
 - C. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____
 - D. Unit 2 Event Display Monitor indicates 115-D POWER RANGE FLUX HI (LO SETPT) is in ALARM (Red) _____
- [8] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[9] **VERIFY** the following:

A. Computer Point N0006D, PWR RNG CH 1 HI Q LO SP
PARTIAL RX T, indicates TRIP _____

B. Computer Point N0010D, PWR RNG CH HI Q LO SP
CAUSES RX TRIP, indicates NOT TR _____

[10] **POSITION** N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is CLEAR to put NC41P
bistable, at 2-M-13 in NORMAL _____

[11] **VERIFY** the following:

A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SET PT NC41P, is CLEAR. _____

B. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE
FLUX HI (LO SETPT), is CLEAR _____

C. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE
FLUX HI (LO SETPT), is CLEAR _____

D. Unit 2 Event Display Monitor indicates 115-D POWER
RANGE FLUX HI (LO SETPT) is in NORMAL (Blue) _____

[12] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[13] **VERIFY** the following:

A. Computer Point N0006D, PWR RNG CH 1 HI Q LO SP
PARTIAL RX T, indicates NOT TR _____

B. Computer Point N0010D, PWR RNG CH HI Q LO SP
CAUSES RX TRIP, indicates NOT TR _____

[14] **POSITION** N42 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is in ALARM to put NC42P
bistable, at 2-M-13 in TRIPPED. _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[15] **VERIFY** the following:

- A. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC42P, is in ALARM. _____
- B. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____
- C. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____

[16] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[17] **VERIFY** the following:

- A. Computer Point N0007D, PWR RNG CH 2 HI Q LO SP PARTIAL RX T, indicates TRIP _____
- B. Computer Point N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates NOT TR _____

[18] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC42P bistable, at 2-M-13 in NORMAL. _____

[19] **VERIFY** the following:

- A. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is CLEAR. _____
- B. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____
- C. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[20] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[21] **VERIFY** the following:

A. Computer Point N0007D, PWR RNG CH 2 HI Q LO SP PARTIAL RX T, indicates NOT TR _____

B. Computer Point N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates NOT TR _____

[22] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC43P bistable, at 2-M-13 in TRIPPED. _____

[23] **VERIFY** the following:

A. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is in ALARM. _____

B. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____

C. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____

[24] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[25] **VERIFY** the following:

A. Computer Point N0008D, PWR RNG CH 3 HI Q LO SP PARTIAL RX T, indicates TRIP _____

B. Computer Point N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates NOT TR _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[26] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC43P bistable, at 2-M-13 in NORMAL. _____

[27] **VERIFY** the following:

- A. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is CLEAR. _____
- B. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____
- C. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____

[28] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[29] **VERIFY** the following:

- A. Computer Point N0008D, PWR RNG CH 3 HI Q LO SP PARTIAL RX T, indicates NOT TR _____
- B. Computer Point N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates NOT TR _____

[30] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC44P bistable, at 2-M-13 in TRIPPED. _____

[31] **VERIFY** the following:

- A. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is in ALARM. _____
- B. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____
- C. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[32] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[33] **VERIFY** the following:

A. Computer Point N0009D, PWR RNG CH 4 HI Q LO SP
PARTIAL RX T, indicates TRIP _____

B. Computer Point N0010D, PWR RNG CH HI Q LO SP
CAUSES RX TRIP, indicates NOT TR _____

[34] **POSITION** N44 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is CLEAR to put NC44P
bistable, at 2-M-13 in NORMAL. _____

[35] **VERIFY** the following:

A. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC44P, is CLEAR. _____

B. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE
FLUX HI (LO SETPT), is CLEAR _____

C. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE
FLUX HI (LO SETPT), is CLEAR _____

[36] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[37] **VERIFY** the following:

A. Computer Point N0009D, PWR RNG CH 4 HI Q LO SP
PARTIAL RX T, indicates NOT TR _____

B. Computer Point N0010D, PWR RNG CH HI Q LO SP
CAUSES RX TRIP, indicates NOT TR _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[38] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC41P bistable, at 2-M-13 in TRIPPED _____
- B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC42P bistable, at 2-M-13 in TRIPPED _____

[39] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is in ALARM _____
- B. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is in ALARM _____
- C. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____
- D. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____
- E. Unit 2 Event Display Monitor indicates 80-D RT-POWER RANGE FLUX HI (LO SETPT) is in ALARM (Red) _____

[40] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[41] **VERIFY** Computer Point N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates TRIP. _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[42] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC42P bistable, at 2-M-13 in NORMAL.

[43] **VERIFY** the following:

A. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is CLEAR

B. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is in ALARM

C. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR

D. Unit 2 Event Display Monitor indicates 80-D RT-POWER RANGE FLUX HI (LO SETPT) is in NORMAL (Blue)

[44] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[45] **VERIFY** Computer Point N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates NOT TR

[46] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC43P bistable, at 2-M-13 in TRIPPED.

[47] **VERIFY** the following:

A. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is in ALARM

B. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is in ALARM

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[48] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[49] **POSITION** N43 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is CLEAR to put NC43P
bistable, at 2-M-13 in NORMAL. _____

[50] **VERIFY** the following:

A. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC43P, is CLEAR _____

B. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE
FLUX HI (LO SETPT), is CLEAR _____

[51] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[52] **POSITION** N44 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is in ALARM to put NC44P
bistable, at 2-M-13 in TRIPPED. _____

[53] **VERIFY** the following:

A. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC44P, is in ALARM _____

B. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE
FLUX HI (LO SETPT), is in ALARM _____

[54] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[55] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC41P bistable, at 2-M-13 in NORMAL _____
- B. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC44P bistable, at 2-M-13 in NORMAL _____

[56] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is CLEAR _____
- B. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is CLEAR _____
- C. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____
- D. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____

[57] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[58] **POSITION** the following:

- A. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC42P bistable, at 2-M-13 in TRIPPED _____
- B. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC43P bistable, at 2-M-13 in TRIPPED _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[59] **VERIFY** the following:

- A. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is in ALARM _____
- B. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is in ALARM _____
- C. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____
- D. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____

[60] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[61] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC43P bistable, at 2-M-13 in NORMAL _____

[62] **VERIFY** the following:

- A. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is CLEAR _____
- B. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____

[63] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[64] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC44P bistable, at 2-M-13 in TRIPPED _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[65] **VERIFY** the following:

A. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is in ALARM _____

B. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____

[66] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[67] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC42P bistable, at 2-M-13 in NORMAL _____

[68] **VERIFY** the following:

A. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is CLEAR _____

B. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____

[69] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[70] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC43P bistable, at 2-M-13 in TRIPPED _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[71] **VERIFY** the following:

- A. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is in ALARM _____
- B. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____

[72] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[73] **POSITION** the following:

- A. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC43P bistable, at 2-M-13 in NORMAL _____
- B. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC44P bistable, at 2-M-13 in NORMAL _____

[74] **VERIFY** the following:

- A. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is CLEAR _____
- B. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is CLEAR _____
- C. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____
- D. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[75] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[76] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is in ALARM to put
NC41P bistable, at 2-M-13 in TRIPPED _____

B. N42 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is in ALARM to put
NC42P bistable, at 2-M-13 in TRIPPED _____

C. N43 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is in ALARM to put
NC43P bistable, at 2-M-13 in TRIPPED _____

D. N44 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is in ALARM to put
NC44P bistable, at 2-M-13 in TRIPPED _____

[77] **VERIFY** the following:

A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SET PT NC41P, is in ALARM _____

B. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC42P, is in ALARM _____

C. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC43P, is in ALARM _____

D. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC44P, is in ALARM _____

E. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE
FLUX HI (LO SETPT), is in ALARM _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

F. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____

G. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR _____

H. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____

[78] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[79] **VERIFY** the following computer points:

A. N0015D, PWR RNG CHAN LO Q RE TR A BLOCK, indicates RESET _____

B. N0016D, PWR RNG CHAN LO Q RE TR B BLOCK, indicates RESET _____

C. N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates TRIP _____

[80] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC41P bistable, at 2-M-13 in NORMAL _____

B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC42P bistable, at 2-M-13 in NORMAL _____

C. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC43P bistable, at 2-M-13 in NORMAL _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

- D. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC44P bistable, at 2-M-13 in NORMAL

[81] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is CLEAR.
- B. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is CLEAR.
- C. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is CLEAR.
- D. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is CLEAR.

[82] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47)
- B. UV COIL VOLTAGE Meter (2-R-50)

[83] **POSITION** 2/N47A, PR LO POWER TRIP BLOCK P-10, (2-M-4) in BLOCK.

[84] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC41P bistable, at 2-M-13 in TRIPPED
- B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC42P bistable, at 2-M-13 in TRIPPED
- C. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC43P bistable, at 2-M-13 in TRIPPED

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

- D. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC44P bistable, at 2-M-13 in TRIPPED _____

[85] **VERIFY** the following:

- A. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is ALARM. _____
- B. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is ALARM. _____
- C. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR _____

[86] **VERIFY** voltage on the following Logic Panel Meters:

- A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 42 VDC) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 0 VDC) _____

[87] **VERIFY** the following computer points:

- A. N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates TRIP. _____
- B. N0015D, PWR RNG CHAN LO Q RE TR A BLOCK, indicates SET _____
- C. N0016D, PWR RNG CHAN LO Q RE TR B BLOCK, indicates RESET _____

[88] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC41P bistable, at 2-M-13 in NORMAL _____
- B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC42P bistable, at 2-M-13 in NORMAL _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

C. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC43P bistable, at 2-M-13 in NORMAL _____

D. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is CLEAR to put NC44P bistable, at 2-M-13 in NORMAL _____

[89] **VERIFY** the following:

A. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____

B. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is CLEAR. _____

C. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is CLEAR. _____

D. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC43P, is CLEAR. _____

E. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC44P, is CLEAR. _____

[90] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[91] **POSITION** 2/N47A, PR LO POWER TRIP BLOCK P-10, (2-M-4) in BLOCK. _____

[92] **POSITION** 2-N47B, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK. _____

[93] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC41P bistable, at 2-M-13 in TRIPPED _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

- B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC42P bistable, at 2-M-13 in TRIPPED _____
- C. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC43P bistable, at 2-M-13 in TRIPPED _____
- D. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC44P bistable, at 2-M-13 in TRIPPED _____

[94] **VERIFY** the following:

- A. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____
- B. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is in ALARM _____
- C. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____
- D. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT) is CLEAR _____

[95] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[96] **VERIFY** the following computer points:

- A. N0015D, PWR RNG CHAN LO Q RE TR A BLOCK, indicates SET _____
- B. N0016D, PWR RNG CHAN LO Q RE TR B BLOCK, indicates SET _____
- C. N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates NOT TR _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[97] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC41M, at 2-M-13 bistable in NORMAL _____
- B. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC43M, at 2-M-13 bistable in NORMAL _____
- C. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC44M, at 2-M-13 bistable in NORMAL _____

[98] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is CLEAR _____
- B. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC43P, is CLEAR _____
- C. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC44P, is CLEAR _____
- D. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR _____
- E. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE is CLEAR. _____
- F. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____

[99] **VERIFY** the following computer points:

- A. N0015D, PWR RNG CHAN LO Q RE TR A BLOCK, indicates RESET _____
- B. N0016D, PWR RNG CHAN LO Q RE TR B BLOCK, indicates RESET _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[100] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[101] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is in ALARM to
put NC41M, at 2-M-13 bistable in TRIP. _____

B. N43 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is in ALARM to
put NC43M, at 2-M-13 bistable in TRIP. _____

C. N44 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is in ALARM to
put NC44M, at 2-M-13 bistable in TRIP. _____

[102] **POSITION** 2-N47B, PR LO POWER TRIP BLOCK P-10,
(2-M-4) in BLOCK _____

[103] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is in ALARM to put
NC41P bistable, at 2-M-13 in TRIPPED _____

B. N43 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is in ALARM to put
NC43P bistable, at 2-M-13 in TRIPPED _____

C. N44 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is in ALARM to put
NC44P bistable, at 2-M-13 in TRIPPED _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[104] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is in ALARM _____
- B. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is in ALARM _____
- C. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is in ALARM _____
- D. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____
- E. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR _____
- F. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____
- G. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT) is in ALARM _____
- H. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR _____

[105] **VERIFY** voltage on the following Logic Panel Meters:

- A. UV COIL VOLTAGE Meter (2-R-47)
(approximately 0 VDC) _____
- B. UV COIL VOLTAGE Meter (2-R-50)
(approximately 42 VDC) **[Acc Crit]** _____

[106] **VERIFY** the following computer points:

- A. N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP, indicates TRIP. _____
- B. N0015D, PWR RNG CHAN LO Q RE TR A BLOCK, indicates RESET _____
- C. N0016D, PWR RNG CHAN LO Q RE TR B BLOCK, indicates SET _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[107] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC41M, at 2-M-13 bistable in NORMAL _____
- B. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC43M, at 2-M-13 bistable in NORMAL _____
- C. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC44M, at 2-M-13 bistable in NORMAL _____

[108] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is CLEAR _____
- B. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC43P, is CLEAR _____
- C. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC44P, is CLEAR _____
- D. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR _____
- E. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE is CLEAR. _____
- F. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____

[109] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

[110] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC41P bistable, at 2-M-13 in TRIPPED _____
- B. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC43P bistable, at 2-M-13 in TRIPPED _____
- C. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC44P bistable, at 2-M-13 in TRIPPED _____

[111] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is in ALARM _____
- B. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is in ALARM _____
- C. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is in ALARM _____
- D. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI (LO SETPT), is in ALARM _____
- E. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR _____
- F. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM _____
- G. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT) is in ALARM _____

[112] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

CAUTION

118 VAC is present in the following step.

NOTE

The following steps will put the P-10 bistables in NORMAL to test the Power Range High Flux (Low Setpoint) trip without the permissive available.

[113] **LIFT** the following internal/vendor leads:

2-M-13, NIS Rack I/Rear

A. TB124, Terminal 7	_____

	CV

B. TB124, Terminal 8	_____

	CV

2-M-13, NIS Rack II/Rear

C. TB224, Terminal 7	_____

	CV

D. TB224, Terminal 8	_____

	CV

2-M-13, NIS Rack III/Rear

E. TB324, Terminal 7	_____

	CV

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

F. TB324, Terminal 8

CV

2-M-13, NIS Rack IV/Rear

G. TB424, Terminal 7

CV

H. TB424, Terminal 8

CV

[114] **CONNECT** separate 120 VAC monitored, variable power supplies across each of the following sets of terminal points:

A. TB124, Terminals 7,8 (NIS Rack I/Rear/2-M-13)

CV

M&TE _____ Cal Due Date _____

B. TB224, Terminals 7,8 (NIS Rack II/Rear/2-M-13)

CV

M&TE _____ Cal Due Date _____

C. TB324, Terminals 7,8 (NIS Rack III/Rear/2-M-13)

CV

M&TE _____ Cal Due Date _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

D. TB424, Terminals 7,8 (NIS Rack IV/Rear/2-M-13) _____

CV

M&TE _____ Cal Due Date _____

[115] **ENERGIZE** each of the following power supplies connected in Step 6.8[114] to 118-120 VAC.

A. TB124, Terminals 7,8 (NIS Rack I/Rear/2-M-13) _____

B. TB224, Terminals 7,8 (NIS Rack II/Rear/2-M-13) _____

C. TB324, Terminals 7,8 (NIS Rack III/Rear/2-M-13) _____

D. TB424, Terminals 7,8 (NIS Rack IV/Rear/2-M-13) _____

[116] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is CLEAR _____

B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR _____

C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is CLEAR _____

D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is CLEAR _____

E. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is CLEAR _____

[117] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[118] **POSITION** the following:

A. 2/N47A, PR LO POWER TRIP BLOCK P-10, (2-M-4) in BLOCK _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

B. 2/N47B, PR LO POWER TRIP BLOCK P-10, (2-M-4) in
BLOCK _____

[119] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[120] **DE-ENERGIZE** each of the following power supplies connected in Step
6.8[115].

A. TB124, Terminals 7,8 (NIS Rack I/Rear/2-M-13) _____

B. TB224, Terminals 7,8 (NIS Rack II/Rear/2-M-13) _____

C. TB324, Terminals 7,8 (NIS Rack III/Rear/2-M-13) _____

D. TB424, Terminals 7,8 (NIS Rack IV/Rear/2-M-13) _____

[121] **REMOVE** all test equipment from the following locations:

A. TB124, Terminals 7,8 (NIS Rack I/Rear/2-M-13) _____

CV

B. TB224, Terminals 7,8 (NIS Rack II/Rear/2-M-13) _____

CV

C. TB324, Terminals 7,8 (NIS Rack III/Rear/2-M-13) _____

CV

D. TB424, Terminals 7,8 (NIS Rack IV/Rear/2-M-13) _____

CV

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

<p style="text-align: center;">CAUTION</p> <p>118 VAC is present in the following step.</p>
--

[122] **LAND** the disconnected internal/vendor leads at the following locations:

- | | | |
|----|--|-------|
| A. | TB124, Terminal 7 (NIS Rack I/Rear/2-M-13) | _____ |
| | | _____ |
| | | CV |
| B. | TB124, Terminal 8 (NIS Rack I/Rear/2-M-13) | _____ |
| | | _____ |
| | | CV |
| C. | TB224, Terminal 7 (NIS Rack II/Rear/2-M-13) | _____ |
| | | _____ |
| | | CV |
| D. | TB224, Terminal 8 (NIS Rack II/Rear/2-M-13) | _____ |
| | | _____ |
| | | CV |
| E. | TB324, Terminal 7 (NIS Rack III/Rear/2-M-13) | _____ |
| | | _____ |
| | | CV |
| F. | TB324, Terminal 8 (NIS Rack III/Rear/2-M-13) | _____ |
| | | _____ |
| | | CV |
| G. | TB424, Terminal 7 (NIS Rack IV/Rear/2-M-13) | _____ |
| | | _____ |
| | | CV |

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

H. TB424, Terminal 8 (NIS Rack IV/Rear/2-M-13) _____

CV

[123] **ENSURE** the following:

- A. N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is CLEAR to put NC41P
bistable, at 2-M-13 in NORMAL _____
- B. N42 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is CLEAR to put NC42P
bistable, at 2-M-13 in NORMAL _____
- C. N43 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is CLEAR to put NC43P
bistable, at 2-M-13 in NORMAL _____
- D. N44 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
RANGE lamp on front of drawer is CLEAR to put NC44P
bistable, at 2-M-13 in NORMAL _____
- E. N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is CLEAR to
put NC41M bistable, at 2-M-13 in NORMAL _____
- F. N42 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is CLEAR to
put NC42M bistable, at 2-M-13 in NORMAL _____
- G. N43 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is CLEAR to
put NC43M bistable, at 2-M-13 in NORMAL _____

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

H. N44 Detector A and, if necessary, Detector B TEST
 SIGNAL potentiometer UNTIL POWER ABOVE
 PERMISSIVE P10 lamp on front of drawer is CLEAR to
 put NC44M bistable, at 2-M-13 in NORMAL

I. MULTIPLEXER TEST SWITCH, AT 2-R-47, in A+B.

[124] **VERIFY** the following:

A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO
 SETPT NC41P, is CLEAR

B. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO
 SETPT NC42P, is CLEAR

C. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO
 SETPT NC43P, is CLEAR

D. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO
 SETPT NC44P, is CLEAR

E. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M,
 is CLEAR

F. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10
 NC42M, is CLEAR

G. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10
 NC43M, is CLEAR

H. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10
 NC44M, is CLEAR

I. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT
 POWER PERMISSIVE, is CLEAR

J. Annunciator 115D (2-XA-55-6A, 2-M-6), POWER RANGE
 FLUX HI (LO SETPT), is CLEAR

K. Annunciator 64D (2XA-55-4A, 2-M-4), POWER RANGE
 LO SETPOINT TRIP BLOCKED, is CLEAR

L. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE
 FLUX HI (LO SETPT), is CLEAR

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6.8 Power Range High Flux (Low Setpoint) Reactor Trip (continued)

M. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is in ALARM _____

[125] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[126] **VERIFY** computer points as follows:

A. N0006D, PWR RNG CH 1 HI Q LO SP PARTIAL RX T,
indicates NOT TR _____

B. N0007D, PWR RNG CH 2 HI Q LO SP PARTIAL RX T,
indicates NOT TR _____

C. N0008D, PWR RNG CH 3 HI Q LO SP PARTIAL RX T,
indicates NOT TR _____

D. N0009D, PWR RNG CH 4 HI Q LO SP PARTIAL RX T,
indicates NOT TR _____

E. N0010D, PWR RNG CH HI Q LO SP CAUSES RX TRIP,
indicates NOT TR _____

F. N0015D, PWR RNG CHAN LO Q RE TR A BLOCK,
indicates RESET _____

G. N0016D, PWR RNG CHAN LO Q RE TR B BLOCK,
indicates RESET _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip

NOTES

- 1) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables used in this subsection.
- 2) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.
- 3) During the simulation of NIS Power Range Bistables NC41R, NC42R, NC43R and NC44R at 109%- power, the NIS Power Range Bistables, trip status lights and annunciators for NC41P - NC44P will activate at greater than 25% power,. To prevent an unwanted Reactor Trip, the 2-N47A and 2-N47B "PR Tr (A/B) Block P10" Main Control Board block switches will be placed to BLOCK in Steps 6.9[2] thru 6.9[5]. Bistables, trip status lights and annunciators will also alarm for NC41M - NC44M will activate greater than 10% power, NC41N - NC44N will activate greater than 48% power, NC41S - NC44S will activate greater than 50% power and Overpower Rod Stop bistables will activate greater than 103% power.
- 4) Should the Power Range High Neutron Flux Low Setpoint Reactor Trip become unblocked and cause an unwarranted reactor trip, repeat Step 6.9[2] thru 6.9[8] to block the trip and return test conditions for PR High Flux reactor trip testing. Also, make a note in the Chronological Test Log.
- 5) Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.
- 6) During manipulation of the Power Range potentiometers, if indicated power level is increased greater than 5% within 2 seconds a PR Rate Trip bistable will occur. If this condition is encountered the bistable can be cleared by holding the Rate Mode switch in RESET until the Positive Rate TRIP lamp on the drawer clears then releasing the switch.

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

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[2] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC41M bistable, in TRIPPED. _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC42M bistable, in TRIPPED. _____
- C. N43 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC43M bistable, in TRIPPED. _____
- D. N44 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is in ALARM to put NC44M bistable, in TRIPPED. _____

[3] **POSITION** the following:

- A. 2-N47A, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____
- B. 2-N47B, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____

[4] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM. _____
- B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM. _____
- C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is in ALARM. _____
- D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is in ALARM. _____
- E. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM. _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

F. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is in ALARM. _____

[5] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[6] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC41S bistable, at 2-M-13 in TRIPPED _____

B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC42S bistable, at 2-M-13 in TRIPPED _____

C. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC43S bistable, at 2-M-13 in TRIPPED _____

D. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC44S bistable, at 2-M-13 in TRIPPED _____

[7] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM _____

B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM _____

C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is in ALARM _____

D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is in ALARM _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

- E. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is in ALARM _____
- F. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is in ALARM _____
- G. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is in ALARM _____
- H. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is in ALARM _____
- I. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is in ALARM _____
- J. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is in ALARM _____
- K. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is in ALARM _____
- L. Trip Status Light 64 (2-XX-55-5, 2-M-5), PR >P8 NC44N, is in ALARM _____
- M. Trip Status Light 9 (2-XX-55-5, 2-M-5) , PR >P9 NC41S, is in ALARM _____
- N. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is in ALARM _____
- O. Trip Status Light 49 (2-XX-55-5, 2-M-5) , PR >P9 NC43S, is in ALARM _____
- P. Trip Status Light 69 (2-XX-55-5, 2-M-5) , PR >P9 NC44S, is in ALARM _____
- Q. Trip Status Light 7 (2-XX-55-5, 2-M-5), PR FLUX HI NC41R, is CLEAR _____
- R. Trip Status Light 27 (2-XX-55-5, 2-M-5), PR FLUX HI NC42R, is CLEAR _____
- S. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is CLEAR _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

- T. Trip Status Light 67 (2-XX-55--5, 2-M-5), PR FLUX HI NC44R, is CLEAR _____
- U. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI, is CLEAR _____
- V. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR _____
- W. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR _____
- X. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is in ALARM _____
- [8] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [9] **POSITION** N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC41R bistable in TRIPPED. _____
- [10] **VERIFY** the following:
 - A. Trip Status Light 7 (2-XX-55-5, 2-M-5), PR FLUX HI NC41R, is in ALARM. _____
 - B. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI, is in ALARM. _____
 - C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR. _____
 - D. Unit 2 Event Display Monitor indicates 115-C POWER RANGE FLUX HI is in ALARM (Red) _____
- [11] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

B. UV COIL VOLTAGE Meter (2-R-50) _____

[12] **VERIFY** the following Computer Points:

A. N0001D, PWR RNG CH 1 HI Q HI SP PARTIAL RX T,
indicates TRIP _____

B. N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP,
indicates NOT TR _____

[13] **POSITION** N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH
RANGE lamp on front of drawer is CLEAR to put NC41R
bistable in NORMAL. _____

[14] **VERIFY** the following:

A. Trip Status Light 7 (2-XX-55-5, 2-M-5), PR FLUX HI
NC41R, is CLEAR. _____

B. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE
FLUX HI, is CLEAR. _____

C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE
FLUX HI, is CLEAR. _____

D. Unit 2 Event Display Monitor indicates 115-C POWER
RANGE FLUX HI is in NORMAL (Blue) _____

[15] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[16] **VERIFY** the following Computer Points:

A. N0001D, PWR RNG CH 1 HI Q HI SP PARTIAL RX T,
indicates NOT TR _____

B. N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP,
indicates NOT TR _____

[17] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC42R bistable in TRIPPED. _____

[18] **VERIFY** the following:

A. Trip Status Light 27 (2-XX-55-5, 2-M-5), PR FLUX HI NC42R, is in ALARM. _____

B. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI, is in ALARM. _____

C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR. _____

[19] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[20] **VERIFY** the following Computer Points:

A. N0002D, PWR RNG CH 2 HI Q HI SP PARTIAL RX T,
indicates TRIP _____

B. N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP,
indicates NOT TR _____

[21] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC42R bistable in NORMAL. _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[22] **VERIFY** the following:

- A. Trip Status Light 27 (2-XX-55-5, 2-M-5), PR FLUX HI NC42R, is CLEAR. _____
- B. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI, is CLEAR. _____
- C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR. _____

[23] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[24] **VERIFY** the following Computer Points:

- A. N0002D, PWR RNG CH 2 HI Q HI SP PARTIAL RX T, indicates NOT TR _____
- B. N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP, indicates NOT TR _____

[25] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC43R bistable in TRIPPED. _____

[26] **VERIFY** the following:

- A. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is in ALARM. _____
- B. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI, is in ALARM. _____
- C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR. _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[27] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[28] **VERIFY** the following Computer Points:

A. N0003D, PWR RNG CH 3 HI Q HI SP PARTIAL RX T, indicates TRIP _____

B. N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP, indicates NOT TR _____

[29] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC43R bistable in NORMAL. _____

[30] **VERIFY** the following:

A. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is CLEAR. _____

B. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI, is CLEAR. _____

C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR. _____

[31] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[32] **VERIFY** the following Computer Points:

A. N0003D, PWR RNG CH 3 HI Q HI SP PARTIAL RX T, indicates NOT TR _____

B. N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP, indicates NOT TR _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[33] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC44R bistable in TRIPPED. _____

[34] **VERIFY** the following:

A. Trip Status Light 67 (2-XX-55-5, 2-M-5), PR FLUX HI NC44R, is in ALARM. _____

B. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI, is in ALARM. _____

C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR. _____

[35] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[36] **VERIFY** the following Computer Points:

A. N0004D, PWR RNG CH 4 HI Q HI SP PARTIAL RX T, indicates TRIP _____

B. N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP, indicates NOT TR _____

[37] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC44R bistable in NORMAL. _____

[38] **VERIFY** the following:

A. Trip Status Light 67 (2-XX-55-5, 2-M-5), PR FLUX HI NC44R, is CLEAR. _____

B. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI, is CLEAR. _____

C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR. _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[39] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[40] **VERIFY** the following Computer Points:

A. N0004D, PWR RNG CH 4 HI Q HI SP PARTIAL RX T,
indicates NOT TR _____

B. N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP,
indicates NOT TR _____

[41] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH
RANGE lamp on front of drawer is in ALARM to put
NC41R bistable in TRIPPED _____

B. N42 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH
RANGE lamp on front of drawer is in ALARM to put
NC42R bistable in TRIPPED _____

[42] **VERIFY** the following:

A. Trip Status Light 7 (2-XX-55-5, 2-M-5), PR FLUX HI
NC41R, is in ALARM _____

B. Trip Status Light 27 (2-XX-55-5, 2-M-5), PR FLUX HI
NC42R, is in ALARM _____

C. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE
FLUX HI, is in ALARM. _____

D. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE
FLUX HI, is in ALARM. _____

E. Unit 2 Event Display Monitor indicates 80-C RT-POWER
RANGE FLUX HI is in ALARM (Red) _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

- [43] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [44] **VERIFY** Computer Point N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP, indicates TRIP _____
- [45] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC42R bistable in NORMAL _____
- [46] **VERIFY** the following:
- A. Trip Status Light 27 (2-XX-55-5, 2-M-5), PR FLUX HI NC42R, is CLEAR _____
 - B. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR. _____
 - C. Unit 2 Event Display Monitor indicates 80-C RT-POWER RANGE FLUX HI is in NORMAL (Blue) _____
- [47] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [48] **VERIFY** Computer Point N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP, indicates NOT TR. _____
- [49] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC43R bistable in TRIPPED _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[50] **VERIFY** the following:

- A. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is in ALARM _____
- B. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is in ALARM. _____

[51] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[52] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC43R bistable in NORMAL. _____

[53] **VERIFY** the following:

- A. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is CLEAR _____
- B. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR _____

[54] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[55] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC44R bistable in TRIPPED. _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[56] **VERIFY** the following:

- A. Trip Status Light 67 (2-XX-55--5, 2-M-5), PR FLUX HI NC44R, is in ALARM _____
- B. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is in ALARM. _____

[57] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[58] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC41R bistable in NORMAL _____
- B. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC44R bistable in NORMAL _____

[59] **VERIFY** the following:

- A. Trip Status Light 7 (2-XX-55-5, 2-M-5), PR FLUX HI NC41R, is CLEAR _____
- B. Trip Status Light 67 (2-XX-55--5, 2-M-5), PR FLUX HI NC44R, is CLEAR _____
- C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR _____

[60] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[61] **POSITION** the following:

A. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC42R bistable in TRIPPED _____

B. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC43R bistable in TRIPPED _____

[62] **VERIFY** the following:

A. Trip Status Light 27 (2-XX-55-5, 2-M-5), PR FLUX HI NC42R, is in ALARM _____

B. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is in ALARM _____

C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is in ALARM _____

[63] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[64] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC43R bistable in NORMAL _____

[65] **VERIFY** the following:

A. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is CLEAR _____

B. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[66] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[67] **POSITION** N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC44R bistable in TRIPPED. _____

[68] **VERIFY** the following:

A. Trip Status Light 67 (2-XX-55--5, 2-M-5), PR FLUX HI NC44R, is in ALARM _____

B. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is in ALARM _____

[69] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[70] **POSITION** N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC42R bistable in NORMAL _____

[71] **VERIFY** the following:

A. Trip Status Light 27 (2-XX-55-5, 2-M-5), PR FLUX HI NC42R, is CLEAR _____

B. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR _____

[72] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[73] **POSITION** N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is in ALARM to put NC43R bistable in TRIPPED _____

[74] **VERIFY** the following:

A. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is in ALARM _____

B. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is in ALARM _____

[75] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[76] **POSITION** the following:

A. N43 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC43R bistable in NORMAL _____

B. N44 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH RANGE lamp on front of drawer is CLEAR to put NC44R bistable in NORMAL _____

[77] **VERIFY** the following:

A. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is CLEAR _____

B. Trip Status Light 67 (2-XX-55--5, 2-M-5), PR FLUX HI NC44R, is CLEAR _____

C. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[78] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[79] **POSITION** the following:

A. N41 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH
RANGE lamp on front of drawer is in ALARM to put
NC41R bistable in TRIPPED _____

B. N42 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH
RANGE lamp on front of drawer is in ALARM to put
NC42R bistable in TRIPPED _____

C. N43 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH
RANGE lamp on front of drawer is in ALARM to put
NC43R bistable in TRIPPED _____

D. N44 Detector A and, if necessary, Detector B TEST
SIGNAL potentiometer UNTIL OVERPOWER TRIP HIGH
RANGE lamp on front of drawer is in ALARM to put
NC44R bistable in TRIPPED _____

[80] **VERIFY** the following:

A. Trip Status Light 7 (2-XX-55-5, 2-M-5), PR FLUX HI
NC41R, is in ALARM _____

B. Trip Status Light 27 (2-XX-55-5, 2-M-5), PR FLUX HI
NC42R, is in ALARM _____

C. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI
NC43R, is in ALARM _____

D. Trip Status Light 67 (2-XX-55--5, 2-M-5), PR FLUX HI
NC44R, is in ALARM _____

E. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE
FLUX HI, is in ALARM _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

[81] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[82] **POSITION** the following:

A. N41 Detector A and Detector B TEST SIGNAL
potentiometer Fully CCW to put all bistables for N41, at 2-
M-13 in NORMAL. _____

B. N42 Detector A and Detector B TEST SIGNAL
potentiometer Fully CCW to put all bistables for N42, at 2-
M-13 in NORMAL. _____

C. N43 Detector A and Detector B TEST SIGNAL
potentiometer Fully CCW to put all bistables for N43, at 2-
M-13 in NORMAL. _____

D. N44 Detector A and Detector B TEST SIGNAL
potentiometer Fully CCW to put all bistables for N44, at 2-
M-13 in NORMAL. _____

[83] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M,
is CLEAR _____

B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10
NC42M, is CLEAR _____

C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10
NC43M, is CLEAR _____

D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10
NC44M, is CLEAR _____

E. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SET PT NC41P, is CLEAR _____

F. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC42P, is CLEAR _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

- G. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is CLEAR _____
- H. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is CLEAR _____
- I. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is CLEAR _____
- J. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is CLEAR _____
- K. Trip Status Light 44 (2-XX-55-5, 2-M-5), PR >P8 NC43N, is CLEAR _____
- L. Trip Status Light 64 (2-XX-55-5, 2-M-5), PR >P8 NC44N, is CLEAR _____
- M. Trip Status Light 9 (2-XX-55-5, 2-M-5) , PR >P9 NC41S, is CLEAR _____
- N. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is CLEAR _____
- O. Trip Status Light 49 (2-XX-55-5, 2-M-5) , PR >P9 NC43S, is CLEAR _____
- P. Trip Status Light 69 (2-XX-55-5, 2-M-5) , PR >P9 NC44S, is CLEAR _____
- Q. Trip Status Light 7 (2-XX-55-5, 2-M-5), PR FLUX HI NC41R, is CLEAR _____
- R. Trip Status Light 27 (2-XX-55-5, 2-M-5), PR FLUX HI NC42R, is CLEAR _____
- S. Trip Status Light 47 (2-XX-55-5, 2-M-5), PR FLUX HI NC43R, is CLEAR _____
- T. Trip Status Light 67 (2-XX-55-5, 2-M-5), PR FLUX HI NC44R, is CLEAR _____
- U. Annunciator 115C (2-XA-55-6A, 2-M-6), POWER RANGE FLUX HI, is CLEAR _____

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6.9 Power Range High Flux (High Setpoint) Reactor Trip (continued)

V. Annunciator 80C (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI, is CLEAR _____

W. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is CLEAR. _____

[84] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[85] **VERIFY** the following computer points:

A. N0001D, PWR RNG CH 1 HI Q HI SP PARTIAL RX T, indicates NOT TR _____

B. N0002D, PWR RNG CH 2 HI Q HI SP PARTIAL RX T, indicates NOT TR _____

C. N0003D, PWR RNG CH 3 HI Q HI SP PARTIAL RX T, indicates NOT TR _____

D. N0004D, PWR RNG CH 4 HI Q HI SP PARTIAL RX T, indicates NOT TR _____

E. N0005D, PWR RNG CH HI Q HI SP CAUSES RX TRIP, indicates NOT TR _____

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6.10 Power Range High Positive Flux Rate Reactor Trip

NOTES

- 1) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables used in this subsection.
- 2) 2/N41U, 2/N42U, 2/N43U, and 2/N44U Power Range Rate Reset switches on the NIS Cabinet, 2-M-13, must be held in the Reset position until the local Power Range Rate Indicator clears, then the switch is released. These switches are spring return to normal. Provide visual verification of switch position when "Normal" switch position is asked for in the procedure.
- 3) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.
- 4) During the simulation of NIS Power Range Rate Bistables NC41U, NC42U, NC43U and NC44U, the simulated power should be kept below 25% power to prevent an unwanted reactor trip from the Power Range High Flux-Low Setpoint bistables NC41P - NC44P. Trip status lights and annunciators will alarm for the NC41M - NC44M P-10 and P-7 bistables greater than 10% power.
- 5) If any NIS Power Range Channels exceed 25% indicated power generating a Power Range High Flux-Low Setpoint bistable trip then power should be adjusted to bottom of scale and the previous steps should be reperformed.
- 6) Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.

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

[2] **ENSURE** the following: _____

A. NC41U, PR CH 1 POSITIVE RATE TRIP bistable, at 2-M-13 in NORMAL _____

B. NC42U, PR CH 2 POSITIVE RATE TRIP bistable, at 2-M-13 in NORMAL _____

C. NC43U, PR CH 3 POSITIVE RATE TRIP bistable, at 2-M-13 in NORMAL _____

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- D. NC44U, PR CH 4 POSITIVE RATE TRIP bistable, at 2-M-13 in NORMAL _____
- E. 2/N41U, (2-M-13) PR RATE MODE switch CH 1, at 2-M-13 in RESET and RELEASE _____
- F. 2/N42U, (2-M-13) PR RATE MODE switch CH 2, at 2-M-13 in RESET and RELEASE _____
- G. 2/N43U, (2-M-13) PR RATE MODE switch CH 3, at 2-M-13 in RESET and RELEASE _____
- H. 2/N44U, (2-M-13) PR RATE MODE switch CH 4, at 2-M-13 in RESET and RELEASE _____

[3] **VERIFY** the following:

- A. Trip Status Light 8 (2-XX-55-5, 2-M-5), PR HI RATE NC41U, is CLEAR _____
- B. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE NC42U, is CLEAR _____
- C. Trip Status Light 48 (2-XX-55-5, 2-M-5), PR HI RATE N43U, is CLEAR _____
- D. Trip Status Light 68 (2-XX-55-5, 2-M-5), PR HI RATE NC44U, is CLEAR _____
- E. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is CLEAR _____
- F. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is CLEAR _____
- G. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is CLEAR _____
- H. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is CLEAR _____
- I. Annunciator 115E (2-XA-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is CLEAR _____
- J. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

- [4] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [5] **POSITION** N41 OPERATION SELECTOR switch to the DET B position, **THEN**
- ROTATE** N41 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC41U bistable in TRIPPED. _____
- [6] **VERIFY** the following:
- A. Trip Status Light 8 (2-XX-55-5, 2-M-5), PR HI RATE NC41U, is in ALARM. _____
 - B. Annunciator 115E (2-XA-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM. _____
 - C. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR _____
 - D. Unit 2 Event Display Monitor indicates 115-E POWER RANGE FLUX RATE HI is in ALARM (Red) _____
- [7] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [8] **VERIFY** the following computer points:
- A. N0025D, PWR RNG CH 1 HI Q RATE PARTIAL RX, indicates TRIP _____
 - B. N0029D, PWR RNG CH HI Q RATE CAUSES RX TRIP, indicates NOT TR _____
- [9] **POSITION** 2/N41U, (2-M-13) RATE MODE switch CH 1, (2-M-13) to RESET and RELEASE. _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[10] **VERIFY** the following:

- A. Trip Status Light 8 (2-XX-55-5, 2-M-5), PR HI RATE NC41U, is CLEAR _____
- B. Annunciator 115E (2-XA-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is CLEAR _____
- C. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR _____
- D. Unit 2 Event Display Monitor indicates 115-E POWER RANGE FLUX RATE HI is in NORMAL (Blue) _____

[11] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[12] **VERIFY** the following computer points:

- A. N0025D, PWR RNG CH 1 HI Q RATE PARTIAL RX, indicates NOT TR _____
- B. N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI, indicates NOT TR _____

[13] **POSITION** N42 OPERATION SELECTOR switch to the DET B position, **THEN**

ROTATE N42 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC42U bistable in TRIPPED. _____

[14] **VERIFY** the following:

- A. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE NC42U, is in ALARM. _____
- B. Annunciator 115E (2-XA-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM. _____

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- C. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR. _____

[15] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____

- B. UV COIL VOLTAGE Meter (2-R-50) _____

[16] **VERIFY** the following computer points:

- A. N0026D, PWR RNG CH 2 HI Q RATE PARTIAL RX, indicates TRIP _____

- B. N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI, indicates NOT TR _____

[17] **POSITION** 2/N42U, PR RATE MODE switch CH 2, (2-M-13) in RESET and RELEASE. _____

[18] **VERIFY** the following:

- A. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE NC42U, is CLEAR. _____

- B. Annunciator 115E (2-XA-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is CLEAR. _____

- C. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, CLEAR. _____

[19] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____

- B. UV COIL VOLTAGE Meter (2-R-50) _____

[20] **VERIFY** the following computer points:

- A. N0026D, PWR RNG CH 2 HI Q RATE PARTIAL RX, indicates NOT TR _____

- B. N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI, indicates NOT TR _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[21] **POSITION** N43 OPERATION SELECTOR switch to the DET B position, **THEN**

ROTATE N43 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC43U bistable in TRIPPED.

[22] **VERIFY** the following:

- A. Trip Status Light 48 (2-XX-55-5, 2-M-5), PR HI RATE NC43U, is in ALARM.
- B. Annunciator 115E (2-XA-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM.
- C. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR.

[23] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47)
- B. UV COIL VOLTAGE Meter (2-R-50)

[24] **VERIFY** the following computer points:

- A. N0027D, PWR RNG CH 3 HI Q RATE PARTIAL RX, indicates TRIP
- B. N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI, indicates NOT TR

[25] **POSITION** 2/N43U, (2-M-13) PR RATE MODE switch CH 3, in RESET and RELEASE.

[26] **VERIFY** the following:

- A. Trip Status Light 48 (2-XX-55-5, 2-M-5), PR HI RATE NC43U, is CLEAR.
- B. Annunciator 115E (2-XA-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is CLEAR.

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- C. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR. _____

[27] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____

- B. UV COIL VOLTAGE Meter (2-R-50) _____

[28] **VERIFY** the following computer points:

- A. N0027D, PWR RNG CH 3 HI Q RATE PARTIAL RX, indicates NOT TR _____

- B. N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI, indicates NOT TR _____

[29] **POSITION** N44 OPERATION SELECTOR switch to the DET B position, **THEN**

ROTATE N44 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC44U bistable in TRIPPED. _____

[30] **VERIFY** the following:

- A. Trip Status Light 68 (2-XX-55-5, 2-M-5), PR HI RATE NC44U, is in ALARM. _____

- B. Annunciator 115E (2-XA-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM. _____

- C. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR. _____

[31] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____

- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[32] **VERIFY** the following computer points:

- A. N0028D, PWR RNG CH 4 HI Q RATE PARTIAL RX,
indicates TRIP _____
- B. N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI,
indicates NOT TR _____

[33] **POSITION** 2/N44U, (2-M-13) PR RATE MODE switch CH 4, in
RESET and RELEASE. _____

[34] **VERIFY** the following:

- A. Trip Status Light 68 (2-XX-55-5, 2-M-5), PR HI RATE
NC44U, is CLEAR. _____
- B. Annunciator 115E (2-XA-55-6A, 2-M-6), POWER RANGE
FLUX RATE HI, is CLEAR. _____
- C. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE
FLUX RATE HI, is CLEAR. _____

[35] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[36] **VERIFY** the following computer points:

- A. N0028D, PWR RNG CH 4 HI Q RATE PARTIAL RX,
indicates NOT TR _____
- B. N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI,
indicates NOT TR _____

[37] **POSITION** the following:

- A. N41 Detector B TEST SIGNAL potentiometer rapidly in
the clockwise direction until POSITIVE RATE TRIP lamp
on front of drawer is in ALARM to put NC41U bistable in
TRIPPED _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

- B. N42 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC42U bistable in TRIPPED

[38] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is in ALARM
- B. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC42P, is in ALARM
- C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM
- D. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is in ALARM.
- E. Unit 2 Event Display Monitor indicates 80-E RT POWER RANGE FLUX RATE HI is in ALARM (Red)

[39] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**

[40] **VERIFY** Computer Point N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI, indicates TRIP.

[41] **POSITION** the following:

- A. 2/N41U, (2-M-13) PR RATE MODE switch CH 1, in RESET and RELEASE.
- B. 2/N42U, (2-M-13) PR RATE MODE switch CH 2, in RESET and RELEASE.

[42] **VERIFY** the following:

- A. Trip Status Light 8 (2-XX-55-5, 2-M-5), PR HI RATE NC41U, is CLEAR.

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

B. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE NC42U, is CLEAR. _____

C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is CLEAR. _____

D. Annunciator 80E (2-XX-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR. _____

E. Unit 2 Event Display Monitor indicates 80-E RT POWER RANGE FLUX RATE HI is in NORMAL (Blue) _____

[43] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[44] **VERIFY** Computer Point N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI, indicates NOT TR. _____

[45] **POSITION** the following:

A. N41 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC41U bistable in TRIPPED _____

B. N43 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC43U bistable in TRIPPED _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[46] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is in ALARM _____
- B. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC43P, is in ALARM _____
- C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM _____
- D. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is in ALARM. _____

[47] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[48] **POSITION** the following:

- A. 2/N41U, (2-M-13) PR RATE MODE switch CH 1 in RESET and RELEASE. _____
- B. 2/N43U, (2-M-13) PR RATE MODE switch CH 3 in RESET and RELEASE. _____

[49] **VERIFY** the following:

- A. Trip Status Light 8 (2-XX-55-5, 2-M-5), PR HI RATE NC41U, is CLEAR. _____
- B. Trip Status Light 48 (2-XX-55-5, 2-M-5), PR HI RATE NC43U, is CLEAR. _____
- C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is CLEAR. _____
- D. Annunciator 80E (2-XX-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR. _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[50] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[51] **POSITION** the following:

A. N41 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC41U bistable in TRIPPED _____

B. N44 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC44U bistable in TRIPPED _____

[52] **VERIFY** the following:

A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO SET PT NC41P, is in ALARM _____

B. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO SETPT NC44P, is in ALARM _____

C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM _____

D. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is in ALARM. _____

[53] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[54] **POSITION** the following:

- A. 2/N41U, (2-M-13) PR RATE MODE switch CH 1, in
RESET and RELEASE. _____
- B. 2/N44U, (2-M-13) PR RATE MODE switch CH 4, in
RESET and RELEASE. _____

[55] **VERIFY** the following:

- A. Trip Status Light 8 (2-XX-55-5, 2-M-5), PR HI RATE
NC41U, is CLEAR. _____
- B. Trip Status Light 68 (2-XX-55-5, 2-M-5), PR HI RATE
NC44U, is CLEAR. _____
- C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE
FLUX RATE HI, is CLEAR. _____
- D. Annunciator 80E (2-XX-55-4D, 2-M-4), POWER RANGE
FLUX RATE HI, is CLEAR. _____

[56] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[57] **POSITION** the following:

- A. N42 Detector B TEST SIGNAL potentiometer rapidly in
the clockwise direction until POSITIVE RATE TRIP lamp
on front of drawer is in ALARM to put NC42U bistable in
TRIPPED _____
- B. N43 Detector B TEST SIGNAL potentiometer rapidly in
the clockwise direction until POSITIVE RATE TRIP lamp
on front of drawer is in ALARM to put NC43U bistable in
TRIPPED _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[58] **VERIFY** the following:

- A. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE NC42U, is ALARM. _____
- B. Trip Status Light 48 (2-XX-55-5, 2-M-5), PR HI RATE NC43U, is ALARM. _____
- C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM _____
- D. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is in ALARM. _____

[59] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[60] **POSITION** the following:

- A. 2/N42U, (2-M-13) PR RATE MODE switch CH 2, in RESET and RELEASE. _____
- B. 2/N43U, (2-M-13) PR RATE MODE switch CH 3, in RESET and RELEASE. _____

[61] **VERIFY** the following:

- A. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE NC42U, is CLEAR. _____
- B. Trip Status Light 48 (2-XX-55-5, 2-M-5), PR HI RATE NC43U, is CLEAR. _____
- C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is CLEAR. _____
- D. Annunciator 80E (2-XX-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR. _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[62] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[63] **POSITION** the following:

A. N42 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC42U bistable in TRIPPED _____

B. N44 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC44U bistable in TRIPPED _____

[64] **VERIFY** the following:

A. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE NC42U, is ALARM. _____

B. Trip Status Light 68 (2-XX-55-5, 2-M-5), PR HI RATE NC44U, is ALARM. _____

C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM _____

D. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is in ALARM. _____

[65] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[66] **POSITION** the following:

- A. 2/N42U, (2-M-13) PR RATE MODE switch CH 2, in
RESET and RELEASE. _____
- B. 2/N44U, (2-M-13) PR RATE MODE switch CH 4, in
RESET and RELEASE. _____

[67] **VERIFY** the following:

- A. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE
NC42U, is CLEAR. _____
- B. Trip Status Light 68 (2-XX-55-5, 2-M-5), PR HI RATE
NC44U, is CLEAR. _____
- C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE
FLUX RATE HI, is CLEAR. _____
- D. Annunciator 80E (2-XX-55-4D, 2-M-4), POWER RANGE
FLUX RATE HI, is CLEAR. _____

[68] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[69] **POSITION** the following:

- A. N43 Detector B TEST SIGNAL potentiometer rapidly in
the clockwise direction until POSITIVE RATE TRIP lamp
on front of drawer is in ALARM to put NC43U bistable in
TRIPPED _____
- B. N44 Detector B TEST SIGNAL potentiometer rapidly in
the clockwise direction until POSITIVE RATE TRIP lamp
on front of drawer is in ALARM to put NC44U bistable in
TRIPPED _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[70] **VERIFY** the following:

- A. Trip Status Light 48 (2-XX-55-5, 2-M-5), PR HI RATE NC43U, is ALARM. _____
- B. Trip Status Light 68 (2-XX-55-5, 2-M-5), PR HI RATE NC44U, is ALARM. _____
- C. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM _____
- D. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is in ALARM. _____

[71] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[72] **POSITION** the following:

- A. 2/N43U, (2-M-13) PR RATE MODE switch CH 3, in RESET and RELEASE. _____
- B. 2/N44U, (2-M-13) PR RATE MODE switch CH 4, in RESET and RELEASE. _____

[73] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[74] **POSITION** the following:

- A. N41 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC41U bistable in TRIPPED _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

- B. N42 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC42U bistable in TRIPPED _____
- C. N43 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC43U bistable in TRIPPED _____
- D. N44 Detector B TEST SIGNAL potentiometer rapidly in the clockwise direction until POSITIVE RATE TRIP lamp on front of drawer is in ALARM to put NC44U bistable in TRIPPED _____

[75] **VERIFY** the following:

- A. Trip Status Light 8 (2-XX-55-5, 2-M-5), PR HI RATE NC41U, is ALARM. _____
- B. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE NC42U, is ALARM. _____
- C. Trip Status Light 48 (2-XX-55-5, 2-M-5), PR HI RATE NC43U, is ALARM. _____
- D. Trip Status Light 68 (2-XX-55-5, 2-M-5), PR HI RATE NC44U, is ALARM. _____
- E. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is in ALARM _____
- F. Annunciator 80E (2-XA-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is in ALARM. _____

[76] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

[77] **POSITION** the following:

- A. 2/N41U, (2-M-13) PR RATE MODE switch CH 1, in RESET and RELEASE. _____
- B. 2/N42U, (2-M-13) PR RATE MODE switch CH 2, in RESET and RELEASE. _____
- C. 2/N43U, (2-M-13) PR RATE MODE switch CH 3, in RESET and RELEASE. _____
- D. 2/N44U, (2-M-13) PR RATE MODE switch CH 4, in RESET and RELEASE. _____

[78] **VERIFY** the following:

- A. Trip Status Light 8 (2-XX-55-5, 2-M-5), PR HI RATE NC41U, is CLEAR. _____
- B. Trip Status Light 28 (2-XX-55-5, 2-M-5), PR HI RATE NC42U, is CLEAR. _____
- C. Trip Status Light 48 (2-XX-55-5, 2-M-5), PR HI RATE NC43U, is CLEAR. _____
- D. Trip Status Light 68 (2-XX-55-5, 2-M-5), PR HI RATE NC44U, is CLEAR. _____
- E. Annunciator 115E (2-XX-55-6A, 2-M-6), POWER RANGE FLUX RATE HI, is CLEAR. _____
- F. Annunciator 80E (2-XX-55-4D, 2-M-4), POWER RANGE FLUX RATE HI, is CLEAR. _____

[79] **POSITION** the following:

- A. N41 OPERATION SELECTOR switch to the DET A&B position _____
- B. N42 OPERATION SELECTOR switch to the DET A&B position _____
- C. N43 OPERATION SELECTOR switch to the DET A&B position _____

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6.10 Power Range High Positive Flux Rate Reactor Trip (continued)

D. N44 OPERATION SELECTOR switch to the DET A&B position _____

[80] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[81] **VERIFY** the following computer points:

A. N0025D, PWR RNG CH 1 HI Q RATE PARTIAL RX, indicates NOT TR _____

B. N0026D, PWR RNG CH 2 HI Q RATE PARTIAL RX, indicates NOT TR _____

C. N0027D, PWR RNG CH 3 HI Q RATE PARTIAL RX, indicates NOT TR _____

D. N0028D, PWR RNG CH 4 HI Q RATE PARTIAL RX, indicates NOT TR _____

E. N0029D, PWR RNG CH HI Q RATE CAUSES RX TRI, indicates NOT TR _____

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6.11 Overtemperature Delta T Reactor Trip

NOTE

The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.

- [1] **ENSURE** prerequisites listed in Section 4.0 for subsection 6.11 have been completed. _____
- [2] **ENSURE** the following:
 - A. TS/411C, Overtemp ΔT Trip, at 2-R-02 to the left (NORMAL). _____
 - B. TS/421C, Overtemp ΔT Trip, at 2-R-06 to the left (NORMAL). _____
 - C. TS/431C, Overtemp ΔT Trip, at 2-R-10 to the left (NORMAL). _____
 - D. TS/441C, Overtemp ΔT Trip, at 2-R-13 to the left (NORMAL). _____
- [3] **VERIFY** the following:
 - A. Trip Status Light 10 (2-XX-55-5, 2-M-5), LOOP 1 OT ΔT TRIP TS-68-2D, is CLEAR _____
 - B. Trip Status Light 30 (2-XX-55-5, 2-M-5), LOOP 2 OT ΔT TRIP TS-68-25D, is CLEAR _____
 - C. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OT ΔT TRIP TS-68-44D, is CLEAR _____
 - D. Trip Status Light 70 (2-XX-55-5, 2-M-5), LOOP 4 OT ΔT TRIP TS-68-67D, is CLEAR _____
 - E. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP ΔT TRIP ALERT, is CLEAR _____
 - F. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is CLEAR _____

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6.11 Overtemperature Delta T Reactor Trip (continued)

- [4] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____
- [5] **POSITION** TS/411C, Overtemp Δ T Trip, at 2-R-2 to the right (TRIP). _____
- [6] **VERIFY** the following:
- A. Trip Status Light 10 (2-XX-55-5, 2-M-5), LOOP 1 OT Δ T TRIP TS-68-2D, is in ALARM. _____
- B. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP Δ T TRIP ALERT, is in ALARM. _____
- C. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP Δ T, is CLEAR _____
- D. Unit 2 Event Display Monitor indicates 123-C OVERTEMP DT TRIP ALERT is in ALARM (Red) _____
- [7] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____
- [8] **VERIFY** the following Computer Points:
- A. T0403D, OVER TEMP DELTA T LP1 PARTIAL RX TRI, indicates TRIP _____
- B. T0498D, RCL OVERTEMP DT CAUSES RX TRIP, indicates NOT TR _____
- [9] **POSITION** TS/411C, Overtemp Δ T Trip, at 2-R-2 to the left (NORMAL). _____

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6.11 **Overtemperature Delta T Reactor Trip (continued)**

[10] **VERIFY** the following:

- A. Trip Status Light 10 (2-XX-55-5, 2-M-5), LOOP 1 OTΔT TRIP TS-68-2D, is CLEAR. _____
- B. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP ΔT TRIP ALERT, is CLEAR. _____
- C. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT, is CLEAR _____
- D. Unit 2 Event Display Monitor indicates 123-C OVERTEMP DT TRIP ALERT is in NORMAL (Blue) _____

[11] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[12] **VERIFY** the following Computer Points:

- A. T0403D, OVER TEMP DELTA T LP1 PARTIAL RX TRI, indicates NOT TR _____
- B. T0498D, RCL OVERTEMP DT CAUSES RX TRIP, indicates NOT TR _____

[13] **POSITION** TS/421C, Overtemp ΔT Trip, at 2-R-6 to the right (TRIP). _____

[14] **VERIFY** the following:

- A. Trip Status Light 30 (2-XX-55-5, 2-M-5), LOOP 2 OTΔT TRIP TS-68-25D, is in ALARM. _____
- B. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP ΔT TRIP ALERT, is in ALARM. _____
- C. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT, is CLEAR _____

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6.11 Overtemperature Delta T Reactor Trip (continued)

[15] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[16] **VERIFY** the following Computer Points:

A. T0423D, OVER TEMP DELTA T LP2 PARTIAL RX TRI, indicates TRIP _____

B. T0498D, RCL OVERTEMP DT CAUSES RX TRIP, indicates NOT TR _____

[17] **POSITION** TS/421C, Overtemp ΔT Trip, at 2-R-6 to the left (NORMAL). _____

[18] **VERIFY** the following:

A. Trip Status Light 30 (2-XX-55-5, 2-M-5), LOOP 2 OT ΔT TRIP TS-68-25D, is CLEAR. _____

B. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP ΔT TRIP ALERT, is CLEAR. _____

C. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is CLEAR _____

[19] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[20] **VERIFY** the following Computer Points:

A. T0423D, OVER TEMP DELTA T LP2 PARTIAL RX TRI, indicates NOT TR _____

B. T0498D, RCL OVERTEMP DT CAUSES RX TRIP, indicates NOT TR _____

[21] **POSITION** TS/431C, Overtemp ΔT Trip, at 2-R-10 to the right (TRIP). _____

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6.11 Overtemperature Delta T Reactor Trip (continued)

[22] **VERIFY** the following:

- A. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OTΔT TRIP TS-68-44D, is in ALARM. _____
- B. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP ΔT TRIP ALERT, is in ALARM. _____
- C. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT, is CLEAR _____

[23] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[24] **VERIFY** the following Computer Points:

- A. T0443D, OVER TEMP DELTA T LP3 PARTIAL RX TRI, indicates TRIP _____
- B. T0498D, RCL OVERTEMP DT CAUSES RX TRIP, indicates NOT TR _____

[25] **POSITION** TS/431C, Overtemp ΔT Trip, at 2-R-10 to the left (NORMAL). _____

[26] **VERIFY** the following:

- A. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OTΔT TRIP TS-68-44D, is CLEAR. _____
- B. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP ΔT TRIP ALERT, is CLEAR. _____
- C. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT, is CLEAR _____

[27] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.11 Overtemperature Delta T Reactor Trip (continued)

[28] **VERIFY** the following Computer Points:

- A. T0443D, OVER TEMP DELTA T LP3 PARTIAL RX TRI, indicates NOT TR _____
- B. T0498D, RCL OVERTEMP DT CAUSES RX TRIP, indicates NOT TR _____

[29] **POSITION** TS/441C, Overtemp Δ T Trip, at 2-R-13 to the right (TRIP). _____

[30] **VERIFY** the following:

- A. Trip Status Light 70 (2-XX-55-5, 2-M-5), LOOP 4 OT Δ T TRIP TS-68-67D, is in ALARM. _____
- B. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP Δ T TRIP ALERT, is in ALARM. _____
- C. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP Δ T, is CLEAR _____

[31] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[32] **VERIFY** the following Computer Points:

- A. T0463D, OVER TEMP DELTA T LP4 PARTIAL RX TRI, indicates TRIP _____
- B. T0498D, RCL OVERTEMP DT CAUSES RX TRIP, indicates NOT TR _____

[33] **POSITION** TS/441C, Overtemp Δ T Trip, at 2-R-13 to the left (NORMAL). _____

[34] **VERIFY** the following:

- A. Trip Status Light 70 (2-XX-55-5, 2-M-5), LOOP 4 OT Δ T TRIP TS-68-67D, is CLEAR. _____

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6.11 **Overtemperature Delta T Reactor Trip (continued)**

B. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP Δ T
TRIP ALERT, is CLEAR. _____

C. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP Δ T, is
CLEAR _____

[35] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[36] **VERIFY** the following Computer Points:

A. T0463D, OVER TEMP DELTA T LP4 PARTIAL RX TRI,
indicates NOT TR _____

B. T0498D, RCL OVERTEMP DT CAUSES RX TRIP,
indicates NOT TR _____

[37] **POSITION** the following:

A. TS/411C, Overtemp Δ T Trip, at 2-R-2 to the right (TRIP) _____

B. TS/421C, Overtemp Δ T Trip, at 2-R-6 to the right (TRIP) _____

[38] **VERIFY** the following:

A. Trip Status Light 10 (2-XX-55-5, 2-M-5), LOOP 1 OT Δ T
TRIP TS-68-2D, is in ALARM _____

B. Trip Status Light 30 (2-XX-55-5, 2-M-5), LOOP 2 OT Δ T
TRIP TS-68-25D, is in ALARM _____

C. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP Δ T, is
in ALARM. _____

D. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP Δ T
TRIP ALERT, is in ALARM. _____

E. Unit 2 Event Display Monitor indicates 76-C RT-
OVERTEMP DT is in ALARM (Red) _____

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6.11 Overtemperature Delta T Reactor Trip (continued)

[39] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[40] **VERIFY** Computer Point T0498D, RCL OVERTEMP DT CAUSES RX TRIP, indicates TRIP. _____

[41] **POSITION** TS/421C, Overtemp ΔT Trip, at 2-R-6 to the left (NORMAL). _____

[42] **VERIFY** the following:

A. Trip Status Light 30 (2-XX-55-5, 2-M-5), LOOP 2 OT ΔT TRIP TS-68-25D, is CLEAR _____

B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is CLEAR. _____

C. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP ΔT TRIP ALERT, is in ALARM. _____

D. Unit 2 Event Display Monitor indicates 76-C RT-OVERTEMP DT is in NORMAL (Blue) _____

[43] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[44] **VERIFY** Computer Point T0498D, RCL OVERTEMP DT CAUSES RX TRIP, indicates NOT TR. _____

[45] **POSITION** TS/431C, Overtemp ΔT Trip, at 2-R-10 to the right (TRIP). _____

[46] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OT ΔT TRIP TS-68-44D, is in ALARM. _____

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6.11 Overtemperature Delta T Reactor Trip (continued)

- B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is in ALARM. _____
- [47] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [48] **POSITION** TS/431C, Overtemp ΔT Trip, at 2-R-10 to the left (NORMAL). _____
- [49] **VERIFY** the following:
- A. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OT ΔT TRIP TS-68-44D, is CLEAR _____
- B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is CLEAR _____
- [50] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____
- [51] **POSITION** TS/441C, Overtemp ΔT Trip, at 2-R-13 to the right (TRIP). _____
- [52] **VERIFY** the following:
- A. Trip Status Light 70 (2-XX-55-5, 2-M-5), LOOP 4 OT ΔT TRIP TS-68-67D, is in ALARM _____
- B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is in ALARM _____
- [53] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.11 Overtemperature Delta T Reactor Trip (continued)

[54] **POSITION** TS/411C, Overtemp ΔT Trip, at 2-R-2 to the left (NORMAL). _____

[55] **VERIFY** the following:

A. Trip Status Light 10 (2-XX-55-5, 2-M-5), LOOP 1 OT ΔT TRIP TS-68-2D, is in CLEAR _____

B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is CLEAR _____

[56] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[57] **POSITION** TS/431C, Overtemp ΔT Trip, at 2-R-10 to the right (TRIP). _____

[58] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OT ΔT TRIP TS-68-44D, is in ALARM _____

B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is in ALARM _____

[59] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[60] **POSITION** TS/431C, Overtemp ΔT Trip, at 2-R-10 to the left (NORMAL). _____

[61] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OT ΔT TRIP TS-68-44D, is CLEAR _____

B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is CLEAR _____

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6.11 **Overtemperature Delta T Reactor Trip (continued)**

[62] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[63] **POSITION** TS/421C, Overtemp ΔT Trip, at 2-R-6 to the right
(TRIP). _____

[64] **VERIFY** the following:

A. Trip Status Light 30 (2-XX-55-5, 2-M-5), LOOP 2 OT ΔT
TRIP TS-68-25D, is in ALARM _____

B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is
in ALARM _____

[65] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[66] **POSITION** TS/441C, Overtemp ΔT Trip, at 2-R-13 to the left
(NORMAL). _____

[67] **VERIFY** the following:

A. Trip Status Light 70 (2-XX-55-5, 2-M-5), LOOP 4 OT ΔT
TRIP TS-68-67D, is CLEAR _____

B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is
CLEAR _____

[68] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[69] **POSITION** TS/431C, Overtemp ΔT Trip, at 2-R-10 to the right
(TRIP). _____

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6.11 Overtemperature Delta T Reactor Trip (continued)

[70] **VERIFY** the following:

- A. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OT Δ T TRIP TS-68-44D, is in ALARM _____
- B. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP Δ T, is in ALARM _____

[71] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[72] **POSITION** the following:

- A. TS/411C, Overtemp Δ T Trip, at 2-R-2 to the right (TRIP) _____
- B. TS/441C, Overtemp Δ T Trip, at 2-R-13 to the right (TRIP) _____

[73] **VERIFY** the following:

- A. Trip Status Light 10 (2-XX-55-5, 2-M-5), LOOP 1 OT Δ T TRIP TS-68-2D, is in ALARM _____
- B. Trip Status Light 30 (2-XX-55-5, 2-M-5), LOOP 2 OT Δ T TRIP TS-68-25D, is in ALARM _____
- C. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OT Δ T TRIP TS-68-44D, is in ALARM _____
- D. Trip Status Light 70 (2-XX-55-5, 2-M-5), LOOP 4 OT Δ T TRIP TS-68-67D, is in ALARM _____
- E. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP Δ T, is in ALARM _____

[74] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.11 **Overtemperature Delta T Reactor Trip (continued)**

[75] **ENSURE** the following:

- A. TS/411C, Overtemp ΔT Trip, at 2-R-2 to the left
(NORMAL) _____
- B. TS/421C, Overtemp ΔT Trip, at 2-R-6 to the left
(NORMAL) _____
- C. TS/431C, Overtemp ΔT Trip, at 2-R-10 to the left
(NORMAL) _____
- D. TS/441C, Overtemp ΔT Trip, at 2-R-13 to the left
(NORMAL) _____

[76] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[77] **VERIFY** the following:

- A. Trip Status Light 10 (2-XX-55-5, 2-M-5), LOOP 1 OT ΔT
TRIP TS-68-2D, is CLEAR _____
- B. Trip Status Light 30 (2-XX-55-5, 2-M-5), LOOP 2 OT ΔT
TRIP TS-68-25D, is CLEAR _____
- C. Trip Status Light 50 (2-XX-55-5, 2-M-5), LOOP 3 OT ΔT
TRIP TS-68-44D, is CLEAR _____
- D. Trip Status Light 70 (2-XX-55-5, 2-M-5), LOOP 4 OT ΔT
TRIP TS-68-67D, is CLEAR _____
- E. Annunciator 123C (2-XA-55-6B, 2-M-6), OVERTEMP ΔT
TRIP ALERT, is CLEAR _____
- F. Annunciator 76C (2-XA-55-4D, 2-M-4), OVERTEMP ΔT , is
CLEAR _____

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6.11 Overtemperature Delta T Reactor Trip (continued)

[78] **VERIFY** the following computer points:

- A. T0403D, OVER TEMP DELTA T LP1 PARTIAL RX TRI,
 indicates NOT TR _____
- B. T0423D, OVER TEMP DELTA T LP2 PARTIAL RX TRI,
 indicates NOT TR _____
- C. T0443D, OVER TEMP DELTA T LP3 PARTIAL RX TRI,
 indicates NOT TR _____
- D. T0463D, OVER TEMP DELTA T LP4 PARTIAL RX TRI,
 indicates NOT TR _____
- E. T0498D, RCL OVERTEMP DT CAUSES RX TRIP,
 indicates NOT TR _____

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6.12 Overpower Delta T Reactor Trip

NOTE

The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.

[1] **ENSURE** prerequisites listed in Section 4.0 for subsection 6.12 have been completed. _____

[2] **ENSURE** the following:

A. TS/411G, Overpower ΔT Trip, at 2-R-02 in NORMAL _____

B. TS/421G, Overpower ΔT Trip, at 2-R-6 to the left (NORMAL) _____

C. TS/431G, Overpower ΔT Trip, at 2-R-10 to the left (NORMAL) _____

D. TS/441G, Overpower ΔT Trip, at 2-R-13 to the left (NORMAL) _____

[3] **VERIFY** the following:

A. Trip Status Light 11 (2-XX-55-5, 2-M-5), LOOP 1 OP ΔT TRIP TS-68-2G, is CLEAR _____

B. Trip Status Light 31 (2-XX-55-5, 2-M-5), LOOP 2 OP ΔT TRIP TS-68-25G, is CLEAR _____

C. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OP ΔT TRIP TS-68-44G, is CLEAR _____

D. Trip Status Light 71 (2-XX-55-5, 2-M-5), LOOP 4 OP ΔT TRIP TS-68-67G, is CLEAR _____

E. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER ΔT TRIP ALERT, is CLEAR _____

F. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT , is CLEAR _____

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6.12 Overpower Delta T Reactor Trip (continued)

- [4] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [5] **POSITION** TS/411G, Overpower Δ T Trip, at 2-R-2 to the right (TRIP). _____
- [6] **VERIFY** the following:
- A. Trip Status Light 11 (2-XX-55-5, 2-M-5), LOOP 1 OP Δ T TRIP TS-68-2G, is in ALARM _____
 - B. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER Δ T TRIP ALERT, is in ALARM _____
 - C. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER Δ T, is CLEAR _____
 - D. Unit 2 Event Display Monitor indicates 122-C OVERPOWER DT TRIP ALERT is in ALARM (Red) _____
- [7] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [8] **VERIFY** the following Computer Points:
- A. T0400D, OVER PWR DELTA T LP1 PARTIAL RX TRIP, indicates TRIP _____
 - B. T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates NOT TR _____
- [9] **POSITION** TS/411G, Overpower Δ T Trip, at 2-R-02 in NORMAL. _____

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6.12 Overpower Delta T Reactor Trip (continued)

[10] **VERIFY** the following:

- A. Trip Status Light 11 (2-XX-55-5, 2-M-5), LOOP 1 OPΔT TRIP TS-68-2G, is CLEAR _____
- B. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER ΔT TRIP ALERT, is CLEAR _____
- C. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is CLEAR _____
- D. Unit 2 Event Display Monitor indicates 122-C OVERPOWER DT TRIP ALERT is in NORMAL (Blue) _____

[11] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[12] **VERIFY** the following Computer Points:

- A. T0400D, OVER PWR DELTA T LP1 PARTIAL RX TRIP, indicates NOT TR _____
- B. T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates NOT TR _____

[13] **POSITION** TS/421G, Overpower ΔT Trip, at 2-R-6 to the right (TRIP). _____

[14] **VERIFY** the following:

- A. Trip Status Light 31 (2-XX-55-5, 2-M-5), LOOP 2 OPΔT TRIP TS-68-25G, is in ALARM. _____
- B. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER ΔT TRIP ALERT, is in ALARM. _____
- C. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is CLEAR _____

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6.12 Overpower Delta T Reactor Trip (continued)

[15] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[16] **VERIFY** the following Computer Points:

A. T0420D, OVER PWR DELTA T LP2 PARTIAL RX TRIP, indicates TRIP _____

B. T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates NOT TR _____

[17] **POSITION** TS/421G, Overpower Δ T Trip, at 2-R-6 to the left (NORMAL) _____

[18] **VERIFY** the following:

A. Trip Status Light 31 (2-XX-55-5, 2-M-5), LOOP 2 OP Δ T TRIP TS-68-25G, is CLEAR. _____

B. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER Δ T TRIP ALERT, is CLEAR. _____

C. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER Δ T, is CLEAR _____

[19] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[20] **VERIFY** the following Computer Points:

A. T0420D, OVER PWR DELTA T LP2 PARTIAL RX TRIP, indicates NOT TR _____

B. T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates NOT TR _____

[21] **POSITION** TS/431G, Overpower Δ T Trip, at 2-R-10 to the right (TRIP). _____

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6.12 Overpower Delta T Reactor Trip (continued)

[22] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OPΔT TRIP TS-68-44G, is in ALARM. _____
- B. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER ΔT TRIP ALERT, is in ALARM. _____
- C. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is CLEAR _____

[23] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[24] **VERIFY** the following Computer Points:

- A. T0440D, OVER PWR DELTA T LP3 PARTIAL RX TRIP, indicates TRIP _____
- B. T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates NOT TR _____

[25] **POSITION** TS/431G, Overpower ΔT Trip, at 2-R-10 to the left (NORMAL). _____

[26] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OPΔT TRIP TS-68-44G, is CLEAR. _____
- B. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER ΔT TRIP ALERT, is CLEAR. _____
- C. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is CLEAR _____

[27] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.12 Overpower Delta T Reactor Trip (continued)

[28] **VERIFY** the following Computer Points:

- A. T0440D, OVER PWR DELTA T LP3 PARTIAL RX TRIP, indicates NOT TR _____
- B. T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates NOT TR _____

[29] **POSITION** TS/441G, Overpower Δ T Trip, at 2-R-13 to the right (TRIP). _____

[30] **VERIFY** the following:

- A. Trip Status Light 71 (2-XX-55-5, 2-M-5), LOOP 4 OP Δ T TRIP TS-68-67G, is in ALARM. _____
- B. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER Δ T TRIP ALERT, is in ALARM. _____
- C. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER Δ T, is CLEAR _____

[31] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[32] **VERIFY** the following Computer Points:

- A. T0460D, OVER PWR DELTA T LP4 PARTIAL RX TRIP, indicates TRIP _____
- B. T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates NOT TR _____

[33] **POSITION** TS/441G, Overpower Δ T Trip, at 2-R-13 to the left (NORMAL). _____

[34] **VERIFY** the following:

- A. Trip Status Light 71 (2-XX-55-5, 2-M-5), LOOP 4 OP Δ T TRIP TS-68-67G, is CLEAR. _____

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B. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER
 Δ T TRIP ALERT, is CLEAR. _____

C. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER Δ T,
is CLEAR _____

[35] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[36] **VERIFY** the following Computer Points:

A. T0460D, OVER PWR DELTA T LP4 PARTIAL RX TRIP,
indicates NOT TR _____

B. T0499D, RCL OVERPWR DT CAUSES RX TRIP,
indicates NOT TR _____

[37] **POSITION** the following:

A. TS/411G, Overpower Δ T Trip, at 2-R-2 to the right (TRIP) _____

B. TS/421G, Overpower Δ T Trip, at 2-R-6 to the right (TRIP) _____

[38] **VERIFY** the following:

A. Trip Status Light 11 (2-XX-55-5, 2-M-5), LOOP 1 OP Δ T
TRIP TS-68-2G, is in ALARM _____

B. Trip Status Light 31 (2-XX-55-5, 2-M-5), LOOP 2 OP Δ T
TRIP TS-68-25G, is in ALARM _____

C. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER
 Δ T TRIP ALERT, is in ALARM. _____

D. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER Δ T,
is in ALARM _____

E. Unit 2 Event Display Monitor indicates 76-D RT-
OVERPOWER DT is in ALARM (Red) _____

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6.12 Overpower Delta T Reactor Trip (continued)

[39] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[40] **VERIFY** Computer Point T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates TRIP. _____

[41] **POSITION** TS/421G, Overpower Δ T Trip, at 2-R-6 to the left (NORMAL). _____

[42] **VERIFY** the following:

A. Trip Status Light 31 (2-XX-55-5, 2-M-5), LOOP 2 OP Δ T TRIP TS-68-25G, is CLEAR _____

B. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER Δ T TRIP ALERT, is in ALARM. _____

C. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER Δ T, is CLEAR _____

D. Unit 2 Event Display Monitor indicates 76-D RT-OVERPOWER DT is in NORMAL (Blue) _____

[43] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[44] **VERIFY** Computer Point T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates NOT TR. _____

[45] **POSITION** TS/431G, Overpower Δ T Trip, at 2-R-10 to the right (TRIP). _____

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6.12 Overpower Delta T Reactor Trip (continued)

[46] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OPΔT TRIP TS-68-44G, is in ALARM _____
- B. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is in ALARM _____

[47] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[48] **POSITION** TS/431G, Overpower ΔT Trip, at 2-R-10 to the left (NORMAL). _____

[49] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OPΔT TRIP TS-68-44G, is CLEAR. _____
- B. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is CLEAR. _____

[50] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[51] **POSITION** TS/441G, Overpower ΔT Trip, at 2-R-13 to the right (TRIP). _____

[52] **VERIFY** the following:

- A. Trip Status Light 71 (2-XX-55-5, 2-M-5), LOOP 4 OPΔT TRIP TS-68-67G, is in ALARM _____
- B. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is in ALARM _____

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6.12 Overpower Delta T Reactor Trip (continued)

[53] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[54] **POSITION** the following:

A. TS/411G, Overpower Δ T Trip, at 2-R-2 to the left (NORMAL). _____

B. TS/441G, Overpower Δ T Trip, at 2-R-13 to the left (NORMAL) _____

[55] **VERIFY** the following:

A. Trip Status Light 11 (2-XX-55-5, 2-M-5), LOOP 1 OP Δ T TRIP TS-68-2G, is CLEAR _____

B. Trip Status Light 71 (2-XX-55-5, 2-M-5), LOOP 4 OP Δ T TRIP TS-68-67G, is CLEAR _____

C. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER Δ T TRIP ALERT, is CLEAR _____

D. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER Δ T, is CLEAR _____

[56] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[57] **POSITION** the following:

A. TS/421G, Overpower Δ T Trip, at 2-R-6 to the right (TRIP). _____

B. TS/431G, Overpower Δ T Trip, at 2-R-10 to the right (TRIP). _____

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6.12 Overpower Delta T Reactor Trip (continued)

[58] **VERIFY** the following:

- A. Trip Status Light 31 (2-XX-55-5, 2-M-5), LOOP 2 OPΔT TRIP TS-68-25G, is in ALARM _____
- B. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OPΔT TRIP TS-68-44G, is in ALARM _____
- C. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER ΔT TRIP ALERT, is in ALARM _____
- D. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is in ALARM _____

[59] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[60] **POSITION** TS/431G, Overpower ΔT Trip, at 2-R-10 to the left (NORMAL). _____

[61] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OPΔT TRIP TS-68-44G, is CLEAR _____
- B. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is CLEAR _____

[62] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[63] **POSITION** TS/441G, Overpower ΔT Trip, at 2-R-13 to the right (TRIP). _____

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6.12 Overpower Delta T Reactor Trip (continued)

[64] **VERIFY** the following:

- A. Trip Status Light 71 (2-XX-55-5, 2-M-5), LOOP 4 OPΔT TRIP TS-68-67G, is in ALARM _____
- B. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is in ALARM _____

[65] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[66] **POSITION** TS/421G, Overpower ΔT Trip, at 2-R-6 to the left (NORMAL). _____

[67] **VERIFY** the following:

- A. Trip Status Light 31 (2-XX-55-5, 2-M-5), LOOP 2 OPΔT TRIP TS-68-25G, is CLEAR _____
- B. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is CLEAR _____

[68] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[69] **POSITION** TS/431G, Overpower ΔT Trip, at 2-R-10 to the right (TRIP). _____

[70] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OPΔT TRIP TS-68-44G, is in ALARM _____
- B. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is in ALARM _____

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6.12 Overpower Delta T Reactor Trip (continued)

[71] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[72] **POSITION** the following:

A. TS/431G, Overpower Δ T Trip, at 2-R-10 to the left (NORMAL) _____

B. TS/441G, Overpower Δ T Trip, at 2-R-13 to the left (NORMAL) _____

[73] **VERIFY** the following:

A. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OP Δ T TRIP TS-68-44G, is CLEAR _____

B. Trip Status Light 71 (2-XX-55-5, 2-M-5), LOOP 4 OP Δ T TRIP TS-68-67G, is CLEAR _____

C. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER Δ T TRIP ALERT, is CLEAR _____

D. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER Δ T, is CLEAR _____

[74] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[75] **POSITION** the following:

A. TS/411G, Overpower Δ T Trip, at 2-R-2 to the right (TRIP) _____

B. TS/421G, Overpower Δ T Trip, at 2-R-6 to the right (TRIP) _____

C. TS/431G, Overpower Δ T Trip, at 2-R-10 to the right (TRIP) _____

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6.12 Overpower Delta T Reactor Trip (continued)

- D. TS/441G, Overpower ΔT Trip, at 2-R-13 to the right (TRIP) _____

[76] **VERIFY** the following:

- A. Trip Status Light 11 (2-XX-55-5, 2-M-5), LOOP 1 OP ΔT TRIP TS-68-2G, is in ALARM _____
- B. Trip Status Light 31 (2-XX-55-5, 2-M-5), LOOP 2 OP ΔT TRIP TS-68-25G, is in ALARM _____
- C. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OP ΔT TRIP TS-68-44G, is in ALARM _____
- D. Trip Status Light 71 (2-XX-55-5, 2-M-5), LOOP 4 OP ΔT TRIP TS-68-67G, is in ALARM _____
- E. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER ΔT TRIP ALERT, is in ALARM _____
- F. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT , is in ALARM _____

[77] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[78] **POSITION** the following:

- A. TS/411G, Overpower ΔT Trip, at 2-R-2 to the left (NORMAL). _____
- B. TS/421G, Overpower ΔT Trip, at 2-R-6 to the left (NORMAL) _____
- C. TS/431G, Overpower ΔT Trip, at 2-R-10 to the left (NORMAL) _____
- D. TS/441G, Overpower ΔT Trip, at 2-R-13 to the left (NORMAL) _____

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6.12 Overpower Delta T Reactor Trip (continued)

[79] **VERIFY** the following:

- A. Trip Status Light 11 (2-XX-55-5, 2-M-5), LOOP 1 OPΔT TRIP TS-68-2G, is CLEAR _____
- B. Trip Status Light 31 (2-XX-55-5, 2-M-5), LOOP 2 OPΔT TRIP TS-68-25G, is CLEAR _____
- C. Trip Status Light 51 (2-XX-55-5, 2-M-5), LOOP 3 OPΔT TRIP TS-68-44G, is CLEAR _____
- D. Trip Status Light 71 (2-XX-55-5, 2-M-5), LOOP 4 OPΔT TRIP TS-68-67G, is CLEAR _____
- E. Annunciator 122C (2-XA-55-6B, 2-M-6), OVERPOWER ΔT TRIP ALERT, is CLEAR _____
- F. Annunciator 76D (2-XA-55-4D, 2-M-4), OVERPOWER ΔT, is CLEAR _____

[80] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[81] **VERIFY** the following computer points:

- A. T0400D,OVER PWR DELTA T LP1 PARTIAL RX TRIP, indicates NOT TR _____
- B. T0420D,OVER PWR DELTA T LP2 PARTIAL RX TRIP, indicates NOT TR _____
- C. T0440D,OVER PWR DELTA T LP3 PARTIAL RX TRIP, indicates NOT TR _____
- D. T0460D,OVER PWR DELTA T LP4 PARTIAL RX TRIP, indicates NOT TR _____
- E. T0499D, RCL OVERPWR DT CAUSES RX TRIP, indicates NOT TR _____

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6.13 Reactor Coolant Low Flow Reactor Trip

NOTES

- 1) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables listed in this subsection.
- 2) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.
- 3) The NC41N, NC42N, NC43N and NC44N bistables setpoint for P-8 is 48%. The NC41S, NC42S, NC43S and NC44S bistables setpoint for P-9 is 50%. When tripping the P-8 bistables, if the test signal pots are adjusted slightly higher the P-9 bistables may alarm but will clear once below the setpoint.
- 4) 4 separate 120 VAC monitored, variable power supplies will be required
- 5) Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.
- 6) During manipulation of the Power Range potentiometers, if indicated power level is increased greater than 5% within 2 seconds a PR Rate Trip bistable will occur. If this condition is encountered the bistable can be cleared by holding the Rate Mode switch in RESET until the Positive Rate TRIP lamp on the drawer clears then releasing the switch.

[1] **ENSURE** prerequisites listed in Section 4.0 for Subsection 6.13 have been completed. _____

[2] **ENSURE** the following: _____

A. FS/414A, RC Flow Lp1 CH 1, at 2-R-1 to the left (NORMAL). _____

B. FS/424A, RC Flow LP 2 CH 1, at 2-R-1 to the left (NORMAL). _____

C. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the left (NORMAL) _____

D. FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the left (NORMAL) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- E. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the left
(NORMAL) _____
- F. FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the left
(NORMAL) _____
- G. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the left
(NORMAL) _____
- H. FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the left
(NORMAL) _____
- I. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the left
(NORMAL) _____
- J. FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the left
(NORMAL) _____
- K. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the left
(NORMAL) _____
- L. FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the left
(NORMAL) _____
- M. NC41N, PR CH 1 POWER ABOVE PERMISSIVE P8
bistable at 2-M-13 in NORMAL _____
- N. NC42N, PR CH 2 POWER ABOVE PERMISSIVE P8
bistable at 2-M-13 in NORMAL _____
- O. NC43N, PR CH 3 POWER ABOVE PERMISSIVE P8
bistable at 2-M-13 in NORMAL _____
- P. NC44N, PR CH 4 POWER ABOVE PERMISSIVE P8
bistable at 2-M-13 in NORMAL _____
- Q. NC41M, PR CH 1 POWER ABOVE PERMISSIVE P10
bistable, at 2-M-13 in NORMAL _____
- R. NC42M, PR CH 2 POWER ABOVE PERMISSIVE P10
bistable, at 2-M-13 in NORMAL _____
- S. NC43M, PR CH 3 POWER ABOVE PERMISSIVE P10
bistable, at 2-M-13 in NORMAL _____

Date _____

6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- T. NC44M, PR CH 4 POWER ABOVE PERMISSIVE P10
bistable, at 2-M-13 in NORMAL _____
- U. PS/505A, HI Press to P-7, at 2-R-4 to the left (NORMAL) _____
- V. PS/506A, HI Press to P-7, at 2-R-8 to the left (NORMAL) _____

<p style="text-align: center;">CAUTION</p> <p>118 VAC is present in the following step.</p>
--

<p style="text-align: center;">NOTE</p> <p>Steps 6.13[3] through 6.13[5] will energize the NC41M and NC42M Power Range P-10 Permissive bistables and NC41P and NC42P Power Range High Flux Lo Setpoint Trip bistables to prevent an unwanted reactor trip during the execution of this section.</p>
--

[3] **LIFT** the following internal/vendor leads:

2-M-13, NIS Rack I/Rear

- A. TB124, Terminal 1 _____
CV
- B. TB124, Terminal 2 _____
CV
- C. TB124, Terminal 7 _____
CV
- D. TB124, Terminal 8 _____
CV

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

2-M-13, NIS Rack II/Rear

E. TB224, Terminal 1

CV

F. TB224, Terminal 2

CV

G. TB224, Terminal 7

CV

H. TB224, Terminal 8

CV

[4] **CONNECT** separate 120 VAC monitored, variable power supplies across each of the following sets of terminal points:

A. TB124, Terminals 1,2 (NIS Rack I/Rear/2-M-13)

CV

M&TE _____ Cal Due Date _____

B. TB124, Terminals 7,8 (NIS Rack I/Rear/2-M-13)

CV

M&TE _____ Cal Due Date _____

C. TB224, Terminals 1,2 (NIS Rack II/Rear/2-M-13)

CV

M&TE _____ Cal Due Date _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

D. TB224, Terminals 7,8 (NIS Rack II/Rear/2-M-13) _____

CV

M&TE _____ Cal Due Date _____

[5] **ENERGIZE** each of the following power supplies connected in Step 6.13[4] to 118-120 VAC.

A. TB124, Terminals 1,2 (NIS Rack I/Rear/2-M-13) _____

B. TB124, Terminals 7,8 (NIS Rack I/Rear/2-M-13) _____

C. TB224, Terminals 1,2 (NIS Rack II/Rear/2-M-13) _____

D. TB224, Terminals 7,8 (NIS Rack II/Rear/2-M-13) _____

[6] **VERIFY** the following:

A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6A, is CLEAR _____

B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6B, is CLEAR _____

C. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6D, is CLEAR _____

D. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW
LO FS-68-29A, is CLEAR _____

E. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW
LO FS-68-29B, is CLEAR _____

F. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW
LO FS-68-29D, is CLEAR _____

G. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48A, is CLEAR _____

H. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48B, is CLEAR _____

I. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48D, is CLEAR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- J. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW
LO FS-68-71A, is CLEAR _____
- K. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW
LO FS-68-71B, is CLEAR _____
- L. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW
LO FS-68-71D, is CLEAR _____
- M. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW
LO, is CLEAR _____
- N. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP
FLOW LO, is CLEAR _____
- O. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR
FLOW TRIPS BLOCKED, is in ALARM _____
- P. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is in ALARM _____
- Q. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is in ALARM _____
- R. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1
FLOW LO, is CLEAR. _____
- S. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2
FLOW LO, is CLEAR. _____
- T. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3
FLOW LO, is CLEAR. _____
- U. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4
FLOW LO, is CLEAR. _____

[7] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[8] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC41N bistable, at 2-M-13 in TRIPPED _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC42N bistable, at 2-M-13 in TRIPPED _____
- C. PS/505A, HI Press to P-7, at 2-R-4 to the right (TRIP) _____

[9] **VERIFY** the following:

- A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-73A, is in ALARM _____
- B. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is in ALARM _____
- C. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is in ALARM _____
- D. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- F. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIPS BLOCKED, is CLEAR _____
- G. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR _____
- H. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR _____

[10] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[11] **POSITION** FS/414A, RC Flow LP 1 CH 1, at 2-R-1 to the right (TRIP). _____

[12] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is in ALARM. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is in ALARM. _____
- E. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____
- F. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR. _____
- G. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____
- H. Unit 2 Event Display Monitor indicates 120-B RCS LOOP 1 FLOW LO is in ALARM (Red) _____

[13] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[14] **VERIFY** Computer Point F0400D, RCL1 1 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____

[15] **POSITION** FS/414A, RC Flow LP 1 CH 1, at 2-R-1 to the left (NORMAL). _____

[16] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is CLEAR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- B. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is CLEAR. _____
- C. Unit 2 Event Display Monitor indicates 120-B RCS LOOP 1 FLOW LO is in NORMAL (Blue) _____
- [17] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [18] **VERIFY** Computer Point F0400D, RCL1 1 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____
- [19] **POSITION** FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the right (TRIP). _____
- [20] **VERIFY** the following:
 - A. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is in ALARM. _____
 - B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
 - C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
 - D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is in ALARM. _____
 - E. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____
 - F. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR. _____
 - G. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[21] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[22] **VERIFY** Computer Point F0401D, RCL1 2 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____

[23] **POSITION** FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the left (NORMAL). _____

[24] **VERIFY** the following:

A. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is CLEAR. _____

B. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is CLEAR. _____

[25] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[26] **VERIFY** Computer Point F0401D, RCL1 2 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____

[27] **POSITION** FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the right (TRIP). _____

[28] **VERIFY** the following:

A. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6D, is in ALARM. _____

B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is in ALARM. _____
- E. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____
- F. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR. _____
- G. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____
- [29] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [30] **VERIFY** Computer Point F0402D, RCL1 3 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____
- [31] **POSITION** FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the left (NORMAL). _____
- [32] **VERIFY** the following:
 - A. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6D, is CLEAR. _____
 - B. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is CLEAR. _____
- [33] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [34] **VERIFY** Computer Point F0402D, RCL1 3 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[35] **POSITION** the following:

- A. FS/414A, RC Flow LP 1 CH1, at 2-R-1 to the right (TRIP). _____
- B. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the right (TRIP). _____

[36] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is in ALARM. _____
- B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is in ALARM. _____
- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM. _____
- D. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- E. Annunciator 70C (XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIP BLOCKED, is CLEAR _____

[37] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[38] **VERIFY** the following computer points:

- A. Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates TRIP _____
- B. Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____

[39] **POSITION** FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the left (NORMAL). _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[40] **VERIFY** the following:

- A. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is CLEAR. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR. _____

[41] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[42] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

[43] **POSITION** FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the right (TRIP). _____

[44] **VERIFY** the following:

- A. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6D, is in ALARM. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM. _____
- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

[45] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[46] **VERIFY** the following computer points:

- A. Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates TRIP _____
- B. Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- [47] **POSITION** FS/414A, RC Flow LP 1 CH 1, at 2-R-1 to the left (NORMAL). _____
- [48] **VERIFY** the following:
- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is in CLEAR. _____
 - B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR. _____
- [49] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [50] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____
- [51] **POSITION** FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the right (TRIP). _____
- [52] **VERIFY** the following:
- A. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is in ALARM. _____
 - B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM. _____
 - C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- [53] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[54] **VERIFY** the following computer points:

- A. Computer Point F0403D, RCL LO FLOW ABOVE P-8
CAUSES RX TRIP, indicates TRIP. _____
- B. Computer Point F0423D, RCL LO FLOW ABOVE P-7
CAUSES RX TRIP, indicates NOT TR. _____

[55] **POSITION** the following:

- A. FS/415A, RC Flow LP 1 CH2, at 2-R-5 to the left
(NORMAL) _____
- B. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the left
(NORMAL) _____

[56] **VERIFY** the following:

- A. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6B, is CLEAR. _____
- B. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6D, is CLEAR. _____
- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW
LO, is CLEAR. _____

[57] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[58] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8
CAUSES RX TRIP, indicates NOT TR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[59] **POSITION** the following:

- A. FS/414A, RC Flow LP 1 CH1, at 2-R-1 to the right (TRIP) _____
- B. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the right (TRIP) _____
- C. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the right (TRIP) _____

[60] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is in ALARM. _____
- B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is in ALARM. _____
- C. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6D, is in ALARM. _____
- D. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM. _____
- E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

[61] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[62] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC41N bistable, at 2-M-13 in NORMAL _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC42N bistable, at 2-M-13 in NORMAL _____
- C. PS/505A, HI Press to P-7, at 2-R-4 to the left (NORMAL) _____

[63] **VERIFY** the following:

- A. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- B. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- C. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIPS BLOCKED, is in ALARM _____
- D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____
- E. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM _____

[64] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[65] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[66] **POSITION** the following:

- A. FS/414A, RC Flow LP 1 CH1, at 2-R-1 to the left
(NORMAL) _____
- B. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the left
(NORMAL) _____
- C. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the left
(NORMAL) _____

[67] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6A, is CLEAR. _____
- B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6B, is CLEAR. _____
- C. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6D, is CLEAR. _____
- D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1
FLOW LO, is CLEAR. _____
- E. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW
LO, is CLEAR _____
- F. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP
FLOW LO, is CLEAR _____

[68] **VERIFY** the following:

- A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR
> P13 PS-1-73A, is in ALARM _____
- B. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is
in ALARM _____
- C. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N,
is in ALARM _____
- D. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR
FLOW TRIPS BLOCKED, is CLEAR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- E. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR _____
- F. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR _____
- [69] **POSITION** FS/424A, RC Flow LP 2 CH 1, at 2-R-1 to the right (TRIP). _____
- [70] **POSITION** the following:
 - A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC41N bistable, at 2-M-13 in TRIPPED. _____
 - B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC42N bistable, at 2-M-13 in TRIPPED. _____
 - C. PS/505A, HI Press to P-7, at 2-R-4 to the right (TRIP). _____
- [71] **VERIFY** the following:
 - A. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29A, is in ALARM. _____
 - B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
 - C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
 - D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is CLEAR. _____
 - E. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is in ALARM. _____
 - F. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR. _____
 - G. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- H. Unit 2 Event Display Monitor indicates 121-B RCS LOOP 2 FLOW LO is in ALARM (Red) _____
- [72] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [73] **VERIFY** Computer Point F0420D, RCL2 1 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____
- [74] **POSITION** FS/424A, RC Flow LP 2 CH 1, at 2-R-1 to the left (NORMAL). _____
- [75] **VERIFY** the following:
 - A. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29A, is CLEAR. _____
 - B. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____
 - C. Unit 2 Event Display Monitor indicates 121-B RCS LOOP 2 FLOW LO is in NORMAL (Blue) _____
- [76] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [77] **VERIFY** Computer Point F0420D, RCL2 1 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____
- [78] **POSITION** FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the right (TRIP). _____
- [79] **VERIFY** the following:
 - A. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is in ALARM. _____

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- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- D. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is in ALARM. _____
- [80] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [81] **VERIFY** Computer Point F0421D, RCL2 2 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____
- [82] **POSITION** FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the left (NORMAL). _____
- [83] **VERIFY** the following:
 - A. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is CLEAR. _____
 - B. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____
- [84] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [85] **VERIFY** Computer Point F0421D, RCL2 2 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____
- [86] **POSITION** FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the right (TRIP). _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[87] **VERIFY** the following:

- A. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29D, is in ALARM. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- D. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is in ALARM. _____

[88] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[89] **VERIFY** Computer Point F0422D, RCL2 3 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____

[90] **POSITION** FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the left (NORMAL). _____

[91] **VERIFY** the following:

- A. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29D, is CLEAR. _____
- B. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____

[92] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[93] **VERIFY** Computer Point F0422D, RCL2 3 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[94] **POSITION** the following:

- A. FS/424A, RC Flow LP 2 CH1, at 2-R-1 to the right (TRIP). _____
- B. FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the right (TRIP). _____

[95] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29A, is in ALARM. _____
- B. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is in ALARM. _____
- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____
- D. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- E. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is in ALARM _____

[96] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[97] **VERIFY** the following:

- A. Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates TRIP _____
- B. Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____

[98] **POSITION** FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the left (NORMAL). _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[99] **VERIFY** the following:

- A. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is CLEAR. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR. _____

[100] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[101] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR _____

[102] **POSITION** FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the right (TRIP). _____

[103] **VERIFY** the following:

- A. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29D, is in ALARM. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____
- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

[104] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[105] **VERIFY** the following:

- A. Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates TRIP _____
- B. Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[106] **POSITION** FS/424A, RC Flow LP 2 CH 1, at 2-R-1 to the left (NORMAL). _____

[107] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29A, is CLEAR. _____

B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR. _____

[108] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[109] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR _____

[110] **POSITION** FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the right (TRIP). _____

[111] **VERIFY** the following:

A. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is in ALARM. _____

B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____

C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

[112] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[113] **VERIFY** the following:

- A. Computer Point F0403D, RCL LO FLOW ABOVE P-8
CAUSES RX TRIP, indicates TRIP _____
- B. Computer Point F0423D, RCL LO FLOW ABOVE P-7
CAUSES RX TRIP, indicates NOT TR _____

[114] **POSITION** the following:

- A. FS/425A, RC Flow LP 2 CH2, at 2-R-5 to the left
(NORMAL). _____
- B. FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the left
(NORMAL). _____

[115] **VERIFY** the following:

- A. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW
LO FS-68-29B, is CLEAR. _____
- B. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW
LO FS-68-29D, is CLEAR. _____
- C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW
LO, is CLEAR. _____

[116] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[117] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8
CAUSES RX TRIP, indicates NOT TR _____

[118] **POSITION** the following:

- A. FS/424A, RC Flow LP 2 CH1, at 2-R-1 to the right (TRIP). _____
- B. FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the right
(TRIP). _____
- C. FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the right
(TRIP). _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[119] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29A, is in ALARM. _____
- B. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is in ALARM. _____
- C. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29D, is in ALARM. _____
- D. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____
- E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

[120] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[121] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC41N bistable, at 2-M-13 in NORMAL _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC42N bistable, at 2-M-13 in NORMAL _____
- C. PS/505A, HI Press to P-7, at 2-R-4 to the left (NORMAL) _____

[122] **VERIFY** the following:

- A. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- B. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- C. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIPS BLOCKED, is in ALARM _____
- D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____
- E. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM _____

[123] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[124] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

[125] **POSITION** the following:

- A. FS/424A, RC Flow LP 2 CH1, at 2-R-1 to the left (NORMAL). _____
- B. FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the left (NORMAL). _____
- C. FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the left (NORMAL). _____

[126] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29A, is CLEAR. _____
- B. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is CLEAR. _____
- C. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29D, is CLEAR. _____
- D. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____
- E. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- F. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

[127] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC41N bistable, at 2-M-13 in TRIPPED _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC42N bistable, at 2-M-13 in TRIPPED _____
- C. PS/505A, HI Press to P-7, at 2-R-4 to the right (TRIP) _____

[128] **VERIFY** the following:

- A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-73A, is in ALARM _____
- B. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is in ALARM _____
- C. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is in ALARM _____
- D. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIPS BLOCKED, is CLEAR _____
- E. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR _____
- F. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR _____

[129] **POSITION** FS/434A, RC Flow LP 3 CH1, at 2-R-1 to the right (TRIP). _____

[130] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48A, is in ALARM. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is CLEAR. _____
- E. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____
- F. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is in ALARM. _____
- G. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____
- H. Unit 2 Event Display Monitor indicates 122-B RCS LOOP 3 FLOW LO is in ALARM (Red) _____

[131] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[132] **VERIFY** Computer Point F0440D, RCL3 1 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____

[133] **POSITION** FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the left (NORMAL). _____

[134] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48A, is CLEAR. _____
- B. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR. _____
- C. Unit 2 Event Display Monitor indicates 122-B RCS LOOP 3 FLOW LO is in NORMAL (Blue) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[135] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[136] **VERIFY** Computer Point F0440D, RCL3 1 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____

[137] **POSITION** FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the right (TRIP). _____

[138] **VERIFY** the following:

A. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48B, is in ALARM. _____

B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

D. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is in ALARM. _____

[139] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[140] **VERIFY** Computer Point F0441D, RCL3 2 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____

[141] **POSITION** FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the left (NORMAL). _____

[142] **VERIFY** the following:

A. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48B, is CLEAR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- B. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR. _____

[143] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____

- B. UV COIL VOLTAGE Meter (2-R-50) _____

[144] **VERIFY** Computer Point F0441D, RCL3 2 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____

[145] **POSITION** FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the right (TRIP). _____

[146] **VERIFY** the following:

- A. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48D, is in ALARM. _____

- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

- D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is CLEAR. _____

- E. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____

- F. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is in ALARM. _____

- G. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____

[147] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____

- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[148] **VERIFY** Computer Point F0442D, RCL3 3 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____

[149] **POSITION** FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the left (NORMAL). _____

[150] **VERIFY** the following:

A. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48D, is CLEAR. _____

B. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR. _____

[151] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[152] **VERIFY** Computer Point F0442D, RCL3 3 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____

[153] **POSITION** the following:

A. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the right (TRIP). _____

B. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the right (TRIP). _____

[154] **VERIFY** the following:

A. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48A, is in ALARM. _____

B. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48B, is in ALARM. _____

C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM. _____

D. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- E. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3
FLOW LO, is in ALARM _____

[155] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[156] **VERIFY** the following:

- A. Computer Point F0403D, RCL LO FLOW ABOVE P-8
CAUSES RX TRIP, indicates TRIP _____

- B. Computer Point F0423D, RCL LO FLOW ABOVE P-7
CAUSES RX TRIP, indicates NOT TR _____

[157] **POSITION** FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the left
(NORMAL). _____

[158] **VERIFY** the following:

- A. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48B, is CLEAR. _____

- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW
LO, is CLEAR. _____

[159] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____

- B. UV COIL VOLTAGE Meter (2-R-50) _____

[160] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8
CAUSES RX TRIP, indicates NOT TR. _____

[161] **POSITION** FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the right
(TRIP). _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[162] **VERIFY** the following:

- A. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48D, is in ALARM. _____
- B. Annunciator 78D (XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____
- C. Annunciator 78E (XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

[163] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[164] **VERIFY** the following:

- A. Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates TRIP _____
- B. Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____

[165] **POSITION** FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the left (NORMAL). _____

[166] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48A, is CLEAR. _____
- B. Annunciator 78D (XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR. _____

[167] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[168] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[169] **POSITION** FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the right (TRIP). _____

[170] **VERIFY** the following:

A. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48B, is in ALARM. _____

B. Annunciator 78D (XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____

C. Annunciator 78E (XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

[171] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[172] **VERIFY** the following:

A. Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates TRIP _____

B. Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____

[173] **POSITION** the following:

A. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the left (NORMAL). _____

B. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the left (NORMAL). _____

[174] **VERIFY** the following

A. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48B, is CLEAR. _____

B. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48D, is CLEAR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

C. Annunciator 78D (XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR. _____

D. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR _____

[175] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[176] **POSITION** the following:

A. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the right (TRIP). _____

B. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the right (TRIP). _____

C. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the right (TRIP). _____

[177] **VERIFY** the following:

A. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48A, is in ALARM. _____

B. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48B, is in ALARM. _____

C. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48D, is in ALARM. _____

D. Annunciator 78D (XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM _____

E. Annunciator 78E (XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

F. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is in ALARM _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[178] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[179] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

[180] **POSITION** the following:

A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC41N bistable, at 2-M-13 in NORMAL _____

B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is CLEAR to put NC42N bistable, at 2-M-13 in NORMAL _____

C. PS/505A, HI Press to P-7, at 2-R-4 to the left (NORMAL) _____

[181] **VERIFY** the following:

A. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

B. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

C. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIPS BLOCKED, is in ALARM _____

D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____

E. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[182] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[183] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

[184] **POSITION** the following:

A. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the left (NORMAL). _____

B. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the left (NORMAL). _____

C. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the left (NORMAL). _____

[185] **VERIFY** the following:

A. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48A, is CLEAR. _____

B. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48B, is CLEAR. _____

C. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48D, is CLEAR. _____

D. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR. _____

E. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

F. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[186] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC41N bistable, at 2-M-13 in TRIPPED _____
- B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P8 lamp on front of drawer is in ALARM to put NC42N bistable, at 2-M-13 in TRIPPED _____
- C. PS/505A, HI Press to P-7, at 2-R-4 to the right (TRIP) _____

[187] **VERIFY** the following:

- A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR > P13 PS-1-73A, is in ALARM _____
- B. Trip Status Light 4 (2-XX-55-5, 2-M-5), PR >P8 NC41N, is in ALARM _____
- C. Trip Status Light 24 (2-XX-55-5, 2-M-5), PR >P8 NC42N, is in ALARM _____
- D. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIPS BLOCKED, is CLEAR _____
- E. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR _____
- F. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR _____

[188] **POSITION** FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the right (TRIP). _____

[189] **VERIFY** the following:

- A. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71A, is in ALARM. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

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- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is CLEAR. _____
- E. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR. _____
- F. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR. _____
- G. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is in ALARM. _____
- H. Unit 2 Event Display Monitor indicates 123-B RCS LOOP 4 FLOW LO is in ALARM (Red) _____

[190] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[191] **VERIFY** Computer Point F0460D, RCL4 1 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____

[192] **POSITION** FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the left (NORMAL). _____

[193] **VERIFY** the following:

- A. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71A, is CLEAR. _____
- B. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____
- C. Unit 2 Event Display Monitor indicates 123-B RCS LOOP 4 FLOW LO is in NORMAL (Blue) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[194] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[195] **VERIFY** Computer Point F0460D, RCL4 1 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____

[196] **POSITION** FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the right (TRIP). _____

[197] **VERIFY** the following:

A. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is in ALARM. _____

B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

D. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is in ALARM. _____

[198] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[199] **VERIFY** Computer Point F0461D, RCL4 2 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____

[200] **POSITION** FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the left (NORMAL). _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[201] **VERIFY** the following:

- A. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is CLEAR. _____
- B. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____

[202] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[203] **VERIFY** Computer Point F0461D, RCL4 2 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____

[204] **POSITION** FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the right (TRIP). _____

[205] **VERIFY** the following:

- A. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71D, is in ALARM. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- D. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is in ALARM. _____

[206] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[207] **VERIFY** Computer Point F0462D, RCL4 3 LO FLOW PARTIAL RX TRIP, indicates TRIP. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[208] **POSITION** FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the left (NORMAL). _____

[209] **VERIFY** the following:

A. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71D, is CLEAR. _____

B. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____

[210] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[211] **VERIFY** Computer Point F0462D, RCL4 3 LO FLOW PARTIAL RX TRIP, indicates NOT TR. _____

[212] **POSITION** the following:

A. FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the right (TRIP) _____

B. FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the right (TRIP) _____

[213] **VERIFY** the following:

A. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71A, is in ALARM. _____

B. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is in ALARM. _____

C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM. _____

D. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is in CLEAR. _____

E. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is in ALARM. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[214] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[215] **VERIFY** the following:

A. Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates TRIP _____

B. Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____

[216] **POSITION** FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the left (NORMAL). _____

[217] **VERIFY** the following:

A. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is CLEAR. _____

B. Annunciator 78D (XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR. _____

[218] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[219] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

[220] **POSITION** FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the right (TRIP). _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[221] **VERIFY** the following:

- A. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71D, is in ALARM. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM. _____
- C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR. _____

[222] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[223] **VERIFY** the following:

- A. Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates TRIP _____
- B. Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____

[224] **POSITION** FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the left (NORMAL). _____

[225] **VERIFY** the following:

- A. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71A, is CLEAR. _____
- B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR. _____

[226] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[227] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[228] **POSITION** FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the right (TRIP). _____

[229] **VERIFY** the following:

A. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is in ALARM. _____

B. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM. _____

C. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR. _____

[230] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[231] **VERIFY** the following:

A. Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates TRIP _____

B. Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____

[232] **POSITION** the following:

A. FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the left (NORMAL). _____

B. FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the left (NORMAL). _____

[233] **VERIFY** the following:

A. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is CLEAR. _____

B. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71D, is CLEAR. _____

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C. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR. _____

D. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR _____

[234] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[235] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

[236] **POSITION** the following:

A. FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the right (TRIP). _____

B. FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the right (TRIP). _____

C. FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the right (TRIP). _____

[237] **VERIFY** the following:

A. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71A, is in ALARM. _____

B. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is in ALARM. _____

C. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71D, is in ALARM. _____

D. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is in ALARM. _____

E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR. _____

F. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is in ALARM _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[238] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[239] **POSITION** the following:

A. N41 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC41M bistable, at 2-M-13 in NORMAL _____

B. N42 Detector A and, if necessary Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE PERMISSIVE P10 lamp on front of drawer is CLEAR to put NC42M bistable, at 2-M-13 in NORMAL _____

C. PS/505A, HI Press to P-7, at 2-R-4 to the left (NORMAL) _____

[240] **VERIFY** the following:

A. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____

B. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

C. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIPS BLOCKED, is in ALARM _____

D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____

E. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM _____

[241] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[242] **VERIFY** Computer Point F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR. _____

[243] **POSITION** the following: _____

- A. FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the left (NORMAL). _____
- B. FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the left (NORMAL) _____
- C. FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the left (NORMAL). _____

[244] **POSITION** the following: _____

- A. PS/505A, HI Press to P-7, at 2-R-4 to the right (TRIP) _____
- B. FS/414A, RC Flow LP 1 CH 1, at 2-R-1 to the right (TRIP) _____
- C. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the right (TRIP) _____
- D. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the right (TRIP) _____

[245] **VERIFY** the following: _____

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is in ALARM. _____
- B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is in ALARM. _____
- C. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6D, is in ALARM. _____
- D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is in ALARM _____
- E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

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F. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR _____

G. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR _____

[246] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[247] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR. _____

[248] **POSITION** the following:

A. FS/424A, RC Flow LP 2 CH 1, at 2-R-1 to the right (TRIP) _____

B. FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the right (TRIP) _____

C. FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the right (TRIP) _____

[249] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29A, is in ALARM. _____

B. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is in ALARM. _____

C. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29D, is in ALARM _____

D. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is in ALARM. _____

E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is in ALARM. _____

F. Unit 2 Event Display Monitor indicates 78-E RT-TWO LOOP FLOW LO is in ALARM (Red) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[250] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[251] **VERIFY** computer point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates TRIP. _____

[252] **POSITION** the following:

A. FS/414A, RC Flow LP 1 CH 1, at 2-R-1 to the left (NORMAL) _____

B. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the left (NORMAL) _____

C. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the left (NORMAL) _____

[253] **VERIFY** the following:

A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is CLEAR _____

B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is CLEAR _____

C. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6D, is CLEAR _____

D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is CLEAR _____

E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

F. Unit 2 Event Display Monitor indicates 78-E RT-TWO LOOP FLOW LO is in NORMAL (Blue) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[254] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[255] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR. _____

[256] **POSITION** the following:

A. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the right (TRIP). _____

B. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the right (TRIP). _____

C. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the right (TRIP) _____

[257] **VERIFY** the following:

A. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48A, is in ALARM. _____

B. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48B, is in ALARM. _____

C. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48D, is in ALARM. _____

D. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is in ALARM. _____

E. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is ALARM. _____

[258] **VERIFY** computer point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates TRIP. _____

[259] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[260] **POSITION** the following:

- A. FS/424A, RC Flow LP 2 CH 1, at 2-R-1 to the left (NORMAL). _____
- B. FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the left (NORMAL) _____
- C. FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the left (NORMAL) _____

[261] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29A, is CLEAR _____
- B. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is CLEAR _____
- C. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29D, is CLEAR _____
- D. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR _____
- E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____

[262] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[263] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[264] **POSITION** the following:

- A. FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the right (TRIP) _____
- B. FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the right (TRIP) _____
- C. FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the right (TRIP) _____

[265] **VERIFY** the following:

- A. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71A, is in ALARM _____
- B. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is in ALARM _____
- C. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71D, is in ALARM _____
- D. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is in ALARM. _____
- E. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is ALARM. _____

[266] **VERIFY** computer point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates TRIP. _____

[267] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[268] **POSITION** the following:

- A. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the left
(NORMAL) _____
- B. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the left
(NORMAL) _____
- C. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the left
(NORMAL) _____

[269] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48A, is CLEAR _____
- B. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48B, is CLEAR _____
- C. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48D, is CLEAR _____
- D. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3
FLOW LO, is CLEAR. _____
- E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP
FLOW LO, is CLEAR _____

[270] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47). _____
- B. UV COIL VOLTAGE Meter (2-R-50). _____

[271] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7
CAUSES RX TRIP, indicates NOT TR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[272] **POSITION** the following:

- A. FS/414A, RC Flow LP 1 CH 1, at 2-R-1 to the right (TRIP) _____
- B. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the right (TRIP) _____
- C. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the right (TRIP) _____

[273] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6A, is in ALARM. _____
- B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6B, is in ALARM. _____
- C. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW LO FS-68-6D, is in ALARM. _____
- D. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is in ALARM _____
- E. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is in ALARM. _____

[274] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[275] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates TRIP. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[276] **POSITION** the following:

- A. FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the left (NORMAL). _____
- B. FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the left (NORMAL). _____
- C. FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the left (NORMAL). _____

[277] **VERIFY** the following:

- A. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71A, is CLEAR. _____
- B. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is CLEAR. _____
- C. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71D, is CLEAR. _____
- D. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR. _____
- E. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR. _____

[278] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[279] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[280] **POSITION** the following:

- A. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the right (TRIP). _____
- B. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the right (TRIP). _____
- C. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the right (TRIP) _____

[281] **VERIFY** the following:

- A. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48A, is in ALARM. _____
- B. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48B, is in ALARM. _____
- C. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW LO FS-68-48D, is in ALARM. _____
- D. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is in ALARM. _____
- E. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is ALARM. _____

[282] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[283] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates TRIP. _____

[284] **POSITION** the following:

- A. FS/414A, RC Flow LP 1 CH 1, at 2-R-1 to the left (NORMAL). _____
- B. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the left (NORMAL) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- C. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the left
(NORMAL) _____
- D. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the left
(NORMAL) _____
- E. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the left
(NORMAL) _____
- F. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the left
(NORMAL) _____

[285] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6A, is CLEAR _____
- B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6B, is CLEAR _____
- C. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6D, is CLEAR _____
- D. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48A, is CLEAR _____
- E. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48B, is CLEAR _____
- F. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48D, is CLEAR _____
- G. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP
FLOW LO, is CLEAR _____
- H. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1
FLOW LO, is CLEAR. _____
- I. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3
FLOW LO, is CLEAR. _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[286] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[287] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR. _____

[288] **POSITION** the following:

A. FS/424A, RC Flow LP 2 CH 1, at 2-R-1 to the right (TRIP). _____

B. FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the right (TRIP). _____

C. FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the right (TRIP). _____

D. FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the right (TRIP). _____

E. FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the right (TRIP). _____

F. FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the right (TRIP). _____

[289] **VERIFY** the following:

A. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29A, is in ALARM _____

B. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29B, is in ALARM _____

C. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW LO FS-68-29D, is in ALARM _____

D. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71A, is in ALARM _____

E. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW LO FS-68-71B, is in ALARM _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

F. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW
LO FS-68-71D, is in ALARM

G. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP
FLOW LO, is in ALARM.

H. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2
FLOW LO, is in ALARM.

I. Annunciator 123B (2-XA-55-6B, 2-M-6), RCS LOOP 4
FLOW LO, is in ALARM

[290] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**

[291] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7
CAUSES RX TRIP, indicates TRIP.

[292] **POSITION** the following:

A. FS/414A, RC Flow LP 1 CH 1, at 2-R-1 to the right
(TRIP).

B. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the right
(TRIP).

C. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the right
(TRIP).

D. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the right
(TRIP).

E. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the right
(TRIP).

F. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the right
(TRIP)

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[293] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6A, is in ALARM. _____
- B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6B, is in ALARM. _____
- C. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6D, is in ALARM. _____
- D. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48A, is in ALARM. _____
- E. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48B, is in ALARM. _____
- F. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48D, is in ALARM. _____
- G. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1
FLOW LO, is in ALARM _____
- H. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3
FLOW LO, is ALARM. _____
- I. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP
FLOW LO, is in ALARM. _____

[294] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[295] **VERIFY** Computer Point F0423D, RCL LO FLOW ABOVE P-7
CAUSES RX TRIP, indicates TRIP. _____

[296] **POSITION** PS/505A, HI Press to P-7, at 2-R-4 to the left
(NORMAL) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

[297] **VERIFY** the following:

- A. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW LO, is CLEAR _____
- B. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- C. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIPS BLOCKED, is in ALARM _____
- D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____
- E. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM _____

[298] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[299] **ENSURE** the following:

- A. FS/414A, RC Flow LP 1 CH 1, at 2-R-1 to the left (NORMAL). _____
- B. FS/424A, RC Flow LP 2 CH 1, at 2-R-1 to the left (NORMAL). _____
- C. FS/434A, RC Flow LP 3 CH 1, at 2-R-1 to the left (NORMAL) _____
- D. FS/444A, RC Flow LP 4 CH 1, at 2-R-1 to the left (NORMAL) _____
- E. FS/415A, RC Flow LP 1 CH 2, at 2-R-5 to the left (NORMAL) _____
- F. FS/425A, RC Flow LP 2 CH 2, at 2-R-5 to the left (NORMAL) _____
- G. FS/435A, RC Flow LP 3 CH 2, at 2-R-5 to the left (NORMAL) _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- H. FS/445A, RC Flow LP 4 CH 2, at 2-R-5 to the left (NORMAL) _____
- I. FS/416A, RC Flow LP 1 CH 3, at 2-R-9 to the left (NORMAL) _____
- J. FS/426A, RC Flow LP 2 CH 3, at 2-R-9 to the left (NORMAL) _____
- K. FS/436A, RC Flow LP 3 CH 3, at 2-R-9 to the left (NORMAL) _____
- L. FS/446A, RC Flow LP 4 CH 3, at 2-R-9 to the left (NORMAL) _____

[300] **DE-ENERGIZE** Power Supplies at the following locations:

- A. TB124, Terminals 1,2 (NIS Rack I/Rear/2-M-13) _____
- B. TB124, Terminals 7,8 (NIS Rack I/Rear/2-M-13) _____
- C. TB224, Terminals 1,2 (NIS Rack II/Rear/2-M-13) _____
- D. TB224, Terminals 7,8 (NIS Rack II/Rear/2-M-13) _____

[301] **REMOVE** all test equipment from the following locations:

- A. TB124, Terminals 1,2 (NIS Rack I/Rear/2-M-13) _____
_____ CV
- B. TB124, Terminals 7,8 (NIS Rack I/Rear/2-M-13) _____
_____ CV
- C. TB224, Terminals 1,2 (NIS Rack II/Rear/2-M-13) _____
_____ CV
- D. TB224, Terminals 7,8 (NIS Rack II/Rear/2-M-13) _____
_____ CV

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

<p style="text-align: center;">WARNING</p> <p>118 VAC is present in the following step.</p>
--

[302] **LAND** the disconnected internal/vendor leads at the following locations:

A. TB124, Terminal 1 (NIS Rack I/Rear/2-M-13) _____

CV

B. TB124, Terminal 2 (NIS Rack I/Rear/2-M-13) _____

CV

C. TB124, Terminal 7 (NIS Rack I/Rear/2-M-13) _____

CV

D. TB124, Terminal 8 (NIS Rack I/Rear/2-M-13) _____

CV

E. TB224, Terminal 1 (NIS Rack II/Rear/2-M-13) _____

CV

F. TB224, Terminal 2 (NIS Rack II/Rear/2-M-13) _____

CV

G. TB224, Terminal 7 (NIS Rack II/Rear/2-M-13) _____

CV

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

H. TB224, Terminal 8 (NIS Rack II/Rear/2-M-13) _____

CV

[303] **VERIFY** the following:

- A. Trip Status Light 4 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6A, is CLEAR _____
- B. Trip Status Light 24 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6B, is CLEAR _____
- C. Trip Status Light 44 (2-XX-55-6A, 2-M-6), LOOP 1 FLOW
LO FS-68-6D, is CLEAR _____
- D. Trip Status Light 5 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW
LO FS-68-29A, is CLEAR _____
- E. Trip Status Light 25 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW
LO FS-68-29B, is CLEAR _____
- F. Trip Status Light 45 (2-XX-55-6A, 2-M-6), LOOP 2 FLOW
LO FS-68-29D, is CLEAR _____
- G. Trip Status Light 6 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48A, is CLEAR _____
- H. Trip Status Light 26 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48B, is CLEAR _____
- I. Trip Status Light 46 (2-XX-55-6A, 2-M-6), LOOP 3 FLOW
LO FS-68-48D, is CLEAR _____
- J. Trip Status Light 7 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW
LO FS-68-71A, is CLEAR _____
- K. Trip Status Light 27 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW
LO FS-68-71B, is CLEAR _____
- L. Trip Status Light 47 (2-XX-55-6A, 2-M-6), LOOP 4 FLOW
LO FS-68-71D, is CLEAR _____
- M. Annunciator 78D (2-XA-55-4D, 2-M-4), ONE LOOP FLOW
LO, is CLEAR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- N. Annunciator 78E (2-XA-55-4D, 2-M-4), TWO LOOP FLOW LO, is CLEAR _____
- O. Annunciator 70C (2-XA-55-4A, 2-M-4), P-8 LO PWR FLOW TRIPS BLOCKED, is in ALARM _____
- P. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____
- Q. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM _____
- R. Annunciator 120B (2-XA-55-6B, 2-M-6), RCS LOOP 1 FLOW LO, is CLEAR _____
- S. Annunciator 121B (2-XA-55-6B, 2-M-6), RCS LOOP 2 FLOW LO, is CLEAR _____
- T. Annunciator 122B (2-XA-55-6B, 2-M-6), RCS LOOP 3 FLOW LO, is CLEAR _____
- U. Annunciator 123B (2XA-55-6B, 2-M-6), RCS LOOP 4 FLOW LO, is CLEAR _____

[304] **VERIFY** the following Computer Points:

- A. F0400D, RCL1 1 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- B. F0401D, RCL1 2 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- C. F0402D, RCL1 3 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- D. F0403D, RCL LO FLOW ABOVE P-8 CAUSES RX TRIP, indicates NOT TR _____
- E. F0420D, RCL2 1 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- F. F0421D, RCL2 2 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- G. F0422D, RCL2 3 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____

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6.13 Reactor Coolant Low Flow Reactor Trip (continued)

- H. F0423D, RCL LO FLOW ABOVE P-7 CAUSES RX TRIP, indicates NOT TR _____
- I. F0440D, RCL3 1 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- J. F0441D, RCL3 2 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- K. F0442D, RCL3 3 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- L. F0460D, RCL4 1 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- M. F0461D, RCL4 2 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____
- N. F0462D, RCL4 3 LO FLOW PARTIAL RX TRIP, indicates NOT TR _____

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6.14 Pressurizer High Pressure Reactor Trip

NOTE

The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.

[1] **ENSURE** prerequisites listed in Section 4.0 for Subsection 6.14 have been completed. _____

[2] **ENSURE** the following:

A. PS/455A, High Pressure Reactor Trip, at 2-R-1 to the left (NORMAL). _____

B. PS/456A, High Pressure Reactor Trip, at 2-R-5 to the left (NORMAL). _____

C. PS/457A, High Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____

D. PS/458A, High Pressure Reactor Trip, at 2-R-28 to the left (NORMAL). _____

[3] **VERIFY** the following:

A. Trip Status Light 11 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-340A, is CLEAR _____

B. Trip Status Light 31 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-334A, is CLEAR _____

C. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is CLEAR _____

D. Trip Status Light 71 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-322A, is CLEAR _____

E. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is CLEAR _____

F. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

- [4] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [5] **POSITION** PS/455A, High Pressure Reactor Trip, at 2-R-1 to the right (TRIP). _____
- [6] **VERIFY** the following:
- A. Trip Status Light 11 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-340A, is in ALARM. _____
 - B. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____
 - C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____
 - D. Unit 2 Event Display Monitor indicates 124-B PZR PRESS HI is in ALARM (Red) _____
- [7] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [8] **VERIFY** the following computer points:
- A. P0480D, PZR HI PRESSURE 1 PARTIAL RX TRIP, indicates TRIP _____
 - B. P0483D, PZR HI PRESSURE CAUSES RX TRIP, indicates NOT TR _____
- [9] **POSITION** PS/455A, High Pressure Reactor Trip, at 2-R-1 to the left (NORMAL). _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[10] **VERIFY** the following:

- A. Trip Status Light 11 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-340A, is CLEAR. _____
- B. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is CLEAR. _____
- C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____
- D. Unit 2 Event Display Monitor indicates 124-B PZR PRESS HI is in NORMAL (Blue) _____

[11] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[12] **VERIFY** the following computer points:

- A. P0480D, PZR HI PRESSURE 1 PARTIAL RX TRIP, indicates NOT TR _____
- B. P0483D, PZR HI PRESSURE CAUSES RX TRIP, indicates NOT TR _____

[13] **POSITION** PS/456A, High Pressure Reactor Trip, at 2-R-5 to the right (TRIP). _____

[14] **VERIFY** the following:

- A. Trip Status Light 31 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-334A, is in ALARM. _____
- B. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____
- C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[15] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[16] **VERIFY** the following computer points:

A. P0481D, PZR HI PRESSURE 2 PARTIAL RX TRIP, indicates TRIP _____

B. P0483D, PZR HI PRESSURE CAUSES RX TRIP, indicates NOT TR _____

[17] **POSITION** PS/456A, High Pressure Reactor Trip, at 2-R-5 to the left (NORMAL). _____

[18] **VERIFY** the following:

A. Trip Status Light 31 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-334A, is CLEAR. _____

B. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is CLEAR. _____

C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____

[19] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[20] **VERIFY** the following computer points:

A. P0481D, PZR HI PRESSURE 2 PARTIAL RX TRIP, indicates NOT TR _____

B. P0483D, PZR HI PRESSURE CAUSES RX TRIP, indicates NOT TR _____

[21] **POSITION** PS/457A, High Pressure Reactor Trip, at 2-R-9 to the right (TRIP). _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[22] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is in ALARM. _____
- B. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____
- C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____

[23] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[24] **VERIFY** the following computer points:

- A. P0482D, PZR HI PRESSURE 3 PARTIAL RX TRIP, indicates TRIP _____
- B. P0483D, PZR HI PRESSURE CAUSES RX TRIP, indicates NOT TR _____

[25] **POSITION** PS/457A, High Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____

[26] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is CLEAR. _____
- B. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is CLEAR. _____
- C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____

[27] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[28] **VERIFY** the following computer points:

- A. P0482D, PZR HI PRESSURE 3 PARTIAL RX TRIP,
indicates NOT TR _____
- B. P0483D, PZR HI PRESSURE CAUSES RX TRIP,
indicates NOT TR _____

[29] **POSITION** PS/458A, High Pressure Reactor Trip, at 2-R-28 to
the right (TRIP). _____

[30] **VERIFY** the following:

- A. Trip Status Light 71 (2-XX-55-6A, 2-M-6), PZR PRESS HI
RX TRIP PS-68-322A, is in ALARM. _____
- B. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI,
is in ALARM. _____
- C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is
CLEAR _____

[31] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[32] **VERIFY** the following computer points:

- A. P0497D, PZR HI PRESSURE 4 PARTIAL RX TRIP,
indicates TRIP _____
- B. P0483D, PZR HI PRESSURE CAUSES RX TRIP,
indicates NOT TR _____

[33] **POSITION** PS/458A, High Pressure Reactor Trip, at 2-R-28 to
the left (NORMAL). _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[34] **VERIFY** the following:

- A. Trip Status Light 71 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-322A, is CLEAR. _____
- B. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is CLEAR. _____
- C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____

[35] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[36] **VERIFY** the following computer points:

- A. P0497D, PZR HI PRESSURE 4 PARTIAL RX TRIP, indicates NOT TR _____
- B. P0483D, PZR HI PRESSURE CAUSES RX TRIP, indicates NOT TR _____

[37] **POSITION** the following:

- A. PS/455A, High Pressure Reactor trip, at 2-R-1 to the right (TRIP). _____
- B. PS/456A, High Pressure Reactor trip, at 2-R-5 to the right (TRIP). _____

[38] **VERIFY** the following:

- A. Trip Status Light 11 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-340A, is in ALARM _____
- B. Trip Status Light 31 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-334A, is in ALARM _____
- C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is in ALARM. _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

- D. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____
 - E. Unit 2 Event Display Monitor indicates 77-C RT-PZR PRESS HI is in ALARM (Red) _____
- [39] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [40] **VERIFY** computer Point P0483D, PZR HI PRESSURE CAUSES RX TRIP, indicates TRIP. _____
- [41] **POSITION** PS/456A, High Pressure Reactor Trip, at 2-R-5 to the left (NORMAL). _____
- [42] **VERIFY** the following:
 - A. Trip Status Light 31 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-334A, is CLEAR _____
 - B. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR. _____
 - C. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____
 - D. Unit 2 Event Display Monitor indicates 77-C RT-PZR PRESS HI is in NORMAL (Blue) _____
- [43] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [44] **VERIFY** Computer Point P0483D, PZR HI PRESSURE CAUSES RX TRIP, indicates NOT TR. _____
- [45] **POSITION** PS/457A, High Pressure Reactor Trip, at 2-R-9 to the right (TRIP). _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[46] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is in ALARM _____
- B. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is in ALARM. _____
- C. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____

[47] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[48] **POSITION** PS/457A, High Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____

[49] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is CLEAR _____
- B. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR. _____
- C. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____

[50] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[51] **POSITION** PS/458A, High Pressure Reactor Trip, at 2-R-28 to the right (TRIP) _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[52] **VERIFY** the following:

- A. Trip Status Light 71 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-322A, is in ALARM _____
- B. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is in ALARM. _____
- C. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____

[53] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[54] **POSITION** the following:

- A. PS/458A, High Pressure Reactor Trip, at 2-R-28 to the left (NORMAL) _____
- B. PS/455A, High Pressure Reactor Trip, at 2-R-1 to the left (NORMAL) _____

[55] **VERIFY** the following:

- A. Trip Status Light 11 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-340A, is CLEAR _____
- B. Trip Status Light 71 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-322A, is CLEAR _____
- C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR. _____
- D. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is CLEAR. _____

[56] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[57] **POSITION** the following:

- A. PS/456A, High Pressure Reactor Trip, at 2-R-5 to the right (TRIP) _____
- B. PS/457A, High Pressure Reactor Trip, at 2-R-9 to the right (TRIP) _____

[58] **VERIFY** the following:

- A. Trip Status Light 31 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-334A, is in ALARM _____
- B. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is in ALARM _____
- C. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is in ALARM. _____
- D. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____

[59] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[60] **POSITION** PS/457A, High Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____

[61] **VERIFY** the following:

- A. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is CLEAR _____
- B. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR. _____
- C. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[62] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[63] **POSITION** PS/458A, High Pressure Reactor Trip, at 2-R-28 to the right (TRIP). _____

[64] **VERIFY** the following:

A. Trip Status Light 71 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-322A, is in ALARM _____

B. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is in ALARM _____

C. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____

[65] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[66] **POSITION** PS/456A, High Pressure Reactor Trip, at 2-R-5 to the left (NORMAL). _____

[67] **VERIFY** the following:

A. Trip Status Light 31 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-334A, is CLEAR _____

B. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____

C. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[68] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[69] **POSITION** PS/457A, High Pressure Reactor Trip, at 2-R-9 to the right (TRIP). _____

[70] **VERIFY** the following:

A. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is in ALARM _____

B. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is in ALARM _____

C. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM. _____

[71] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[72] **POSITION** PS/457A, High Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____

[73] **VERIFY** the following:

A. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is CLEAR _____

B. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____

C. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is in ALARM _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[74] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[75] **POSITION** the following:

A. PS/455A, High Pressure Reactor Trip, at 2-R-1 to the right (TRIP) _____

B. PS/456A, High Pressure Reactor Trip, at 2-R-5 to the right (TRIP) _____

C. PS/457A, High Pressure Reactor Trip, at 2-R-9 to the right (TRIP) _____

[76] **VERIFY** the following:

A. Trip Status Light 11 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-340A, is in ALARM _____

B. Trip Status Light 31 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-334A, is in ALARM _____

C. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is in ALARM _____

D. Trip Status Light 71 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-322A, is in ALARM _____

E. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is in ALARM _____

[77] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

[78] **POSITION** the following:

- A. PS/455A, High Pressure Reactor Trip, at 2-R-1 to the left (NORMAL). _____
- B. PS/456A, High Pressure Reactor Trip, at 2-R-5 to the left (NORMAL). _____
- C. PS/457A, High Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____
- D. PS/458A, High Pressure Reactor Trip, at 2-R-28 to the left (NORMAL). _____

[79] **VERIFY** the following:

- A. Trip Status Light 11 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-340A, is CLEAR _____
- B. Trip Status Light 31 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-334A, is CLEAR _____
- C. Trip Status Light 51 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-323A, is CLEAR _____
- D. Trip Status Light 71 (2-XX-55-6A, 2-M-6), PZR PRESS HI RX TRIP PS-68-322A, is CLEAR _____
- E. Annunciator 124B (2-XA-55-6C, 2-M-6), PZR PRESS HI, is CLEAR _____
- F. Annunciator 77C (2-XA-55-4D, 2-M-4), PZR PRESS HI, is CLEAR _____

[80] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[81] **VERIFY** the following computer points:

- A. P0480D, PZR HI PRESSURE 1 PARTIAL RX TRIP, indicates NOT TR _____

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6.14 Pressurizer High Pressure Reactor Trip (continued)

- B. P0481D, PZR HI PRESSURE 2 PARTIAL RX TRIP,
indicates NOT TR _____
- C. P0482D, PZR HI PRESSURE 3 PARTIAL RX TRIP,
indicates NOT TR _____
- D. P0483D, PZR HI PRESSURE CAUSES RX TRIP,
indicates NOT TR _____
- E. P0497D, PZR HI PRESSURE 4 PARTIAL RX TRIP,
indicates NOT TR _____

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6.15 Pressurizer Low Pressure Reactor Trip

NOTE

The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.

- [1] **ENSURE** prerequisites listed in Section 4.0 for subsection 6.15 have been completed. _____
- [2] **POSITION** the following:
 - A. PS/455C, Low Pressure Reactor Trip, at 2-R-1 to the left (NORMAL). _____
 - B. PS/456C, Low Pressure Reactor Trip, at 2-R-5 to the left (NORMAL). _____
 - C. PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____
 - D. PS/458C, Low Pressure Reactor Trip, at 2-R-28 to the left (NORMAL). _____
- [3] **VERIFY** the following:
 - A. Trip Status Light 10 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-340E, is CLEAR. _____
 - B. Trip Status Light 30 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-334E, is CLEAR. _____
 - C. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is CLEAR. _____
 - D. Trip Status Light 70 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-322E, is CLEAR. _____
 - E. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR >P13 PS-1-73A, is CLEAR. _____
 - F. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is CLEAR. _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

- G. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR _____
- H. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____
- I. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM _____
- [4] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
 - A. UV COIL VOLTAGE Meter (2-R-47). _____
 - B. UV COIL VOLTAGE Meter (2-R-50). _____
- [5] **POSITION** the following:
 - A. PS/505A, Hi Press to P-7, at 2-R-4 to the right (TRIP) _____
 - B. PS/455C, Low Pressure Reactor Trip, at 2-R-1 to the right (TRIP) _____
- [6] **VERIFY** the following:
 - A. Trip Status Light 10 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-340E, is in ALARM. _____
 - B. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR >P13 PS-1-73A, is in ALARM. _____
 - C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM _____
 - D. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR _____
 - E. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR _____
 - F. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR _____
 - G. Unit 2 Event Display Monitor indicates 124-C PZR PRESS LO is in ALARM (Red) _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[7] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[8] **VERIFY** the following computer points:

A. P0484D, PZR LO PRESSURE 1 PARTIAL RX TRIP, indicates TRIP _____

B. P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP, indicates NOT TR _____

[9] **POSITION** PS/455C, Low Pressure Reactor Trip, at 2-R-1 to the left (NORMAL). _____

[10] **VERIFY** the following:

A. Trip Status Light 10 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-340E, is CLEAR. _____

B. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is CLEAR. _____

C. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR _____

D. Unit 2 Event Display Monitor indicates 124-C PZR PRESS LO is in NORMAL (Blue) _____

[11] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[12] **VERIFY** the following computer points:

A. P0484D, PZR LO PRESSURE 1 PARTIAL RX TRIP, indicates NOT TR _____

B. P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP, indicates NOT TR _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

- [13] **POSITION** PS/456C, Low Pressure Reactor Trip, at 2-R-5 to the right (TRIP). _____
- [14] **VERIFY** the following:
- A. Trip Status Light 30 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-334E, is in ALARM. _____
 - B. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____
 - C. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR _____
- [15] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [16] **VERIFY** the following computer points:
- A. P0485D, PZR LO PRESSURE 2 PARTIAL RX TRIP, indicates TRIP _____
 - B. P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP, indicates NOT TR _____
- [17] **POSITION** PS/456C, Low Pressure Reactor Trip, at 2-R-5 to the left (NORMAL). _____
- [18] **VERIFY** the following:
- A. Trip Status Light 30 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-334E, is CLEAR. _____
 - B. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is CLEAR. _____
 - C. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[19] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[20] **VERIFY** the following computer points:

A. P0485D, PZR LO PRESSURE 2 PARTIAL RX TRIP, indicates NOT TR _____

B. P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP, indicates NOT TR _____

[21] **POSITION** PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the right (TRIP). _____

[22] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is in ALARM. _____

B. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

C. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR _____

[23] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[24] **VERIFY** the following computer points:

A. P0486D, PZR LO PRESSURE 3 PARTIAL RX TRIP, indicates TRIP _____

B. P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP, indicates NOT TR _____

[25] **POSITION** PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[26] **VERIFY** the following:

- A. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is CLEAR. _____
- B. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is CLEAR. _____
- C. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR _____

[27] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[28] **VERIFY** the following computer points:

- A. P0486D, PZR LO PRESSURE 3 PARTIAL RX TRIP, indicates NOT TR _____
- B. P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP, indicates NOT TR _____

[29] **POSITION** PS/458C, Low Pressure Reactor Trip, at 2-R-28 to the right (TRIP). _____

[30] **VERIFY** the following:

- A. Trip Status Light 70 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-322E, is in ALARM. _____
- B. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____
- C. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR _____

[31] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[32] **VERIFY** the following computer points:

A. P0487D, PZR LO PRESSURE 4 PARTIAL RX TRIP,
indicates TRIP _____

B. P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP,
indicates NOT TR _____

[33] **POSITION** PS/458C, Low Pressure Reactor Trip, at 2-R-28 to
the left (NORMAL). _____

[34] **VERIFY** the following:

A. Trip Status Light 70 (2-XX-55-6A, 2-M-6), PZR PRESS
LOW RX TRIP PS-68-322E, is CLEAR. _____

B. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO,
is CLEAR. _____

C. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO,
is CLEAR _____

[35] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[36] **VERIFY** the following computer points:

A. P0487D, PZR LO PRESSURE 4 PARTIAL RX TRIP,
indicates NOT TR _____

B. P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP,
indicates NOT TR _____

[37] **POSITION** the following:

A. PS/455C, Low Pressure Reactor Trip, at 2-R-1 to the right
(TRIP) _____

B. PS/456C, Low Pressure Reactor Trip, at 2-R-5 to the right
(TRIP) _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[38] **VERIFY** the following:

- A. Trip Status Light 10 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-340E, is in ALARM. _____
- B. Trip Status Light 30 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-334E, is in ALARM. _____
- C. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is in ALARM. _____
- D. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____
- E. Unit 2 Event Display Monitor indicates 77-D RT-PZR PRESS LO is in ALARM (Red) _____

[39] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[40] **VERIFY** Computer Point P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP, indicates TRIP. _____

[41] **POSITION** PS/456C, Low Pressure Reactor Trip, at 2-R-5 to the left (NORMAL). _____

[42] **VERIFY** the following:

- A. Trip Status Light 30 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-334E, is CLEAR. _____
- B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR. _____
- C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____
- D. Unit 2 Event Display Monitor indicates 77-D RT-PZR PRESS LO is in NORMAL (Blue) _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[43] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[44] **VERIFY** Computer Point P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP, indicates NOT TR. _____

[45] **POSITION** PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the right (TRIP). _____

[46] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is in ALARM. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is in ALARM. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

[47] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[48] **POSITION** PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____

[49] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is CLEAR. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[50] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[51] **POSITION** PS/458C, Low Pressure Reactor Trip, at 2-R-28 to the right (TRIP). _____

[52] **VERIFY** the following:

A. Trip Status Light 70 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-322E, is in ALARM. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is in ALARM. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

[53] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[54] **POSITION** PS/455C, Low Pressure Reactor Trip, at 2-R-1 to the left (NORMAL). _____

[55] **VERIFY** the following:

A. Trip Status Light 10 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-340E, is CLEAR. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[56] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[57] **POSITION** PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the right (TRIP). _____

[58] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is in ALARM. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is in ALARM. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

[59] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[60] **POSITION** PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____

[61] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is CLEAR. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[62] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[63] **POSITION** PS/456C, Low Pressure Reactor Trip, at 2-R-5 to the right (TRIP). _____

[64] **VERIFY** the following:

A. Trip Status Light 30 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-334E, is in ALARM. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is in ALARM. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

[65] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[66] **POSITION** PS/458C, Low Pressure Reactor Trip, at 2-R-28 to the left (NORMAL). _____

[67] **VERIFY** the following:

A. Trip Status Light 70 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-322E, is CLEAR. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[68] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[69] **POSITION** PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the right (TRIP). _____

[70] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is in ALARM. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is in ALARM. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

[71] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[72] **POSITION** PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the left (NORMAL). _____

[73] **VERIFY** the following:

A. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is CLEAR. _____

B. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR. _____

C. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is in ALARM. _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[74] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[75] **POSITION** the following:

A. PS/455C, Low Pressure Reactor Trip, at 2-R-1 to the right (TRIP) _____

B. PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the right (TRIP) _____

C. PS/458C, Low Pressure Reactor Trip, at 2-R-28 to the right (TRIP) _____

[76] **VERIFY** the following:

A. Trip Status Light 10 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-340E, is in ALARM. _____

B. Trip Status Light 30 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-334E, is in ALARM. _____

C. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is in ALARM. _____

D. Trip Status Light 70 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-322E, is in ALARM. _____

E. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is in ALARM _____

[77] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[78] **POSITION** PS/505A, Hi Press To P-7, at 2-R-4 to the left (NORMAL). _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[79] **VERIFY** the following:

A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR
>P13 PS-1-73A, is CLEAR _____

B. Trip Status Light 10 (2-XX-55-6A, 2-M-6), PZR PRESS
LOW RX TRIP PS-68-340E, is in ALARM. _____

C. Trip Status Light 30 (2-XX-55-6A, 2-M-6), PZR PRESS
LOW RX TRIP PS-68-334E, is in ALARM. _____

D. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS
LOW RX TRIP PS-68-323E, is in ALARM. _____

E. Trip Status Light 70 (2-XX-55-6A, 2-M-6), PZR PRESS
LOW RX TRIP PS-68-322E, is in ALARM. _____

F. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is in ALARM. _____

G. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is in ALARM. _____

H. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO,
is in ALARM. _____

I. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO,
is CLEAR _____

[80] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[81] **VERIFY** Computer Point P0488D, PZR LO PRESSURE & P7
CAUSES RX TRIP, indicates NOT TR. _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[82] **POSITION** the following:

- A. PS/455C, Low Pressure Reactor Trip, at 2-R-1 to the left (NORMAL) _____
- B. PS/456C, Low Pressure Reactor Trip, at 2-R-5 to the left (NORMAL) _____
- C. PS/457C, Low Pressure Reactor Trip, at 2-R-9 to the left (NORMAL) _____
- D. PS/458C, Low Pressure Reactor Trip, at 2-R-28 to the left (NORMAL) _____

[83] **VERIFY** the following:

- A. Trip Status Light 10 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-340E, is CLEAR. _____
- B. Trip Status Light 30 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-334E, is CLEAR. _____
- C. Trip Status Light 50 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-323E, is CLEAR. _____
- D. Trip Status Light 70 (2-XX-55-6A, 2-M-6), PZR PRESS LOW RX TRIP PS-68-322E, is CLEAR. _____
- E. Annunciator 124C (2-XA-55-6C, 2-M-6), PZR PRESS LO, is CLEAR _____
- F. Annunciator 77D (2-XA-55-4D, 2-M-4), PZR PRESS LO, is CLEAR _____
- G. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____
- H. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

[84] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.15 Pressurizer Low Pressure Reactor Trip (continued)

[85] **VERIFY** the following computer points:

- A. P0486D, PZR LO PRESSURE 3 PARTIAL RX TRIP,
indicates NOT TR _____
- B. P0487D, PZR LO PRESSURE 4 PARTIAL RX TRIP,
indicates NOT TR _____
- C. P0488D, PZR LO PRESSURE & P7 CAUSES RX TRIP,
indicates NOT TR _____
- D. P0484D, PZR LO PRESSURE 1 PARTIAL RX TRIP,
indicates NOT TR _____
- E. P0485D, PZR LO PRESSURE 2 PARTIAL RX TRIP,
indicates NOT TR _____

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6.16 Pressurizer High Level Reactor Trip

NOTE

The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status

- [1] **ENSURE** prerequisites listed in Section 4.0 for Subsection 6.16 have been completed. _____
- [2] **POSITION** the following:
 - A. LS/459A, Pzr High Level Reactor Trip, at 2-R-1 to the left (NORMAL) _____
 - B. LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the left (NORMAL) _____
 - C. LS/461A, Pzr High Level Reactor Trip, at 2-R-19 in NORMAL _____
- [3] **VERIFY** the following:
 - A. Trip Status Light 9 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-339A, is CLEAR) _____
 - B. Trip Status Light 29 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-335A, is CLEAR) _____
 - C. Trip Status Light 49 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-320A, is CLEAR) _____
 - D. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is CLEAR _____
 - E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR _____
 - F. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____
 - G. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

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6.16 Pressurizer High Level Reactor Trip (continued)

[4] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[5] **POSITION** the following:

A. PS/505A, Hi Press to P-7, at 2-R-4 to the right (TRIP) _____

B. LS/459A, Pzr High Level Reactor Trip, at 2-R-1 to the right (TRIP) _____

[6] **VERIFY** the following:

A. Trip Status Light 9 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-339A, is in ALARM. _____

B. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____

C. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR _____

D. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. _____

E. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR. _____

[7] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.16 Pressurizer High Level Reactor Trip (continued)

[8] **VERIFY** the following computer points:

- A. L0480D, PZR HI LEVEL 1 PARTIAL RX TRIP, indicates TRIP _____
- B. L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

[9] **POSITION** LS/459A, Pzr High Level Reactor Trip, at 2-R-1 to the left (NORMAL). _____

[10] **VERIFY** the following:

- A. Trip Status Light 9 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-339A, is CLEAR. _____
- B. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is CLEAR. _____
- C. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR _____

[11] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[12] **VERIFY** the following computer points:

- A. L0480D, PZR HI LEVEL 1 PARTIAL RX TRIP, indicates NOT TR _____
- B. L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

[13] **POSITION** LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the right (TRIP). _____

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6.16 Pressurizer High Level Reactor Trip (continued)

[14] **VERIFY** the following:

- A. Trip Status Light 29 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-335A, is in ALARM. _____
- B. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____
- C. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR _____

[15] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[16] **VERIFY** the following computer points:

- A. L0481D, PZR HI LEVEL 2 PARTIAL RX TRIP, indicates TRIP _____
- B. L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____

[17] **POSITION** LS/460A, PZR High Level Reactor Trip, at 2-R-5 to the left (NORMAL). _____

[18] **VERIFY** the following:

- A. Trip Status Light 29 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-335A, is CLEAR. _____
- B. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is CLEAR. _____
- C. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR _____

[19] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.16 Pressurizer High Level Reactor Trip (continued)

[20] **VERIFY** the following computer points:

- A. L0481D, PZR HI LEVEL 2 PARTIAL RX TRIP, indicates
NOT TR _____
- B. L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP,
indicates NOT TR _____

[21] **POSITION** LS/461A, Pzr High Level Reactor Trip, at 2-R-19 in
TRIPPED. _____

[22] **VERIFY** the following:

- A. Trip Status Light 49 (2-XX-55-6A, 2-M-6), PZR LEVEL HI
LS-68-320A, is in ALARM. _____
- B. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI,
is in ALARM. _____
- C. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is
CLEAR _____

[23] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[24] **VERIFY** the following computer points:

- A. L0482D, PZR HI LEVEL 3 PARTIAL RX TRIP, indicates
TRIP _____
- B. L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP,
indicates NOT TR _____

[25] **POSITION** LS/461A, Pzr High Level Reactor Trip, at 2-R-19 in
NORMAL. _____

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6.16 Pressurizer High Level Reactor Trip (continued)

[26] **VERIFY** the following:

- A. Trip Status Light 49 (2-XX-55-6A, 2-M-6), PZR LEVEL HI LS-68-320A, is CLEAR. _____
- B. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is CLEAR. _____
- C. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____

[27] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[28] **VERIFY** the following computer points:

- A. L0482D, PZR HI LEVEL 3 PARTIAL RX TRIP, indicates NOT TR. _____
- B. L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR. _____

[29] **POSITION** the following:

- A. LS/459A, Pzr High Level Reactor Trp, at 2-R-1 to the right (TRIP) _____
- B. LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the right (TRIP) _____

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6.16 Pressurizer High Level Reactor Trip (continued)

[30] **VERIFY** the following:

- A. Trip Status Light 9 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-339A, is in ALARM) _____
- B. Trip Status Light 29 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-335A, is in ALARM) _____
- C. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____
- D. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____

[31] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[32] **VERIFY** Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates TRIP. _____

[33] **POSITION** LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the left (NORMAL). _____

[34] **VERIFY** the following:

- A. Trip Status Light 29 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-335A, is CLEAR) _____
- B. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
- C. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____

[35] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.16 Pressurizer High Level Reactor Trip (continued)

- [36] **VERIFY** Computer Point L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR. _____
- [37] **POSITION** LS/461A, Pzr High Level Reactor Trip, at 2-R-19 in TRIPPED. _____
- [38] **VERIFY** the following:
- A. Trip Status Light 49 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-320A, is in ALARM _____
 - B. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____
 - C. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____
- [39] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
 - B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [40] **POSITION** LS/459A, Pzr High Level Reactor Trip, at 2-R-1 to the left (NORMAL) _____
- [41] **VERIFY** the following:
- A. Trip Status Light 9 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-339A, is CLEAR. _____
 - B. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____
 - C. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____
- [42] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.16 Pressurizer High Level Reactor Trip (continued)

[43] **POSITION** LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the right (TRIP) _____

[44] **VERIFY** the following:

A. Trip Status Light 29 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-335A, is in ALARM _____

B. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____

C. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____

[45] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[46] **POSITION** LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the left (NORMAL). _____

[47] **VERIFY** the following:

A. Trip Status Light 29 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-335A, is CLEAR _____

B. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR. _____

C. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____

[48] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.16 Pressurizer High Level Reactor Trip (continued)

[49] **POSITION** the following:

- A. LS/459A, Pzr High Level Reactor Trip, at 2-R-1 to the right (TRIP) _____
- B. LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the right (TRIP) _____

[50] **VERIFY** the following:

- A. Trip Status Light 9 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-339A, is in ALARM) _____
- B. Trip Status Light 29 (2-XX-55-6A, 2-M-6, PZR LEVEL HI LS-68-335A, is in ALARM) _____
- C. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is in ALARM. _____
- D. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____

[51] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[52] **POSITION** PS/505A, Hi Press To P-7, at 2-R-4 to the left (NORMAL). _____

[53] **VERIFY** the following:

- A. Trip Status Light 16 (2-XX-55-6A, 2-M-6), TURBINE PWR >P13 PS-1-73A, is CLEAR _____
- B. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____
- C. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____
- D. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI, is in ALARM. _____

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6.16 Pressurizer High Level Reactor Trip (continued)

E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is
CLEAR _____

[54] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[55] **VERIFY** Computer Point P0483D, PZR HI PRESSURE
CAUSES RX TRIP, indicates NOT TR. _____

[56] **POSITION** the following:

A. LS/459A, Pzr High Level Reactor Trip, at 2-R-1 to the left
(NORMAL) _____

B. LS/460A, Pzr High Level Reactor Trip, at 2-R-5 to the left
(NORMAL) _____

C. LS/461A, Pzr High Level Reactor Trip, at 2-R-19 in
NORMAL _____

[57] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[58] **VERIFY** the following:

A. Trip Status Light 9 (2-XX-55-6A, 2-M-6), PZR LEVEL HI
LS-68-339A, is CLEAR _____

B. Trip Status Light 29 (2-XX-55-6A, 2-M-6), PZR LEVEL HI
LS-68-335A, is CLEAR _____

C. Trip Status Light 49 (2-XX-55-6A, 2-M-6), PZR LEVEL HI
LS-68-320A, is CLEAR _____

D. Annunciator 124A (2-XA-55-6C, 2-M-6), PZR LEVEL HI,
is CLEAR _____

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6.16 Pressurizer High Level Reactor Trip (continued)

- E. Annunciator 77E (2-XA-55-4D, 2-M-4), PZR LEVEL HI, is CLEAR _____
- F. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM _____
- G. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM. _____

[59] **VERIFY** the following computer points:

- A. L0482D, PZR HI LEVEL 3 PARTIAL RX TRIP, indicates NOT TR _____
- B. L0483D, PZR HI LEVEL & P7 CAUSES RX TRIP, indicates NOT TR _____
- C. L0480D, PZR HI LEVEL 1 PARTIAL RX TRIP indicates NOT TR _____
- D. L0481D, PZR HI LEVEL 2 PARTIAL RX TRIP, indicates NOT TR _____

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6.17 Turbine Trip Reactor Trip

NOTES

- 1) The SSPS input logic signal shown on drawing 47W611-99-6 (Reference 2.2.1C.4) as Stop Valve A Fully Closed is identified as 2-ZS-47-28(33/T1) on drawing 2-45W600-47-1 (Reference 2.2.1B.3). The following information may be shown in a similar manner:

<u>Valve</u>	<u>2-47W611-99-6</u>	<u>2-45W600-47-1</u>
STPV1	Stop Valve A	2-ZS-47-28(33/T1)
STPV2	Stop Valve B	2-ZS-47-30(33/T2)
STPV3	Stop Valve C	2-ZS-47-32(33/T3)
STPV4	Stop Valve D	2-ZS-47-34(33/T4)

- 2) SSPS contacts jumpered in Step 4.3[44] are Open for the Stop Valve Closed/Tripped position, and Closed for the Stop Valve Open/Normal position. Thus, the following will apply throughout this subsection.

Open Jumper = Valve Closed/Tripped

Closed Jumper = Valve Open/Normal

- 3) To change the Tripped/Not Tripped state of the Stop Valves two actions will be carried out, one for Train A and one for Train B.
- 4) Refer to Table 4, Nuclear Instrumentation System (NIS) - Channel Trip/Return to Normal, for instructions on how to trip/return to normal bistables listed in this subsection.
- 5) In this subsection, the following identifiers will be used:

<u>Relay ID</u>	<u>Location</u>	<u>Description</u>	<u>Section Identifier</u>
2-RLY-099-K635	2-R-48	Generator Trip, 120 VAC	2-RLY-099-K635 (Train A/2-R-48)
2-RLY-099-K635	2-R-51	Generator Trip, 120 VAC	2-RLY-099-K635 (Train B/2-R-51)

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6.17 Turbine Trip Reactor Trip (continued)

NOTES

- 6) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.
- 7) During the simulation of NIS Power Range Bistables NC41S, NC42S, NC43S and NC44S at 50%- power, the NIS Power Range Bistables, Trip Status lights and annunciators associated with NC41P - NC44P will activate at greater than 25% power and the NC41M - NC44M will activate at greater than 10% power. To prevent an unwanted Reactor Trip, the 2-N47A and 2-N47B "PR Tr (A/B) Block P10" Main Control Board block switches will be placed to BLOCK in Steps 6.17[3] thru Steps 6.17[6]. When returning Bistables NC41S, NC42S, NC43S and NC44S to NORMAL in this subsection, the performer should not drop below 10% indicated power unless directed to ensure that the 2-N47A/B Blocks do not reset and cause an unwanted Reactor Trip. The Power Range High Neutron Flux Low Setpoint Reactor Trip (NC41P, NC42P, NC43P and NC44P) will automatically unblock with any 3 out of 4 Channels below the P-10 setpoint (10% indicated power)

Should the Power Range High Neutron Flux Low Setpoint Reactor Trip become unblocked and cause an unwarranted reactor trip, repeat Steps 6.17[3] thru Steps 6.17[6] to block the trip and make a note in the Chronological Test Log.
- 8) Positioning individual power range channel bistables in and out of trip status may cause flux deviation alarms on the NIS panel (2-M-13) and annunciator panel (2-XA-55-4B) 83B, 83C, 83D and 83E.
- 9) During manipulation of the Power Range potentiometers, if indicated power level is increased greater than 5% within 2 seconds a PR Rate Trip bistable will occur. If this condition is encountered the bistable can be cleared by holding the Rate Mode switch in RESET until the Positive Rate TRIP lamp on the drawer clears then releasing the switch.

[1] **ENSURE** prerequisites listed in Section 4.0 for Subsection 6.17 have been complete. _____

[2] **ENSURE** the following: _____

A. STPV1, Stop Vlv A/Tr A CH 1, at 2-R-46 in NORMAL (CLOSED Jumper) (TB109 - 3,4) _____

B. STPV2, Stop Vlv B/Tr A CH 2, at 2-R-46 in NORMAL (CLOSED Jumper) (TB209 - 3,4) _____

C. STPV3, Stop Vlv C/Tr A CH 3, at 2-R-46 in NORMAL (CLOSED Jumper) (TB308 - 3,4) _____

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6.17 Turbine Trip Reactor Trip (continued)

- D. STPV4, Stop Vlv D/T A CH 4, at 2-R-46 in NORMAL
(CLOSED Jumper) (TB407 - 3,4) _____
- E. STPV1, Stop Vlv A/Tr B CH 1, at 2-R-49 in NORMAL
(CLOSED Jumper) (TB109 - 3,4) _____
- F. STPV2, Stop Vlv B/Tr B CH 2, at 2-R-49 in NORMAL
(CLOSED Jumper) (TB209 - 3,4) _____
- G. STPV3, Stop Vlv C/Tr B CH 3, at 2-R-49 in NORMAL
(CLOSED Jumper) (TB308 - 3,4) _____
- H. STPV4, Stop Vlv D/Tr B CH 4, at 2-R-49 in NORMAL
(CLOSED Jumper) (TB407 - 3,4) _____
- I. 2-HS-47-73, AUTO STOP OIL PRESSURE LOW TEST
SW, at 2-JB-290-1666-D (Aux Inst. Rm), in NORMAL. _____
- J. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST
SW, at 2-JB-290-1669-E (Aux Inst. Rm), in NORMAL. _____
- K. 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST
SW, at 2-JB-290-1668-F, (Aux Inst Rm) in NORMAL. _____

[3] **POSITION** the following:

- A. N41 Detector A and, if necessary Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is in ALARM to
put NC41M bistable, in TRIPPED. _____
- B. N42 Detector A and, if necessary Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is in ALARM to
put NC42M bistable, in TRIPPED. _____
- C. N43 Detector A and, if necessary Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is in ALARM to
put NC43M bistable, in TRIPPED. _____
- D. N44 Detector A and, if necessary Detector B TEST
SIGNAL potentiometer UNTIL POWER ABOVE
PERMISSIVE P10 lamp on front of drawer is in ALARM to
put NC44M bistable, in TRIPPED. _____

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6.17 Turbine Trip Reactor Trip (continued)

[4] **POSITION** the following:

- A. 2-N47A, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____
- B. 2-N47B, PR LO POWER TRIP BLOCK P-10, at 2-M-4 in BLOCK _____

[5] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is in ALARM. _____
- B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is in ALARM. _____
- C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is in ALARM. _____
- D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is in ALARM. _____
- E. Annunciator 64E (2-XA-55-4A, 2-M-4), P-10 NUC AT POWER PERMISSIVE, is in ALARM. _____
- F. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE LO SETPOINT TRIP BLOCKED, is in ALARM. _____

[6] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[7] **POSITION** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC41P, at 2-M-13 bistable in TRIPPED _____
- B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW RANGE lamp on front of drawer is in ALARM to put NC42P bistable, at 2-M-13 in TRIPPED _____

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6.17 Turbine Trip Reactor Trip (continued)

C. N43 Detector A and, if necessary, Detector B TEST
 SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
 RANGE lamp on front of drawer is in ALARM to put
 NC43P bistable, at 2-M-13 in TRIPPED _____

D. N44 Detector A and, if necessary, Detector B TEST
 SIGNAL potentiometer UNTIL OVERPOWER TRIP LOW
 RANGE lamp on front of drawer is in ALARM to put
 NC44P bistable, at 2-M-13 in TRIPPED _____

[8] **VERIFY** the contact state for 2-RLY-99-K635 (Train A/2-R-48)
 (Reference 2.2.1D.124 - 2-54114-1-7246D11-24):

A. TB650 -1, 2 OPEN _____

M&TE _____ Cal Due Date _____

B. TB650 -3, 4 OPEN _____

M&TE _____ Cal Due Date _____

C. TB650 -5, 6 OPEN _____

M&TE _____ Cal Due Date _____

D. TB650 -7, 8 CLOSED _____

M&TE _____ Cal Due Date _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[9] **VERIFY** the contact state for 2-RLY-99-K635 (Train B/2-R-51)
(Reference 2.2.1D.124 - 2-54114-1-0-24):

A. TB650 -1, 2 OPEN

M&TE _____ Cal Due Date _____

B. TB650 -3, 4 OPEN

M&TE _____ Cal Due Date _____

C. TB650 -5, 6 OPEN

M&TE _____ Cal Due Date _____

D. TB650 -7, 8 CLOSED

M&TE _____ Cal Due Date _____

[10] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[11] **VERIFY** the following:

A. Trip Status Light 6 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SET PT NC41P, is in ALARM

B. Trip Status Light 26 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC42P, is in ALARM

C. Trip Status Light 46 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC43P, is in ALARM

D. Trip Status Light 66 (2-XX-55-5, 2-M-5), PR FLUX HI LO
SETPT NC44P, is in ALARM

E. Trip Status Light 18 (2-XX-55-6A, 2-M-6), TURBINE
STOP VLV 1 CLOSED, is CLEAR

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6.17 Turbine Trip Reactor Trip (continued)

- F. Trip Status Light 38 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 2 CLOSED, is CLEAR _____
- G. Trip Status Light 58 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 3 CLOSED, is CLEAR _____
- H. Trip Status Light 78 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 4 CLOSED, is CLEAR _____
- I. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is CLEAR _____
- J. Trip Status Light 17 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-1, is CLEAR _____
- K. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is CLEAR _____
- L. Trip Status Light 57 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-3, is CLEAR _____
- M. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is CLEAR _____
- N. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM _____
- O. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____
- P. Annunciator 80D (2-XA-55-4D, 2-M-4), POWER RANGE FLUX HI (LO SETPT), is CLEAR. _____

[12] **ENSURE** the following:

- A. N41 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC41S bistable, at 2-M-13 in TRIPPED. _____
- B. N42 Detector A and, if necessary, Detector B TEST SIGNAL potentiometer UNTIL POWER ABOVE P9 lamp on front of drawer is in ALARM to put NC42S bistable, at 2-M-13 in TRIPPED. _____

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6.17 Turbine Trip Reactor Trip (continued)

C. STPV1, Stop Vlv A/Tr A CH 1, in TRIPPED (OPEN Jumper at 2-R-46 TB109 - 3,4). _____

D. STPV1, Stop Vlv A/Tr B CH 1, in TRIPPED (OPEN Jumper at 2-R-49 TB109 - 3,4). _____

[13] **VERIFY** the following:

A. Trip Status Light 9 (2-XX-55-5, 2-M-5) , PR >P9 NC41S, is in ALARM _____

B. Trip Status Light 29 (2-XX-55-5, 2-M-5) , PR >P9 NC42S, is in ALARM _____

C. Trip Status Light 18 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 1 CLOSED, is in ALARM _____

D. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is in ALARM _____

E. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is CLEAR _____

F. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

G. Unit 2 Event Display Monitor indicates 121-C TURBINE STOP VALVES CLOSED is in ALARM (Red) _____

H. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

I. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[14] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[15] **VERIFY** the following Computer Points:

- A. Y0391D, TURB STOP VALVE 1 CL PARTIAL RX TRIP, indicates TRIP _____
- B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[16] **POSITION** the following:

- A. STPV1, Stop Vlv A/Tr A CH 1, at 2-R-46 in NORMAL (CLOSED Jumper) (TB109 - 3,4) _____
- B. STPV1, Stop Vlv A/Tr B CH 1, at 2-R-49 in NORMAL (CLOSED Jumper) (TB109 - 3,4) _____

[17] **VERIFY** the following:

- A. Trip Status Light 18 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 1 CLOSED, is CLEAR _____
- B. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is CLEAR _____
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____
- D. Unit 2 Event Display Monitor indicates 121-C TURBINE STOP VALVES CLOSED is in NORMAL (Blue) _____
- E. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

- F. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[18] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[19] **VERIFY** the following Computer Points:

A. Y0391D, TURB STOP VALVE 1 CL PARTIAL RX TRIP, indicates NOT TR _____

B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[20] **POSITION** the following:

A. STPV2, Stop Vlv B/Tr A CH 2, at 2-R-46 in TRIPPED (OPEN Jumper) (TB209 - 3,4) _____

B. STPV2, Stop Vlv B/Tr B CH 2, at 2-R-49 in TRIPPED (OPEN Jumper) (TB209 - 3,4) _____

[21] **VERIFY** the following:

A. Trip Status Light 38 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 2 CLOSED, is in ALARM. _____

B. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is in ALARM. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[22] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[23] **VERIFY** the following Computer Points:

A. Y0392D, TURB STOP VALVE 2 CL PARTIAL RX TRIP,
indicates TRIP _____

B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates
NOT TR _____

[24] **POSITION** the following:

A. STPV2, Stop Vlv B/Tr A CH 2, at 2-R-46 in NORMAL
(CLOSED Jumper) (TB209 - 3,4) _____

B. STPV2, Stop Vlv B/Tr B CH 2, at 2-R-49 in NORMAL
(CLOSED Jumper) (TB209 - 3,4) _____

[25] **VERIFY** the following:

A. Trip Status Light 38 (2-XX-55-6A, 2-M-6), TURBINE
STOP VLV 2 CLOSED, is CLEAR. _____

B. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP
VALVES CLOSED, is CLEAR. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is
CLEAR _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[26] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[27] **VERIFY** the following Computer Points:

A. Y0392D, TURB STOP VALVE 2 CL PARTIAL RX TRIP,
indicates NOT TR _____

B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates
NOT TR _____

[28] **POSITION** the following:

A. STPV3, Stop Vlv C/Tr A CH 3, at 2-R-46 in TRIPPED
(OPEN Jumper) (TB308 - 3,4) _____

B. STPV3, Stop Vlv C/Tr B CH 3, at 2-R-49 in TRIPPED
(OPEN Jumper) (TB308 - 3,4) _____

[29] **VERIFY** the following:

A. Trip Status Light 58 (2-XX-55-6A, 2-M-6), TURBINE
STOP VLV 3 CLOSED, is in ALARM. _____

B. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP
VALVES CLOSED, is in ALARM. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is
CLEAR _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[30] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[31] **VERIFY** the following Computer Points:

A. Y0393D, TURB STOP VALVE 3 CL PARTIAL RX TRIP, indicates TRIP _____

B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[32] **POSITION** the following:

A. STPV3, Stop Vlv C/Tr A CH 3, at 2-R-46 in NORMAL (CLOSED Jumper) (TB308 - 3,4) _____

B. STPV3, Stop Vlv C/Tr B CH 3, at 2-R-49 in NORMAL (CLOSED Jumper) (TB308 - 3,4) _____

[33] **VERIFY** the following:

A. Trip Status Light 58 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 3 CLOSED, is CLEAR. _____

B. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is CLEAR. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

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6.17 Turbine Trip Reactor Trip (continued)

[34] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[35] **VERIFY** the following Computer Points:

A. Y0393D, TURB STOP VALVE 3 CL PARTIAL RX TRIP, indicates NOT TR _____

B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[36] **POSITION** the following:

A. STPV4, Stop Vlv D/T A CH 4, at 2-R-46 in TRIPPED (OPEN Jumper) (TB407 - 3,4) _____

B. STPV4, Stop Vlv D/Tr B CH 4, at 2-R-49 in TRIPPED (OPEN Jumper) (TB407 - 3,4) _____

[37] **VERIFY** the following:

A. Trip Status Light 78 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 4 CLOSED, is in ALARM. _____

B. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is in ALARM. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

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6.17 Turbine Trip Reactor Trip (continued)

[38] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[39] **VERIFY** the following Computer Points:

A. Y0394D, TURB STOP VALVE 4 CL PARTIAL RX TRIP,
indicates TRIP _____

B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates
NOT TR _____

[40] **POSITION** the following:

A. STPV4, Stop Vlv D/T A CH 4, at 2-R-46 in NORMAL
(CLOSED Jumper) (TB407 - 3,4) _____

B. STPV4, Stop Vlv D/Tr B CH 4, at 2-R-49 in NORMAL
(CLOSED Jumper) (TB407 - 3,4) _____

[41] **VERIFY** the following:

A. Trip Status Light 78 (2-XX-55-6A, 2-M-6), TURBINE
STOP VLV 4 CLOSED, is CLEAR. _____

B. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP
VALVES CLOSED, is CLEAR. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is
CLEAR _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

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6.17 Turbine Trip Reactor Trip (continued)

[42] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[43] **VERIFY** the following Computer Points:

A. Y0394D, TURB STOP VALVE 4 CL PARTIAL RX TRIP, indicates NOT TR _____

B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[44] **POSITION** the following:

A. STPV1, Stop Vlv A/Tr A CH 1, in TRIPPED (OPEN Jumper at 2-R-46 TB109 - 3,4) _____

B. STPV1, Stop Vlv A/Tr B CH 1, in TRIPPED (OPEN Jumper at 2-R-49 TB109 - 3,4) _____

C. STPV2, Stop Vlv B/Tr A CH 2, at 2-R-46 in TRIPPED (OPEN Jumper) (TB209 - 3,4) _____

D. STPV2, Stop Vlv B/Tr B CH 2, at 2-R-49 in TRIPPED (OPEN Jumper) (TB209 - 3,4) _____

E. STPV4, Stop Vlv D/T A CH 4, at 2-R-46 in TRIPPED (OPEN Jumper) (TB407 - 3,4) _____

F. STPV4, Stop Vlv D/Tr B CH 4, at 2-R-49 in TRIPPED (OPEN Jumper) (TB407 - 3,4) _____

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6.17 Turbine Trip Reactor Trip (continued)

[45] **VERIFY** the following:

- A. Trip Status Light 18 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 1 CLOSED, is in ALARM _____
- B. Trip Status Light 38 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 2 CLOSED, is in ALARM _____
- C. Trip Status Light 78 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 4 CLOSED, is in ALARM. _____
- D. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is in ALARM. _____
- E. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____
- F. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

- G. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[46] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[47] **POSITION** the following:

- A. STPV4, Stop Vlv D/TR A CH 4, at 2-R-46 in NORMAL (CLOSED Jumper) (TB407 - 3,4) _____
- B. STPV4, Stop Vlv D/TR B CH 4, at 2-R-49 in NORMAL (CLOSED Jumper) (TB407 - 3,4) _____

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6.17 Turbine Trip Reactor Trip (continued)

[48] **VERIFY** the following:

- A. Trip Status Light 78 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 4 CLOSED, is CLEAR. _____
- B. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____
- C. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

- D. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[49] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[50] **POSITION** the following:

- A. STPV3, Stop Vlv C/Tr A CH 3, at 2-R-46 in TRIPPED (OPEN Jumper) (TB308 - 3,4) _____
- B. STPV3, Stop Vlv C/Tr B CH 3, at 2-R-49 in TRIPPED (OPEN Jumper) (TB308 - 3,4) _____

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6.17 Turbine Trip Reactor Trip (continued)

[51] **VERIFY** the following:

A. Trip Status Light 58 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 3 CLOSED, is in ALARM. _____

B. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

C. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

D. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[52] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[53] **POSITION** the following:

A. STPV2, Stop Vlv B/Tr A CH 2, at 2-R-46 in NORMAL (CLOSED Jumper) (TB209 - 3,4) _____

B. STPV2, Stop Vlv B/Tr B CH 2, at 2-R-49 in NORMAL (CLOSED Jumper) (TB209 - 3,4) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[54] **VERIFY** the following:

A. Trip Status Light 38 (2-XX-55-6A, 2-M-6), TURBINE
STOP VLV 2 CLOSED, is CLEAR _____

B. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is
CLEAR _____

C. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

D. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[55] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[56] **POSITION** the following:

A. STPV4, Stop Vlv D/Tr A CH 4, at 2-R-46 in TRIPPED
(OPEN Jumper) (TB407 - 3,4) _____

B. STPV4, Stop Vlv D/Tr B CH 4, at 2-R-49 in TRIPPED
(OPEN Jumper) (TB407 - 3,4) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[57] **VERIFY** the following:

A. Trip Status Light 78 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 4 CLOSED, is in ALARM. _____

B. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

C. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

D. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[58] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[59] **POSITION** the following:

A. STPV1, Stop Vlv A/Tr A CH 1, at 2-R-46 in NORMAL (CLOSED Jumper) (TB109 - 3,4) _____

B. STPV1, Stop Vlv A/Tr B CH 1, at 2-R-49 in NORMAL (CLOSED Jumper) (TB109 - 3,4) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[60] **VERIFY** the following:

A. Trip Status Light 18 (2-XX-55-6A, 2-M-6), TURBINE
STOP VLV 1 CLOSED, is CLEAR _____

B. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is
CLEAR _____

C. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

D. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-
5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[61] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[62] **POSITION** the following:

A. STPV2, Stop Vlv B/Tr A CH 2, at 2-R-46 in TRIPPED
(OPEN Jumper) (TB209 - 3,4) _____

B. STPV2, Stop Vlv B/Tr B CH 2, at 2-R-49 in TRIPPED
(OPEN Jumper) (TB209 - 3,4) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[63] **VERIFY** the following:

A. Trip Status Light 38 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 2 CLOSED, is in ALARM. _____

B. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

C. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

D. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[64] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[65] **POSITION** the following:

A. STPV1, Stop Vlv A/Tr A CH 1, at 2-R-46 in TRIPPED (OPEN Jumper) (TB109 - 3,4) _____

B. STPV1, Stop Vlv A/Tr B CH 1, at 2-R-49 in TRIPPED (OPEN Jumper) (TB109 - 3,4) _____

[66] **VERIFY** the following:

A. Trip Status Light 18 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 1 CLOSED, is in ALARM _____

B. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM. _____

C. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is in ALARM. _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[67] **VERIFY** the contact state for 2-RLY-099-K635 (Train A/2-R-48)

A. TB650-1, 2 CLOSED _____

B. TB650-3, 4 CLOSED _____

C. TB650-5, 6 CLOSED _____

D. TB650-7, 8 OPEN _____

M&TE _____ Cal Due Date _____

[68] **VERIFY** the contact state for 2-RLY-099-K635 (Train A/2-R-51)

A. TB650-1, 2 CLOSED _____

B. TB650-3, 4 CLOSED _____

C. TB650-5, 6 CLOSED _____

D. TB650-7, 8 OPEN _____

M&TE _____ Cal Due Date _____

[69] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[70] **VERIFY** Computer Point Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates TRIP. _____

[71] **POSITION** the following:

A. 2-HS-47-73, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1666-D (Aux Inst. Rm), in TEST. _____

B. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1669-E (Aux Inst. Rm), in TEST. _____

C. 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1668-F (Aux Inst. Rm), in TEST. _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[72] **VERIFY** the following:

- A. Trip Status Light 17 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-1, is ALARM. _____
- B. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is ALARM. _____
- C. Trip Status Light 57 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-3, is ALARM. _____
- D. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM. _____
- E. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is in ALARM. _____
- F. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is in ALARM. _____

[73] **VERIFY** the contact state for 2-RLY-099-K635 (Train A/2-R-48)

- A. TB650-1, 2 CLOSED _____
- B. TB650-3, 4 CLOSED _____
- C. TB650-5, 6 CLOSED _____
- D. TB650-7, 8 OPEN _____

M&TE _____ Cal Due Date _____

[74] **VERIFY** the contact state for 2-RLY-099-K635 (Train A/2-R-51)

- A. TB650-1, 2 CLOSED _____
- B. TB650-3, 4 CLOSED _____
- C. TB650-5, 6 CLOSED _____
- D. TB650-7, 8 OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[75] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[76] **POSITION** NC41S, PR CH1 POWER ABOVE PERMISSIVE P9 bistable, in NORMAL. _____

[77] **VERIFY** the following:

A. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is in ALARM. _____

B. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is in ALARM. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, CLOSED _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, CLOSED _____

M&TE _____ Cal Due Date _____

F. Computer Point Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR. _____

[78] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[79] **POSITION** the following:

- A. 2-HS-47-73, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1666-D (Aux Inst. Rm), in NORMAL. _____
- B. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1669-E (Aux Inst. Rm), in NORMAL. _____
- C. 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1668-F (Aux Inst. Rm), in NORMAL. _____

[80] **VERIFY** the following:

- A. Trip Status Light 17 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-1, is CLEAR _____
- B. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is CLEAR _____
- C. Trip Status Light 57 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-3, is CLEAR _____
- D. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is CLEAR _____
- E. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is in ALARM. _____
- F. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR _____
- G. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, CLOSED _____

M&TE _____ Cal Due Date _____

- H. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, CLOSED _____

M&TE _____ Cal Due Date _____

- I. Computer Point Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR. _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[81] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[82] **POSITION** the following:

A. STPV1, Stop Vlv A/Tr A CH 1, at 2-R-46 in NORMAL (CLOSED Jumper) (TB109 - 3,4). _____

B. STPV1, Stop Vlv A/Tr B CH 1, at 2-R-49 in NORMAL (CLOSED Jumper) (TB109 - 3,4) _____

C. STPV2, Stop Vlv B/Tr A CH 2, at 2-R-46 in NORMAL (CLOSED Jumper) (TB209 - 3,4) _____

D. STPV2, Stop Vlv B/Tr B CH 2, at 2-R-49 in NORMAL (CLOSED Jumper) (TB209 - 3,4) _____

E. STPV3, Stop Vlv C/Tr A CH 3, at 2-R-46 in NORMAL (CLOSED Jumper) (TB308 - 3,4) _____

F. STPV3, Stop Vlv C/Tr B CH 3, at 2-R-49 in NORMAL (CLOSED Jumper) (TB308 - 3,4) _____

G. STPV4, Stop Vlv D/Tr A CH 4, at 2-R-46 in NORMAL (CLOSED Jumper) (TB407 - 3,4) _____

H. STPV4, Stop Vlv D/Tr B CH 4, at 2-R-49 in NORMAL (CLOSED Jumper) (TB407 - 3,4) _____

I. 2-HS-47-73, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1666-D (Aux Inst. Rm), in TEST. _____

J. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1669-E (Aux Inst. Rm), in TEST. _____

K. 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1668-F (Aux Inst. Rm), in TEST. _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[83] **VERIFY** the following:

- A. Trip Status Light 17 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-1, is ALARM. _____
- B. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is ALARM. _____
- C. Trip Status Light 57 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-3, is ALARM. _____
- D. Trip Status Light 18 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 1 CLOSED, is CLEAR. _____
- E. Trip Status Light 38 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 2 CLOSED, is CLEAR. _____
- F. Trip Status Light 58 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 3 CLOSED, is CLEAR. _____
- G. Trip Status Light 78 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 4 CLOSED, is CLEAR. _____
- H. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is CLEAR. _____
- I. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR. _____
- J. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, CLOSED. _____

M&TE _____ Cal Due Date _____

- K. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, CLOSED. _____

M&TE _____ Cal Due Date _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[84] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[85] **POSITION** NC41S, PR CH1 POWER ABOVE PERMISSIVE P9 bistable, in TRIPPED. _____

[86] **VERIFY** the following:

A. Trip Status Light 9 (2-XX-55-5, 2-M-5) , PR >P9 NC41S, is in ALARM _____

B. Annunciator 69E (2-XA-55-4A, 2-M-4), P-9 RX TRIP FROM TURB TRIP BLOCKED, is CLEAR. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM. _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, CLOSED. _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, CLOSED. _____

M&TE _____ Cal Due Date _____

F. Computer Point Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates TRIP. _____

[87] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[88] **POSITION** the following:

- A. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1669-E (Aux Inst. Rm), in NORMAL. _____
- B. 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1668-F (Aux Inst. Rm), in NORMAL. _____

[89] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[90] **VERIFY** the following:

- A. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is CLEAR _____
- B. Trip Status Light 57 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-3, is CLEAR _____
- C. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is in CLEAR. _____
- D. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR. _____
- E. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

- F. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[91] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[92] **VERIFY** the following Computer Points:

- A. P0396D, TURB HYD OIL LO PRESSURE 1 PARTIAL R, indicates TRIP _____
- B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[93] **POSITION** 2-HS-47-73, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1666-D (Aux Inst. Rm), in NORMAL. _____

[94] **VERIFY** the following:

- A. TRIP STATUS LIGHT 17 (2-XA-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-1, is CLEAR. _____
- B. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is CLEAR. _____
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR. _____
- D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

- E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[95] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[96] **VERIFY** the following Computer Points:

A. P0396D, TURB HYD OIL LO PRESSURE 1 PARTIAL R, indicates NOT TR _____

B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[97] **POSITION** 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1669-E (Aux Inst. Rm), in TEST. _____

[98] **VERIFY** the following:

A. TRIP STATUS LIGHT 37 (2-XA-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is in ALARM. _____

B. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is in ALARM. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR. _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[99] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.17 Turbine Trip Reactor Trip (continued)

[100] **VERIFY** the following Computer Points:

- A. P0397D, TURB HYD OIL LO PRESSURE 2 PARTIAL R, indicates TRIP _____
- B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[101] **POSITION** 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1669-E (Aux Inst. Rm), in NORMAL. _____

[102] **VERIFY** the following:

- A. TRIP STATUS LIGHT 37 (2-XA-55-4A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is CLEAR. _____
- B. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO STOP OIL PRESS LO, is CLEAR. _____
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR. _____
- D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650 - 5, 6, OPEN _____

M&TE _____ Cal Due Date _____

- E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650 - 5, 6, OPEN _____

M&TE _____ Cal Due Date _____

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6.17 Turbine Trip Reactor Trip (continued)

[103] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[104] **VERIFY** the following Computer Points:

A. P0397D, TURB HYD OIL LO PRESSURE 2 PARTIAL R, indicates NOT TR _____

B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[105] **POSITION** 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1668-F (Aux Inst. Rm), in TEST. _____

[106] **VERIFY** the following:

A. TRIP STATUS LIGHT 57 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-3, is in ALARM. _____

B. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is in ALARM. _____

C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR. _____

D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650 - 5, 6, OPEN _____

M&TE _____ Cal Due Date _____

E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650 - 5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[107] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[108] **VERIFY** the following Computer Points:

- A. P0398D, TURB HYD OIL LO PRESSURE 3 PARTIAL R, indicates TRIP _____
- B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[109] **POSITION** 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1668-F (Aux Inst. Rm), in NORMAL. _____

[110] **VERIFY** the following:

- A. TRIP STATUS LIGHT 57 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-3, is CLEAR. _____
- B. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is CLEAR. _____
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR. _____
- D. Contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

- E. Contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[111] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.17 Turbine Trip Reactor Trip (continued)

[112] **VERIFY** the following Computer Points:

- A. P0398D, TURB HYD OIL LO PRESSURE 3 PARTIAL R, indicates NOT TR _____
- B. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR _____

[113] **POSITION** the following:

- A. 2-HS-47-73, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1666-D, in TEST _____
- B. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1669-E (Aux Inst. Rm), in TEST _____

[114] **VERIFY** the contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, CLOSED _____

M&TE _____ Cal Due Date _____

[115] **VERIFY** the contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, CLOSED _____

M&TE _____ Cal Due Date _____

[116] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[117] **VERIFY** the following:

- A. Trip Status Light 17 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-1, is in ALARM. _____
- B. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is in ALARM. _____
- C. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is in ALARM. _____

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6.17 Turbine Trip Reactor Trip (continued)

D. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is in ALARM. _____

[118] **VERIFY** Computer Point Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates TRIP. _____

[119] **POSITION** 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST SW, at 2-JB-290-1669-E (Aux Inst. Rm), in NORMAL. _____

[120] **VERIFY** the contact state of 2-RLY-99-K635 (Train A/2-R-48) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[121] **VERIFY** the contact state of 2-RLY-99-K635 (Train B/2-R-51) TB650-5, 6, OPEN _____

M&TE _____ Cal Due Date _____

[122] **VERIFY** the following:

A. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP OIL PRESS LO 63AST-2, is CLEAR _____

B. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is CLEAR. _____

C. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-STOP OIL PRESS LO, is in ALARM. _____

[123] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[124] **VERIFY** Computer Point Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates NOT TR. _____

[125] **POSITION** 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST SW at 2-JB-290-1668-F, in TEST. _____

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6.17 Turbine Trip Reactor Trip (continued)

[126] **VERIFY** the contact state of 2-RLY-99-K635 (Train A/2-R-48)
TB650-5, 6, CLOSED

M&TE _____ Cal Due Date _____

[127] **VERIFY** the contact state of 2-RLY-99-K635 (Train B/2-R-51)
TB650-5, 6, CLOSED

M&TE _____ Cal Due Date _____

[128] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[129] **POSITION** 2-HS-47-73, AUTO STOP OIL PRESSURE LOW
TEST SW at 2-JB-290-1666-D (Aux Inst. Rm), in NORMAL.

[130] **VERIFY** the contact state of 2-RLY-99-K635 (Train A/2-R-48)
TB650-5, 6, OPEN

M&TE _____ Cal Due Date _____

[131] **VERIFY** the contact state of 2-RLY-99-K635 (Train B/2-R-51)
TB650-5, 6, OPEN

M&TE _____ Cal Due Date _____

[132] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[133] **POSITION** 2-HS-47-74, AUTO STOP OIL PRESSURE LOW
TEST SW at 2-JB-290-1669-E (Aux Inst. Rm), in TEST.

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[134] **VERIFY** the contact state of 2-RLY-99-K635 (Train A/2-R-48)
TB650-5, 6, CLOSED

M&TE _____ Cal Due Date _____

[135] **VERIFY** the contact state of 2-RLY-99-K635 (Train B/2-R-51)
TB650-5, 6, CLOSED

M&TE _____ Cal Due Date _____

[136] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[137] **POSITION** the following:

A. 2-HS-47-74, AUTO STOP OIL PRESSURE LOW TEST
SW at 2-JB-290-1669-E (Aux Inst. Rm), in NORMAL. _____

B. 2-HS-47-75, AUTO STOP OIL PRESSURE LOW TEST
SW at 2-JB-290-1668-F (Aux Inst. Rm), in NORMAL. _____

[138] **VERIFY** the contact state of 2-RLY-99-K635 (Train A/2-R-48)
TB650-5, 6, OPEN

M&TE _____ Cal Due Date _____

[139] **VERIFY** the contact state of 2-RLY-99-K635 (Train B/2-R-51)
TB650-5, 6, OPEN

M&TE _____ Cal Due Date _____

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6.17 Turbine Trip Reactor Trip (continued)

[140] **ROTATE** the following:

- A. N41 Detector A and Detector B TEST SIGNAL
potentiometer Fully CCW to put all bistables for N41, at 2-M-13 in NORMAL. _____
- B. N42 Detector A and Detector B TEST SIGNAL
potentiometer Fully CCW to put all bistables for N42, at 2-M-13 in NORMAL. _____
- C. N43 Detector A and Detector B TEST SIGNAL
potentiometer Fully CCW to put all bistables for N43, at 2-M-13 in NORMAL. _____
- D. N44 Detector A and Detector B TEST SIGNAL
potentiometer Fully CCW to put all bistables for N44, at 2-M-13 in NORMAL. _____

[141] **VERIFY** the following:

- A. Trip Status Light 5 (2-XX-55-5, 2-M-5), PR >P10 NC41M, is CLEAR _____
- B. Trip Status Light 25 (2-XX-55-5, 2-M-5), PR >P10 NC42M, is CLEAR _____
- C. Trip Status Light 45 (2-XX-55-5, 2-M-5), PR >P10 NC43M, is CLEAR _____
- D. Trip Status Light 65 (2-XX-55-5, 2-M-5), PR >P10 NC44M, is CLEAR _____
- E. Trip Status Light 18 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 1 CLOSED, is CLEAR _____
- F. Trip Status Light 38 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 2 CLOSED, is CLEAR _____
- G. Trip Status Light 58 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 3 CLOSED, is CLEAR _____
- H. Trip Status Light 78 (2-XX-55-6A, 2-M-6), TURBINE STOP VLV 4 CLOSED, is CLEAR _____
- I. Annunciator 121C (2-XA-55-6B, 2-M-6), TURBINE STOP VALVES CLOSED, is CLEAR _____

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6.17 Turbine Trip Reactor Trip (continued)

- J. Trip Status Light 17 (2-XX-55-6A, 2-M-6), AUTO STOP
OIL PRESS LO 63AST-1, is CLEAR _____
- K. Trip Status Light 37 (2-XX-55-6A, 2-M-6), AUTO STOP
OIL PRESS LO 63AST-2, is CLEAR _____
- L. Trip Status Light 57 (2-XX-55-6A, 2-M-6), AUTO STOP
OIL PRESS LO 63AST-3, is CLEAR _____
- M. Annunciator 64D (2-XA-55-4A, 2-M-4), POWER RANGE
LO SETPOINT TRIP BLOCKED, is CLEAR. _____
- N. Annunciator 121D (2-XA-55-6B, 2-M-6), TURB AUTO-
STOP OIL PRESS LO, is CLEAR _____
- O. Annunciator 76B (2-XA-55-4D, 2-M-4), TURBINE TRIP, is
CLEAR _____

[142] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.17 Turbine Trip Reactor Trip (continued)

[143] **VERIFY** the following computer points:

- A. P0396D, TURB HYD OIL LO PRESSURE 1 PARTIAL R,
indicates NOT TR _____
- B. P0397D, TURB HYD OIL LO PRESSURE 2 PARTIAL R,
indicates NOT TR _____
- C. P0398D, TURB HYD OIL LO PRESSURE 3 PARTIAL R,
indicates NOT TR _____
- D. Y0390D, TURB TRIP & P9 CAUSES RX TRIP, indicates
NOT TR _____
- E. Y0391D, TURB STOP VALVE 1 CL PARTIAL RX TRIP,
indicates NOT TR _____
- F. Y0392D, TURB STOP VALVE 2 CL PARTIAL RX TRIP,
indicates NOT TR _____
- G. Y0393D, TURB STOP VALVE 3 CL PARTIAL RX TRIP,
indicates NOT TR _____
- H. Y0394D, TURB STOP VALVE 4 CL PARTIAL RX TRIP,
indicates NOT TR _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start

NOTES

- 1) In this subsection, the following identifiers will be used:

<u>RELAY ID</u>	<u>LOCATION</u>	<u>DESCRIPTION</u>	<u>SECTION IDENTIFIER</u>
2-RLY-099-K633A	2-R-48	MOTOR DRIVEN AUX FEED PUMP LO-LO STEAM GENERATOR LEVEL (1/4)	2-RLY-99-K633 (Train A/2-R-48)
2-RLY-099-K633B	2-R-51	MOTOR DRIVEN AUX FEED PUMP LO-LO STEAM GENERATOR LEVEL (1/4)	2-RLY-99-K633 (Train B/2-R-51)
2-RLY-099-K634A	2-R-48	TURBINE DRIVEN AUX FEED PUMP LO-LO STEAM GENERATOR LEVEL (2/4)	2-RLY-99-K634 (Train A/2-R-48)
2-RLY-099-K634B	2-R-51	TURBINE DRIVEN AUX FEED PUMP LO-LO STEAM GENERATOR LEVEL (2/4)	2-RLY-99-K634 (Train B/2-R-51)

- 2) The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status.
- 3) There is a Time Trip Delay (TTD) of 8 minutes associated with a low-low level SG trip for a single channel and a 6 minute delay for multiple channels. After tripping the bistables these wait times must pass before verification of the associated trip.

[1] **ENSURE** prerequisites listed in Section 4.0 for Subsection 6.18 have been completed. _____

[2] **ENSURE** the following Eagle 21 Protection channels: _____

A. LS/519B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____

B. LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____

C. LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

- D. LS/549B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-5 to the left (NORMAL) _____
- E. LS/518B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the left (NORMAL) _____
- F. LS/528B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the left (NORMAL) _____
- G. LS/538B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the left (NORMAL) _____
- H. LS/548B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the left (NORMAL) _____
- I. LS/517B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the left (NORMAL) _____
- J. LS/527B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the left (NORMAL). _____
- K. LS/537B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the left (NORMAL). _____
- L. LS/547B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the left (NORMAL). _____

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[3] **VERIFY** the contact state for 2-RLY-099-K633 (Train A/2-R-48):

A. TB632-1, 2 OPEN. _____

B. TB632-5, 6 OPEN. _____

M&TE _____ Cal Due Date _____

[4] **VERIFY** the contact state for 2-RLY-099-K634 (Train A/2-R-48)

A. TB632-9, 10 OPEN _____

B. TB633-1, 2 CLOSED _____

C. TB633-3, 4 CLOSED _____

M&TE _____ Cal Due Date _____

[5] **VERIFY** the contact state for 2-RLY-099-K633 (Train B/2-R-51)

A. TB632-1, 2 OPEN _____

B. TB632-5, 6 OPEN _____

M&TE _____ Cal Due Date _____

[6] **VERIFY** the contact state for 2-RLY-099-K634 (Train B/2-R-51)

A. TB632-9, 10 OPEN _____

B. TB633-1, 2 CLOSED _____

C. TB633-3, 4 CLOSED _____

M&TE _____ Cal Due Date _____

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[7] **VERIFY** the following:

- A. Annunciator 116E (2-XA-55-6B, 2-M-6), SG 1 LEVEL LO-LO, is CLEAR _____
- B. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-LO, is CLEAR _____
- C. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-LO, is CLEAR _____
- D. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-LO, is CLEAR _____
- E. Annunciator 77B (2-XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO, is CLEAR _____
- F. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is CLEAR _____
- G. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR _____
- H. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-LO, is CLEAR _____

[8] **VERIFY** the following:

- A. Trip Status Light 40 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-38B, is CLEAR _____
- B. Trip Status Light 64 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-39B, is CLEAR _____
- C. Trip Status Light 88 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-42B, is CLEAR _____
- D. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-51B, is CLEAR _____
- E. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-52B, is CLEAR _____

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

F. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-55B, is CLEAR

G. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-93B, is CLEAR

H. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-94B, is CLEAR

I. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-97B, is CLEAR

J. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-106B, is CLEAR

K. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-107B, is CLEAR

L. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-110B, is CLEAR

[9] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[10] **ENSURE** LS/517B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-12 to the right (TRIP).

[11] **VERIFY** the following:

A. Trip Status Light 88 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-42B, is in ALARM.

B. Annunciator 116E (XA-55-6B, 2-M-6), SG 1 LEVEL LO-
LO, is in ALARM

C. Annunciator 77B (XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO,
is CLEAR

D. Unit 2 Event Display Monitor indicates 116-E SG 1 LEVEL
LO-LO is in ALARM (Red)

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

- [12] Verify the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN.

M&TE _____ Cal Due Date _____

- [13] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

- [14] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

- [15] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

- [16] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

- [17] **VERIFY** the following Computer Points:

A. L0405D, SG #1 LO LO LVL PARTIAL RX T PS IV,
indicates TRIP _____

B. L0406D, STM GEN 1 LO LO LEVEL CAUSES RX TRIP,
indicates NOT TR _____

- [18] **POSITION** LS/517B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-12 to the left (NORMAL).

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[19] **VERIFY** the following:

A. Trip Status Light 88 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-42B, is CLEAR. _____

B. Annunciator 116E (XA-55-6B, 2-M-6), SG 1 LEVEL LO-
LO, is CLEAR _____

C. Annunciator 77B (XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO,
is CLEAR _____

D. Unit 2 Event Display Monitor indicates 116-E SG 1 LEVEL
LO-LO is in NORMAL (Blue) _____

[20] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[21] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[22] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[23] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[24] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[25] **VERIFY** the following Computer Points:

A. L0405D, SG #1 LO LO LVL PARTIAL RX T PS IV, indicates NOT TR _____

B. L0406D, STM GEN 1 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[26] **POSITION** LS/518B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP). _____

[27] **VERIFY** the following:

A. Trip Status Light 64 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-39B, is in ALARM. _____

B. Annunciator 116E (XA-55-6B, 2-M-6), SG 1 LEVEL LO-LO, is in ALARM _____

C. Annunciator 77B (XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO, is CLEAR _____

[28] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[29] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[30] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[31] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[32] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[33] **VERIFY** the following Computer Points:

A. L0404D, SG #1 LO LO LVL PARTIAL RX T PS III, indicates TRIP _____

B. L0406D, STM GEN 1 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[34] **POSITION** LS/518B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____

[35] **VERIFY** the following:

A. Trip Status Light 64 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-39B, is in CLEAR. _____

B. Annunciator 116E (XA-55-6B, 2-M-6), SG 1 LEVEL LO-LO, is CLEAR _____

C. Annunciator 77B (XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO, is CLEAR _____

[36] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[37] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

- [38] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

- [39] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

- [40] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

- [41] **VERIFY** the following Computer Points:

A. L0404D, SG #1 LO LO LVL PARTIAL RX T PS III,
indicates NOT TR

B. L0406D, STM GEN 1 LO LO LEVEL CAUSES RX TRIP,
indicates NOT TR

- [42] **POSITION** LS/519B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-5 to the right (TRIP).

- [43] **VERIFY** the following:

A. Trip Status Light 40 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-38B, is in ALARM.

B. Annunciator 116E (XA-55-6B, 2-M-6), SG 1 LEVEL LO-
LO, is in ALARM

C. Annunciator 77B (XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO,
is CLEAR

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

- [44] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____
M&TE _____ Cal Due Date _____
- [45] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____
M&TE _____ Cal Due Date _____
- [46] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____
M&TE _____ Cal Due Date _____
- [47] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____
M&TE _____ Cal Due Date _____
- [48] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
A. UV COIL VOLTAGE Meter (2-R-47) _____
B. UV COIL VOLTAGE Meter (2-R-50) _____
- [49] **VERIFY** the following Computer Points:
A. L0403D, SG #1 LO LO LVL PARTIAL RX T PS II, indicates TRIP _____
B. L0406D, STM GEN 1 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____
- [50] **POSITION** LS/519B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL). _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[51] **VERIFY** the following:

A. Trip Status Light 40 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-38B, is CLEAR. _____

B. Annunciator 116E (XA-55-6B, 2-M-6), SG 1 LEVEL LO-
LO, is CLEAR _____

C. Annunciator 77B (XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO,
is CLEAR _____

[52] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[53] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[54] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[55] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[56] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[57] **VERIFY** the following Computer Points:

- A. L0403D, SG #1 LO LO LVL PARTIAL RX T PS II, indicates NOT TR _____
- B. L0406D, STM GEN 1 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[58] **POSITION** the following:

- A. LS/517B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____
- B. LS/518B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____

[59] **VERIFY**

- A. Trip Status Light 88 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-42B, is in ALARM _____
- B. Trip Status Light 64 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-39B, is in ALARM _____
- C. Annunciator 116E (XA-55-6B, 2-M-6), SG 1 LEVEL LO-LO, is in ALARM _____
- D. Annunciator 77B (XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO, is in ALARM. _____
- E. Unit 2 Event Display Monitor indicates 77-B RT-SG 1 LEVEL LO-LO is in ALARM (Red) _____

[60] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[61] **VERIFY** Computer Point L0406D, STM GEN 1 LO LO LEVEL CAUSES RX TRIP, indicates TRIP. _____

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

- [62] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED. **[Acc Crit]** _____
M&TE _____ Cal Due Date _____
- [63] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____
M&TE _____ Cal Due Date _____
- [64] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is CLOSED. **[Acc Crit]** _____
M&TE _____ Cal Due Date _____
- [65] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____
M&TE _____ Cal Due Date _____
- [66] **POSITION** LS/518B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____
- [67] **VERIFY** the following:
A. Annunciator 77B (2-XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO, is CLEAR. _____
B. Unit 2 Event Display Monitor indicates 77-B RT-SG 1 LEVEL LO-LO is in NORMAL (Blue) _____
- [68] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):
A. UV COIL VOLTAGE Meter (2-R-47) _____
B. UV COIL VOLTAGE Meter (2-R-50) _____
- [69] **VERIFY** Computer Point L0406D, STM GEN 1 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR. _____

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

- [70] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____
- M&TE _____ Cal Due Date _____
- [71] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____
- M&TE _____ Cal Due Date _____
- [72] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____
- M&TE _____ Cal Due Date _____
- [73] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____
- M&TE _____ Cal Due Date _____
- [74] **POSITION** LS/519B, Low Low Level Reactor -Trip and Aux
Feedwater Pump Start, at 2-R-5 to the right (TRIP). _____
- [75] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____
- [76] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is CLOSED. **[Acc Crit]** _____
- M&TE _____ Cal Due Date _____
- [77] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____
- M&TE _____ Cal Due Date _____

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

- [78] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED. **[Acc Crit]** _____
- M&TE _____ Cal Due Date _____
- [79] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____
- M&TE _____ Cal Due Date _____
- [80] **POSITION** LS/517B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-12 to the left (NORMAL). _____
- [81] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____
- [82] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____
- M&TE _____ Cal Due Date _____
- [83] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____
- M&TE _____ Cal Due Date _____
- [84] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____
- M&TE _____ Cal Due Date _____
- [85] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____
- M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[86] **POSITION** LS/518B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP). _____

[87] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[88] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[89] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[90] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[91] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[92] **POSITION** LS/518B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL). _____

[93] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

- [94] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

- [95] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

- [96] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

- [97] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

- [98] **POSITION** the following:

A. LS/517B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP)

B. LS/518B, Low Low Level Reactor Trip and AUX Feedwater Pump Start, at 2-R-11 to the right (TRIP)

- [99] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**

- [100] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED **[Acc Crit]**

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[101] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[102] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED **[Acc Crit]**

M&TE _____ Cal Due Date _____

[103] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[104] **POSITION** the following:

A. LS/517B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the left (NORMAL)

B. LS/518B, Low Low Level Reactor Trip and AUX
Feedwater Pump Start, at 2-R-11 to the left (NORMAL)

C. LS/519B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-5 to the left (NORMAL)

[105] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[106] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[107] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[108] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[109] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[110] **POSITION** LS/527B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-12 to the right (TRIP).

[111] **VERIFY** the following:

A. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-55B, is in ALARM.

B. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-
LO, is in ALARM

C. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is CLEAR

D. Unit 2 Event Display Monitor indicates 117-E SG 2 LEVEL
LO-LO is in ALARM (Red)

[112] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[113] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[114] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[115] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[116] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[117] **VERIFY** the following Computer Points:

A. L0425D, SG #2 LO LO LVL PARTIAL RX T PS IV,
indicates TRIP

B. L0426D, STM GEN 2 LO LO LEVEL CAUSES RX TRIP,
indicates NOT TR

[118] **POSITION** LS/527B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-12 to the left (NORMAL).

[119] **VERIFY** the following:

A. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-55B, is CLEAR.

B. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-
LO, is CLEAR

C. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is CLEAR

D. Unit 2 Event Display Monitor indicates 117-E SG 2 LEVEL
LO-LO is in NORMAL (Blue)

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[120] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[121] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[122] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[123] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[124] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[125] **VERIFY** the following Computer Points:

A. L0425D, SG #2 LO LO LVL PARTIAL RX T PS IV, indicates NOT TR _____

B. L0426D, STM GEN 2 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[126] **POSITION** LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP).

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[127] **VERIFY** the following:

A. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-52B, is in ALARM. _____

B. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-
LO, is in ALARM _____

C. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is CLEAR _____

[128] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[129] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[130] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[131] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[132] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[133] **VERIFY** the following Computer Points:

A. L0424D, SG #2 LO LO LVL PARTIAL RX T PS III, indicates TRIP _____

B. L0426D, STM GEN 2 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[134] **POSITION** LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL). _____

[135] **VERIFY** the following:

A. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-52B, is CLEAR. _____

B. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-LO, is CLEAR _____

C. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is CLEAR _____

[136] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[137] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[138] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[139] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[140] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[141] **VERIFY** the following Computer Points:

A. L0424D, SG #2 LO LO LVL PARTIAL RX T PS III, indicates NOT TR _____

B. L0426D, STM GEN 2 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[142] **POSITION** LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP). _____

[143] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-51B, is in ALARM. _____

B. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-LO, is in ALARM _____

C. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is CLEAR _____

[144] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[145] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[146] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[147] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[148] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[149] **VERIFY** the following Computer Points:

A. L0423D, SG #2 LO LO LVL PARTIAL RX T PS II, indicates TRIP

B. L0426D, STM GEN 2 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR

[150] **POSITION** LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL)

[151] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-51B, is CLEAR.

B. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-LO, is CLEAR

C. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is CLEAR

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[152] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[153] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[154] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[155] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[156] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[157] **VERIFY** the following Computer Points:

A. L0423D, SG #2 LO LO LVL PARTIAL RX T PS II, indicates NOT TR _____

B. L0426D, STM GEN 2 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[158] **POSITION** the following:

- A. LS/527B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____
- B. LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____

[159] **VERIFY** the following:

- A. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-52B, is in ALARM _____
- B. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-55B, is in ALARM _____
- C. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is in ALARM _____
- D. Unit 2 Event Display Monitor indicates 78-B RT-SG 2 LEVEL LO-LO is in ALARM (Red) _____

[160] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[161] **VERIFY** Computer Point L0426D, STM GEN 2 LO LO LEVEL CAUSES RX TRIP, indicates TRIP. _____

[162] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[163] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[164] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[165] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[166] **POSITION** LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL).

[167] **VERIFY** the following:

A. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-52B, is CLEAR

B. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is CLEAR.

C. Unit 2 Event Display Monitor indicates 78-B RT-SG 2 LEVEL LO-LO is in NORMAL (Blue)

[168] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[169] **VERIFY** Computer Point L0426D, STM GEN 2 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR.

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[170] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[171] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[172] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[173] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[174] **POSITION** LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP).

[175] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-51B, is in ALARM

B. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is in ALARM

[176] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[177] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[178] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[179] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED **[Acc Crit]**

M&TE _____ Cal Due Date _____

[180] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[181] **POSITION** LS/527B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-12 to the left (NORMAL).

[182] **VERIFY** the following:

A. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-55B, is CLEAR

B. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is CLEAR

[183] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[184] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[185] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[186] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[187] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[188] **POSITION** LS/528B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-11 to the right (TRIP).

[189] **VERIFY** the following:

A. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-52B, is in ALARM

B. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is in ALARM

[190] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[191] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[192] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[193] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[194] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[195] **POSITION** LS/528B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-11 to the left (NORMAL). _____

[196] **VERIFY** the following:

A. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-52B, is CLEAR _____

B. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is CLEAR _____

[197] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[198] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[199] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[200] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[201] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[202] **POSITION** the following:

A. LS/527B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the right (TRIP)

B. LS/528B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the right (TRIP)

[203] **VERIFY** the following:

A. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-52B, is in ALARM

B. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-55B, is in ALARM

C. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is in ALARM

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[204] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[205] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[206] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[207] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[208] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[209] **POSITION** the following:

A. LS/527B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL) _____

B. LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____

C. LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[210] **VERIFY** the following:

- A. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-51B, is CLEAR _____
- B. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-52B, is CLEAR _____
- C. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-55B, is CLEAR _____
- D. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is CLEAR _____

[211] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[212] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[213] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[214] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[215] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[216] **POSITION** LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP). _____

[217] **VERIFY** the following:

A. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-97B, is in ALARM. _____

B. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-LO, is in ALARM _____

C. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR _____

D. Unit 2 Event Display Monitor indicates 118-E SG 3 LEVEL LO-LO is in ALARM (Red) _____

[218] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[219] **VERIFY** the following computer points:

A. L0445D, SG #3 LO LO LVL PARTIAL RX T PS IV, indicates TRIP _____

B. L0446D, STM GEN 3 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[220] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[221] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[222] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[223] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[224] **POSITION** LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL).

[225] **VERIFY** the following:

A. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-97B, is CLEAR.

B. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-LO, is CLEAR

C. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR

D. Unit 2 Event Display Monitor indicates 118-E SG 3 LEVEL LO-LO is in NORMAL (Blue)

[226] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[227] **VERIFY** the following computer points:

A. L0445D, SG #3 LO LO LVL PARTIAL RX T PS IV, indicates NOT TR

B. L0446D, STM GEN 3 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[228] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[229] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[230] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[231] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[232] **POSITION** LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP).

[233] **VERIFY** the following:

A. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-94B, is in ALARM.

B. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-LO, is in ALARM

C. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR

[234] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[235] **VERIFY** the following computer points:

A. L0444D, SG #3 LO LO LVL PARTIAL RX T PS III,
indicates TRIP _____

B. L0446D, STM GEN 3 LO LO LEVEL CAUSES RX TRIP,
indicates NOT TR _____

[236] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[237] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[238] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[239] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[240] **POSITION** LS/538B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-11 to the left (NORMAL). _____

[241] **VERIFY** the following:

A. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-94B, is CLEAR. _____

B. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-
LO, is CLEAR _____

C. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-
LO, is CLEAR _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[242] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[243] **VERIFY** the following computer points:

A. L0444D, SG #3 LO LO LVL PARTIAL RX T PS III, indicates NOT TR _____

B. L0446D, STM GEN 3 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[244] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[245] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[246] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[247] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[248] **POSITION** LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP). _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[249] **VERIFY** the following:

- A. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-93B, is in ALARM. _____
- B. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-LO, is in ALARM _____
- C. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR _____

[250] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[251] **VERIFY** the following computer points:

- A. L0443D, SG #3 LO LO LVL PARTIAL RX T PS II, indicates TRIP _____
- B. L0446D, STM GEN 3 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[252] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[253] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[254] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[255] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[256] **POSITION** LS/539B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-5 to the left (NORMAL). _____

[257] **VERIFY** the following:

A. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-93B, is CLEAR. _____

B. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-
LO, is CLEAR. _____

C. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-
LO, is CLEAR _____

[258] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[259] **VERIFY** the following computer points:

A. L0443D, SG #3 LO LO LVL PARTIAL RX T PS II,
indicates NOT TR _____

B. L0446D, STM GEN 3 LO LO LEVEL CAUSES RX TRIP,
indicates NOT TR _____

[260] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[261] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[262] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[263] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[264] **POSITION** the following:

A. LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP)

B. LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP)

[265] **VERIFY** the following:

A. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-94B, is in ALARM

B. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-97B, is in ALARM

C. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is in ALARM.

D. Unit 2 Event Display Monitor indicates 79-B RT-SG 3 LEVEL LO-LO is in ALARM (Red)

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[266] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[267] **VERIFY** Computer Point L0446D, STM GEN 3 LO LO LEVEL
CAUSES RX TRIP, indicates TRIP. _____

[268] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[269] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[270] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[271] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[272] **POSITION** LS/538B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-11 to the left (NORMAL). _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[273] **VERIFY** the following:

A. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-94B, is CLEAR _____

B. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR. _____

C. Unit 2 Event Display Monitor indicates 79-B RT-SG 3 LEVEL LO-LO is in NORMAL (Blue) _____

[274] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[275] **VERIFY** Computer Point L0446D, STM GEN 3 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR. _____

[276] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[277] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[278] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[279] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[280] **POSITION** LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP). _____

[281] **VERIFY** the following:

A. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-93B, is in ALARM _____

B. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is in ALARM. _____

[282] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[283] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[284] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[285] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[286] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[287] **POSITION** LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL). _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[288] **VERIFY** the following:

A. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-97B, is CLEAR _____

B. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR. _____

[289] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[290] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[291] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[292] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[293] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[294] **POSITION** LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP). _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[295] **VERIFY** the following:

A. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-94B, is in ALARM _____

B. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is in ALARM. _____

[296] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[297] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[298] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[299] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[300] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[301] **POSITION** LS/538B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-11 to the left (NORMAL). _____

[302] **VERIFY** the following:

A. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-94B, is CLEAR _____

B. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-
LO, is CLEAR. _____

[303] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[304] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[305] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[306] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[307] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[308] **POSITION** the following:

- A. LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____
- B. LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____

[309] **VERIFY** the following:

- A. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-97B, is in ALARM _____
- B. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-94B, is in ALARM _____
- C. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is in ALARM. _____

[310] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[311] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[312] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[313] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[314] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[315] **POSITION** the following:

A. LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL) _____

B. LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____

C. LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____

[316] **VERIFY** the following:

A. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-93B, is CLEAR _____

B. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-94B, is CLEAR _____

C. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-97B, is CLEAR _____

D. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-LO, is CLEAR _____

E. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR. _____

[317] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[318] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[319] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[320] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[321] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[322] **POSITION** LS/547B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-12 to the right (TRIP).

[323] **VERIFY** the following:

A. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-110B, is in ALARM.

B. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-
LO, is in ALARM

C. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is CLEAR

D. Unit 2 Event Display Monitor indicates 119-E SG 4 LEVEL
LO-LO is in ALARM (Red)

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[324] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[325] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[326] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[327] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[328] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[329] **VERIFY** the following computer points:

A. L0465D, SG #4 LO LO LVL PARTIAL RX T PS IV, indicates TRIP _____

B. L0466D, STM GEN 4 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[330] **POSITION** LS/547B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL). _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[331] **VERIFY** the following:

- A. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-110B, is CLEAR. _____
- B. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-
LO, is CLEAR _____
- C. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is CLEAR _____
- D. Unit 2 Event Display Monitor indicates 119-E SG 4 LEVEL
LO-LO is in NORMAL (Blue) _____

[332] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[333] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[334] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[335] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[336] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[337] **VERIFY** the following computer points:

- A. L0465D, SG #4 LO LO LVL PARTIAL RX T PS IV, indicates NOT TR _____
- B. L0466D, STM GEN 4 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[338] **POSITION** LS/548B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP). _____

[339] **VERIFY** the following:

- A. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-107B, is in ALARM. _____
- B. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-LO, is in ALARM _____
- C. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-LO, is CLEAR _____

[340] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[341] **VERIFY** the following computer points:

- A. L0464D, SG #4 LO LO LVL PARTIAL RX T PS III, indicates TRIP _____
- B. L0466D, STM GEN 4 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[342] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[343] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[344] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[345] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[346] **POSITION** LS/548B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-11 to the left (NORMAL).

[347] **VERIFY** the following:

A. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-107B, is CLEAR.

B. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-
LO, is CLEAR

C. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is CLEAR

[348] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[349] **VERIFY** the following computer points:

A. L0464D, SG #4 LO LO LVL PARTIAL RX T PS III,
indicates NOT TR _____

B. L0466D, STM GEN 4 LO LO LEVEL CAUSES RX TRIP,
indicates NOT TR _____

[350] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[351] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[352] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[353] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[354] **POSITION** LS/549B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-5 to the right (TRIP). _____

[355] **VERIFY** the following:

A. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-106B, is in ALARM. _____

B. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-
LO, is in ALARM _____

C. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is CLEAR _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[356] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[357] **VERIFY** the following computer points:

A. L0463D, SG #4 LO LO LVL PARTIAL RX T PS II, indicates TRIP _____

B. L0466D, STM GEN 4 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

[358] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[359] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[360] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[361] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[362] **POSITION** LS/549B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[363] **VERIFY** the following:

- A. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-106B, is CLEAR. _____
- B. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-
LO, is CLEAR _____
- C. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is CLEAR _____

[364] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[365] **VERIFY** the following computer points:

- A. L0463D, SG #4 LO LO LVL PARTIAL RX T PS II,
indicates NOT TR _____
- B. L0466D, STM GEN 4 LO LO LEVEL CAUSES RX TRIP,
indicates NOT TR _____

[366] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[367] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[368] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[369] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[370] **POSITION** the following:

A. LS/547B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____

B. LS/548B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____

[371] **VERIFY** the following:

A. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-107B, is in ALARM _____

B. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-110B, is in ALARM _____

C. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-LO, is in ALARM _____

D. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-LO, is in ALARM _____

E. Unit 2 Event Display Monitor indicates 80-B RT-SG 4 LEVEL LO-LO is in ALARM (Red) _____

[372] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[373] **VERIFY** Computer Point L0466D, STM GEN 4 LO LO LEVEL CAUSES RX TRIP, indicates TRIP. _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[374] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[375] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[376] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[377] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[378] **POSITION** LS/548B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL).

[379] **VERIFY** the following:

A. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-107B, is CLEAR

B. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-LO, is CLEAR

C. Unit 2 Event Display Monitor indicates 80-B RT-SG 4 LEVEL LO-LO is in NORMAL (Blue)

[380] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[381] **VERIFY** Computer Point L0466D, STM GEN 4 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR. _____

[382] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[383] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[384] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[385] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[386] **POSITION** LS/549B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP). _____

[387] **VERIFY** the following:

A. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-106B, is in ALARM _____

B. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-LO, is in ALARM _____

[388] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[389] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[390] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN.

M&TE _____ Cal Due Date _____

[391] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED **[Acc Crit]**

M&TE _____ Cal Due Date _____

[392] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[393] **POSITION** LS/547B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-12 to the left (NORMAL).

[394] **VERIFY** the following:

A. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-110B, is CLEAR

B. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is CLEAR

[395] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[396] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[397] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[398] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[399] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[400] **POSITION** LS/548B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-11 to the right (TRIP).

[401] **VERIFY** the following:

A. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-107B, is in ALARM

B. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is in ALARM

[402] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[403] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[404] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[405] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[406] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[407] **POSITION** LS/548B, Low Low Level Reactor Trip and Aux
Feedwater Pump Start, at 2-R-11 to the left (NORMAL).

[408] **VERIFY** the following:

A. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-107B, is CLEAR

B. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is CLEAR

[409] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[410] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[411] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[412] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[413] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[414] **POSITION** the following:

A. LS/547B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the right (TRIP)

B. LS/548B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the right (TRIP)

[415] **VERIFY** the following:

A. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-107B, is in ALARM

B. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-110B, is in ALARM

C. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is in ALARM

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[416] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[417] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48) TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[418] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[419] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is CLOSED **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[420] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[421] **POSITION** the following:

A. LS/547B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL) _____

B. LS/548B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____

C. LS/549B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[422] **VERIFY** the following:

- A. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-106B, is CLEAR _____
- B. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-107B, is CLEAR _____
- C. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-110B, is CLEAR _____
- D. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is CLEAR _____
- E. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-
LO, is CLEAR _____

[423] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[424] **VERIFY** the contact state of 2-RLY-99-K633 (Train A/2-R-48)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[425] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[426] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[427] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[428] **POSITION** the following:

- A. LS/519B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____
- B. LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____
- C. LS/518B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____
- D. LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____
- E. LS/517B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____
- F. LS/527B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____

[429] **VERIFY** the following:

- A. Trip Status Light 40 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-38B, is in ALARM _____
- B. Trip Status Light 64 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-39B, is in ALARM _____
- C. Trip Status Light 88 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-42B, is in ALARM _____
- D. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-51B, is in ALARM _____
- E. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-52B, is in ALARM _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

F. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-55B, is in ALARM _____

G. Annunciator 77B (2-XA-55-4D, 2-M-4), SG 1 LEVEL LO-
LO, is in ALARM _____

H. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is in ALARM _____

I. Annunciator 116E (2-XA-55-6B, 2-M-6), SG 1 LEVEL LO-
LO, is in ALARM _____

J. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-
LO, is in ALARM _____

[430] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[431] **VERIFY** the contact state of 2-RLY-099-K633 (Train A/2-R-48)
TB632 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[432] **VERIFY** the contact state of 2-RLY-099-K634 (Train A/2-R-48).

A. TB632 - 9, 10, CLOSED **[Acc Crit]** _____

B. TB633 - 1, 2 OPEN **[Acc Crit]** _____

C. TB633 - 3, 4 OPEN **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[433] **VERIFY** the contact state of 2-RLY-099-K633 (Train B/2-R-51)
TB632 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[434] **VERIFY** the contact state of 2-RLY-099-K634 (Train B/2-R-51).

- A. TB632 - 9, 10, CLOSED [**Acc Crit**] _____
- B. TB633 - 1, 2 OPEN [**Acc Crit**] _____
- C. TB633 - 3, 4 OPEN [**Acc Crit**] _____

M&TE _____ Cal Due Date _____

[435] **POSITION** the following:

- A. LS/527B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL) _____
- B. LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____
- C. LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____

[436] **VERIFY** the following:

- A. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-51B, is CLEAR _____
- B. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-52B, is CLEAR _____
- C. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-55B, is CLEAR _____
- D. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-LO, is CLEAR _____
- E. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is CLEAR _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[437] **VERIFY** the contact state of 2-RLY-099-K634 (Train A/2-R-48).

- A. TB632 - 9, 10, OPEN _____
 - B. TB633 - 1, 2 CLOSED _____
 - C. TB633 - 3, 4 CLOSED _____
- M&TE _____ Cal Due Date _____

[438] **VERIFY** the contact state of 2-RLY-099-K634 (Train B/2-R-51).

- A. TB632 - 9, 10, OPEN _____
 - B. TB633 - 1, 2 CLOSED _____
 - C. TB633 - 3, 4 CLOSED _____
- M&TE _____ Cal Due Date _____

[439] **POSITION** the following:

- A. LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____
- B. LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____
- C. LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____

[440] **VERIFY** the following:

- A. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-93B, is in ALARM _____
- B. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-94B, is in ALARM _____
- C. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-97B, is in ALARM _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

D. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-
LO, is in ALARM _____

E. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-
LO, is in ALARM _____

[441] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[442] **VERIFY** the contact state of 2-RLY-099-K633 (Train A/2-R-48)
TB632 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[443] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[444] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[445] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[446] **POSITION** the following:

- A. LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 in NORMAL _____
- B. LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 in NORMAL _____
- C. LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL) _____

[447] **VERIFY** the following:

- A. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-93B, is CLEAR _____
- B. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-94B, is CLEAR _____
- C. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-97B, is CLEAR _____
- D. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-LO, is CLEAR _____
- E. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR _____

[448] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[449] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[450] **POSITION** the following:

- A. LS/549B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____
- B. LS/548B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____
- C. LS/547B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____

[451] **VERIFY** the following:

- A. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-106B, is in ALARM _____
- B. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-107B, is in ALARM _____
- C. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-110B, is in ALARM _____
- D. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-LO, is in ALARM _____
- E. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-LO, is in ALARM _____

[452] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[453] **VERIFY** the contact state of 2-RLY-099-K633 (Train A/2-R-48) TB632 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[454] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[455] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED

M&TE _____ Cal Due Date _____

[456] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[457] **POSITION** the following:

A. LS/519B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-5 to the left (NORMAL)

B. LS/549B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-5 to the left (NORMAL)

C. LS/518B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the left (NORMAL)

D. LS/548B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the left (NORMAL)

E. LS/517B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the left (NORMAL)

F. LS/547B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the left (NORMAL)

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[458] **VERIFY** the following:

- A. Trip Status Light 40 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-38B, is CLEAR _____
- B. Trip Status Light 64 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-39B, is CLEAR _____
- C. Trip Status Light 88 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-42B, is CLEAR _____
- D. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-106B, is CLEAR _____
- E. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-107B, is CLEAR _____
- F. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-110B, is CLEAR _____
- G. Annunciator 77B (2-XA-55-4D, 2-M-4), SG 1 LEVEL LO-
LO, is CLEAR _____
- H. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is CLEAR _____
- I. Annunciator 116E (2-XA-55-6B, 2-M-6), SG 1 LEVEL LO-
LO, is CLEAR _____
- J. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-
LO, is CLEAR _____

[459] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[460] **VERIFY** the contact state of 2-RLY-099-K633 (Train A/2-R-48)
TB632 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[461] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[462] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51) TB632-1, 2, is OPEN

M&TE _____ Cal Due Date _____

[463] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

[464] **POSITION** the following:

A. LS/527B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP)

B. LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP)

C. LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP)

D. LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP)

E. LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP)

F. LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP)

[465] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-51B, is in ALARM

B. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-52B, is in ALARM

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

C. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-55B, is in ALARM _____

D. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-93B, is in ALARM _____

E. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-94B, is in ALARM _____

F. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-97B, is in ALARM _____

G. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is in ALARM _____

H. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-
LO, is in ALARM _____

I. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-
LO, is in ALARM _____

J. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-
LO, is in ALARM _____

[466] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[467] **VERIFY** the contact state of 2-RLY-099-K633 (Train A/2-R-48)
TB632 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[468] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[469] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED

M&TE _____ Cal Due Date _____

[470] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[471] **POSITION** the following:

A. LS/537B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the left (NORMAL)

B. LS/538B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the left (NORMAL)

C. LS/539B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-5 to the left (NORMAL)

[472] **VERIFY** the following:

A. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-93B, is CLEAR

B. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-94B, is CLEAR

C. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-97B, is CLEAR

D. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-
LO, is CLEAR

E. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-
LO, is CLEAR

[473] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN

M&TE _____ Cal Due Date _____

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[474] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[475] **POSITION** the following:

A. LS/549B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____

B. LS/548B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____

C. LS/547B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____

[476] **VERIFY** the following:

A. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-106B, is in ALARM _____

B. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-107B, is in ALARM _____

C. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-110B, is in ALARM _____

D. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-LO, is in ALARM _____

E. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-LO, is in ALARM _____

[477] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[478] **VERIFY** the contact state of 2-RLY-099-K633 (Train A/2-R-48)
TB632 - 1, 2, is CLOSED

M&TE _____ Cal Due Date _____

[479] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[480] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED

M&TE _____ Cal Due Date _____

[481] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[482] **POSITION** the following:

A. LS/529B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-5 to the left (NORMAL)

B. LS/528B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-11 to the left (NORMAL)

C. LS/527B, Low Low Level Reactor Trip and Aux Feedwater
Pump Start, at 2-R-12 to the left (NORMAL)

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[483] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-51B, is CLEAR _____

B. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-52B, is CLEAR _____

C. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-55B, is CLEAR _____

D. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is CLEAR _____

[484] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[485] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[486] **POSITION** the following:

A. LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____

B. LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____

C. LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[487] **VERIFY** the following:

- A. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-93B, is in ALARM _____
- B. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-94B, is in ALARM _____
- C. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-97B, is in ALARM _____
- D. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-
LO, is in ALARM _____

[488] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[489] **VERIFY** the contact state of 2-RLY-099-K633 (Train A/2-R-48)
TB632 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[490] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[491] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[492] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[493] **ENSURE** the following:

- A. LS/519B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____
- B. LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____
- C. LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____
- D. LS/549B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the right (TRIP) _____
- E. LS/518B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____
- F. LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____
- G. LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____
- H. LS/548B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the right (TRIP) _____
- I. LS/517B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____
- J. LS/527B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____
- K. LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP). _____
- L. LS/547B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the right (TRIP) _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[494] **VERIFY** the following:

- A. Trip Status Light 40 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-38B, is in ALARM _____
- B. Trip Status Light 64 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-39B, is in ALARM _____
- C. Trip Status Light 88 (2-XX-55-6B, 2-M-6), SG 1 LEVEL
LO-LO LS-3-42B, is in ALARM _____
- D. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-51B, is in ALARM _____
- E. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-52B, is in ALARM _____
- F. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL
LO-LO LS-3-55B, is in ALARM _____
- G. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-93B, is in ALARM _____
- H. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-94B, is in ALARM _____
- I. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL
LO-LO LS-3-97B, is in ALARM _____
- J. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-106B, is in ALARM _____
- K. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-107B, is in ALARM _____
- L. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL
LO-LO LS-3-110B, is in ALARM _____
- M. Annunciator 77B (2-XA-55-4D, 2-M-4), SG 1 LEVEL LO-
LO, is in ALARM _____
- N. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-
LO, is in ALARM _____

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**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

O. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-
LO, is in ALARM _____

P. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-
LO, is in ALARM _____

Q. Annunciator 116E (2-XA-55-6B, 2-M-6), SG 1 LEVEL LO-
LO, is in ALARM _____

R. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-
LO, is in ALARM _____

S. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-
LO, is in ALARM _____

T. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-
LO, is in ALARM _____

[495] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[496] **VERIFY** the contact state of 2-RLY-099-K633 (Train A/2-R-48)
TB632 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[497] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is CLOSED. **[Acc Crit]** _____

M&TE _____ Cal Due Date _____

[498] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

[499] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51) TB632-9, 10, is CLOSED. **[Acc Crit]**

M&TE _____ Cal Due Date _____

[500] **POSITION** the following:

- A. LS/519B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____
- B. LS/529B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____
- C. LS/539B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____
- D. LS/549B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-5 to the left (NORMAL) _____
- E. LS/518B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____
- F. LS/528B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____
- G. LS/538B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____
- H. LS/548B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-11 to the left (NORMAL) _____
- I. LS/517B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL) _____
- J. LS/527B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL). _____
- K. LS/537B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL). _____
- L. LS/547B, Low Low Level Reactor Trip and Aux Feedwater Pump Start, at 2-R-12 to the left (NORMAL) _____

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Date _____

**6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary
Feedwater Motor Driven and Turbine Driven Pumps Start
(continued)**

[501] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[502] **VERIFY** the contact state of 2-RLY-099-K633 (Train A/2-R-48)
TB632 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[503] **VERIFY** the contact state of 2-RLY-99-K634 (Train A/2-R-48)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[504] **VERIFY** the contact state of 2-RLY-99-K633 (Train B/2-R-51)
TB632-1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[505] **VERIFY** the contact state of 2-RLY-99-K634 (Train B/2-R-51)
TB632-9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[506] **VERIFY** the following:

A. Annunciator 116E (2-XA-55-6B, 2-M-6), SG 1 LEVEL LO-
LO, is CLEAR _____

B. Annunciator 117E (2-XA-55-6B, 2-M-6), SG 2 LEVEL LO-
LO, is CLEAR _____

C. Annunciator 118E (2-XA-55-6B, 2-M-6), SG 3 LEVEL LO-
LO, is CLEAR _____

D. Annunciator 119E (2-XA-55-6B, 2-M-6), SG 4 LEVEL LO-
LO, is CLEAR _____

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

- E. Annunciator 77B (2-XA-55-4D, 2-M-4), SG 1 LEVEL LO-LO, is CLEAR _____
- F. Annunciator 78B (2-XA-55-4D, 2-M-4), SG 2 LEVEL LO-LO, is CLEAR _____
- G. Annunciator 79B (2-XA-55-4D, 2-M-4), SG 3 LEVEL LO-LO, is CLEAR _____
- H. Annunciator 80B (2-XA-55-4D, 2-M-4), SG 4 LEVEL LO-LO, is CLEAR _____

[507] **VERIFY** the following:

- A. Trip Status Light 40 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-38B, is CLEAR _____
- B. Trip Status Light 64 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-39B, is CLEAR _____
- C. Trip Status Light 88 (2-XX-55-6B, 2-M-6), SG 1 LEVEL LO-LO LS-3-42B, is CLEAR _____
- D. Trip Status Light 41 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-51B, is CLEAR _____
- E. Trip Status Light 65 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-52B, is CLEAR _____
- F. Trip Status Light 89 (2-XX-55-6B, 2-M-6), SG 2 LEVEL LO-LO LS-3-55B, is CLEAR _____
- G. Trip Status Light 42 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-93B, is CLEAR _____
- H. Trip Status Light 66 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-94B, is CLEAR _____
- I. Trip Status Light 90 (2-XX-55-6B, 2-M-6), SG 3 LEVEL LO-LO LS-3-97B, is CLEAR _____
- J. Trip Status Light 43 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-106B, is CLEAR _____

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Date _____

6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

K. Trip Status Light 67 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-107B, is CLEAR _____

L. Trip Status Light 91 (2-XX-55-6B, 2-M-6), SG 4 LEVEL LO-LO LS-3-110B, is CLEAR _____

[508] **VERIFY** the following computer points:

A. L0403D, SG #1 LO LO LVL PARTIAL RX T PS II, indicates NOT TR _____

B. L0404D, SG #1 LO LO LVL PARTIAL RX T PS III, indicates NOT TR _____

C. L0405D, SG #1 LO LO LVL PARTIAL RX T PS IV, indicates NOT TR _____

D. L0406D, STM GEN 1 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

E. L0423D, SG #2 LO LO LVL PARTIAL RX T PS II, indicates NOT TR _____

F. L0424D, SG #2 LO LO LVL PARTIAL RX T PS III, indicates NOT TR _____

G. L0425D, SG #2 LO LO LVL PARTIAL RX T PS IV, indicates NOT TR _____

H. L0426D, STM GEN 2 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

I. L0443D, SG #3 LO LO LVL PARTIAL RX T PS II, indicates NOT TR _____

J. L0444D, SG #3 LO LO LVL PARTIAL RX T PS III, indicates NOT TR _____

K. L0445D, SG #3 LO LO LVL PARTIAL RX T PS IV, indicates NOT TR _____

L. L0446D, STM GEN 3 LO LO LEVEL CAUSES RX TRIP, indicates NOT TR _____

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6.18 Steam Generator Low Low Level Reactor Trip and Auxiliary Feedwater Motor Driven and Turbine Driven Pumps Start (continued)

- M. L0463D, SG #4 LO LO LVL PARTIAL RX T PS II,
indicates NOT TR _____
- N. L0464D, SG #4 LO LO LVL PARTIAL RX T PS III,
indicates NOT TR _____
- O. L0465D, SG #4 LO LO LVL PARTIAL RX T PS IV,
indicates NOT TR _____
- P. L0466D, STM GEN 4 LO LO LEVEL CAUSES RX TRIP,
indicates NOT TR _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip

NOTE

The UV Coil Voltage meter (M501) will be used to verify Reactor trip status, A reading of 0 VDC (≤ 5 VDC) will indicate "Reactor tripped status" and a reading of 42 VDC (≥ 35 VDC) will indicate "Reactor not tripped" status

[1] **ENSURE** prerequisites listed in Section 4.0 for subsection 6.19 have been completed. _____

[2] **ENSURE** the following:

A. PS/505A, Hi Press to P-7, at 2-R-4 to the left (NORMAL) _____

B. PS/506A, Hi Press to P-7, at 2-R-8 to the left (NORMAL) _____

C. 2-HS-68-343, RCP 1 UNDERVOLTAGE REACTOR TRIP TEST SW, at 2-JB-290-3404-D (Aux Inst. Rm) in NORMAL _____

D. 2-HS-68-345, RCP 2 UNDERVOLTAGE REACTOR TRIP TEST SW, at 2-JB-290-3405-E (Aux Inst. Rm), in NORMAL _____

E. 2-HS-68-347, RCP 3 UNDERVOLTAGE REACTOR TRIP TEST SW, at 2-JB-290-3406-F (Aux Inst. Rm), in NORMAL _____

F. 2-HS-68-349, RCP 4 UNDERVOLTAGE REACTOR TRIP TEST SW, at 2-JB-290-3407-G (Aux Inst. Rm), in NORMAL _____

G. 2-HS-68-344, RCP 1 UNDERFREQUENCY REACTOR TRIP TEST SW, at 2-JB-290-3404-D (Aux Inst. Rm) in NORMAL _____

H. 2-HS-68-346, RCP 2 UNDERFREQUENCY REACTOR TRIP TEST SW, at 2-JB-290-3405-E (Aux Inst. Rm) in NORMAL _____

I. 2-HS-68-348, RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, at 2-JB-290-3406-F (Aux Inst. Rm) in NORMAL _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

J. 2-HS-68-350, RCP 4 UNDERFREQUENCY REACTOR
TRIP TEST SW, at 2-JB-290-3407-G (Aux Inst. Rm) in
NORMAL

- [3] **VERIFY** the contact state of 2-RLY-099-K124 (Train A/2-R-48)
TB633 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

- [4] **VERIFY** the contact state of 2-RLY-099-K239 (Train A/2-R-48)
TB633 - 7, 8, is CLOSED

M&TE _____ Cal Due Date _____

- [5] **VERIFY** the contact state of 2-RLY-099-K328 (Train A/2-R-48)
TB633 - 9, 10, is CLOSED

M&TE _____ Cal Due Date _____

- [6] **VERIFY** the contact state of 2-RLY-099-K413 (Train A/2-R-48)
TB633 - 11, 12, is CLOSED

M&TE _____ Cal Due Date _____

- [7] **VERIFY** the contact state of 2-RLY-099-K124 (Train B/2-R-51)
TB633 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

- [8] **VERIFY** the contact state of 2-RLY-099-K239 (Train B/2-R-51)
TB633 - 7, 8, is CLOSED

M&TE _____ Cal Due Date _____

- [9] **VERIFY** the contact state of 2-RLY-099-K328 (Train B/2-R-51)
TB633 - 9, 10, is CLOSED

M&TE _____ Cal Due Date _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

- [10] **VERIFY** the contact state of 2-RLY-099-K413 (Train B/2-R-51)
TB633 - 11, 12, is CLOSED

M&TE _____ Cal Due Date _____

- [11] **VERIFY** the contact state for 2-RLY-099-K627 (Train A/2-R-48)

A. TB636 - 1, 2 OPEN

B. TB636 - 3, 4 OPEN

C. TB636 - 5, 6 OPEN

D. TB636 - 7, 8 OPEN

M&TE _____ Cal Due Date _____

- [12] **VERIFY** the contact state for 2-RLY-099-K641 (Train A/2-R-48)

A. TB647 - 5, 6 OPEN

B. TB647 - 7, 8 OPEN

C. TB647 - 9, 10 OPEN

D. TB647 - 11,12 OPEN

M&TE _____ Cal Due Date _____

- [13] **VERIFY** the contact state for 2-RLY-099-K627 (Train B/2-R-51)

A. TB636 - 1, 2 OPEN

B. TB636 - 3, 4 OPEN

C. TB636 - 5, 6 OPEN

D. TB636 - 7,8 OPEN

M&TE _____ Cal Due Date _____

- [14] **VERIFY** the contact state for 2-RLY-099-K641 (Train B/2-R-51)

A. TB647 - 5, 6 OPEN

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

- B. TB647 - 7, 8 OPEN _____
- C. TB647 - 9, 10 OPEN _____
- D. TB647 - 11,12 OPEN _____

M&TE _____ Cal Due Date _____

[15] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-6A, 2-M-6), RCP 1 UNDER VOLTAGE, is CLEAR _____
- B. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER VOLTAGE, is CLEAR _____
- C. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER VOLTAGE, is CLEAR _____
- D. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER VOLTAGE, is CLEAR _____
- E. Trip Status Light 2 (2-XX-55-6A, 2-M-6), RCP 1 UNDER FREQUENCY, is CLEAR _____
- F. Trip Status Light 22 (2-XX-55-6A, 2-M-6), RCP 2 UNDER FREQUENCY, is CLEAR _____
- G. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER FREQUENCY, is CLEAR _____
- H. Trip Status Light 62 (2-XX-55-6A, 2-M-6), RCP 4 UNDER FREQUENCY, is CLEAR _____
- I. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is CLEAR _____
- J. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is CLEAR _____
- K. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is CLEAR _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[16] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

NOTE

Steps 6.19[17] through 6.19[166] verify the Undervoltage Trip Logic.

[17] **POSITION** PS/505A, Hi Press to P-7, at 2-R-4 to the right (TRIP). _____

[18] **VERIFY** Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR. _____

[19] **POSITION** 2-HS-68-343, RCP 1 UNDERVOLTAGE REACTOR TRIP TEST SW, at 2-JB-290-3404-D (Aux Inst. Rm) in TEST. _____

[20] **VERIFY** the contact state of 2-RLY-099-K124 (Train A/2-R-48) TB633 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[21] **VERIFY** the contact state of 2-RLY-099-K239 (Train A/2-R-48) TB633 - 7, 8, is CLOSED _____

M&TE _____ Cal Due Date _____

[22] **VERIFY** the contact state of 2-RLY-099-K328 (Train A/2-R-48) TB633 - 9, 10, is CLOSED _____

M&TE _____ Cal Due Date _____

[23] **VERIFY** the contact state of 2-RLY-099-K413 (Train A/2-R-48) TB633 - 11, 12, is CLOSED _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[24] **VERIFY** the contact state of 2-RLY-099-K124 (Train B/2-R-51)
TB633 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[25] **VERIFY** the contact state of 2-RLY-099-K239 (Train B/2-R-51)
TB633 - 7, 8, is CLOSED _____

M&TE _____ Cal Due Date _____

[26] **VERIFY** the contact state of 2-RLY-099-K328 (Train B/2-R-51)
TB633 - 9, 10, is CLOSED _____

M&TE _____ Cal Due Date _____

[27] **VERIFY** the contact state of 2-RLY-099-K413 (Train B/2-R-51)
TB633 - 11, 12, is CLOSED _____

M&TE _____ Cal Due Date _____

[28] **VERIFY** the following:

A. Trip Status Light 1 (2-XX-55-6A, 2-M-6), RCP 1 UNDER
VOLTAGE, is in ALARM _____

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is in ALARM _____

C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDERVOLTAGE, is CLEAR _____

D. Unit 2 Event Display Monitor indicates 122-E RCP
BOARD UNDERVOLTAGE is in ALARM (Red) _____

[29] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[30] **VERIFY** the following Computer Points:

A. V0320D, RCP BUS 1 UNDER VOLT PARTIAL RX TRIP,
indicates TRIP _____

B. V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR,
indicates NOT TR _____

[31] **POSITION** 2-HS-68-343, RCP 1 UNDERVOLTAGE
REACTOR TRIP TEST SW, at 2-JB-290-3404-D (Aux Inst.
Rm), in NORMAL. _____

[32] **VERIFY** the following:

A. Trip Status Light 1 (2-XX-55-6A, 2-M-6), RCP 1 UNDER
VOLTAGE, is CLEAR _____

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is CLEAR _____

C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDERVOLTAGE, is CLEAR _____

D. Unit 2 Event Display Monitor indicates 122-E RCP
BOARD UNDERVOLTAGE is in NORMAL (Blue) _____

[33] **VERIFY** the contact state of 2-RLY-099-K124 (Train A/2-R-48)
TB633 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

[34] **VERIFY** the contact state of 2-RLY-099-K239 (Train A/2-R-48)
TB633 - 7, 8, is CLOSED _____

M&TE _____ Cal Due Date _____

[35] **VERIFY** the contact state of 2-RLY-099-K328 (Train A/2-R-48)
TB633 - 9, 10, is CLOSED _____

M&TE _____ Cal Due Date _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[36] **VERIFY** the contact state of 2-RLY-099-K413 (Train A/2-R-48)
TB633 - 11, 12, is CLOSED

M&TE _____ Cal Due Date _____

[37] **VERIFY** the contact state of 2-RLY-099-K124 (Train B/2-R-51)
TB633 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

[38] **VERIFY** the contact state of 2-RLY-099-K239 (Train B/2-R-51)
TB633 - 7, 8, is CLOSED

M&TE _____ Cal Due Date _____

[39] **VERIFY** the contact state of 2-RLY-099-K328 (Train B/2-R-51)
TB633 - 9, 10, is CLOSED

M&TE _____ Cal Due Date _____

[40] **VERIFY** the contact state of 2-RLY-099-K413 (Train B/2-R-51)
TB633 - 11, 12, is CLOSED

M&TE _____ Cal Due Date _____

[41] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[42] **VERIFY** the following Computer Points:

A. V0320D, RCP BUS 1 UNDER VOLT PARTIAL RX TRIP,
indicates NOT TR _____

B. V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR,
indicates NOT TR _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

- [43] **POSITION** 2-HS-68-345, at 2-JB-290-3405-E (Aux Inst. Rm),
RCP 2 UNDERVOLTAGE REACTOR TRIP TEST SW, in
TEST. _____
- [44] **VERIFY** the contact state of 2-RLY-099-K124 (Train A/2-R-48)
TB633 - 5, 6, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [45] **VERIFY** the contact state of 2-RLY-099-K239 (Train A/2-R-48)
TB633 - 7, 8, is OPEN _____
- M&TE _____ Cal Due Date _____
- [46] **VERIFY** the contact state of 2-RLY-099-K328 (Train A/2-R-48)
TB633 - 9, 10, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [47] **VERIFY** the contact state of 2-RLY-099-K413 (Train A/2-R-48)
TB633 - 11, 12, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [48] **VERIFY** the contact state of 2-RLY-099-K124 (Train B/2-R-51)
TB633 - 5, 6, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [49] **VERIFY** the contact state of 2-RLY-099-K239 (Train B/2-R-51)
TB633 - 7, 8, is OPEN _____
- M&TE _____ Cal Due Date _____
- [50] **VERIFY** the contact state of 2-RLY-099-K328 (Train B/2-R-51)
TB633 - 9, 10, is CLOSED _____
- M&TE _____ Cal Due Date _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[51] **VERIFY** the contact state of 2-RLY-099-K413 (Train B/2-R-51)
TB633 - 11, 12, is CLOSED _____

M&TE _____ Cal Due Date _____

[52] **VERIFY** the following:

A. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER
VOLTAGE, is in ALARM _____

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is in ALARM _____

C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDERVOLTAGE, is CLEAR _____

[53] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[54] **VERIFY** the following Computer Points:

A. V0321D, RCP BUS 2 UNDER VOLT PARTIAL RX TRIP,
indicates TRIP _____

B. V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR,
indicates NOT TR _____

[55] **POSITION** 2-HS-68-345, at 2-JB-290-3405-E (Aux Inst. Rm),
RCP 2 UNDERVOLTAGE- REACTOR TRIP TEST SW, in
NORMAL. _____

[56] **VERIFY** the following:

A. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER
VOLTAGE, is CLEAR _____

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is CLEAR _____

C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDERVOLTAGE, is CLEAR _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

- [57] **VERIFY** the contact state of 2-RLY-099-K124 (Train A/2-R-48)
TB633 - 5, 6, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [58] **VERIFY** the contact state of 2-RLY-099-K239 (Train A/2-R-48)
TB633 - 7, 8, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [59] **VERIFY** the contact state of 2-RLY-099-K328 (Train A/2-R-48)
TB633 - 9, 10, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [60] **VERIFY** the contact state of 2-RLY-099-K413 (Train A/2-R-48)
TB633 - 11, 12, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [61] **VERIFY** the contact state of 2-RLY-099-K124 (Train B/2-R-51)
TB633 - 5, 6, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [62] **VERIFY** the contact state of 2-RLY-099-K239 (Train B/2-R-51)
TB633 - 7, 8, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [63] **VERIFY** the contact state of 2-RLY-099-K328 (Train B/2-R-51)
TB633 - 9, 10, is CLOSED _____
- M&TE _____ Cal Due Date _____
- [64] **VERIFY** the contact state of 2-RLY-099-K413 (Train B/2-R-51)
TB633 - 11, 12, is CLOSED _____
- M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[65] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[66] **VERIFY** the following Computer Points:

A. V0321D, RCP BUS 2 UNDER VOLT PARTIAL RX TRIP,
indicates NOT TR _____

B. V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR,
indicates NOT TR _____

[67] **POSITION** 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm),
RCP 3 UNDERVOLTAGE- REACTOR TRIP TEST SW, in
TEST. _____

[68] **VERIFY** the contact state of 2-RLY-099-K124 (Train A/2-R-48)
TB633 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

[69] **VERIFY** the contact state of 2-RLY-099-K239 (Train A/2-R-48)
TB633 - 7, 8, is CLOSED _____

M&TE _____ Cal Due Date _____

[70] **VERIFY** the contact state of 2-RLY-099-K328 (Train A/2-R-48)
TB633 - 9, 10, is OPEN _____

M&TE _____ Cal Due Date _____

[71] **VERIFY** the contact state of 2-RLY-099-K413 (Train A/2-R-48)
TB633 - 11, 12, is CLOSED _____

M&TE _____ Cal Due Date _____

[72] **VERIFY** the contact state of 2-RLY-099-K124 (Train B/2-R-51)
TB633 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

- [73] **VERIFY** the contact state of 2-RLY-099-K239 (Train B/2-R-51)
TB633 - 7, 8, is CLOSED _____
M&TE _____ Cal Due Date _____
- [74] **VERIFY** the contact state of 2-RLY-099-K328 (Train B/2-R-51)
TB633 - 9, 10, is OPEN _____
M&TE _____ Cal Due Date _____
- [75] **VERIFY** the contact state of 2-RLY-099-K413 (Train B/2-R-51)
TB633 - 11, 12, is CLOSED _____
M&TE _____ Cal Due Date _____
- [76] **VERIFY** the following:
- A. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER
VOLTAGE, is in ALARM _____
 - B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is in ALARM _____
 - C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDERVOLTAGE, is CLEAR _____
- [77] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):
- A. UV COIL VOLTAGE Meter (2-R-47) _____
 - B. UV COIL VOLTAGE Meter (2-R-50) _____
- [78] **VERIFY** the following Computer Points:
- A. V0322D, RCP BUS 3 UNDER VOLT PARTIAL RX TRIP,
indicates TRIP _____
 - B. V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR,
indicates NOT TR _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[79] **POSITION** 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm),
RCP 3 UNDERVOLTAGE REACTOR TRIP TEST SW, in
NORMAL.

[80] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER
VOLTAGE, is CLEAR

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is CLEAR

C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDERVOLTAGE, is CLEAR

[81] **VERIFY** the contact state of 2-RLY-099-K124 (Train A/2-R-48)
TB633 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

[82] **VERIFY** the contact state of 2-RLY-099-K239 (Train A/2-R-48)
TB633 - 7, 8, is CLOSED

M&TE _____ Cal Due Date _____

[83] **VERIFY** the contact state of 2-RLY-099-K328 (Train A/2-R-48)
TB633 - 9, 10, is CLOSED

M&TE _____ Cal Due Date _____

[84] **VERIFY** the contact state of 2-RLY-099-K413 (Train A/2-R-48)
TB633 - 11, 12, is CLOSED

M&TE _____ Cal Due Date _____

[85] **VERIFY** the contact state of 2-RLY-099-K124 (Train B/2-R-51)
TB633 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[86] **VERIFY** the contact state of 2-RLY-099-K239 (Train B/2-R-51)
TB633 - 7, 8, is CLOSED

M&TE _____ Cal Due Date _____

[87] **VERIFY** the contact state of 2-RLY-099-K328 (Train B/2-R-51)
TB633 - 9, 10, is CLOSED

M&TE _____ Cal Due Date _____

[88] **VERIFY** the contact state of 2-RLY-099-K413 (Train B/2-R-51)
TB633 - 11, 12, is CLOSED

M&TE _____ Cal Due Date _____

[89] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[90] **VERIFY** the following Computer Points:

A. V0322D, RCP BUS 3 UNDER VOLT PARTIAL RX TRIP,
indicates NOT TR _____

B. V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR,
indicates NOT TR _____

[91] **POSITION** 2-HS-68-349, at 2-JB-290-3407-G (Aux Inst. Rm),
RCP 4 UNDERVOLTAGE REACTOR TRIP TEST SW, in
TEST. _____

[92] **VERIFY** the contact state of 2-RLY-099-K124 (Train A/2-R-48)
TB633 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

[93] **VERIFY** the contact state of 2-RLY-099-K239 (Train A/2-R-48)
TB633 - 7, 8, is CLOSED

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

- [94] **VERIFY** the contact state of 2-RLY-099-K328 (Train A/2-R-48)
TB633 - 9, 10, is CLOSED _____
M&TE _____ Cal Due Date _____
- [95] **VERIFY** the contact state of 2-RLY-099-K413 (Train A/2-R-48)
TB633 - 11, 12, is OPEN _____
M&TE _____ Cal Due Date _____
- [96] **VERIFY** the contact state of 2-RLY-099-K124 (Train B/2-R-51)
TB633 - 5, 6, is CLOSED _____
M&TE _____ Cal Due Date _____
- [97] **VERIFY** the contact state of 2-RLY-099-K239 (Train B/2-R-51)
TB633 - 7, 8, is CLOSED _____
M&TE _____ Cal Due Date _____
- [98] **VERIFY** the contact state of 2-RLY-099-K328 (Train B/2-R-51)
TB633 - 9, 10, is CLOSED _____
M&TE _____ Cal Due Date _____
- [99] **VERIFY** the contact state of 2-RLY-099-K413 (Train B/2-R-51)
TB633 - 11, 12, is OPEN _____
M&TE _____ Cal Due Date _____
- [100] **VERIFY** the following:
- A. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER
VOLTAGE, is in ALARM _____
 - B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is in ALARM _____
 - C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDERVOLTAGE, is CLEAR _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[101] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[102] **VERIFY** the following Computer Points:

A. V0323D, RCP BUS 4 UNDER VOLT PARTIAL RX TRIP,
indicates TRIP _____

B. V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR,
indicates NOT TR _____

[103] **POSITION** 2-HS-68-349, at 2-JB-290-3407-G (Aux Inst. Rm),
RCP 4 UNDERVOLTAGE REACTOR TRIP TEST SW, in
NORMAL. _____

[104] **VERIFY** the contact state of 2-RLY-099-K124 (Train A/2-R-48)
TB633 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

[105] **VERIFY** the contact state of 2-RLY-099-K239 (Train A/2-R-48)
TB633 - 7, 8, is CLOSED _____

M&TE _____ Cal Due Date _____

[106] **VERIFY** the contact state of 2-RLY-099-K328 (Train A/2-R-48)
TB633 - 9, 10, is CLOSED _____

M&TE _____ Cal Due Date _____

[107] **VERIFY** the contact state of 2-RLY-099-K413 (Train A/2-R-48)
TB633 - 11, 12, is CLOSED _____

M&TE _____ Cal Due Date _____

[108] **VERIFY** the contact state of 2-RLY-099-K124 (Train B/2-R-51)
TB633 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[109] **VERIFY** the contact state of 2-RLY-099-K239 (Train B/2-R-51)
TB633 - 7, 8, is CLOSED

M&TE _____ Cal Due Date _____

[110] **VERIFY** the contact state of 2-RLY-099-K328 (Train B/2-R-51)
TB633 - 9, 10, is CLOSED

M&TE _____ Cal Due Date _____

[111] **VERIFY** the contact state of 2-RLY-099-K413 (Train B/2-R-51)
TB633 - 11, 12, is CLOSED

M&TE _____ Cal Due Date _____

[112] **VERIFY** the following:

A. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER
VOLTAGE, is CLEAR

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is CLEAR

C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDERVOLTAGE, is CLEAR

[113] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[114] **VERIFY** the following Computer Points:

A. V0323D, RCP BUS 4 UNDER VOLT PARTIAL RX TRIP,
indicates NOT TR

B. V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR,
indicates NOT TR

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[115] **POSITION** the following:

- A. 2-HS-68-343, at 2-JB-290-3404-D (Aux Inst. Rm), RCP 1
UNDervOLTAGE REACTOR TRIP TEST SW, in TEST _____
- B. 2-HS-68-345, at 2-JB-290-3405-E (Aux Inst. Rm), RCP 2
UNDervOLTAGE REACTOR TRIP TEST SW, in TEST _____

[116] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-6A, 2-M-6), RCP 1 UNDER
VOLTAGE, is in ALARM _____
- B. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER
VOLTAGE, is in ALARM _____
- C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDervOLTAGE, is in ALARM. _____
- D. Unit 2 Event Display Monitor indicates 79-D RT-RCP
BOARD UNDervOLTAGE is in ALARM (Red) _____

[117] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____
- B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[118] **VERIFY** Computer Point V0324D, RCP BUS UNDER VOLT &
P7 CAUSES RX TR, indicates TRIP. _____

[119] **POSITION** 2-HS-68-345, at 2-JB-290-3405-E (Aux Inst. Rm),
RCP 2 UNDervOLTAGE REACTOR TRIP TEST SW, in
NORMAL. _____

[120] **VERIFY** the following:

- A. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER
VOLTAGE, is CLEAR _____
- B. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDervOLTAGE, is CLEAR. _____
- C. Unit 2 Event Display Monitor indicates 79-D RT-RCP
BOARD UNDervOLTAGE is in NORMAL (Blue) _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[121] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[122] **VERIFY** Computer Point V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR, indicates NOT TR. _____

[123] **POSITION** 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST. _____

[124] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER VOLTAGE, is in ALARM _____

B. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is in ALARM _____

[125] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[126] **POSITION** 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL. _____

[127] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER VOLTAGE, is CLEAR _____

B. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is CLEAR _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[128] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[129] **POSITION** 2-HS-68-349, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST. _____

[130] **VERIFY** the following:

A. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER VOLTAGE, is in ALARM _____

B. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is in ALARM _____

[131] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[132] **POSITION** the following:

A. 2-HS-68-343, at 2-JB-290-3404-D (Aux Inst. Rm), RCP 1 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL _____

B. 2-HS-68-349, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL _____

[133] **VERIFY** the following:

A. Trip Status Light 1 (2-XX-55-6A, 2-M-6), RCP 1 UNDER VOLTAGE, is CLEAR _____

B. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER VOLTAGE, is CLEAR _____

C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is CLEAR _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[134] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[135] **POSITION** the following:

A. 2-HS-68-345, at 2-JB-290-3405-E (Aux Inst. Rm), RCP 2 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST _____

B. 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST _____

[136] **VERIFY** the following:

A. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER VOLTAGE, is in ALARM _____

B. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER VOLTAGE, is in ALARM _____

C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is in ALARM _____

[137] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[138] **POSITION** 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL. _____

[139] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER VOLTAGE, is CLEAR _____

B. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is CLEAR _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[140] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[141] **POSITION** 2-HS-68-349, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST. _____

[142] **VERIFY** the following:

A. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER VOLTAGE, is in ALARM _____

B. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is in ALARM _____

[143] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[144] **POSITION** 2-HS-68-345, at 2-JB-290-3405-E (Aux Inst. Rm), RCP 2 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL. _____

[145] **VERIFY** the following:

A. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER VOLTAGE, is CLEAR _____

B. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is CLEAR _____

[146] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[147] **POSITION** 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST.

[148] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER VOLTAGE, is in ALARM

B. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is in ALARM

[149] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**

[150] **POSITION** the following:

A. 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL

B. 2-HS-68-349, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL

[151] **VERIFY** the following:

A. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER VOLTAGE, is CLEAR

B. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER VOLTAGE, is CLEAR

C. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is CLEAR

D. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is CLEAR

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[152] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[153] **POSITION** the following:

A. 2-HS-68-343, at 2-JB-290-3404-D (Aux Inst. Rm), RCP 1
 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST _____

B. 2-HS-68-345, at 2-JB-290-3405-E (Aux Inst. Rm) RCP 2
 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST _____

C. 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm) RCP 3
 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST _____

D. 2-HS-68-349, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4
 UNDERVOLTAGE REACTOR TRIP TEST SW, in TEST _____

[154] **VERIFY** the following:

A. Trip Status Light 1 (2-XX-55-6A, 2-M-6), RCP 1 UNDER
 VOLTAGE, is in ALARM _____

B. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER
 VOLTAGE, is in ALARM _____

C. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER
 VOLTAGE, is in ALARM _____

D. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER
 VOLTAGE, is in ALARM _____

E. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
 UNDERVOLTAGE, is in ALARM _____

F. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
 UNDERFREQ/UNDERVOLTAGE, is in ALARM _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[155] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[156] **POSITION** PS/505A, Hi Press to P-7, at 2-R-4 to the left (NORMAL). _____

[157] **VERIFY** the following:

A. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM _____

B. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

[158] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[159] **POSITION** PS/505A, Hi Press to P-7, at 2-R-4 to the right (TRIP). _____

[160] **VERIFY** the following:

A. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is CLEAR _____

B. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is CLEAR _____

[161] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[162] **POSITION** PS/505A, Hi Press to P-7, at 2-R-4 to the left (NORMAL). _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[163] **VERIFY** the following:

- A. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE IMPULSE PRESS, is in ALARM _____
- B. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER TRIPS BLOCKED, is in ALARM. _____

[164] **POSITION** the following:

- A. 2-HS-68-343, at 2-JB-290-3404-D (Aux Inst. Rm), RCP 1 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL _____
- B. 2-HS-68-345, at 2-JB-290-3405-E (Aux Inst. Rm) RCP 2 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL _____
- C. 2-HS-68-347, at 2-JB-290-3406-F (Aux Inst. Rm) RCP 3 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL _____
- D. 2-HS-68-349, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4 UNDERVOLTAGE REACTOR TRIP TEST SW, in NORMAL _____

[165] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-6A, 2-M-6), RCP 1 UNDER VOLTAGE, is CLEAR _____
- B. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER VOLTAGE, is CLEAR _____
- C. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER VOLTAGE, is CLEAR _____
- D. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER VOLTAGE, is CLEAR _____
- E. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is CLEAR _____
- F. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD UNDERVOLTAGE, is CLEAR _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

NOTE

Steps 6.19[166] through 6.19[339] verify the Underfrequency Trip Logic.

[166] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[167] **POSITION** PS/505A, Hi Press to P-7, at 2-R-4 to the right
(TRIP). _____

[168] **VERIFY** the following:

A. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is CLEAR _____

B. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is CLEAR _____

[169] **POSITION** 2-HS-68-344, at 2-JB-290-3404-D (Aux Inst. Rm),
RCP 1 UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST. _____

[170] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[171] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[172] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[173] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[174] **VERIFY** the following:

A. Trip Status Light 2 (2-XX-55-6A, 2-M-6), RCP 1 UNDER
FREQUENCY, is in ALARM _____

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is in ALARM _____

C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is CLEAR _____

D. Unit 2 Event Display Monitor indicates 122-E RCP
BOARD UNDERFREQUENCY is in ALARM (Red) _____

[175] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[176] **VERIFY** the following computer points:

A. Y0320D, RCP BUS 1 UNDER FREQ PART RE, indicates
TRIP _____

B. Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX
TR, indicates NOT TR _____

[177] **POSITION** 2-HS-68-344, at 2-JB-290-3404-D (Aux Inst. Rm),
RCP 1 UNDERFREQUENCY REACTOR TRIP TEST SW, in
NORMAL. _____

[178] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[179] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[180] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[181] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[182] **VERIFY** the following:

A. Trip Status Light 2 (2-XX-55-6A, 2-M-6), RCP 1 UNDER
FREQUENCY, is CLEAR _____

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is CLEAR _____

C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is CLEAR _____

D. Unit 2 Event Display Monitor indicates 122-E RCP
BOARD UNDERFREQUENCY is in NORMAL (Blue) _____

[183] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[184] **VERIFY** the following computer points:

A. Y0320D, RCP BUS 1 UNDER FREQ PART RE, indicates
NOT TR _____

B. Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX
TR, indicates NOT TR _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[185] **POSITION** 2-HS-68-346, at 2-JB-290-3405-E (Aux Inst. Rm),
RCP 2 UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST. _____

[186] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[187] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[188] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[189] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[190] **VERIFY** the following:

A. Trip Status Light 22 (2-XX-55-6A, 2-M-6), RCP 2 UNDER
FREQUENCY, is in ALARM _____

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is in ALARM _____

C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is CLEAR _____

[191] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[192] **VERIFY** the following computer points:

- A. Y0321D, RCP BUS 2 UNDER FREQ PART RE, indicates TRIP _____
- B. Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX TR, indicates NOT TR _____

[193] **POSITION** 2-HS-68-346, at 2-JB-290-3405-E (Aux Inst. Rm), RCP 2 UNDERFREQUENCY REACTOR TRIP TEST SW, in NORMAL. _____

[194] **VERIFY** the following:

- A. Trip Status Light 22 (2-XX-55-6A, 2-M-6), RCP 2 UNDER FREQUENCY, is CLEAR _____
- B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is CLEAR _____
- C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is CLEAR _____

[195] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48) TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[196] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48) TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[197] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51) TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[198] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51) TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[199] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[200] **VERIFY** the following computer points:

A. Y0321D, RCP BUS 2 UNDER FREQ PART RE, indicates
NOT TR _____

B. Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX
TR, indicates NOT TR _____

[201] **POSITION** 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm),
RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST. _____

[202] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[203] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[204] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[205] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[206] **VERIFY** the following:

- A. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER FREQUENCY, is in ALARM. _____
- B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is in ALARM. _____
- C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is CLEAR _____

[207] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[208] **VERIFY** the following computer points:

- A. Y0322D, RCP BUS 3 UNDER FREQ PART RE, indicates TRIP _____
- B. Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX TR, indicates NOT TR _____

[209] **POSITION** 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, in NORMAL. _____

[210] **VERIFY** the following:

- A. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER FREQUENCY, is CLEAR _____
- B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is CLEAR _____
- C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is CLEAR _____

[211] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48) TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[212] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

[213] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN

M&TE _____ Cal Due Date _____

[214] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

[215] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[216] **VERIFY** the following computer points:

A. Y0322D, RCP BUS 3 UNDER FREQ PART RE, indicates
NOT TR _____

B. Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX
TR, indicates NOT TR _____

[217] **POSITION** 2-HS-68-350, at 2-JB-290-3407-G (Aux Inst. Rm),
RCP 4 UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST.

[218] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN

M&TE _____ Cal Due Date _____

[219] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[220] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN

M&TE _____ Cal Due Date _____

[221] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

[222] **VERIFY** the following:

A. Trip Status Light 62 (2-XX-55-6A, 2-M-6), RCP 4 UNDER
FREQUENCY, is in ALARM

B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is in ALARM

C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is CLEAR

[223] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[224] **VERIFY** the following computer points:

A. Y0323D, RCP BUS 4 UNDER FREQ PARTIAL RX TRIP,
indicates TRIP.

B. Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX
TR, indicates NOT TR

[225] **POSITION** 2-HS-68-350, at 2-JB-290-3407-G (Aux Inst. Rm),
RCP 4 UNDERFREQUENCY REACTOR TRIP TEST SW, in
NORMAL.

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[226] **VERIFY** the following:

- A. Trip Status Light 62 (2-XX-55-6A, 2-M-6), RCP 4 UNDER FREQUENCY, is CLEAR _____
- B. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is CLEAR _____
- C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is CLEAR _____

[227] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[228] **VERIFY** the following computer points:

- A. Y0323D, RCP BUS 4 UNDER FREQ PARTIAL RX TRIP, indicates NOT TR. _____
- B. Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX TR, indicates NOT TR _____

[229] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48) TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[230] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48) TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[231] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51) TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[232] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[233] **POSITION** the following:

A. 2-HS-68-344, at 2-JB-290-3404-D (Aux Inst. Rm), RCP 1
UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST _____

B. 2-HS-68-346, at 2-JB-290-3405-E (Aux Inst. Rm), RCP 2
UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST _____

[234] **VERIFY** the contact state for 2-RLY-099-K627 (Train A/2-R-48)

A. TB636 - 1, 2 CLOSED _____

B. TB636 - 3, 4 CLOSED _____

C. TB636 - 5, 6 CLOSED _____

D. TB636 - 7, 8 CLOSED _____

M&TE _____ Cal Due Date _____

[235] **VERIFY** the contact state for 2-RLY-099-K641 (Train A/2-R-48)

A. TB647 - 5, 6 CLOSED _____

B. TB647 - 7, 8 CLOSED _____

C. TB647 - 9, 10 CLOSED _____

D. TB647 - 11,12 CLOSED _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[236] **VERIFY** the contact state for 2-RLY-099-K627 (Train B/2-R-51)

- A. TB636 - 1, 2 CLOSED _____
- B. TB636 - 3, 4 CLOSED _____
- C. TB636 - 5, 6 CLOSED _____
- D. TB636 - 7, 8 CLOSED _____

M&TE _____ Cal Due Date _____

[237] **VERIFY** the contact state for 2-RLY-099-K641 (Train B/2-R-51)

- A. TB647 - 5, 6 CLOSED _____
- B. TB647 - 7, 8 CLOSED _____
- C. TB647 - 9, 10 CLOSED _____
- D. TB647 - 11,12 CLOSED _____

M&TE _____ Cal Due Date _____

[238] **VERIFY** the following:

- A. Trip Status Light 2 (2-XX-55-6A, 2-M-6), RCP 1 UNDER FREQUENCY, is in ALARM _____
- B. Trip Status Light 22 (2-XX-55-6A, 2-M-6), RCP 2 UNDER FREQUENCY, is in ALARM _____
- C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is in ALARM. _____
- D. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is in ALARM _____
- E. Unit 2 Event Display Monitor indicates 79-E RT-RCP BOARD UNDERFREQUENCY is in ALARM (Red) _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[239] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) [**Acc Crit**] _____

B. UV COIL VOLTAGE Meter (2-R-50) [**Acc Crit**] _____

[240] **VERIFY** the following:

A. Computer Point Y0324D, RCP BUS UNDER FREQ & P7
CAUSES RX TR, indicates TRIP. _____

B. Computer Point Y0400D, REACTOR COOLANT PUMP 1
BREAKER, indicates OPEN. _____

C. Computer Point Y0420D, REACTOR COOLANT PUMP 2
BREAKER, indicates OPEN. _____

D. Computer Point Y0440D, REACTOR COOLANT PUMP 3
BREAKER, indicates OPEN. _____

E. Computer Point Y0460D, REACTOR COOLANT PUMP 4
BREAKER, indicates OPEN. _____

[241] **POSITION** 2-HS-68-346, at 2-JB-290-3405-E (Aux Inst. Rm),
RCP 2 UNDERFREQUENCY REACTOR TRIP TEST SW, in
NORMAL. _____

[242] **VERIFY** the contact state for 2-RLY-099-K627 (Train A/2-R-48)

A. TB636 - 1, 2 OPEN _____

B. TB636 - 3, 4 OPEN _____

C. TB636 - 5, 6 OPEN _____

D. TB636 - 7, 8 OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[243] **VERIFY** the contact state for 2-RLY-099-K641 (Train A/2-R-48)

A. TB647 - 5, 6 OPEN _____

B. TB647 - 7, 8 OPEN _____

C. TB647 - 9, 10 OPEN _____

D. TB647 - 11,12 OPEN _____

M&TE _____ Cal Due Date _____

[244] **VERIFY** the contact state for 2-RLY-099-K627 (Train B/2-R-51)

A. TB636 - 1, 2 OPEN _____

B. TB636 - 3, 4 OPEN _____

C. TB636 - 5, 6 OPEN _____

D. TB636 - 7,8 OPEN _____

M&TE _____ Cal Due Date _____

[245] **VERIFY** the contact state for 2-RLY-099-K641 (Train B/2-R-51)

A. TB647 - 5, 6 OPEN _____

B. TB647 - 7, 8 OPEN _____

C. TB647 - 9, 10 OPEN _____

D. TB647 - 11,12 OPEN _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[246] **VERIFY** the following:

- A. Trip Status Light 22 (2-XX-55-6A, 2-M-6), RCP 2 UNDER FREQUENCY, is CLEAR _____
- B. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is CLEAR _____
- C. Unit 2 Event Display Monitor indicates 79-E RT-RCP BOARD UNDERFREQUENCY is in NORMAL (Blue) _____

[247] **VERIFY** the following:

- A. Computer Point Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX TR, indicates NOT TR. _____
- B. Computer Point Y0400D, REACTOR COOLANT PUMP 1 BREAKER, indicates CLOSED. _____
- C. Computer Point Y0420D, REACTOR COOLANT PUMP 2 BREAKER, indicates CLOSED. _____
- D. Computer Point Y0440D, REACTOR COOLANT PUMP 3 BREAKER, indicates CLOSED. _____
- E. Computer Point Y0460D, REACTOR COOLANT PUMP 4 BREAKER, indicates CLOSED. _____

[248] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

[249] **POSITION** 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, in TEST. _____

[250] **VERIFY** the following:

- A. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER FREQUENCY, is in ALARM _____
- B. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is in ALARM _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[251] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is CLOSED

M&TE _____ Cal Due Date _____

[252] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

[253] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is CLOSED

M&TE _____ Cal Due Date _____

[254] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

[255] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]**

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]**

[256] **POSITION** 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm),
RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, in
NORMAL.

[257] **VERIFY** the following:

A. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER
FREQUENCY, is CLEAR

B. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is CLEAR

[258] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[259] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

[260] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN

M&TE _____ Cal Due Date _____

[261] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

[262] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[263] **POSITION** 2-HS-68-350, at 2-JB-290-3407-G (Aux Inst. Rm),
RCP 4 UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST.

[264] **VERIFY** the following:

A. Trip Status Light 62 (2-XX-55-6A, 2-M-6), RCP 4 UNDER
FREQUENCY, is in ALARM _____

B. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is in ALARM _____

[265] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is CLOSED

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[266] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

[267] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is CLOSED

M&TE _____ Cal Due Date _____

[268] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

[269] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[270] **POSITION** the following:

A. 2-HS-68-344, at 2-JB-290-3404-D (Aux Inst. Rm), RCP 1
UNDERFREQUENCY REACTOR TRIP TEST SW, in
NORMAL _____

B. 2-HS-68-350, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4
UNDERFREQUENCY REACTOR TRIP TEST SW, in
NORMAL _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[271] **VERIFY** the following:

- A. Trip Status Light 2 (2-XX-55-6A, 2-M-6), RCP 1 UNDER FREQUENCY, is CLEAR _____
- B. Trip Status Light 62 (2-XX-55-6A, 2-M-6), RCP 4 UNDER FREQUENCY, is CLEAR _____
- C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is CLEAR _____
- D. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is CLEAR _____

[272] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48) TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[273] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48) TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[274] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51) TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[275] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51) TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[276] **VERIFY** voltage on the following Logic Panel Meters (approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____
- B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[277] **POSITION** the following:

- A. 2-HS-68-346, at 2-JB-290-3405-E (Aux Inst. Rm), RCP 2 UNDERFREQUENCY REACTOR TRIP TEST SW, in TEST. _____
- B. 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, in TEST. _____

[278] **VERIFY** the following:

- A. Trip Status Light 22 (2-XX-55-6A, 2-M-6), RCP 2 UNDER FREQUENCY, is in ALARM _____
- B. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER FREQUENCY, is in ALARM _____
- C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is in ALARM _____
- D. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD UNDERFREQ/UNDERVOLTAGE, is in ALARM _____

[279] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48) TB636 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[280] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48) TB647 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

[281] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51) TB636 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[282] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51) TB647 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[283] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[284] **POSITION** 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm),
RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, in
NORMAL. _____

[285] **VERIFY** the following:

A. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER
FREQUENCY, is CLEAR _____

B. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is CLEAR _____

[286] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[287] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[288] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[289] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[290] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

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6.19 Undervoltage and Underfrequency Reactor Trip (continued)

B. UV COIL VOLTAGE Meter (2-R-50) _____

[291] **POSITION** 2-HS-68-350, at 2-JB-290-3407-G (Aux Inst. Rm),
RCP 4 UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST. _____

[292] **VERIFY** the following:

A. Trip Status Light 62 (2-XX-55-6A, 2-M-6), RCP 4 UNDER
FREQUENCY, is in ALARM _____

B. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is in ALARM _____

[293] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[294] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

[295] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[296] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

[297] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[298] **POSITION** 2-HS-68-346, at 2-JB-290-3405-E (Aux Inst. Rm),
RCP 2 UNDERFREQUENCY REACTOR TRIP TEST SW, in
NORMAL.

[299] **VERIFY** the following:

A. Trip Status Light 22 (2-XX-55-6A, 2-M-6), RCP 2 UNDER
FREQUENCY, is CLEAR

B. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is CLEAR

[300] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN

M&TE _____ Cal Due Date _____

[301] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

[302] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN

M&TE _____ Cal Due Date _____

[303] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

[304] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47)

B. UV COIL VOLTAGE Meter (2-R-50)

[305] **POSITION** 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm),
RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, in
TRIPPED.

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[306] **VERIFY** the following:

A. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER FREQUENCY, is in ALARM _____

B. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD UNDER FREQUENCY, is in ALARM _____

[307] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48) TB636 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[308] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48) TB647 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

[309] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51) TB636 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

[310] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51) TB647 - 5, 6, is CLOSED _____

M&TE _____ Cal Due Date _____

[311] **VERIFY** voltage on the following Logic Panel Meters (approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[312] **POSITION** the following:

A. 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, in NORMAL _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

- B. 2-HS-68-350, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4
UNDERFREQUENCY REACTOR TRIP TEST SW, in
NORMAL _____

[313] **VERIFY** the following:

- A. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER
FREQUENCY, is CLEAR _____
- B. Trip Status Light 62 (2-XX-55-6A, 2-M-6), RCP 4 UNDER
FREQUENCY, is CLEAR _____
- C. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is CLEAR _____
- D. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is CLEAR _____

[314] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[315] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[316] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN _____

M&TE _____ Cal Due Date _____

[317] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN _____

M&TE _____ Cal Due Date _____

[318] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

- A. UV COIL VOLTAGE Meter (2-R-47) _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

B. UV COIL VOLTAGE Meter (2-R-50) _____

[319] **POSITION** the following:

A. 2-HS-68-344, at 2-JB-290-3404-D (Aux Inst. Rm), RCP 1
UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST _____

B. 2-HS-68-346, at 2-JB-290-3405-E (Aux Inst. Rm), RCP 2
UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST _____

C. 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3
UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST _____

D. 2-HS-68-350, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4
UNDERFREQUENCY REACTOR TRIP TEST SW, in
TEST _____

[320] **VERIFY** the following:

A. Trip Status Light 2 (2-XX-55-6A, 2-M-6), RCP 1 UNDER
FREQUENCY, is in ALARM _____

B. Trip Status Light 22 (2-XX-55-6A, 2-M-6), RCP 2 UNDER
FREQUENCY, is in ALARM _____

C. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER
FREQUENCY, is in ALARM _____

D. Trip Status Light 62 (2-XX-55-6A, 2-M-6), RCP 4 UNDER
FREQUENCY, is in ALARM _____

E. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is in ALARM _____

F. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is in ALARM _____

[321] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is CLOSED _____

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[322] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

[323] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is CLOSED

M&TE _____ Cal Due Date _____

[324] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is CLOSED

M&TE _____ Cal Due Date _____

[325] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) **[Acc Crit]** _____

B. UV COIL VOLTAGE Meter (2-R-50) **[Acc Crit]** _____

[326] **POSITION** PS/505A, Hi Press to P-7, at 2-R-4 to the left
(NORMAL)

[327] **VERIFY** the following:

A. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is in ALARM _____

B. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is in ALARM. _____

[328] **VERIFY** the contact state of 2-RLY-099-K627 (Train A/2-R-48)
TB636 - 1, 2, is OPEN

M&TE _____ Cal Due Date _____

[329] **VERIFY** the contact state of 2-RLY-099-K641 (Train A/2-R-48)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[330] **VERIFY** the contact state of 2-RLY-099-K627 (Train B/2-R-51)
TB636 - 1, 2, is OPEN

M&TE _____ Cal Due Date _____

[331] **VERIFY** the contact state of 2-RLY-099-K641 (Train B/2-R-51)
TB647 - 5, 6, is OPEN

M&TE _____ Cal Due Date _____

[332] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[333] **POSITION** PS/505A, Hi Press to P-7, at 2-R-4 to the right
(TRIP).

[334] **VERIFY** the following:

A. Annunciator 70E (2-XA-55-4A, 2-M-4), P-13 LO TURBINE
IMPULSE PRESS, is CLEAR _____

B. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is CLEAR _____

[335] **VERIFY** voltage on the following Logic Panel Meters
(approximately 0 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

[336] **POSITION** the following:

- A. 2-HS-68-344, at 2-JB-290-3404-D (Aux Inst. Rm), RCP 1 UNDERFREQUENCY REACTOR TRIP TEST SW, in NORMAL _____
- B. 2-HS-68-346, at 2-JB-290-3405-E (Aux Inst. Rm), RCP 2 UNDERFREQUENCY REACTOR TRIP TEST SW, in NORMAL _____
- C. 2-HS-68-348, at 2-JB-290-3406-F (Aux Inst. Rm), RCP 3 UNDERFREQUENCY REACTOR TRIP TEST SW, in NORMAL _____
- D. 2-HS-68-350, at 2-JB-290-3407-G (Aux Inst. Rm), RCP 4 UNDERFREQUENCY REACTOR TRIP TEST SW, in NORMAL _____
- E. PS/505A, Hi Press to P-7, at 2-R-4 to the left (NORMAL) _____

[337] **VERIFY** the following:

- A. Trip Status Light 1 (2-XX-55-6A, 2-M-6), RCP 1 UNDER VOLTAGE, is CLEAR _____
- B. Trip Status Light 21 (2-XX-55-6A, 2-M-6), RCP 2 UNDER VOLTAGE, is CLEAR _____
- C. Trip Status Light 41 (2-XX-55-6A, 2-M-6), RCP 3 UNDER VOLTAGE, is CLEAR _____
- D. Trip Status Light 61 (2-XX-55-6A, 2-M-6), RCP 4 UNDER VOLTAGE, is CLEAR _____
- E. Trip Status Light 2 (2-XX-55-6A, 2-M-6), RCP 1 UNDER FREQUENCY, is CLEAR _____
- F. Trip Status Light 22 (2-XX-55-6A, 2-M-6), RCP 2 UNDER FREQUENCY, is CLEAR _____
- G. Trip Status Light 42 (2-XX-55-6A, 2-M-6), RCP 3 UNDER FREQUENCY, is CLEAR _____
- H. Trip Status Light 62 (2-XX-55-6A, 2-M-6), RCP 4 UNDER FREQUENCY, is CLEAR _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

I. Annunciator 122E (2-XA-55-6B, 2-M-6), RCP BOARD
UNDERFREQ/UNDERVOLTAGE, is CLEAR _____

J. Annunciator 79D (2-XA-55-4D, 2-M-4), RCP BOARD
UNDERVOLTAGE, is CLEAR _____

K. Annunciator 79E (2-XA-55-4D, 2-M-4), RCP BOARD
UNDER FREQUENCY, is CLEAR _____

L. Annunciator 70D (2-XA-55-4A, 2-M-4), P-7 LO POWER
TRIPS BLOCKED, is in ALARM _____

[338] **VERIFY** voltage on the following Logic Panel Meters
(approximately 42 VDC):

A. UV COIL VOLTAGE Meter (2-R-47) _____

B. UV COIL VOLTAGE Meter (2-R-50) _____

[339] **VERIFY** the following computer points:

A. V0320D, RCP BUS 1 UNDER VOLT PARTIAL RX TRIP,
indicates NOT TR _____

B. V0321D, RCP BUS 2 UNDER VOLT PARTIAL RX TRIP,
indicates NOT TR _____

C. V0322D, RCP BUS 3 UNDER VOLT PARTIAL RX TRIP,
indicates NOT TR _____

D. V0323D, RCP BUS 4 UNDER VOLT PARTIAL RX TRIP,
indicates NOT TR _____

E. V0324D, RCP BUS UNDER VOLT & P7 CAUSES RX TR,
indicates NOT TR _____

F. Y0320D, RCP BUS 1 UNDER FREQ PART RE, indicates
NOT TR _____

G. Y0321D, RCP BUS 2 UNDER FREQ PART RE, indicates
NOT TR _____

H. Y0322D, RCP BUS 3 UNDER FREQ PART RE, indicates
NOT TR _____

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Date _____

6.19 Undervoltage and Underfrequency Reactor Trip (continued)

- I. Y0323D, RCP BUS 4 UNDER FREQ PARTIAL RX TRIP,
indicates NOT TR. _____
- J. Y0324D, RCP BUS UNDER FREQ & P7 CAUSES RX
TR, indicates NOT TR _____
- K. Y0400D, REACTOR COOLANT PUMP 1 BREAKER,
indicates CLOSED _____
- L. Y0420D, REACTOR COOLANT PUMP 2 BREAKER,
indicates CLOSED _____
- M. Y0440D, REACTOR COOLANT PUMP 3 BREAKER,
indicates CLOSED _____
- N. Y0460D, REACTOR COOLANT PUMP 4 BREAKER,
indicates CLOSED _____

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Date _____

7.0 POST PERFORMANCE ACTIVITIES

CAUTION

120 volts AC is present during the following step.

- [1] **ENSURE** the SSPS alignment in Table 2 is complete. _____
- [2] **ENSURE** the NIS alignment in Table 3 is complete. _____
- [3] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-1 in NORMAL:
 - A. F-414 RCS FLOW LP1 _____
 - B. F-424 RCS FLOW LP2 _____
 - C. F-434 RCS FLOW LP3 _____
 - D. F-444 RCS FLOW LP4 _____
 - E. P-455 PZR PRESSURE _____
 - F. L-459 PZR LEVEL _____
- [4] **ENSURE** Eagle 21 Protection Channel T-411/412 DTTA LP1, at 2-R-2, in NORMAL. _____
- [5] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-3, in NORMAL:
 - A. P-514 STM PRESS LP1 _____
 - B. P-524 STM PRESS LP2 _____
 - C. P-937 CONTNMT PRESS _____

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Date _____

7.0 POST PERFORMANCE ACTIVITIES (continued)

[6] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-4 in NORMAL:

A. P-505 TURB IMP PR _____

B. P-534 STM PRESS LP3 _____

C. P-544 STM PRESS LP4 _____

[7] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-5 in NORMAL:

A. F-415 RCS FLOW LP1 _____

B. F-425 RCS FLOW LP2 _____

C. F-435 RCS FLOW LP3 _____

D. F-445 RCS FLOW LP4 _____

E. L-519-549 TTD _____

F. L-519 SG LEVEL LP1 _____

G. L-529 SG LEVEL LP2 _____

H. L-539 SG LEVEL LP3 _____

I. L-549 SG LEVEL LP4 _____

J. P-456 PZR PRESSURE _____

K. L-460 PZR LEVEL _____

[8] **ENSURE** Eagle 21 Protection Channel, T-421/422 DTTA LP2, at 2-R-6, in NORMAL. _____

[9] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-7, in NORMAL:

A. P-515 STM PRESS LP1 _____

B. P-535 STM PRESS LP3 _____

C. P-936 CONTNMT PRESS _____

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Date _____

7.0 POST PERFORMANCE ACTIVITIES (continued)

[10] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-8, in NORMAL:

A. P-506 TURB IMP PR _____

B. P-525 STM PRESS LP2 _____

C. P-545 STM PRESS LP4 _____

[11] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-9 in NORMAL:

A. F-416 RCS FLOW LP1 _____

B. F-426 RCS FLOW LP2 _____

C. F-436 RCS FLOW LP3 _____

D. F-446 RCS FLOW LP4 _____

E. P-457 PZR PRESSURE _____

F. L-461 PZR-LEVEL _____

[12] **ENSURE** Eagle 21 Protection Channel T-431/432 DTTA LP3, at 2-R-10 in NORMAL. _____

[13] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-11, in NORMAL:

A. L-518, 528, 538, and 548 TTD _____

B. L-518 SG LEVEL LP1 _____

C. L-528 SG LEVEL LP2 _____

D. L-538 SG LEVEL LP3 _____

E. L-548 SG LEVEL LP4 _____

F. P-526 STM PRESS LP2 _____

G. P-536 STM PRESS LP3 _____

H. P-935 CONTNMT PRESS _____

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Date _____

7.0 POST PERFORMANCE ACTIVITIES (continued)

[14] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-12, in NORMAL:

A. L-517-547 TTD _____

B. L-517 SG LEVEL LP1 _____

C. L-527 SG LEVEL LP2 _____

D. L-537 SG LEVEL LP3 _____

E. L-547 SG LEVEL LP4 _____

F. P-516 STM PRESS LP1 _____

G. P-546 STM PRESS LP4 _____

[15] **ENSURE** Eagle 21 Protection Channel T-441/442 DTTA LP4, at 2-R-13 to the left (NORMAL). _____

[16] **ENSURE** the following Eagle 21 Protection Channels, at 2-R-28, in NORMAL.

A. P-458 PZR PRESSURE _____

B. P-934 CONTNMT PRESS _____

[17] **REMOVE** switched jumpers at Train A (Input cabinet 2-R-46):

A. 2-ZS-47-28, TB109 Terminals 3 and 4 _____

CV

B. 2-ZS-47-30, TB209 Terminals 3 and 4 _____

CV

C. 2-ZS-47-32, TB308 Terminals 3 and 4 _____

CV

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Date _____

7.0 POST PERFORMANCE ACTIVITIES (continued)

D. 2-ZS-47-34, TB407 Terminals 3 and 4 _____

 CV

[18] **REMOVE** switched jumpers at Train B (Input Cabinet 2-R-49):

A. 2-ZS-47-28, TB109 Terminals 3 and 4 _____

 CV

B. 2-ZS-47-30, TB209 Terminals 3 and 4 _____

 CV

C. 2-ZS-47-32, TB308 Terminals 3 and 4 _____

 CV

D. 2-ZS-47-34, TB407 Terminals 3 and 4 _____

 CV

[19] **INSTALL** the following fuses at Train A (Input Cabinet 2-R-46)
 Field side:

A. 2-ZS-47-28, 2-FU-99-R46/D4 _____

 CV

B. 2-ZS-47-30, 2-FU-99-R46/E3 _____

 CV

C. 2-ZS-47-32, 2-FU-99-R46/F3 _____

 CV

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Date _____

7.0 POST PERFORMANCE ACTIVITIES (continued)

D. 2-ZS-47-34, 2-FU-99-R46/G4 _____
CV

[20] **INSTALL** the following fuses at Train B (Input Cabinet 2-R-49)
Field side:

A. 2-ZS-47-28, 2-FU-99-R49/D4 _____
CV

B. 2-ZS-47-30, 2-FU-99-R49/E3 _____
CV

C. 2-ZS-47-32, 2-FU-99-R49/F3 _____
CV

D. 2-ZS-47-34, 2-FU-99-R49/G4 _____
CV

[21] **REMOVE** the jumper from Terminal Points 10A and 10902A in
2-JB-290-1666-D. _____
CV

[22] **REMOVE** the jumper from Terminal Points 10B and 10902B in
2-JB-290-1666-D. _____
CV

[23] **REMOVE** the jumper from Terminal Points 20A and 20902A in
2-JB-290-1669E. _____
CV

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Date _____

7.0 POST PERFORMANCE ACTIVITIES (continued)

- [24] **REMOVE** the jumper from Terminal Points 20B and 20902B in 2-JB-290-1669-E. _____
CV
- [25] **REMOVE** the jumper from Terminal Points 30A and 30802A in 2-JB-290-1668-F. _____
CV
- [26] **REMOVE** the jumper from Terminal Points 30B and 30802B in 2-JB-290-1668-F. _____
CV
- [27] **REMOVE** the jumper from Terminal Points 10907A1 and 10908A in 2-JB-290-3404-D (Aux Inst. Rm). _____
CV
- [28] **REMOVE** the jumper from Terminal Points 10907B1 and 10908B in 2-JB-290-3404-D (Aux Inst. Rm). _____
CV
- [29] **REMOVE** the jumper from Terminal Points 20907A1 and 20908A in 2-JB-290-3405-E (Aux Inst. Rm). _____
CV
- [30] **REMOVE** the jumper from Terminal Points 20907B1 and 20908B in 2-JB-290-3405-E (Aux Inst. Rm). _____
CV

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Date _____

7.0 POST PERFORMANCE ACTIVITIES (continued)

[31] **REMOVE** the jumper from Terminal Points 30807A1 and 30808A in 2-JB-290-3406-F (Aux Inst. Rm).

CV

[32] **REMOVE** the jumper from Terminal Points 30807B1 and 30808B in 2-JB-290-3406-F (Aux Inst. Rm).

CV

[33] **REMOVE** the jumper from Terminal Points 40707A1 and 40708A in 2-JB-290-3407-G (Aux Inst. Rm).

CV

[34] **REMOVE** the jumper from Terminal Points 40707B1 and 40708B in 2-JB-290-3407-G (Aux Inst. Rm).

CV

[35] **REMOVE** the jumper from Terminal Points 10811A1 and 10812A in 2-JB-290-3404-D (Aux Inst. Rm).

CV

[36] **REMOVE** the jumper from Terminal Points 10811B1 and 10812B in 2-JB-290-3404-D (Aux Inst. Rm).

CV

[37] **REMOVE** the jumper from Terminal Points 20811A1 and 20812A in 2-JB-290-3405-E (Aux Inst. Rm).

CV

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Date _____

7.0 POST PERFORMANCE ACTIVITIES (continued)

- [38] **REMOVE** the jumper from Terminal Points 20811B1 and 20812B in 2-JB-290-3405-E (Aux Inst. Rm).

CV

- [39] **REMOVE** the jumper from Terminal Points 30711A1 and 30712A in 2-JB-290-3406-F (Aux Inst. Rm).

CV

- [40] **REMOVE** the jumper from Terminal Points 30711B1 and 30712B in 2-JB-290-3406-F (Aux Inst. Rm).

CV

- [41] **REMOVE** the jumper from Terminal Points 40903A1 and 40904A in 2-JB-290-3407-G (Aux Inst. Rm).

CV

- [42] **REMOVE** the jumper from Terminal Points 40903B1 and 40904B in 2-JB-290-3407-G (Aux Inst. Rm).

CV

- [43] **VERIFY** that Post test calibration of the M&TE used to record quantitative acceptance criteria has been satisfactorily performed and the results RECORDED on Measuring and Test Equipment (M&TE) Log, Appendix F in SMP 9.0.

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

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8.0 RECORDS

A. QA Records

Completed Test Package (PTI)

B. Non-QA Records

None

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**Appendix A
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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 Amendment 108 Section 7.2 “Reactor Trip System” Chapter 14 Table 14.2-1 Sheet 57 of 89.			
2-TSD-99-3, Reactor Protection System Operational Test, Rev 1			
SMP-4.0, Watts Bar Nuclear Plant Unit 2 System Turnover, Rev. 4			
SMP-8.0, Watts Bar Nuclear Plant Unit 2 Administration of Preoperational Test Instructions. Rev. 8			

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**Appendix A
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TEST PROCEDURES / INSTRUCTIONS REFERENCE REVIEW

PROCEDURE/ INSTRUCTION	REVISION/CHANGES	IMPACT Yes/No	INITIAL AND DATE. (N/A for no change)
WBN2-99-4003, System Description For Reactor Protection System, Rev. 0			

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Table 1
(Page 1 of 8)
BREAKER LINEUP

Date _____

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	POSITION	VERIFIED BY INITIAL/DATE
12	2-BKR-235-1/12-D SSPS CONT RM DEMPX	2-BD-235-1-D 120V AC VITAL INSTR POWER BOARD 2-I (757, A5R)	ON	
25	2-BKR-235-1/25-D VITAL AC SUPPLY 2-R-3 PROCESS PROTECTION SET I	2-BD-235-1-D 120V AC VITAL INSTR POWER BOARD 2-I (757, A5R)	ON	
42	2-BKR-235-1/42-D RCP 1 UV & UF RELAYS	2-BD-235-1-D 120V AC VITAL INSTR POWER BOARD 2-I (757, A5R)	ON	
43	2-BKR-235-1/43-D SSPS (A) CH I INPUT RELAYS	2-BD-235-1-D 120V AC VITAL INSTR POWER BOARD 2-I (757, A5R)	ON	

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Table 1
(Page 2 of 8)
BREAKER LINEUP

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	POSITION	VERIFIED BY INITIAL/DATE
44	2-BKR-235-1/44-D SSPS (B) CH I INPUT RELAYS	2-BD-235-1-D 120V AC VITAL INSTR POWER BOARD 2-I (757, A5R)	ON	
45	2-BKR-235-1/45-D NIS INSTR PWR CH I	2-BD-235-1-D 120V AC VITAL INSTR POWER BOARD 2-I (757, A5R)	ON	
46	2-BKR-235-1/46-D NIS CONT PWR CH I	2-BD-235-1-D 120V AC VITAL INSTR POWER BOARD 2-I (757, A5R)	ON	
47	2-BKR-235-1/47-D PROCESS PROTECTION SET I	2-BD-235-1-D 120V AC VITAL INSTR POWER BOARD 2-I (757, A5R)	ON	
25	2-BKR-235-2/25-E VITAL AC SUPPLY 2-R-7 PROCESS PROTECTION SET II	2-BD-235-2-E 120V AC VITAL INSTR POWER BOARD 2-II 757, A6R)	ON	

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Table 1
(Page 3 of 8)
BREAKER LINEUP

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	POSITION	VERIFIED BY INITIAL/DATE
42	2-BKR-235-2/42-E RCP 2 UV & UF RELAYS CH II	2-BD-235-2-E 120V AC VITAL INSTR POWER BOARD 2-II 757, A6R)	ON	
43	2-BKR-235-2/43-E SSPS (A) CH II INPUT RELAYS	2-BD-235-2-E 120V AC VITAL INSTR POWER BOARD 2-II (757, A6R)	ON	
44	2-BKR-235-2/44-E SSPS (B) CH II INPUT RELAYS	2-BD-235-2-E 120V AC VITAL INSTR POWER BOARD 2-II (757, A6R)	ON	
45	2-BKR-235-2/45-E NIS INSTR PWR CHL II	2-BD-235-2-E 120V AC VITAL INSTR POWER BOARD 2-II (757, A6R)	ON	
46	2-BKR-235-2/46-E NIS CONT PWR CHL II	2-BD-235-2-E 120V AC VITAL INSTR POWER BOARD 2-II (757, A6R)	ON	

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Table 1
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BREAKER LINEUP

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	POSITION	VERIFIED BY INITIAL/DATE
47	2-BKR-235-2/47-E PROCESS PROTECTION SET II	2-BD-235-2-E 120V AC VITAL INSTR POWER BOARD 2-II (757, A6R)	ON	
25	2-BKR-235-3/25-F XX-55-6C & XX-55-6E CNTL PWR (PX-55-6C-A)	2-BD-235-3-F 120V AC VITAL INSTR POWER BOARD 2-III (757 A11R)	ON	
27	2-BKR-235-3/27-F SSPS (A) CH III INPUT & TRAIN A OUTPUT RELAYS	2-BD-235-3-F 120 V AC VITAL INSTR POWER BOARD 2-III (757, A11R)	ON	
33	2-BKR-235-3/33-F RCP3 UV & UF RELAYS	2-BD-235-3-F 120 V AC VITAL INSTR POWER BOARD 2-III (757, A11R)	ON	
34	2-BKR-235-3/34-F SSPS (B) CH III INPUT RELAYS	2-BD-235-3-F 120 V AC VITAL INSTR POWER BOARD 2-III (757, A11R)	ON	

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Table 1
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BREAKER LINEUP

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	POSITION	VERIFIED BY INITIAL/DATE
35	2-BKR-235-3/35-F NIS INSTR PWR CHL III	2-BD-235-3-F 120 V AC VITAL INSTR POWER BOARD 2-III (757, A11R)	ON	
37	2-BKR-235-3/37-F PROCESS PROTECTION SET III	2-BD-235-3-F 120 V AC VITAL INSTR POWER BOARD 2-III (757, A11R)	ON	
43	2-BKR-235-3/43-F VITAL AC SUPPLY 2-R-11 PROCESS PROTECTION SET III	2-BD-235-3-F 120 V AC VITAL INSTR POWER BOARD 2-III (757, A11R)	ON	
25	2-BKR-235-4/25-G XX-55-6D & XX-55-6F CNTL PWR (PX- 55-6D-B)	2-BD-235-4-G 120V AC VITAL INSTR POWER BOARD 2-IV (757, A12R)	ON	
27	2-BKR-235-4/27-G SSPS (A) CH IV INPUT RELAYS	2-BD-235-4-G 120V AC VITAL INSTR POWER BOARD 2-IV (757, A12R)	ON	

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Table 1
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BREAKER LINEUP

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	POSITION	VERIFIED BY INITIAL/DATE
28	2-BKR-235-4/28-G SSPS (B) CH IV INPUT & TRAIN B OUTPUT RELAYS	2-BD-235-4-G 120V AC VITAL INSTR POWER BOARD 2-IV (757, A12R)	ON	
29	2-BKR-235-4/29-G NIS INST PWR CH IV	2-BD-235-4-G 120 V AC VITAL INSTR POWER BOARD 2-IV (757, A12R)	ON	
30	2-BKR-235-4/30-G NIS CONT PWR CH IV	2-BD-235-4-G 120 V AC VITAL INSTR POWER BOARD 2-IV (757, A12R)	ON	
31	2-BKR-235-4/31-G PROCESS PROTECTION SET IV	2-BD-235-4-G 120V AC VITAL INSTR POWER BOARD 2-IV (757, A12R)	ON	
32	2-BKR-235-4/32-G RCP4 UV & UF RELAYS	2-BD-235-4-G 120V AC VITAL INSTR POWER BOARD 2-IV (757, A12R)	ON	

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**Table 1
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BREAKER LINEUP**

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	POSITION	VERIFIED BY INITIAL/DATE
45	2-BKR-235-4/45-G VITAL AC SUPPLY 2-R-28 PROCESS PROTECTION SET IV	2-BD-235-4-G 120 V AC VITAL INSTR POWER BOARD 2-IV (757, A12R)	ON	
323	2-BKR-47-24A TURBINE TRIP BUS A UNIT 2	0-BD-239-1 250V BATTERY BOARD I, (692, C5)	ON	
323	2-BKR-47-24B TURBINE TRIP BUS B UNIT 2	0-BD-239-2 250V BATTERY BOARD II, (692, C5)	ON	
319	2-BKR-236-3/319-F REACTOR TRIP SWITCH GEAR TRAIN A 2-L-116	0-BD-236-3/3-F 125V DC VITAL BATTERY BOARD III (757, QA11)	ON	
319	2-BKR-236-4/319-G REACTOR TRIP SWITCH GEAR TRAIN B 2-L-116	0-BD-236-4/3-G 125-V DC VITAL BATTERY BOARD IV (757, QA12)	ON	
COMPT 1B	2-BKR-099-L116/1B-A REACTOR TRIP BKR TRAIN A	2-PNL-099-L116, C/1B, E786/A11U	DISCONNECT	

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**Table 1
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BREAKER LINEUP**

BREAKER IDENTIFICATION	BREAKER NOMENCLATURE	BREAKER LOCATION	POSITION	VERIFIED BY INITIAL/DATE
COMPT 1C	2-BKR-099-L116/1C-B REACTOR TRIP BKR TRAIN B	2-PNL-099-L116, C/1C, E786/A11U	DISCONNECT	
COMPT 2B	2-BKR-099-L116/2B-A REACTOR TRIP BYPASS BKR TRAIN A	2-PNL-099-L116, C/2B, E786/A11U	DISCONNECT	
COMPT 2C	2-BKR-099-L116/2C-B REACTOR TRIP BYPASS BKR TRAIN B	2-PNL-099-L116, C/2C, E786/A11U	DISCONNECT	
COMPT 4D	2-BKR-085-A CRD MG SET 2A (2-GEN-85-A)	2-BD-203-A 480V UNIT BD 2A, C/4D, E708/T9-F	DISCONNECT	
COMPT 3B	2-BKR-085-B CRD MG SET 2B (2-GEN-85-B)	2-BD-203-B 480V UNIT BD 2B, C/3B, E729/T4-3	DISCONNECT	

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**Table 2
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SOLID STATE PROTECTION SYSTEM (SSPS) ALIGNMENT

Date _____

LOCATION	SWITCH	POSITION	INITIAL
Train A 2-R-47 Logic Test Panel	Input Error Inhibit	NORMAL	
	Multiplexer Test	A+B	
	Blocking Function Test	INHIBIT BLOCKS	
	Function Selector Logic A	OFF	
	Function Selector Logic B	24	
	Function Selector Logic C	24	
	Function Selector Logic D	24	
	Permissives	OFF	
	Memories	OFF	
	S521 TIMER TEST	1 (NORMAL)	
Train A 2-R-48 Output Relay Test Panel	Mode Selector	OPERATE	
	Master Relay Selector	OFF	
	S605 TIMER TEST	1 (OFF)	
Train B 2-R-50 Logic Test Panel	Input Error Inhibit	NORMAL	
	Multiplexer Test	NORMAL	
	Blocking Function Test	INHIBIT BLOCKS	
	Function Selector Logic A	OFF	
	Function Selector Logic B	24	
	Function Selector Logic C	24	
	Function Selector Logic D	24	
	Permissives	OFF	
	Memories	OFF	
	S521 TIMER TEST	1 (NORMAL)	
Train B 2-R-51 Output Relay Test Panel	Mode Selector	OPERATE	
	Master Relay Selector	OFF	
	S605 TIMER TEST	1 (OFF)	

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**Table 2
(Page 2 of 3)**

SOLID STATE PROTECTION SYSTEM (SSPS) ALIGNMENT

LOCATION	SWITCH	POSITION	INITIAL
Train A 2-R-47 Logic Test Panel Automatic Input Function Test Lamps	Testing	OFF	
	Bad	ON	
	Good	BLINKING	
	Continuity	ON	
Function Logic Lamps	1/1	OFF	
	1/2	OFF	
	1/3	OFF	
	1/4	OFF	
	2/2	OFF	
	2/3	OFF	
	2/4	OFF	
Train A 2-R-48 Output Relay Test Panel Slaves Operated Lamps Logic Test Panel	Operate	ON	
	A1	OFF	
	A2	OFF	
	A3	OFF	
	A4	OFF	
	B1	OFF	
	B2	OFF	
	B3	OFF	
	B4	OFF	
Train A 2-R-47 Spray Test Panel General Warning Test Logic	This train	ON	
	Opposite Train	ON	
	General Warning	OFF	

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**Table 2
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SOLID STATE PROTECTION SYSTEM (SSPS) ALIGNMENT

LOCATION	SWITCH	POSITION	INITIAL
Train B 2-R-50 Logic Test Panel Automatic Input Function Test Lamps	Testing	OFF	
	Bad	ON	
	Good	OFF	
	Continuity	ON	
Function Logic Lamps	1/1	OFF	
	1/2	OFF	
	1/3	OFF	
	1/4	OFF	
	2/2	OFF	
	2/3	OFF	
	2/4	OFF	
Train B 2-R-51 Output Relay Test Panel Slaves Operated Lamps Logic Test Panel	Operate	ON	
	A1	OFF	
	A2	OFF	
	A3	OFF	
	A4	OFF	
	B1	OFF	
	B2	OFF	
	B3	OFF	
	B4	OFF	
Train B 2-R-51 Spray Test Panel General Warning	This train	ON	
	Opposite Train	ON	
	General Warning	OFF	

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**Table 3
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NUCLEAR INSTRUMENTATION SYSTEM (NIS) ALIGNMENT

Date _____

DRAWER	SWITCH/INDICATOR	POSITION	INITIAL
Source Range N31 2-NI-092-131-D (2-M-13)	LEVEL TRIP	NORMAL	
	LEVEL TEST (ADJUST)	FULLY CCW	
	HIGH FLUX AT SHUTDOWN	NORMAL	
	OUTPUT SELECTOR	OFF	
Source Range N32 2-NI-092-132-E (2-M-13)	LEVEL TRIP	NORMAL	
	LEVEL TEST (ADJUST)	FULLY CCW	
	HIGH FLUX AT SHUTDOWN	NORMAL	
	OUTPUT SELECTOR	OFF	
Intermediate Range N35 2-NI-092-135-D (2-M-13)	OPERATION SELECTOR	NORMAL	
	LEVEL TRIP	NORMAL	
	TEST SELECTOR	OPR	
	OUTPUT SELECTOR	OFF	
	LEVEL ADJUST	FULLY CCW	
Intermediate Range N36 2-NI-092-136-E (2-M-13)	OPERATION SELECTOR	NORMAL	
	LEVEL TRIP	NORMAL	
	TEST SELECTOR	OPR	
	OUTPUT SELECTOR	OFF	
	LEVEL ADJUST	FULLY CCW	
Power Range A N41 2-IDWR-92-N41A-I (2-M-13)	RATE MODE	NORMAL	
Power Range B N41 2-IDWR-92-N41B-I	OPERATION SELECTOR	NORMAL	
	DETECTOR A RANGE MILLI-AMPS	0.5	

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**Table 3
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NUCLEAR INSTRUMENTATION SYSTEM (NIS) ALIGNMENT

DRAWER	SWITCH/INDICATOR	POSITION	INITIAL
(2-M-13)	DETECTOR B RANGE MILLI-AMPS	0.5	
	TEST SIGNAL POTENTIOMETER (A + B)	FULLY CCW	
Power Range A N42 2-IDWR-92-N42A-II (2-M-13)	RATE MODE	NORMAL	
Power Range B N42 2-IDWR-92-N42B-II (2-M-13)	OPERATION SELECTOR	NORMAL	
	DETECTOR A RANGE MILLI-AMPS	0.5	
	DETECTOR B RANGE MILLI-AMPS	0.5	
	TEST SIGNAL POTENTIOMETER (A +B)	FULLY CCW	
Power Range A N43 2-IDWR-92-N43A-III (2-M-13)	RATE MODE	NORMAL	
Power Range B N43 2-IDWR-92-N43B-III (2-M-13)	OPERATION SELECTOR	NORMAL	
	DETECTOR A RANGE MILLI-AMPS	0.5	
	DETECTOR B RANGE MILLI-AMPS	0.5	
	TEST SIGNAL POTENTIOMETER (A + B)	FULLY CCW	
Power Range A N44 2-IDWR-92-N44A IV (2-M-13)	RATE MODE	NORMAL	
Power Range B N44 2-IDWR-92-N44B-IV (2-M-13)	OPERATION SELECTOR	NORMAL	
	DETECTOR A RANGE MILLI-AMPS	0.5	
	DETECTOR B RANGE MILLI-AMPS	0.5	
	TEST SIGNAL POTENTIOMETER (A + B)	FULLY CCW	

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**Table 3
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NUCLEAR INSTRUMENTATION SYSTEM (NIS) ALIGNMENT

DRAWER	SWITCH/INDICATOR	POSITION	INITIAL
Source Range N31 2-NI-92-131-D (2-M-13)	INSTRUMENT POWER ON	ON	
	CONTROL POWER ON	ON	
	CHANNEL ON TEST	OFF	
	SR NON-OPERATE	OFF	
	LEVEL TRIP	OFF	
	LEVEL TRIP BYPASS	OFF	
	HIGH FLUX AT SHUTDOWN	OFF	
	BISTABLE TRIP SPARE	OFF	
Source Range N32 2-NI-92-132-E (2-M-13)	INSTRUMENT POWER ON	ON	
	CONTROL POWER ON	ON	
	CHANNEL ON TEST	OFF	
	SR NON-OPERATE	OFF	
	LEVEL TRIP	OFF	
	LEVEL TRIP BYPASS	OFF	
	HIGH FLUX AT SHUTDOWN	OFF	
	BISTABLE TRIP SPARE	OFF	
Intermediate Range N35 2-NI-92-135-D (2-M-13)	INSTRUMENT POWER ON	ON	
	CONTROL POWER ON	ON	
	CHANNEL ON TEST	OFF	
	LEVEL TRIP BYPASS	OFF	
	HIGH LEVEL TRIP	OFF	
	HIGH LEVEL ROD STOP	OFF	
	POWER ABOVE PERMISSIVE P6	OFF	
	BISTABLE TRIP SPARE	OFF	

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**Table 3
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NUCLEAR INSTRUMENTATION SYSTEM (NIS) ALIGNMENT

DRAWER	SWITCH/INDICATOR	POSITION	INITIAL
	AMPLIFIER NON-OPERATE	OFF	
	IR/SR NON-OPERATE	OFF	
Intermediate Range N36 2-NI-92-136-E (2-M-13)	INSTRUMENT POWER ON	ON	
	CONTROL POWER ON	ON	
	CHANNEL ON TEST	OFF	
	LEVEL TRIP BYPASS	OFF	
	HIGH LEVEL TRIP	OFF	
	HIGH LEVEL ROD STOP	OFF	
	POWER ABOVE PERMISSIVE P6	OFF	
	BISTABLE TRIP SPARE	OFF	
	AMPLIFIER NON-OPERATE	OFF	
	IR/SR NON-OPERATE	OFF	
Power Range A N41 2-IDWR-92-N41A-I (2-M-13)	CONTROL POWER ON	ON	
	POWER ABOVE PERMISSIVE P9	OFF	
	OVERPOWER TRIP HIGH RANGE	OFF	
	OVERPOWER ROD STOP	OFF	
	OVERPOWER LOW RANGE	OFF	
	POWER ABOVE PERMISSIVE P10	OFF	
	POWER ABOVE PERMISSIVE P8	OFF	
	POSITIVE RATE TRIP	OFF	
	SPARE	OFF	
Power Range B N41 2-IDWR-92-N41B I (2-M-13)	INSTRUMENT POWER ON	ON	
	CHANNEL ON TEST	OFF	

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NUCLEAR INSTRUMENTATION SYSTEM (NIS) ALIGNMENT

DRAWER	SWITCH/INDICATOR	POSITION	INITIAL
Power Range A N42 2-IDWR-92-N42B-II (2-M-13)	CONTROL POWER ON	ON	
	POWER ABOVE PERMISSIVE P9	OFF	
	OVERPOWER TRIP HIGH RANGE	OFF	
	OVERPOWER ROD STOP	OFF	
	OVERPOWER LOW RANGE	OFF	
	POWER ABOVE PERMISSIVE P10	OFF	
	POWER ABOVE PERMISSIVE P8	OFF	
	POSITIVE RATE TRIP	OFF	
	SPARE	OFF	
Power Range B N42 2-IDWR-92-N42B II (2-M-13)	INSTRUMENT POWER ON	ON	
	CHANNEL ON TEST	OFF	
Power Range A N43 2-IDWR-92-N43A-III (2-M-13)	CONTROL POWER ON	ON	
	POWER ABOVE PERMISSIVE P9	OFF	
	OVERPOWER TRIP HIGH RANGE	OFF	
	OVERPOWER ROD STOP	OFF	
	OVERPOWER LOW RANGE	OFF	
	POWER ABOVE PERMISSIVE P10	OFF	
	POWER ABOVE PERMISSIVE P8	OFF	
	POSITIVE RATE TRIP	OFF	
	SPARE	OFF	
Power Range B N43 2-IDWR-92-N43B-III (2-M-13)	INSTRUMENT POWER ON	ON	
	CHANNEL ON TEST	OFF	

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**Table 3
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NUCLEAR INSTRUMENTATION SYSTEM (NIS) ALIGNMENT

DRAWER	SWITCH/INDICATOR	POSITION	INITIAL
Power Range A N44 2-IDWR-92-N44A-IV (2-M-13)	CONTROL POWER ON	ON	
	POWER ABOVE PERMISSIVE P9	OFF	
	OVERPOWER TRIP HIGH RANGE	OFF	
	OVERPOWER ROD STOP	OFF	
	OVERPOWER LOW RANGE	OFF	
	POWER ABOVE PERMISSIVE P10	OFF	
	POWER ABOVE PERMISSIVE P8	OFF	
	POSITIVE RATE TRIP	OFF	
	SPARE	OFF	
Power Range B N44 2-IDWR-92-N44B-IV (2-M-13)	INSTRUMENT POWER ON	ON	
	CHANNEL ON TEST	OFF	

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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

NOTES

- 1) NIS trip signals are generated by rotating the appropriate NIS front panel drawer switches until the chosen NIS bistable trips (2-M-13). Trip indication is provided by labeled NIS front panel indicators. Following is a chart of NIS channels, and the appropriate front panel switches needed to cause bistable trips.
- 2) The "Device" names and "ID" identifications are as they are shown here used in the procedure.
- 3) For operation of SR/IR channels both SR/IR must be in LEVEL TRIP BYPASS and OPERATION SELECTOR on IR must be in TEST ENABLE. Additionally, if using ADJUST potentiometers then TEST SELECTOR on IR must be in ADJUST.

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC31D	Source Range, Drawer N31	LEVEL TEST ADJUST Potentiometer	Trip: ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM.
			Normal: ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is in CLEAR.
NC32D	Source Range, Drawer N32	LEVEL TEST ADJUST Potentiometer	Trip: ADJUST potentiometer CW UNTIL LEVEL TRIP lamp on front of drawer is in ALARM.
			Normal: ADJUST potentiometer CCW UNTIL LEVEL TRIP lamp on front of drawer is in CLEAR.

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Table 4
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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC35F	Source Range, Drawer N35	Test Selector Switch	Trip: Rotate to MSV 6 Position Normal: Rotate To OPR Position
NC36F	Source Range, Drawer N36	Test Selector Switch	Trip: Rotate to MSV 6 Position Normal: Rotate To OPR Position
NC35D	Source Range, Drawer N35	ADJUST Potentiometer	Trip: ADJUST potentiometer CW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in ALARM. Normal: ADJUST potentiometer CCW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in CLEAR.
NC36D	Source Range, Drawer N36	ADJUST Potentiometer	Trip: ADJUST potentiometer CW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in ALARM. Normal: ADJUST potentiometer CCW UNTIL POWER ABOVE PERMISSIVE P6 lamp on front of drawer is in CLEAR.

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Table 4
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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC41N	Power Range, Drawer N41	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P8 indicator just turns ON.
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P8 indicator just turns OFF.
NC42N	Power Range, Drawer N42	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P8 indicator just turns ON.
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P8 indicator just turns OFF.
NC43N	Power Range, Drawer N43	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P8 indicator just turns ON.
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P8 indicator just turns OFF.

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Table 4
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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC44N	Power Range, Drawer N44	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P8 indicator just turns ON.
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P8 indicator just turns OFF.
NC41S	Power Range, Drawer N41	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P9 indicator just turns ON.
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P9 indicator just turns OFF.
NC42S	Power Range, Drawer N42	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P9 indicator just turns ON.
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P9 indicator just turns OFF.

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Table 4
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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC43S	Power Range, Drawer N43	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P9 indicator just turns ON.
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P9 indicator just turns OFF.
NC44S	Power Range, Drawer N44	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P9 indicator just turns ON.
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P10 indicator just turns OFF.
NC41M	Power Range, Drawer N41	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P10 indicator just turns ON.
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P10 indicator just turns OFF.

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Table 4
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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC42M	Power Range, Drawer N42	Detector A and Detector B Test Signal Potentiometers	<p>Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P10 indicator just turns ON.</p> <p>Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P10 indicator just turns OFF.</p>
NC43M	Power Range, Drawer N43	Detector A and Detector B Test Signal Potentiometers	<p>Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P10 indicator just turns ON.</p> <p>Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P10 indicator just turns OFF.</p>
NC44M	Power Range, Drawer N44	Detector A and Detector B Test Signal Potentiometers	<p>Trip: Rotate Detector A and, if necessary, Detector B potentiometers CW until POWER ABOVE PERMISSIVE P10 indicator just turns ON.</p> <p>Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until POWER ABOVE PERMISSIVE P10 indicator just turns OFF.</p>

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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC41P	Power Range, Drawer N41	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary Detector B potentiometers CW until OVERPOWER TRIP LOW RANGE indicator just turns ON
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until OVERPOWER TRIP LOW RANGE indicator just turns OFF
NC42P	Power Range, Drawer N42	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary Detector B potentiometers CW until OVERPOWER TRIP LOW RANGE indicator just turns ON
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until OVERPOWER TRIP LOW RANGE indicator just turns OFF
NC43P	Power Range, Drawer N43	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary Detector B potentiometers CW until OVERPOWER TRIP LOW RANGE indicator just turns ON
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until OVERPOWER TRIP LOW RANGE indicator just turns OFF

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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC44P	Power Range, Drawer N44	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary Detector B potentiometers CW until OVERPOWER TRIP LOW RANGE indicator just turns ON
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until OVERPOWER TRIP LOW RANGE indicator just turns OFF
NC41R	Power Range, Drawer N41	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary Detector B potentiometers CW until OVERPOWER TRIP HIGH RANGE indicator just turns ON
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until OVERPOWER TRIP HIGH RANGE indicator just turns OFF
NC42R	Power Range, Drawer N42	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary Detector B potentiometers CW until OVERPOWER TRIP HIGH RANGE indicator just turns ON
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until OVERPOWER TRIP HIGH RANGE indicator just turns OFF

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Table 4
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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC43R	Power Range, Drawer N43	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary Detector B potentiometers CW until OVERPOWER TRIP HIGH RANGE indicator just turns ON
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until OVERPOWER TRIP HIGH RANGE indicator just turns OFF
NC44R	Power Range, Drawer N44	Detector A and Detector B Test Signal Potentiometers	Trip: Rotate Detector A and, if necessary Detector B potentiometers CW until OVERPOWER TRIP HIGH RANGE indicator just turns ON
			Normal: Rotate Detector A and, if necessary Detector B potentiometers CCW until OVERPOWER TRIP HIGH RANGE indicator just turns OFF
NC41U	Power Range, Drawer N41	Detector A and Detector B Test Signal Potentiometers	Trip: POSITION Operation Selector switch to the DET B position; then ROTATE Detector B Test Signal potentiometer rapidly in the clockwise direction until Positive Rate Trip Lamp Lights.
			Normal: Wait approximately 5 seconds.

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Table 4
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NUCLEAR INSTRUMENTATION (NIS) - CHANNEL TRIP/RETURN TO NORMAL

DEVICE	LOCATION	ACTUATING DEVICE	TRIP/NORMAL DIRECTIONS
NC42U	Power Range, Drawer N42	Detector A and Detector B Test Signal Potentiometers	<p>Trip: POSITION Operation Selector switch to the DET B position; then ROTATE Detector B Test Signal potentiometer rapidly in the clockwise direction until Positive Rate Trip Lamp Lights.</p> <p>Normal: Wait approximately 5 seconds.</p>
NC43U	Power Range, Drawer N43	Detector A and Detector B Test Signal Potentiometers	<p>Trip: POSITION Operation Selector switch to the DET B position; then ROTATE Detector B Test Signal potentiometer rapidly in the clockwise direction until Positive Rate Trip Lamp Lights.</p> <p>Normal: Wait approximately 5 seconds.</p>
NC44U	Power Range, Drawer N44	Detector A and Detector B Test Signal Potentiometers	<p>Trip: POSITION Operation Selector switch to the DET B position; then ROTATE Detector B Test Signal potentiometer rapidly in the clockwise direction until Positive Rate Trip Lamp Lights.</p> <p>Normal: Wait approximately 5 seconds.</p>

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COMPUTER POINT VERIFICATION LOG

Date _____

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
SUBSECTION 6.1				
Y0004D	REAC MANUAL TR 1 CAUSES RX TRIP	TRIP	NOT TR	
Y0005D	REAC MANUAL TR 2 CAUSES RX TRIP	TRIP	NOT TR	
Y0006D	REAC MAIN TR BKR A	CLOSED	OPEN	
Y0007D	REAC MAIN TR BKR B	CLOSED	OPEN	
Y0026D	REAC AUX TR BKR A	CLOSED	OPEN	
Y0027D	REAC AUX TR BKR B	CLOSED	OPEN	
Y2407D	SSPS TURBINE TRIP TRAIN A	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
Y2417D	SSPS TURBINE TRIP TRAIN B	TRIP	NOT TR	
SUBSECTION 6.2				
N0032D	INTERM RNG 1 RE TR P6 PERM	SET	RESET	
N0033D	INTERM RNG 2 RE TR P6 PERM	SET	RESET	
N0034D	SOURCE RNG HI Q TR A BLOCK	SET	RESET	
N0035D	SOURCE RNG HI Q TR B BLOCK	SET	RESET	
SUBSECTION 6.3				
Y0001D	TB PWR 1 RE TR P13 PERM	SET	RESET	
Y0002D	TB PWR 2 RE TR P13 PERM	SET	RESET	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
Y0003D	NUCLEAR & TB PWR RE TR P7 PERM	RESET	SET	
SUBSECTION 6.4				
F0495D	RCL LO FLOW LOOP TR P8 PART PERM 1	SET	RESET	
F0496D	RCL LO FLOW LOOP TR P8 PART PERM 2	SET	RESET	
F0497D	RCL LO FLOW LOOP TR P8 PART PERM 3	SET	RESET	
F0498D	RCL LO FLOW LOOP TR P8 PART PERM 4	SET	RESET	
F0499D	RCL LO FLOW LOOP TR P8 PERM	RESET	SET	
SUBSECTION 6.5				
Y2917D	NUC PWR 1 RE TR P9 PART PERM	SET	RESET	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
Y2918D	NUC PWR 2 RE TR P9 PART PERM	SET	RESET	
Y2919D	NUC PWR 3 RE TR P9 PART PERM	SET	RESET	
Y2920D	NUC PWR 4 RE TR P9 PART PERM	SET	RESET	
Y2921D	NUCLEAR POWER P9 PERMISSIVE	RESET	SET	
SUBSECTION 6.6				
N0020D	INTERM RNG 1 HI Q INITIATES RE	TRIP	NOT TR	
N0021D	INTERM RNG 2 HI Q INITIATES RE	TRIP	NOT TR	
N0022D	INTERN RNG HI Q RE TR A BLOCK	SET	RESET	
N0023D	INTERN RNG HI Q RE TR B BLOCK	SET	RESET	

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Table 5
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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
N0024D	INTERM RNG HI Q CAUSES RX TRIP	TRIP	NOT TR	
N0011D	NUCL PWR 1 RE TR P10 PART PERM	SET	RESET	
N0012D	NUCL PWR 2 RE TR P10 PART PERM	SET	RESET	
N0013D	NUCL PWR 3 RE TR P10 PART PERM	SET	RESET	
N0014D	NUCL PWR 4 RE TR P10 PART PERM	SET	RESET	
N0015D	PWR RNG CHAN LO Q RE TR A BLOCK	SET	RESET	
N0016D	PWR RNG CHAN LO Q RE TR B BLOCK	SET	RESET	
SUBSECTION 6.7				
N0030D	SOURCE RNG 1 HI Q INIT RE	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
N0031D	SOURCE RNG 2 HI Q INIT RE	TRIP	NOT TR	
N0036D	SOURCE RNG HI Q CAUSES RX TRIP	TRIP	NOT TR	
SUBSECTION 6.8				
N0006D	PWR RNG CH 1 HI Q LO SP PARTIAL RX T	TRIP	NOT TR	
N0007D	PWR RNG CH 2 HI Q LO SP PARTIAL RX T	TRIP	NOT TR	
N0008D	PWR RNG CH 3 HI Q LO SP PARTIAL RX T	TRIP	NOT TR	
N0009D	PWR RNG CH 4 HI Q LO SP PARTIAL RX T	TRIP	NOT TR	
N0010D	PWR RNG CH HI Q LO SP CAUSES RX TRIP	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
SUBSECTION 6.9				
N0001D	PWR RNG CH 1 HI Q HI SP PARTIAL RX T	TRIP	NOT TR	
N0002D	PWR RNG CH 2 HI Q HI SP PARTIAL RX T	TRIP	NOT TR	
N0003D	PWR RNG CH 3 HI Q HI SP PARTIAL RX T	TRIP	NOT TR	
N0004D	PWR RNG CH 4 HI Q HI SP PARTIAL RX T	TRIP	NOT TR	
N0005D	PWR RNG CH HI Q HI SP CAUSES RX TRIP	TRIP	NOT TR	
SUBSECTION 6.10				
N0025D	PWR RNG CH 1 HI Q RATE PARTIAL RX	TRIP	NOT TR	
N0026D	PWR RNG CH 2 HI Q RATE PARTIAL RX	TRIP	NOT TR	

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Table 5
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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
N0027D	PWR RNG CH 3 HI Q RATE PARTIAL RX	TRIP	NOT TR	
N0028D	PWR RNG CH 4 HI Q RATE PARTIAL RX	TRIP	NOT TR	
N0029D	PWR RNG CH HI Q RATE CAUSES RX TRI	TRIP	NOT TR	
SUBSECTION 6.11				
T0403D	OVER TEMP DELTA T LP1 PARTIAL RX TRI	TRIP	NOT TR	
T0423D	OVER TEMP DELTA T LP2 PARTIAL RX TRI	TRIP	NOT TR	
T0443D	OVER TEMP DELTA T LP3 PARTIAL RX TRI	TRIP	NOT TR	
T0463D	OVER TEMP DELTA T LP4 PARTIAL RX TRI	TRIP	NOT TR	
T0498D	RCL OVERTEMP DT CAUSES RX TRIP	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
SUBSECTION 6.12				
T0400D	OVER PWR DELTA T LP1 PARTIAL RX TRIP	TRIP	NOT TR	
T0420D	OVER PWR DELTA T LP2 PARTIAL RX TRIP	TRIP	NOT TR	
T0440D	OVER PWR DELTA T LP3 PARTIAL RX TRIP	TRIP	NOT TR	
T0460D	OVER PWR DELTA T LP4 PARTIAL RX TRIP	TRIP	NOT TR	
T0499D	RCL OVERPWR DT CAUSES RX TRIP	TRIP	NOT TR	
SUBSECTION 6.13				
F0400D	RCL1 1 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
F0401D	RCL1 2 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	

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Table 5
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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
F0402D	RCL1 3 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
F0403D,	RCL LO FLOW ABOVE P-8 CAUSES RX TRIP	TRIP	NOT TR	
F0420D	RCL2 1 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
F0421D	RCL2 2 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
F0422D	RCL2 3 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
F0423D	RCL LO FLOW ABOVE P-7 CAUSES RX TRIP	TRIP	NOT TR	
F0440D	RCL3 1 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
F0441D	RCL3 2 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
F0442D	RCL3 3 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
F0460D	RCL4 1 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
F0461D	RCL4 2 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
F0462D	RCL4 3 LO FLOW PARTIAL RX TRIP	TRIP	NOT TR	
SUBSECTION 6.14				
P0480D	PZR HI PRESSURE 1 PARTIAL RX TRIP	TRIP	NOT TR	
P0481D	PZR HI PRESSURE 2 PARTIAL RX TRIP	TRIP	NOT TR	
P0482D	PZR HI PRESSURE 3 PARTIAL RX TRIP	TRIP	NOT TR	
P0483D	PZR HI PRESSURE CAUSES RX TRIP	TRIP	NOT TR	
P0497D	PZR HI PRESSURE 4 PARTIAL RX TRIP	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
SUBSECTION 6.15				
P0484D	PZR LO PRESSURE 1 PARTIAL RX TRIP	TRIP	NOT TR	
P0485D	PZR LO PRESSURE 2 PARTIAL RX TRIP	TRIP	NOT TR	
P0486D	PZR LO PRESSURE 3 PARTIAL RX TRIP	TRIP	NOT TR	
P0487D	PZR LO PRESSURE 4 PARTIAL RX TRIP	TRIP	NOT TR	
P0488D	PZR LO PRESSURE & P7 CAUSES RX TRIP	TRIP	NOT TR	
SUBSECTION 6.16				
L0480D	PZR HI LEVEL 1 PARTIAL RX TRIP	TRIP	NOT TR	
L0481D	PZR HI LEVEL 2 PARTIAL RX TRIP	TRIP	NOT TR	

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Table 5
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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
L0482D	PZR HI LEVEL 3 PARTIAL RX TRIP	TRIP	NOT TR	
L0483D	PZR HI LEVEL & P7 CAUSES RX TRIP	TRIP	NOT TR	
SUBSECTION 6.17				
Y0390D	TURB TRIP & P9 CAUSES RX TRIP	TRIP	NOT TR	
Y0391D	TURB STOP VALVE 1 CL PARTIAL RX TRIP	TRIP	NOT TR	
Y0392D	TURB STOP VALVE 2 CL PARTIAL RX TRIP	TRIP	NOT TR	
Y0393D	TURB STOP VALVE 3 CL PARTIAL RX TRIP	TRIP	NOT TR	
Y0394D	TURB STOP VALVE 4 CL PARTIAL RX TRIP	TRIP	NOT TR	
P0396D	TURB HYD OIL LO PRESSURE 1 PARTIAL R	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
P0397D	TURB HYD OIL LO PRESSURE 2 PARTIAL R	TRIP	NOT TR	
P0398D	TURB HYD OIL LO PRESSURE 3 PARTIAL R	TRIP	NOT TR	
SUBSECTION 6.18				
L0403D	SG #1 LO LO LVL PARTIAL RX T PS II	TRIP	NOT TR	
L0404D	SG #1 LO LO LVL PARTIAL RX T PS III	TRIP	NOT TR	
L0405D	SG #1 LO LO LVL PARTIAL RX T PS IV	TRIP	NOT TR	
L0406D	STM GEN 1 LO LO LEVEL CAUSES RX TRIP	TRIP	NOT TR	
L0423D	SG #2 LO LO LVL PARTIAL RX T PS II	TRIP	NOT TR	
L0424D	SG #2 LO LO LVL PARTIAL RX T PS III	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
L0425D	SG #2 LO LO LVL PARTIAL RX T PS IV	TRIP	NOT TR	
L0426D	STM GEN 2 LO LO LEVEL CAUSES RX TRIP	TRIP	NOT TR	
L0443D	SG #3 LO LO LVL PARTIAL RX T PS II	TRIP	NOT TR	
L0444D	SG #3 LO LO LVL PARTIAL RX T PS III	TRIP	NOT TR	
L0445D	SG #3 LO LO LVL PARTIAL RX T PS IV	TRIP	NOT TR	
L0446D	STM GEN 3 LO LO LEVEL CAUSES RX TRIP	TRIP	NOT TR	
L0463D	SG #4 LO LO LVL PARTIAL RX T PS II	TRIP	NOT TR	
L0464D	SG #4 LO LO LVL PARTIAL RX T PS III	TRIP	NOT TR	
L0465D	SG #4 LO LO LVL PARTIAL RX T PS IV	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
L0466D	STM GEN 4 LO LO LEVEL CAUSES RX TRIP	TRIP	NOT TR	
SUBSECTION 6.19				
V0320D	RCP BUS 1 UNDER VOLT PARTIAL RX TRIP	TRIP	NOT TR	
V0321D	RCP BUS 2 UNDER VOLT PARTIAL RX TRIP	TRIP	NOT TR	
V0322D	RCP BUS 3 UNDER VOLT PARTIAL RX TRIP	TRIP	NOT TR	
V0323D	RCP BUS 4 UNDER VOLT PARTIAL RX TRIP	TRIP	NOT TR	
V0324D	RCP BUS UNDER VOLT & P7 CAUSES RX TR	TRIP	NOT TR	
Y0320D	RCP BUS 1 UNDER FREQ PARTIAL RX TRIP	TRIP	NOT TR	
Y0321D	RCP BUS 2 UNDER FREQ PARTIAL RX TRIP	TRIP	NOT TR	

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COMPUTER POINT VERIFICATION LOG

COMPUTER POINT	DESCRIPTION	STATUS		INITIAL
		SET	RESET	
Y0322D	RCP BUS 3 UNDER FREQ PARTIAL RX TRIP	TRIP	NOT TR	
Y0323D	RCP BUS 4 UNDER FREQ PARTIAL RX TRIP	TRIP	NOT TR	
Y0324D	RCP BUS UNDER FREQ & P7 CAUSES RX TR	TRIP	NOT TR	
Y0400D	REACTOR COOLANT PUMP 1 BREAKER	CLOSED	OPEN	
Y0420D	REACTOR COOLANT PUMP 2 BREAKER	CLOSED	OPEN	
Y0440D	REACTOR COOLANT PUMP 3 BREAKER	CLOSED	OPEN	
Y0460D	REACTOR COOLANT PUMP 4 BREAKER	CLOSED	OPEN	

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**Table 6
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SSPS K600 RELAYS ON PLASTIC

Date _____

Panel 2-R-48					
Terminal Points		Initial/Date	Terminal Points		Initial/Date
TB615	5, 6		TB618	1, 2	
	7, 8			3, 4	
	9, 10			5, 6	
	11, 12			7, 8	
TB602	1, 2			9, 10	
	5, 6			11, 12	
	7, 8		TB605	1, 2	
	9, 10			3, 4	
	11, 12			5, 6	
TB616	1, 2			7, 8	
	7, 8			9, 10	
	9, 10			11, 12	
	11, 12		TB619	3, 4	
NOT USED				5, 6	
				7, 8	
TB617	1, 2			9, 10	
	3, 4		TB606	1, 2	
	7, 8			5, 6	
TB604	1, 2			7, 8	
	3, 4			9, 10	
	5, 6			11, 12	
	7, 8		TB620	1, 2	
				3, 4	
				5, 6	
				9, 10	
				11, 12	

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**Table 6
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SSPS K600 RELAYS ON PLASTIC

Panel 2-R-48					
Terminal Points		Initial/Date	Terminal Points		Initial/Date
TB607	1, 2		TB624	1, 2	
	3, 4			3, 4	
	5, 6			5, 6	
	9, 10			7, 8	
	11, 12			9, 10	
TB621	1, 2		TB611	11, 12	
	3, 4			1, 2	
	5, 6			3, 4	
	7, 8			7, 8	
TB622	5, 6			9, 10	
	7, 8			11, 12	
TB609	1, 2		TB625	9, 10	
	3, 4			11, 12	
	5, 6		TB612	1, 2	
	7, 8			3, 4	
TB623	1, 2			5, 6	
	3, 4			7, 8	
	5, 6			11, 12	
	7, 8		TB626	1, 2	
	9, 10			3, 4	
	11, 12		TB613	1, 2	
TB610	1, 2			9, 10	
	3, 4			11, 12	
	5, 6		TB627	1, 2	
	7, 8		TB628	5, 6	
	9, 10		TB629	5, 6	
	11, 12			9, 10	

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**Table 6
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SSPS K600 RELAYS ON PLASTIC

Panel 2-R-48					
Terminal Points		Initial/Date	Terminal Points		Initial/Date
TB630	1, 2		TB635	1, 2	
	3, 4		TB649	1, 2	
	7, 8			9, 10	
	9, 10			11, 12	
TB631	1, 2		TB636	1, 2	
	5, 6			3, 4	
	11, 12			5, 6	
TB632	1, 2			7, 8	
	5, 6		TB650	1, 2	
	9, 10			3, 4	
	11, 12			5, 6	
TB646	5, 6		TB637	1, 2	
	7, 8			5, 6	
	9, 10			7, 8	
	11, 12			9, 10	
TB633	1, 2			11, 12	
	3, 4		TB638	1, 2	
TB647	3, 4			3, 4	
	5, 6			5, 6	
	7, 8		TB652	5, 6	
	9, 10			7, 8	
	11, 12		TB639	11, 12	
TB634	1, 2		TB640	1, 2	
	3, 4		TB641	1, 2	
	5, 6		TB655	1, 2	
	7, 8			9, 10	
TB648	1, 2				

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**Table 6
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SSPS K600 RELAYS ON PLASTIC

Panel 2-R-51					
Terminal Points		Initial/Date	Terminal Points		Initial/Date
TB615	5, 6		TB619	1, 2	
	7, 8			3, 4	
	9, 10			5, 6	
	11, 12			7, 8	
TB602	1, 2			9, 10	
	5, 6		TB606	1, 2	
	7, 8			5, 6	
	9, 10			7, 8	
	11, 12			9, 10	
TB616	1, 2			11, 12	
	9, 10		TB620	1, 2	
	11, 12			3, 4	
NOT USED				5, 6	
				9, 10	
				11, 12	
			TB607	1, 2	
TB617	1, 2			3, 4	
	3, 4			5, 6	
	7, 8			9, 10	
	11, 12			11, 12	
TB604	1, 2		TB621	1, 2	
	3, 4			3, 4	
	5, 6			5, 6	
	7, 8			7, 8	
TB605	3, 4				

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**Table 6
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SSPS K600 RELAYS ON PLASTIC

Panel 2-R-51					
Terminal Points		Initial/Date	Terminal Points		Initial/Date
TB622	5, 6		TB625	9, 10	
	7, 8			11, 12	
TB609	1, 2		TB612	3, 4	
	3, 4			5, 6	
	5, 6			7, 8	
	7, 8			11, 12	
TB623	1, 2		TB626	1, 2	
	3, 4			3, 4	
	5, 6		TB613	1, 2	
	7, 8			9, 10	
	9, 10			11, 12	
	11, 12		TB627	1, 2	
TB610	1, 2		TB628	5, 6	
	3, 4		TB629	5, 6	
	5, 6			9, 10	
	7, 8		TB630	1, 2	
	11, 12			3, 4	
TB624	1, 2			7, 8	
	3, 4			9, 10	
	5, 6		TB631	1, 2	
	7, 8			5, 6	
	9, 10		TB632	1, 2	
	11, 12			5, 6	
TB611	3, 4			9, 10	
	7, 8			11, 12	
	9, 10				

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**Table 6
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SSPS K600 RELAYS ON PLASTIC

Panel 2-R-51					
Terminal Points		Initial/Date	Terminal Points		Initial/Date
TB646	7, 8		TB650	1, 2	
	9, 10			3, 4	
TB633	1, 2			5, 6	
	3, 4		TB637	1, 2	
TB647	3, 4			5, 6	
	5, 6			7, 8	
	7, 8			9, 10	
	9, 10			11, 12	
	11, 12		TB638	1, 2	
TB634	1, 2			3, 4	
	3, 4			5, 6	
	5, 6		TB652	5, 6	
	7, 8			7, 8	
TB648	1, 2		TB639	11, 12	
TB 635	1, 2		TB640	1, 2	
	11, 12		TB641	1, 2	
TB649	1, 2		TB655	1, 2	
	3, 4				
	9, 10				
	11, 12				
TB636	1, 2				
	3, 4				
	5, 6				
	7, 8				

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**Table 7
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SSPS K600 SERIES RELAYS HARD LANDED

Panel 2-R-48			Panel 2-R-51		
Terminal Points		Initial/Date	Terminal Points		Initial/Date
TB607	7, 8		TB607	7, 8	
TB609	9, 10		TB609	9, 10	
TB614	1, 2		TB614	1, 2	
	3, 4			3, 4	
	5, 6			5, 6	
	9, 10			9, 10	
TB644	1, 2		TB644	1, 2	
	3, 4			3, 4	
	5, 6			5, 6	
	7, 8			7, 8	
	9, 10			9, 10	
	11, 12			11, 12	
TB631	9, 10		TB631	9, 10	
TB645	11, 12		TB645	11, 12	
TB634	9, 10		TB634	9, 10	
TB635	3, 4		TB635	3, 4	
TB638	7, 8		TB638	7, 8	
TB653	9, 10		TB653	9, 10	
	11, 12			11, 12	
TB640	3, 4		TB640	3, 4	
TB654	1, 12		TB654	1, 12	
	5, 6			5, 6	
TB641	3, 4		TB641	3, 4	
	5, 6			5, 6	
TB656	11, 12		TB656	11, 12	